DATA VALIDATION REPORT

ALKALI LAKE SITE
LAKE COUNTY, STATE OF OREGON
PROJECT # 261M136620

Prepared for:

BAYER CROPSCIENCE INC.

800 N. Lindbergh Blvd., St. Louis, Missouri 63167

JANUARY 13, 2025

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Prepared for:

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LIST OF ACRONYMS

≥	greater than or equal to
≤	less than or equal to
%	percent
µg/L	micrograms per liter
APHA	American Public Health Association
CCV	continuing calibration verification
COC	chain of custody
DCPAA	2,4-dichlorophenylacetic acid
EPA	United States Environmental Protection Agency
EMPC	estimated maximum possible concentration
Eurofins	Eurofins Environment Testing
herbicide	chlorinated herbicide
HpCDD	heptachlorodibenzo-p-dioxin
HpCDF	heptachlorodibenzofuran
HxCDD	hexachlorodibenzo-p-dioxin
HxCDF	hexachlorodibenzofuran
HRGC	high resolution gas chromatography
ICAL	initial calibration
ICV	initial calibration verification
ID	identification
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
NFGs	National Functional Guidelines
OCI	organochlorine insecticide
OCDD	octachlorodibenzo-p-dioxin
OCDF	octachlorodibenzofuran
PCB	polychlorinated biphenyl
PeCDF	pentachlorodibenzofuran
pg/L	picograms per liter
QAPP	quality assurance project plan
QC	quality control

r^2	Least squares regression
RF	response factor
RL	reporting limit
RPD	relative percent difference
RSD	relative standard deviation
SDG	sample delivery group
Silvex	2,4,5-TP
SIM	selected ion monitoring
SM	Standard Methods for the Examination of Water and Wastewater
SOP	standard operating procedure
SU	standard pH units
SVOC	semivolatile organic compound
TCDF	tetrachlorodibenzofuran
TCMX	tetrachloro-m-xylene
TOC	total organic carbon
VOC	volatile organic compound
WSP	WSP USA Inc., which merged WSP USA Environment & Infrastructure Inc. into WSP USA Inc. in December 2024.

1 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP) collected 37 groundwater samples, including 2 field duplicates, 1 equipment blank, and 17 trip blanks between October 26 and 28, 2024, from the Alkali Lake Site located in Lake County, Oregon. WSP submitted the samples to Eurofins Environment Testing (Eurofins), located in Arvada, Colorado, where they were received on October 30, 2024. Eurofins assigned the samples to sample delivery group (SDG) 280-198804-1 and analyzed the samples for the following parameters:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260D,
- Semivolatile organic compounds (SVOCs) by EPA Method 8270E,
- 1,4-Dioxane by EPA Method 8270E selected ion monitoring (SIM) and isotope dilution,
- Organochlorine insecticides (OCIs) by EPA Method 8081B,
- Polychlorinated biphenyls (PCB) by EPA Method 8082A,
- Perchlorate by EPA Method 6850,
- Chlorinated herbicides (herbicides) by EPA Method 8321B,
- Total and dissolved metals by EPA Method 6020B,
- Total and dissolved mercury by EPA Method 7470A,
- Hardness by Standard Methods for the Examination of Water and Wastewater (SM) 2340B,
- Anions by EPA Method 9056A,
- Total organic carbon (TOC) by EPA Method 9060A, and
- Alkalinity by SM 2320B.

A subset of samples was assigned to SDG 280-198804-2 and Eurofins analyzed these samples for dioxins and furans by EPA Method 1613B. A list of these samples by field sample identification (ID), sample collection date, and Eurofins' sample ID is presented in Table 1.

WSP USA Inc. merged WSP USA Environment & Infrastructure Inc. into WSP USA Inc. in December 2024.

2 DATA VALIDATION METHODOLOGY

WSP performed an EPA Stage 4 data validation on 100 percent (%) of the field sample data, reviewing the raw data and recalculating a minimum of 10% of the target analytes per method. Data from equipment blanks and trip blanks were not validated, but detections were used in the assessment of field sample data. This data validation has been performed in accordance with:

- WSP, 2024. Quality Assurance Project Plan (QAPP), Revision 0. Alkali Lake Site, Lake County, State of Oregon. October 18.
- EPA, 2009. Guidance for Labeling externally Validated Laboratory Analytical Data for Superfund Use. EPA 540-R 08-005, January 13.
- EPA, 2020a. National Functional Guidelines (NFGs) for Organic Superfund Method Data Review. EPA 540-R-20-005, November.
- EPA, 2020b. NFGs for Inorganic Superfund Methods Data Review. EPA 542-R-20-006, November.
- EPA, 2020c. NFGs for High Resolution Superfund Methods Data Review. EPA 542-R-20-007, November.

- EPA. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).
- American Public Health Association (APHA), 2005. Standard Methods for the Examination of Water and Wastewater, 21st Edition.

WSP used method-specified calibration criteria and method, if available, or laboratory-specified QC criteria to assess data quality instead of the QAPP-specified limits. The QAPP-specified limits are reflective of the laboratories' statistically derived limits at the time the QAPP was written, and they may not be reflective of the laboratories' current QC limits.

The NFGs were written for the Contract Laboratory Program and WSP revised the validation procedures to meet project- or method-specified criteria.

The laboratory's certified analytical report and supporting documentation were reviewed to assess the following:

- Data package and electronic deliverables completeness,
- Chain of custody (COC) compliance,
- Sample receipt,
- Holding time compliance,
- Initial calibration (ICAL) compliance,
- Initial calibration verification (ICV) and continuing calibration verification (CCV) accuracy,
- Presence or absence of field or laboratory contamination, as demonstrated by equipment, trip, and laboratory blanks,
- Accuracy and bias as demonstrated by recovery of laboratory control samples (LCSs) and matrix spikes (MSs),
- Laboratory and field duplicate precision,
- Internal standard recoveries (if applicable),
- Surrogate recoveries (if applicable),
- Confirmation of sensitivity criteria,
- Analyte identification and quantification verification from review of the raw analytical data, and
- Insofar as possible, the degree of conformance to method requirements and good laboratory practices

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all quality control (QC) audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3 DEFINITION OF QUALIFIERS THAT MAY BE APPLIED DURING VALIDATION

The following qualifiers were applied to the data during validation:

J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.

U The analyte was analyzed for but was not detected at a concentration greater than the reported sample quantitation limit.

UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

4 QUALIFICATION REASON CODES

The following reason codes were applied to the data during validation:

CH High CCV recovery.

DL The detected concentration was less than the reporting limit (RL).

EB Analyte detection in an associated equipment blank.

EM Result is an estimated maximum possible concentration (EMPC) and should be considered qualitatively uncertain.

HS High surrogate recovery, Result may be biased high.

HT Holding time exceedance.

IP Improper sample preparation.

LC Low CCV recovery.

LI Low internal standard area counts.

LL Low LCS recovery.

LM Low MS recovery.

LS Low surrogate recovery.

MB Analyte detection in an associated laboratory blank.

MI Potential matrix interference.

NP Insufficient preservation.

SB Spectra does not match reference.

SE Excessive difference between results from the primary and confirmation analytical columns.

5 EXPLANATION OF DATA QUALITY INDICATORS

Summary explanations of the specific data quality indicators reviewed during this data validation are presented in the sections below.

5.1 BLANK SAMPLES

Blank samples are aliquots of analyte free matrix that are used as negative controls to verify that the sample collection, storage, preparation, and analytical system does not produce false positive results.

Laboratory blanks are aliquots of analyte free matrix that are processed by the laboratory using the same procedures as the field samples. Laboratory blanks are used to monitor for contamination introduced by the laboratory during sample preparation and analysis.

Equipment blanks are used to monitor for possible sample contamination during the sample collection process and serve as a check on the effectiveness of field decontamination procedures. Equipment blanks are prepared by passing analyte free water through or over sample collection equipment, collecting the water in sample containers.

Trip blanks are vials of analyte free water that accompany sample bottles shipped to the field and back to the laboratory with field samples. Trip blanks assess contamination attributed to shipping and handling procedures, as well as contamination from containers.

5.2 LABORATORY CONTROL SAMPLES

LCSs and LCS duplicates (LCSDs) are aliquots of analyte free matrices that are spiked with the analytes of interest for an analytical method, or a representative subset of those analytes. The spiked matrix is then processed through the same analytical procedures as the samples it accompanies. LCS recovery and precision are indications of a laboratory's ability to successfully perform an analytical method in an interference free matrix.

5.3 MATRIX SPIKES

MSs and MS duplicates (MSDs) are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are indications of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related.

5.4 LABORATORY AND FIELD DUPLICATES

Laboratory and field duplicate analysis verifies acceptable method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection.

6 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

The samples were received by the laboratory at temperatures less than 6 degrees Celsius, under proper COC, intact, and properly preserved, with the following exceptions:

- Due to the alkaline and highly buffered nature of the groundwater at the project site, acid preservation of the samples was ineffective. Additional discussion is included in method specific discussions in Section 7 below.
- According to the case narrative, Sample MW-55_GW was marked for 8270 analysis on the COC, but no containers were received.
- According to the case narrative, the container labels for trip blank TB-21 listed a sample ID of TB-21, while the COC listed a sample ID of TP-21. Eurofins logged the sample per the container labels per client request.
- According to the case narrative, the container labels for sample MW-64_GW listed a collection time of 12:15, while the COC listed a collection time of 12:25. Eurofins logged the sample per the container labels per WSP request.
- According to the case narrative, equipment blank EB-01 was received at the laboratory at an elevated temperature of 15.6°C. WSP does not qualify data from equipment blanks and no data were qualified based on elevated receipt temperature.

7 SPECIFIC DATA VALIDATION FINDINGS

Results from these samples may be considered usable with the limitations and exceptions described in Sections 7.1 through 8.0.

7.1 VOCS BY EPA METHOD 8260D

VOC results are usable with the limitations described in Sections 7.1.1 through 7.1.12.

Due to the high pH and high buffering capacity of the site groundwater, sample pH generally was not reduced to 2 standard pH units (SU) or less despite collection into containers with preservative. As is discussed in the Data Usability Assessment section of the Field Sampling Report, for future groundwater sampling events, samples for VOC analysis will be collected in unpreserved containers and analyzed within the 7-day holding time for unpreserved samples.

7.1.1 PRESERVATION AND HOLDING TIME COMPLIANCE

The samples were analyzed for VOCs within the QAPP specified maximum holding times of 14 days from sampling until analysis for fully preserved samples or 7 days from sampling until analysis for unpreserved or insufficiently preserved samples.

Exceptions are summarized below.

- The following samples had measured pHs greater than 2 SU and were analyzed outside the method-specified maximum hold time for unpreserved or insufficiently preserved samples of 7 days from collection until

analysis. WSP J qualified the detected and UJ qualified the non-detected results from the affected samples because of the hold time exceedances. (J/UJ, HT):

- Samples MW-04_GW, MW-10_GW, MW-55_GW, and MW-57_GW were analyzed 10 days after sampling;
- Samples MW-14_GW, MW-17_GW, MW-30_GW, MW-54_GW, and MW-56_GW were analyzed 11 days after sampling;
- Sample MW-15_GW was analyzed 12 days after sampling; and
- Sample MW-51_GW was analyzed 13 days after sampling.

– According to the case narrative, samples MW-64_GW, MW-63_GW, MW-16_GW, and MW-51_GW_DUP had pHs greater than 2 SU when verified by the lab. The samples were run within the 7-day holding time for unpreserved samples and no qualifiers were added due to improper sample preservation.

Qualifiers applied to the VOC results due to insufficient sample preservation, resulting in missed hold times, will be reevaluated after additional groundwater monitoring events are completed and updated in the project database if results from future analyses completed within 7-days from sample collection conflict with the current results.

7.1.2 GAS CHROMATOGRAPH/MASS SPECTROMETER INSTRUMENT TUNE COMPLIANCE

Instruments were tuned prior to ICAL. All tunes met ion relative abundance criteria.

7.1.3 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the method-specified criteria of a minimum of five calibration points for average response factor (RF) or linear calibration models or six calibration points for quadratic calibration models, with the lowest calibration level at or lower than the RL. Relative standard deviations (RSDs) less than or equal to (≤) 20% for average RF calibration models or least squares regressions (r^2) greater than or equal to (≥) 0.990 for linear or quadratic calibration models.

7.1.4 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the method-specified 70 to 130% limits.

7.1.5 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the beginning of each 12-hour analytical sequence, target analyte recoveries were within the method-specified 80 to 120% limits, internal standard responses were within 50 to 200% of the response from the ICAL midpoint standard, and internal standard retention times have not shifted by more than 30 seconds relative to the ICAL, with the following exceptions:

– 1,2-Dibromo-3-chloropropane and dichlorodifluoromethane recoveries were low at 74.1% and 64.6% respectively, in the opening CCV associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-64_GW, MW-63_GW, MW-16_GW, and MW-51_GW_DUP. WSP UJ qualified the non-detect 1,2-dibromo-3-chloropropane and dichlorodifluoromethane results from the associated samples because of the low CCV recoveries. (UJ, LC)

– 1,2-Dibromo-3-chloropropane recovery was low at 75.0% in the opening CCV associated with the analysis of samples MW-17_GW, MW-54_GW, MW-56_GW, MW-30_GW, MW-14_GW, and MW-15_GW. WSP UJ qualified the non-detect 1,2-dibromo-3-chloropropane results from the associated samples because of the low CCV recovery. (UJ, LC)

7.1.6 LABORATORY, EQUIPMENT, AND TRIP BLANK DETECTIONS

Target analytes were not detected in the laboratory, equipment, or trip blanks reviewed during this validation, with the following exceptions:

- 1,2-Dichlorobenzene and carbon disulfide were detected at a concentration of 0.14 and 0.42 micrograms per liter (µg/L) respectively, in trip blank TB-15, associated with sample MW-51_GW. 1,2-Dichlorobenzene and carbon disulfide were not detected in the associated sample and data usability is not adversely affected by the blank detections.

7.1.7 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits, with the following exceptions:

- The RPD between 1,2,3-trichlorobenzene results was high at 24% in the LCS and LCSD associated with the analysis of samples MW-04_GW, MW-10_GW, MW-57_GW, and MW-55_GW. 1,2,3-Trichlorobenzene was not detected in the associated samples and data usability is not adversely affected by the potential analytical imprecision.

7.1.8 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51_GW. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits, with the following exceptions:

- 1,1,2,2-Tetrachloroethane (26%, 25%), bromodichloromethane (78%,76%), bromoform (75%,76%), dibromochloromethane (78%, 79%), trans-1,3-dichloropropene (70%, 67%), and trichloroethene (144%, 146%) recoveries were outside of limits in the MS and MSD performed on sample MW-51-GW. Data limitations are summarized below:
  - WSP UJ qualified the non-detect 1,1,2,2-tetrachloroethane, bromodichloromethane, bromoform, dibromochloromethane, and trans-1,3-dichloropropene results from sample MW-51_GW and its field duplicate MW-51_GW_DUP due to low MS/MSD recoveries. (UJ, LM)
  - Trichloroethene was not detected in the native unspiked sample and data usability is not adversely affected by the high MS/MSD recoveries.

7.1.9 SURROGATE ACCURACY

Surrogate recoveries were within laboratory-specified limits.

7.1.10 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the method-specified limits of 50 to 200% of the response of the same internal standard in the ICAL midpoint standard.

7.1.11 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification for all target analytes and quantitation for 1,2-dichlorobenzene, benzene, cis-1,2-dichloroethene, m-xylene & p-xylene, o-xylene, tetrachloroethene, and vinyl chloride in all field samples:

Reported results were correctly identified and quantified.

7.1.12 DATA REPORTING AND ANALYTICAL PROCEDURE

Eurofins J qualified results with detected concentrations less than the RL. WSP agrees these results are quantitatively uncertain and has maintained Eurofins' J qualifiers. (J, DL)

7.2 SVOCS BY EPA METHOD 8270E

SVOC results are usable with the limitations described in Sections 7.2.1 through 7.2.13.

7.2.1 SPECIAL NOTE FOR THE ACID EXTRACTABLE FRACTION OF SELECTED SAMPLES

According to the case narrative, samples MW-04_GW, MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW reacted to the addition of acid by fizzing, and sample pH could not be lowered to meet method requirements prior to extraction. WSP J- qualified detects and UJ qualified non-detects of the acid extractable analytes (phenols) in these samples due to the inability to meet method-specified extraction pH requirements. (J-/UJ, IP)

Further qualification of the affected samples was needed based on matrix spike recoveries that resulted in rejection of results for some phenols (see Section 7.2.9 below).

WSP is working with the laboratory to identify options to counteract the effects of high native sample pHs and extreme buffering capacities during future sampling events.

7.2.2 HOLDING TIME COMPLIANCE

The samples were prepared and analyzed within the QAPP specified maximum holding times of 7 days from sampling until extraction and 40 days from extraction until analysis.

7.2.3 GAS CHROMATOGRAPH/MASS SPECTROMETER INSTRUMENT TUNE COMPLIANCE

Instruments were tuned prior to ICAL. All tunes met ion relative abundance and performance check criteria.

7.2.4 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the method-specified criteria of a minimum of five calibration points for average RF or linear calibration models or six calibration points for quadratic calibration models, with the lowest calibration level at or lower than the RL. RSDs ≤ 20% for average RF calibration models or $r^2 \geq 0.990$ for linear or quadratic calibration models.

7.2.5 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the method-specified 70 to 130% limits.

7.2.6 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the beginning of each 12-hour analytical sequence, target analyte recoveries were within the method-specified 80 to 120% limits, internal standard responses were within 50 to 200% of the response from the ICAL midpoint standard, and internal standard retention times have not shifted by more than 30 seconds relative to the ICAL, with the following exceptions:

- Pentachlorophenol recovery was high at 121% in the CCV associated with the analysis of sample MW-30_GW. Pentachlorophenol was not reported from this injection of the associated sample and data usability is not adversely affected by the high CCV recovery.
- Pentachlorophenol and di-n-octyl phthalate recoveries were outside of limits at 121% and 78.8% respectively, in the CCV associated with the analysis of samples MW-04_GW, MW-10_GW, MW-14_GW, MW-30_G, and MW-57_GW. Pentachlorophenol and di-n-octyl phthalate were not reported from the associated analyses and data usability is not adversely affected by the high and low CCV recoveries.

7.2.7 LABORATORY AND EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the laboratory and equipment blanks reviewed during this validation.

7.2.8 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits, with the following exceptions:

- Pyridine recovery was extremely low at 4% in the LCS and hexachlorocyclopentadiene recovery was high at 124% in the LCSD associated with the extraction of samples 18R-1_GW, 18R-1_GW_DUP, MW-04_GW, MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-54_GW, MW-55_GW, MW-56_GW, MW-57_GW, MW-63_GW, and MW-64_GW. Data limitations are summarized below.
  - WSP R qualified and rejected the non-detect pyridine results from the associated samples due to the extremely low LCS recovery. (R, LL)
  - Hexachlorocyclopentadiene was not detected in the associated samples and data usability is not adversely affected by high LCSD recovery

7.2.9 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW. Based on professional judgement, WSP applied qualifiers to samples MW-04_GW, MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW because the samples were affected by the inability to lower the pHs during extraction. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits, with the following exceptions:

- 2,3,4,6-Tetrachlorophenol (14%, 10%), 2,4,5-trichlorophenol (45%, MSD), 2,4,6-trichlorophenol (20%, 15%), 2,4-dinitrophenol (0%, 0%), 4,6-dinitro-2-methylphenol (0%, 0%), 4-nitrophenol (0%, 0%), and pentachlorophenol (0%, 0%) recoveries were low in the MS and/or MSD performed on sample MW-51_GW. Data limitations are summarized below.
  - WSP R qualified and rejected non-detected and J- qualified detected 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results from samples MW-04_GW, MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW because the analytes could not be recovered from the MS and MSD. (R/J-, LM)
  - WSP J- qualified the detected and UJ qualified the non-detect 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol results from samples MW-04_GW, MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW because of the low MS and/or MSD recoveries. (J-/UJ, LM)

7.2.10 SURROGATE ACCURACY

Surrogate recoveries were within laboratory-specified limits, with the following exceptions:

- Recovery of the surrogate compound nitrobenzene-d5 was low at 25% in sample MW-10_GW. WSP J- qualified detect and UJ qualified the non-detected base/neutral analytes (SVOCs, excluding phenols) due to the low surrogate recovery. (J-/UJ, LS)
- Recovery of the surrogate compound phenol-d5 was extremely high at 468% and the surrogate compounds 2,4,6-tribromophenol, 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, and terphenyl-d14 were not recovered from the 1:100 dilution performed on sample MW-10_GW. The high dilution reduced surrogate concentrations below detectable limits, and no data were qualified based on these surrogate recoveries.

7.2.11 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the method-specified limits of 50 to 200% of the response of the same internal standard in the ICAL midpoint standard.

7.2.12 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification for all target analytes and quantitation for the following analytes in all field samples:

- 2-Chlorophenol, 2-methylphenol, 3 & 4 methylphenol, 2,4-dichlorophenol, naphthalene, 2,4,5-trichlorophenol, benzo[a]pyrene, chrysene, and pentachlorophenol.

Reported results were correctly identified and quantified, with the following exceptions. The spectra for each exception can be reviewed in Appendix A.

- WSP NJ qualified the 3 & 4 methylphenol results from samples MW-04_GW, MW-10_GW, MW-55_GW, and MW-30_GW because of potential matrix interference, which resulted in poor agreement between the reference spectra and the spectra observed in the samples. (NJ, SB)
- WSP NJ qualified the acetophenone result from sample MW-14_GW because of potential matrix interference, which resulted in poor agreement between the reference spectra and the spectra observed in the sample. (NJ, SB)

7.2.13 DATA REPORTING AND ANALYTICAL PROCEDURE

Eurofins J qualified results with detected concentrations less than the RL. WSP agrees these results are quantitatively uncertain and has maintained Eurofins' J qualifiers. (J, DL)

7.3 1,4-DIOXANE BY EPA METHOD 8270E-SIM

1,4-Dioxane results are fully usable without limitations.

7.3.1 HOLDING TIME COMPLIANCE

The samples were prepared and analyzed within the QAPP specified maximum holding times of 7 days from sampling until extraction and 40 days from extraction until analysis.

7.3.2 GAS CHROMATOGRAPH/MASS SPECTROMETER INSTRUMENT TUNE COMPLIANCE

Instruments were tuned prior to ICAL. All tunes met ion relative abundance criteria and performance check criteria.

7.3.3 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the method-specified criteria of a minimum of five calibration points for average RF or linear calibration models or six calibration points for quadratic calibration models, with the lowest calibration level at or lower than the RL. RSDs ≤ 20% for average RF calibration models or $r^2 \geq 0.990$ for linear or quadratic calibration models.

7.3.4 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the method-specified 70 to 130% limits.

7.3.5 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the beginning of each 12-hour analytical sequence, target analyte recoveries were within the method-specified 80 to 120% limits, internal standard responses were within 50 to 200% of the response from the ICAL midpoint standard, and internal standard retention times have not shifted by more than 30 seconds relative to the ICAL.

7.3.6 LABORATORY AND EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the laboratory and equipment blanks reviewed during this validation.

7.3.7 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits.

7.3.8 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits.

7.3.9 SURROGATE ACCURACY

Surrogate recoveries were within laboratory-specified limits.

7.3.10 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the method-specified limits of 50 to 200% of the response of the same internal standard in the ICAL midpoint standard.

7.3.11 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification and quantitation for 1,4-dioxane in all field samples.

Reported results were correctly identified and quantified.

7.3.12 DATA REPORTING AND ANALYTICAL PROCEDURE

There were no data reporting or analytical procedure anomalies associated with the 1,4-dioxane analysis of the samples reviewed in this report.

7.4 OCIS BY EPA METHOD 8081B

OCI results are usable with the limitations described in Sections 7.4.1 through 7.4.13.

7.4.1 HOLDING TIME COMPLIANCE

The samples were prepared and analyzed within the QAPP specified maximum holding times of 7 days from sampling until extraction and 40 days from extraction until analysis.

7.4.2 ENDRIN AND DDT BREAKDOWN

Endrin and DDT breakdown were measured before ICAL and at the beginning of each analytical shift. Breakdowns were ≤ the method-specified maximum of 15%.

7.4.3 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the method-specified criteria of a minimum of five calibration points for average RF or linear calibration models or six calibration points for quadratic calibration models, with the lowest calibration level at or lower than the RL. RSDs ≤ 20% for average RF calibration models or r^2 ≥ 0.990 for linear or quadratic calibration models.

7.4.4 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the EPA-recommended 70 to 130% limits, with the following exception:

- Toxaphene peak 1 recovery was high at 134% in the ICV analyzed on column RTI-XLB. The average toxaphene recovery was acceptable at 115% and WSP did not qualify any data based on the High ICV recovery.

7.4.5 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the beginning of each 12-hour analytical sequence and target analyte recoveries were within the method-specified 80 to 120% limits, internal standard responses were within 50 to 200% of the response from the daily opening CCV, and internal standard retention times have not shifted by more than 30 seconds relative to the ICAL, with the following exceptions:

- Endrin aldehyde recovery was low at 76% on column RTI-XLB, and endrin aldehyde and 2,4'-DDE recoveries were low at 79% and 75%, respectively, on column RTI-35silms in a CCV associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-14_GW, MW-15_GW, MW-16_GW, MW-54_GW, MW-55_GW, MW-56_GW, and MW-57_GW. Data limitations are summarized below.
    - WSP UJ qualified the non-detected 2,4'-DDE results from the associated samples because of the low CCV recovery. (UJ, LC)
    - Endrin aldehyde results were not reported from the associated analyses and data usability is not adversely affected by the low CCV recoveries,

- 2,4'-DDE recovery was low at 77% on column RTI-35silms and toxaphene peak 1 and peak 2 recoveries were low at 74% and 61%, respectively, with an average recovery of 77% in a CCV associated with the analysis of samples MW-04_GW, MW-10_GW, MW-51_GW, and the re-analyses of samples 18R-1_GW, and 18R_1_GW_DUP. Data limitations are summarized below.
    - WSP UJ qualified the associated 2,4'-DDE and toxaphene results from samples MW-04_GW, MW-10_GW, and MW-51_GW because of the low CCV recoveries. (UJ, LC)
    - 2,4'-DDE and toxaphene were not reported from the associated analyses of samples 18R-1_GW, 18-R1_GW_DUP, and MW-57_GW and data usability is not adversely affected by the low CCV recoveries.
- Toxaphene peak 1 recovery was low at 72% on column RTI-XLB, and toxaphene peak 1 (70%), peak 2 (56%), peak 3 (74%), peak 4 (126%), and peak 5 (75%) recoveries were outside of limits on column RTI-35silms in a CCV associated with the analysis of samples 18R 1_GW, 18R-1_GW_DUP, MW-14_GW, MW-15_GW, MW-16_GW, MW-54_GW, MW-55_GW, MW 56_GW, and MW-57_GW. Average toxaphene recoveries were acceptable at 87% and 81%, respectively, and data usability is not adversely affected by the high and low CCV recoveries.
- Toxaphene peak 1 and peak 5 recoveries were high at 131% and 124%, respectively, on column RTI-XLB and peak 1 and peak 2 recoveries were low at 75% and 66%, respectively on column RTI-35silms, in a CCV associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, and MW-57_GW. Average toxaphene recoveries were acceptable at 117% on column RTI-XLB and 81% on column RTO-35silms. WSP did not qualify any data based on the high or low CCV recoveries.
- Methoxychlor recovery was low at 76% on column RTI-XLB in a CCV that was not associated with the analysis of samples reviewed in this report but was included in the report. No data were qualified based on the low CCV recovery.
- Toxaphene peak 1 recovery was low at 66% on column RTI-35silms, in a CCV associated with the analysis of samples MW-04_GW, MW-10_GW, MW-51_GW, and the reanalysis of samples 18R-1_GW, 18-R1_GW_DUP, and MW-57_GW. The average toxaphene recovery was acceptable at 88% and WSP did not qualify any data based on the low recovery.

7.4.6 LABORATORY AND EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the laboratory or equipment blanks reviewed during this validation.

7.4.7 LABORATORY CONTROL SAMPLE ACCURACY

LCS recoveries were within laboratory-specified limits.

7.4.8 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51_GW. The MS and MSD were analyzed at 1:50 dilutions, which reduced the spike concentrations to less than the calibration range and it is not possible to assess data usability for sample MW-51_GW and its field duplicate MW-51_GW_DUP based on the MS recoveries. WSP did however assess RPDs between MS and MSD results when it was possible to do so. RPDs were acceptable, with the following exception:

- The RPD between beta-BHC results is high at 33%. Beta-BHC was not detected in the unspiked native sample and WSP did not qualify any data based on imprecision between the MS and MSD results.

7.4.9 SURROGATE ACCURACY

Surrogate recoveries were within laboratory-specified limits, with the following exceptions:

- Recoveries of the surrogate compounds decachlorobiphenyl and tetrachloro-m-xylene (TCMX) were outside of limits in the following samples. The high dilution factors reduced surrogate concentrations to less than the calibration range and it is not possible to assess data usability for these samples based on the surrogate recoveries.
  - 1:50 dilutions of samples MW-04_GW (6%, 179%), MW-10_GW (6%, 2062%), MW-51_GW (9%, 159%), MW-64_GW (5%, 194%);
  - 1:200 dilution of sample MW-04_GW (12%, 154%); and
  - 1:500 dilution of sample MW-10_GW (0%, 0%).
- Recoveries of the surrogate compound TCMX were high in the 1:50 dilutions performed on samples MW-30_GW (167%), MW-51_GW_DUP (229%), and MW-63_GW (278%). The high dilution factor reduced the surrogate concentrations to less than the calibration range and it is not possible to assess data usability for these samples based on the surrogate recoveries.

7.4.10 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the method-specified limits of 50 to 200% of the response of the same internal standard in the most recent opening CCV.

7.4.11 SECOND COLUMN CONFIRMATION

All analyte detections were confirmed by analysis on a second dissimilar column and the laboratory followed EPA's convention of reporting the lower of the two concentrations.

RPDs between results from the two columns did not meet the method specified identification criterion of ≤ 40% RPD, apart from the endrin detection in sample MW-10_GW. Based on professional judgement, WSP used an upper of 80% RPD as the threshold for rejection of the affected results, instead of NJ qualification. Justification for the rejections is based on both the very low agreement between the two columns, and also the laboratory being unable to confirm any of the OCI detections by review of data from the SVOC analyses. Though it would not be possible to confirm single digit concentrations due to a lack of sensitivity in the GC/MS method, the laboratory stated that concentration greater than 50 µg/L would have "a reasonably high chance of detection under 8270" (email from Eurofins dated December 12, 2024).

Detections with RPDs between results from the two columns greater than 40% and resulting applied qualifiers are summarized in the following table.

Sample ID	Analyte	Detected Concentrations		RPD	Qualifier (Reason code SE)
		Column 1	Column 2		
MW-04_GW	Aldrin	2.5	0.52	130%	R
MW-04_GW	cis-Chlordane	82	240	98%	R
MW-04_GW	delta-BHC	9.7	1.5	147%	R
MW-04_GW	4,4'-DDD	60	180	101%	R
MW-04_GW	Endrin	39	83	72%	NJ
MW-10_GW	Aldrin	13	8.1	48%	NJ
MW-10_GW	delta-BHC	14	2.1	147%	R
MW-10_GW	cis-Chlordane	150	250	50%	NJ

Sample ID	Analyte	Detected Concentrations		RPD	Qualifier (Reason code SE)
		Column 1	Column 2		
MW-10_GW	4,4'-DDD	76	260	106%	R
MW-10_GW	4,4'-DDT	5.3	10	63%	NJ
MW-10_GW	Endrin Aldehyde	19	0.52	189%	R
MW-14_GW	Aldrin	0.14	0.011	170%	R
MW-14_GW	4,4'-DDD	0.21	0.38	58%	NJ
MW-14_GW	4,4'-DDE	0.029	0.85	187%	R
MW-30_GW	cis-Chlordane	7.6	31	122%	R
MW-55_GW	gamma-BHC	0.022	0.012	58%	NJ
MW-57_GW	Aldrin	0.014	0.0066	71%	NJ
MW-57_GW	4,4'-DDD	0.012	0.22	179%	R

As discussed in the Data Quality Usability Assessment section of the Field Sampling Report, future OCI analysis will be performed using EPA Method 1699 (high resolution gas chromatography (HRGC)-high resolution mass spectroscopy) or Method 1699 Modified (HRGC-tandem mass spectroscopy) to better address interferences in areas with higher concentrations of detected analytes likely associated with wastes in the Chemical Waste Disposal Area (CWDA). Qualifiers added as described above will be reevaluated as more data are collected using mass-spectroscopy based methods, and qualifiers may be revised if warranted based on those future results.

7.4.12 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification and quantitation for aldrin, cis-chlordane, and dieldrin in all field samples.

Reported results were correctly identified and quantified, with the exception of the analytes qualified because of imprecision between results from the two analytical columns.

7.4.13 DATA REPORTING AND ANALYTICAL PROCEDURE

Eurofins J qualified results with detected concentrations less than the RL. WSP agrees these results are quantitatively uncertain and has maintained Eurofins' J qualifiers. (J, DL)

7.5 PCBS BY EPA METHOD 8082A

PCB results are fully usable without limitations.

7.5.1 HOLDING TIME COMPLIANCE

The samples were prepared and analyzed within the QAPP-specified maximum holding times of 7 days from sampling until extraction and 40 days from extraction until analysis.

7.5.2 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of a minimum of five calibration points for average RF or linear calibration models or six calibration points for

quadratic calibration models, with the lowest calibration level at or lower than the RL. RSDs ≤ 20% for average RF calibration models, $r^2 \geq 0.995$ for linear calibration models, or $r^2 \geq 0.99$ for non-linear calibration models.

7.5.3 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 80 to 120% limits.

7.5.4 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the QAPP-specified frequency of the beginning and end of each analytical sequence and after every 10 field samples. CCV recoveries were within the QAPP-specified 80 to 120% limits, with the following exception:

- PCB-1260 Peak 2 recovery was high at 122% in the CCV associated with the analysis of samples MW-04_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-63_GW, and MW-64_GW. The average PCB-1260 recovery was acceptable and WSP did not qualify any data based on the high CCV recovery.

7.5.5 LABORATORY AND EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the laboratory or equipment blanks reviewed during this validation.

7.5.6 LABORATORY CONTROL SAMPLE ACCURACY

LCS recoveries were within laboratory-specified limits.

7.5.7 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits, with the following exceptions:

- PCB-1016 and PCB-1260 were not recovered in the MS and MSD performed on sample MW-51_GW. The sample was analyzed at a 1:20 dilution, which reduced MS and MSD concentrations below detectable limits. No data were qualified based on the lack of MS recoveries.

7.5.8 SURROGATE ACCURACY

Surrogate recoveries were within laboratory-specified limits, with the following exceptions:

- Recovery of the surrogate compound tetrachloro-m-xylene was high at 150% in sample MW-30_GW. PCBs were not detected in the associated sample and data usability is not adversely affected by high surrogate recovery.
- Recovery of the surrogate compound tetrachloro-m-xylene was extremely low at 0.6% in sample MW-51_GW. Additionally, the surrogate compound decachlorobiphenyl was not recovered from the analysis of sample MW-51_GW. The sample was analyzed at a 1:20 dilution due to sample matrix interference, which reduced surrogate concentrations below detectable limits. No data were qualified based on the lack of surrogate recoveries.
- The surrogate compound decachlorobiphenyl was not recovered from the analysis of samples MW-63_GW and MW-51_GW_DUP. The samples were analyzed at a 1:20 dilution due to sample matrix interference, which reduced the surrogate concentration below detectable limits. No data were qualified based on the lack of surrogate recoveries.

7.5.9 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the QAPP-specified limits of 50 to 200% of the response of the same internal standard in the ICAL midpoint standard or the most recent CCV on days when ICAL was not performed, and internal standard retention times have not shifted by more than 30 seconds relative to the ICAL.

7.5.10 SECOND COLUMN CONFIRMATION

PCBs were not detected in the field samples and second column confirmation was not required.

7.5.11 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification and quantitation for Aroclor 1016.

Reported results were correctly identified and quantified.

7.5.12 DATA REPORTING AND ANALYTICAL PROCEDURE

There were no data reporting and analytical procedure anomalies associated with the PCB analysis of the samples reviewed in this validation.

7.6 PERCHLORATE BY EPA METHOD 6850

Perchlorate results are usable with the limitations described in Sections 7.6.1 through 7.6.10.

7.6.1 PRESERVATION AND HOLDING TIME COMPLIANCE

According to the case narrative, the sample containers for perchlorate analysis did not have at least 1/3 headspace. EPA Method recommends storing samples and extracts with headspace to reduce potential anaerobic biodegradation, but it does not specify a minimum headspace requirement. WSP did not qualify any data based on the lack of headspace.

The samples were analyzed for perchlorate within the QAPP specified maximum holding time of 28 days from sampling until analysis.

7.6.2 TUNE CHECK COMPLIANCE

Instrument tunes were checked prior to ICAL. All tunes met ion relative abundance criteria.

7.6.3 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of a minimum of six calibration points. RSDs ≤ 15% for average RF calibration models or $r^2 \geq 0.995$ for linear or quadratic calibration models.

7.6.4 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 85 to 115% recovery limits.

7.6.5 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the beginning and end of each analytical sequence and after every 10 field samples. Recoveries were within the method-specified 50 to 150% limits for low-level standards and 85 to 115% limits for mid-level standards.

7.6.6 LABORATORY AND EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the laboratory or equipment blanks reviewed during this validation.

7.6.7 LABORATORY CONTROL SAMPLE ACCURACY

LCS recovery was within laboratory-specified 80 to 120% limits.

7.6.8 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW. Recoveries were within the laboratory-specified 80 to 120% limits and the RPD between MS and MSD results was less than the laboratory-specified maxima of 15%.

7.6.9 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification and quantitation for perchlorate in all field samples.

Reported results were correctly identified and quantified.

7.6.10 DATA REPORTING AND ANALYTICAL PROCEDURE

Eurofins J qualified results with detected concentrations less than the RL. WSP agrees these results are quantitatively uncertain and has maintained Eurofins' J qualifiers. (J, DL)

7.7 HERBICIDES BY EPA METHOD 8321B

Herbicide results are usable with the limitations described in Sections 7.7.1 through 7.7.12.

As discussed in the Data Usability Assessment of the Field Sampling Report, it should be noted that the very high salt concentrations in the groundwater caused problems in the high-performance liquid chromatography-mass spectroscopy analysis of the samples resulting in two days of instrument downtime. Eurofins was working on targeted dilutions that would allow acceptable quality as well as lowest possible reporting and detection limits but was constrained by a combination of the instrument downtime, the 7-day holding time, and limited sample volume. WSP worked with Eurofins to optimize selection of results with the best QC and lowest detection limits (see Section 7.7.12 below). The greatest limitation in the herbicide data are the higher than optimal detection limits achieved for some samples from monitoring wells with higher salt concentrations. WSP and Eurofins are working to evaluate options to reduce detection limits in these samples for future sampling.

7.7.1 HOLDING TIME COMPLIANCE

The samples were prepared and analyzed within 7 days from sampling until analysis.

7.7.2 TUNE CHECK COMPLIANCE

Instrument tunes were checked prior to ICAL. All tunes met ion relative abundance criteria.

7.7.3 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of a minimum of five calibration points. RSDs ≤ 20% for average RF calibration models or $r^2 \geq 0.990$ for linear or quadratic calibration models

7.7.4 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 80 to 120% recovery limits.

7.7.5 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the beginning and end of each analytical sequence and after every 10 field samples. Recoveries were within the method-specified 80 to 120% limits, with the following exceptions:

- 2,4,5-TP (Silvex) recovery was high at 140% in a CCV associated with the 1:10 dilution of samples MW-10_GW and MW-30_GW, and the undiluted analyses of samples 18R-1_GW, 18R-1_GW_DUP, MW-04_GW, MW-16_GW, MW-55_GW, MW-56_GW, MW-57_GW, MW-63_GW. Data limitations are summarized below.
  - WSP J+ qualified the detected silvex result from the 1:10 dilution of sample MW-10-GW and the undiluted analysis of sample MW-04_GW because of the high CCV recovery. (J+, CH)
  - Per the NFGs, WSP UJ qualified the non-detected silvex results from samples 18R-1_GW and 18R-1_GW_DUP because of the high CCV recovery. (UJ, CH)
  - Silvex was not reported from the analyses of the remaining associated samples and data usability is not adversely affected by the high CCV recovery.
- Dinoseb recoveries were low at 59% and 77% in CCVs associated with the 1:10 dilution of samples MW-10_GW and MW-30_GW, and the undiluted analyses of samples 18R-1_GW, 18R-1_GW_DUP, MW-04_GW, MW-14_GW, MW-16_GW, MW-55_GW, MW-56_GW, MW-57_GW, MW-63_GW. Data limitations are summarized below.
  - WSP UJ qualified the non-detected dinoseb results from the undiluted analyses of samples 18R-1_GW 18R-1_GW_DUP, MW-14_GW, MW-55_GW, and MW-56_GW because of the low CCV recoveries. (UJ, LC)
  - Dinoseb was not reported from the analyses of the remaining associated samples and data usability is not adversely affected by the low CCV recoveries.

7.7.6 LABORATORY AND EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the laboratory or equipment blanks reviewed during this validation.

7.7.7 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries were within the laboratory-specified 70 to 130% limits and RPDs between LCS and LCSD results were less than the laboratory-specified maxima of 30%.

7.7.8 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits, with the following exceptions:

- Dalapon (35%, 39%) and dicamba (209%, 197%) recoveries were outside of limits in the MS and MSD performed on sample MW-51_GW. Data limitations are summarized below.
  - WSP UJ qualified the non-detected dalapon results from sample MW-51_GW and its field duplicate MW-51_GW_DUP because of the low MS and MSD recoveries. (UJ, LM)

- Dicamba was not detected in the unspiked native sample and data usability is not adversely affected by the high MS and MSD recoveries.

7.7.9 SURROGATE ACCURACY

Recoveries of the surrogate compound 2,4-dichlorophenylacetic acid (DCPAA) were within the laboratory-specified 25 to 125% limits, with the following exceptions:

– DCPAA recoveries were high in the undiluted analyses of samples MW-04_GW (137%), MW-14_GW (139%), MW-16_GW (348%), MW-30_GW (141%), MW-55_GW (183%), MW-56_GW (200%), MW-57_GW (149%), and MW-63_GW (221%). Data limitations are summarized below.

  - WSP J+ qualified the detected 2,4-D, 2,4-DB, MCPA, pentachlorophenol, and silvex results from the undiluted analysis of sample MW-04_GW because of the high surrogate recovery. (J+, HS)
  - WSP J+ qualified the detected 2,4-D, dichlorprop, MCPP, and silvex results from the undiluted analysis of sample MW-30_GW because of the high surrogate recovery. (J+, HS)
  - WSP J+ qualified the detected 2,4-D and MCPA results from sample MW-55_GW because of the high surrogate recovery. (J+, HS)
  - WSP J+ qualified the detected 2,4-DB result from sample MW-57_GW because of the high surrogate recovery. (J+, HS)
  - Target analytes were not detected in the associated analyses of the remaining samples and data usability is not adversely affected by the high surrogate recoveries.

7.7.10 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the method-specified limits of 50 to 150% of the response from the average of the ICAL standards, with the following exceptions:

– Area counts for the internal standard $^{13}C_6$-dichlorophenoxyacetic acid were low in the 1:10 dilution of samples MW-10_GW and MW-30_GW at 44% and 40%, respectively. Data limitations are summarized below.

  - Per the NFGs, WSP J+ qualified the detected dicamba, MCPP, and silvex results and UJ qualified the non-detected dalapon result from the 1:10 dilution of sample MW-10_GW. (J+/UJ, LI)
  - Per the NFGs, WSP J+ qualified the detected 2,4-DB result and UJ qualified the non-detected 2,4,5-T, dalpon, and dicambaa results from the 1:10 dilution of sample MW-30_GW because of the low internal standard area counts. (J+/UJ, LI)

– Area counts for the internal standard $^{13}C_6$-dichlorophenoxyacetic acid were extremely low in the undiluted analyses of samples MW-04_GW (10%), MW-10_GW (3%), MW-14_GW (initial analysis, 2%), MW-30_GW (3%), MW-55_GW (13%), and MW-56_GW (13%). Data limitations are summarized below.

  - Per the NFGs, WSP J+ qualified the detected 2,4-D, 2,4-DB, MCPA, and silvex results from sample MW-04_GW; the dichloroprop result from sample MW-10-GW; 2,4-D, dichlorprop, MCPP, and silvex result from sample MW-30_GW; and the 2,4-D and MCPA results from sample MW-55_GW because of the low internal standard area counts. (J+, LI)
  - WSP chose not to report non-detected results, excluding dinoseb and pentachlorophenol, from the associated analyses because the NFGs require rejection for non-detected results associated with internal standard area counts less than 20%.

- Area counts for the internal standards $^{13}C_6$-dichlorophenoxyacetic acid and $^{13}C_6$-pentachlorophenol were extremely low in the undiluted analysis of samples MW-16_GW (0.07%, 1%), MW-57_GW (1%, 16%), and MW-63_GW (0.18%, 1%). Data imitations are summarized below.
    - WSP J+ qualified the detected 2,4-DB result from the undiluted analysis of sample MW-57_GW because of the low internal standard area count. (J+, LI)
    - WSP did not report any other results from the associated analyses and data usability is not adversely affected by the extremely low internal standard area counts.
- Area counts for the internal standard $^{13}C_6$-pentachlorophenol were low in the undiluted analyses of samples MW-10_GW (27%), MW-14_GW (initial analysis, 29%), and MW-30_GW (42%). Data limitations are summarized below.
    - WSP UJ qualified the non-detected dinoseb result from sample MW-10_GW because of the low internal standard area count. (UJ, LI)
    - Pentachlorophenol and dinoseb either were not reported from the remaining associated analyses and data usability is not adversely affected by the low internal standard area counts.
- Area counts for the internal standard $^{13}C_6$-pentachlorophenol were high in the 10:10 dilution analysis of sample MW-30_GW (165%), and the undiluted analysis of samples 18R-1_GW (154%), 18R-1_GW_DUP (184%), MW-55_GW (145%), and MW-56_GW (157%). Pentachlorophenol and dinoseb either were not reported from the associated analyses or were not detected in the associated samples and data usability is not adversely affected by the high internal standard area counts.

7.7.11 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification for all target analytes and quantitation for 2,4-D and MCPA in all field samples

Reported results were correctly identified and quantified.

7.7.12 DATA REPORTING AND ANALYTICAL PROCEDURE

Eurofins J qualified results with detected concentrations less than the RL. WSP agrees these results are quantitatively uncertain and has maintained Eurofins' J qualifiers. (J, DL)

Eurofins E qualified results with concentration greater than the instrument's calibration range. WSP chose not to use E qualified results for reporting purposes and instead chose results from appropriate dilutions.

Eurofins I qualified results when the ion ratios were outside of expected limits. WSP NJ qualified all of Eurofins' reportable I qualified results to indicate they are qualitatively and quantitatively uncertain. (NJ, MI)[1]

A summary of the results WSP chose to use for reporting purposes may be found in the following table. Results used for reporting purposes were chosen to reflect the best possible data quality while trying to maintain the lowest possible sensitivity limits.

[1] NJ qualifiers superseded J+ qualifiers previously applied because of high surrogate recoveries and/or low internal standard area counts.

Sample ID	Analyte(s)	Dilution	Analysis Date and Time
18R-1_GW	All herbicides	none	10/31/2024 6:34 PM
18R-1_GW_DUP			10/31/2024 6:41 PM
MW-14_GW			11/1/2024 7:15 PM
MW-15_GW			11/1/2024 7:22 PM
MW-54_GW			11/01/24 4:50 PM
MW-04_GW	2,4-D, 2,4-DB, MCPA, Pentachlorophenol, Silvex	none	10/31/2024 5:48 PM
MW-04_GW	All other herbicides	1:50	11/1/2024 5:16 PM
MW-10_GW	Dichlorprop, Dinoseb	none	10/31/2024 8:13 PM
MW-10_GW	Dalapon, Dicamba, MCPP, Pentachlorophenol, Silvex	1:10	10/31/2024 5:42 PM
MW-10_GW	2,4-DB and 2,4,5-T	1:100	11/1/2024 5:09 PM
MW-10_GW	2,4-D and MCPA	1:1,000	11/4/2024 7:26 PM
MW-16_GW	All herbicides	1:50	11/1/2024 6:35 PM
MW-17_GW			11/1/2024 6:42 PM
MW-51_GW			11/1/2024 5:23 PM
MW-51_GW_DUP			11/1/2024 6:48 PM
MW-63_GW			11/1/2024 6:29 PM
MW-64_GW			11/1/2024 6:15 PM
MW-30_GW	2,4-D, Dichlorprop, Dinoseb, MCPP, Silvex	none	10/31/2024 8:20 PM
MW-30_GW	2,4,5-T, 2,4-DB, Dalapon, Dicamba, Pentachlorophenol	1:10	10/31/2024 7:34 PM
MW-30_GW	MCPA	1:100	11/1/2024 7:02 PM
MW-55_GW	2,4-D, Dinoseb, MCPA, Pentachlorophenol	none	10/31/2024 6:55 PM
MW-55_GW	All other herbicides	1:50	11/1/2024 6:22 PM
MW-56_GW	Dinoseb and Pentachlorophenol	none	10/31/2024 7:27 PM
MW-56_GW	All other herbicides	1:50	11/1/2024 6:55 PM
MW-57_GW	2,4-DB	none	10/31/2024 6:21 PM
MW-57_GW	All other herbicides	1:50	11/1/2024 5:49 PM

7.8 METALS BY EPA METHOD 6020B AND HARDNESS BY SM 2340B

Metals and hardness results are usable with the limitations described in Sections 7.8.1 through 7.8.15.

7.8.1 PRESERVATION AND HOLDING TIME COMPLIANCE

Due to the high pH and buffering capacity of groundwater from the Site, many samples for metals analysis were received at the lab with pH greater than 2 SU, and the lab was unable to permanently reduce the pH through additional acid addition to the bulk sample. Details include the following:

- According to the case narrative, samples MW-04_GW, MW-10_GW, MW-54_GW, MW-55_GW, and MW-56_GW were improperly preserved in the field for metals and hardness analysis. Eurofins added nitric acid to the samples to achieve the desired pH and proceeded with analysis. However, sample MW-04_GW did not hold preservation after 24 hours. WSP J qualified the detected and UJ qualified the non-detect metals and hardness results from sample MW-04_GW due to insufficient preservation. (J/UJ, NP)
- According to the case narrative, samples MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW were received at the laboratory with insufficient preservation for metals and hardness analysis. Eurofins attempted to adjust the pH, but the samples remained strongly basic. WSP J qualified the detected and UJ qualified the non-detect metals and hardness results from the associated samples due to insufficient preservation. (J/UJ, NP)

The samples were prepared and analyzed for metals and hardness within the QAPP-specified maximum holding time of 180 days from collection until analysis.

7.8.2 TUNE CHECK COMPLIANCE

Instrument tunes were checked prior to ICAL and mass calibrations did not differ from their true valued by more than one atomic mass unit.

7.8.3 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of daily calibration with a minimum of a standard and a blank.

7.8.4 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 90 to 110% limits.

7.8.5 INTERFERENCE CHECK STANDARD COMPLIANCE

Interference check standards were analyzed at the QAPP-specified frequency of daily after ICAL, prior to analyzing samples. Spiked analyte recoveries were within the method-specified 80 to 120% limits and non-spiked analytes were not detected at concentrations greater than the absolute value of the RL.

7.8.6 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the QAPP-specified frequency of the beginning and end of each analytical sequence and after every 10 field samples. Low-level CCV recoveries were within the QAPP-specified 80 to 120% limits and mid-level CCV recoveries were within the QAPP-specified 90 to 110% limits.

7.8.7 LABORATORY, EQUIPMENT, AND CALIBRATION BLANK DETECTIONS

Target analytes were not detected in the laboratory, equipment, or calibration blanks reviewed during this validation, with the following exceptions:

- Total antimony (0.40 micrograms per liter [µg/L]), total arsenic (2.7 µg/L), total potassium (76 µg/L), and total sodium (120 µg/L), dissolved arsenic (2.6 µg/L), dissolved potassium (120 µg/L), and dissolved sodium (250 µg/L) were detected in equipment blank EB-01, associated with samples MW-14_GW, MW-17_GW, MW-30_GW, MW-54_GW, and MW-56_GW. Data limitations are summarized below.
  - WSP J+ qualified the detected total antimony results from samples MW-54_GW and MW-56_GW because the detected concentrations were greater than the RL but less than ten times the concentration detected in the blank. (J+, EB)
  - Antimony, arsenic, potassium, and sodium either were not analyzed for in the remaining associated samples, not detected in the remaining associated samples, or the detected concentrations were greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total molybdenum was detected at a concentration of 0.605 µg/L in the laboratory blank associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-04_GW, MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-54_GW, MW-56_GW, MW-57_GW, MW-63_GW, and MW-64_GW. Total molybdenum either was not detected in the associated samples or the detected concentrations were greater than ten times the concentration detected in the blank and data usability is not adversely affected by the blank detection.
- Total vanadium was detected at a concentration of 1.21 µg/L in the calibration blank associated with the analysis of samples MW-04_GW, MW-10_GW, and MW-51_GW. Total vanadium either was not detected in the associated samples or the detected concentrations were greater than ten times the concentration detected in the blank and data usability is not adversely affected by the blank detection.
- Total arsenic (0.957 µg/L), molybdenum (1.75 µg/L), and sodium (945 µg/L) were detected in the calibration blank associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-04_GW, MW-10_GW, MW-16_GW, MW-51_GW, MW-51_GW_DUP, MW-55_GW, MW-57_GW, and MW-63_GW. Total arsenic, molybdenum, and sodium either were not reported from the associated analysis or the detected concentrations were greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total arsenic (0.964 µg/L), potassium (93.4 µg/L), and sodium (909 µg/L) were detected in the calibration blank associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW_DUP, MW-54_GW, MW-55_GW, MW-57_GW, MW-63_GW, and MW-64_GW. Total arsenic, potassium, and sodium were detected at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total arsenic was detected at a concentration of 0.771 µg/L in the calibration blank associated with the analysis of samples MW-14_GW, MW-15_GW, MW-30_GW, and MW-64_GW. Total arsenic was detected in the associated samples at concentrations greater than ten times the concentration detected in the blank and data usability is not adversely affected by the blank detection.
- Dissolved arsenic (0.771 µg/L), molybdenum (1.22 µg/L), and sodium (839 µg/L) were detected in the calibration blank associated with the analysis of samples MW-04_GW, MW-10_GW, and MW-51_GW. Dissolved arsenic, molybdenum, and sodium were detected in the associated samples at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Dissolved arsenic (0.828 µg/L), molybdenum (1.72 µg/L), and sodium (951 µg/L) were detected in the calibration blank associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-04_GW, MW-10_GW, MW-16_GW, MW-51_GW, MW-51_GW_DUP, MW-54_GW, MW-57_GW, and MW-63_GW. Dissolved arsenic, molybdenum, and sodium either were not reported from the associated analysis or the detected

concentrations were greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.

- Dissolved arsenic (0.797 µg/L), molybdenum (1.40 µg/L), potassium (76.4 µg/L), and sodium (986 µg/L) were detected in the calibration blank associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW_DUP, MW-54_GW, MW-56_GW, MW-57_GW, MW-63_GW, and MW-64_GW. Dissolved arsenic, molybdenum, and sodium either were not reported from the associated analysis or the detected concentrations were greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Dissolved molybdenum and potassium were detected at concentrations of 1.12 µg/L and 152 µg/L, respectively, in the calibration blank associated with the analysis of samples MW-14_GW, MW-15_GW, MW-30_GW, MW-56_GW, and MW-64_GW. Dissolved molybdenum and potassium were detected in the associated samples at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total magnesium and selenium were detected at concentrations of 6.34 µg/L and 0.0610 µg/L, respectively, in the calibration blank associated with the molybdenum analysis of samples 18R-1_GW and 18R-1_GW_DUP. Dissolved magnesium and selenium were not reported from the associated analysis and data usability is not adversely affected by the blank detections.
- Dissolved calcium (58.9 µg/L), iron (11.1 µg/L), and magnesium (11.4 µg/L) were detected in the calibration blank associated with the analysis of samples 18R-1_GW and 18R-1_GW_DUP. Dissolved calcium, iron, and magnesium were not reported from the associated analysis and data usability is not adversely affected by the blank detections.
- Dissolved magnesium (22.0 µg/L), silver (0.0690 µg/L), and sodium (90.1 µg/L) were detected in the calibration blank associated with the 1:50 dilution analysis of samples MW-04_GW, MW-10_GW, MW-51_GW, MW-57_GW. Dissolved magnesium, silver, and sodium either were not reported from the associated analysis or the detected concentrations were greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Dissolved aluminum was detected at a concentration of 18.0 µg/L in the calibration blank associated with the analysis of sample MW-51_GW. Aluminum was not detected in the associated sample and data usability is not adversely affected by the blank detection.
- Dissolved aluminum was detected at a concentration of 15.1 µg/L in the calibration blank associated with the analysis of sample MW-51_GW. Aluminum was not detected in the associated sample and data usability is not adversely affected by the blank detection.

7.8.8 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits.

7.8.9 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW for metals. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits, with the following exceptions:

- Total arsenic (211%, 1,667%), selenium (62%, 63%), zinc (147%, MSD) molybdenum (-6,372%, -6,426%), potassium (-11,590, -11,704%), and sodium (-130,744%, -131,285%) recoveries were outside limits in the MS and/or MSD performed on sample MW-51_GW. Additionally, the RPD between zinc results was high at 43%. Data limitations are summarized below.
    - WSP J- qualified the detected total selenium result from the associated sample and its field duplicate MW-51_GW_DUP due to potential low analytical bias. (J-, LM)
    - Total zinc was not detected in the associated samples and data usability is not adversely affected by potential high analytical bias or potential analytical imprecision.

  - Total arsenic, molybdenum, potassium, and sodium were detected in the unspiked native sample at concentrations greater than four times the spike concentrations and data usability cannot be assessed based on MS recoveries.

- Dissolved arsenic (748%, MSD), selenium (54%, 59%), molybdenum (228%, 513%), potassium (845%, 703%), and sodium (8,567%, 14,358%) recoveries were outside limits in the MS and/or MSD performed on sample MW-51_GW. Data limitations are summarized below.
  - WSP J- qualified the detected dissolved selenium result from the associated sample and its field duplicate MW-51_GW_DUP due to potential low analytical bias. (J-, LM)
  - Dissolved arsenic, molybdenum, potassium, and sodium were detected in the unspiked native sample at concentrations greater than four times the spike concentrations and data usability cannot be assessed based on MS recoveries.

7.8.10 POST-DIGESTION SPIKE ACCURACY

Eurofins performed a post-digestion spike analysis on sample MW-51_GW. Recoveries were within the QAPP-specified 75 to 125% limits, with the following exception:

- Silver recovery was high at 135% in the post-digestion spike sample performed on sample MW-51_GW. Silver was not detected in the associated sample and data usability is not adversely affected by potential high analytical bias.

7.8.11 SERIAL DILUTION PRECISION

Eurofins performed a serial dilution on sample MW-51_GW. RPDs were less than the method-specified maximum of 20%, indicating acceptable analytical precision.

7.8.12 INTERNAL STANDARD AREA COUNTS

Internal standard area counts were within the QAPP-specified limits of 70 to 130% of the relative intensity from the initial calibration blank.

7.8.13 TOTAL AND DISSOLVED DATA ASSESSMENT

Total metal concentrations were greater than dissolved concentrations, or differences between total and dissolved results met QAPP-specified criteria for duplicate analyses.

7.8.14 STAGE 4 QUANTITATIVE CHECKS

WSP confirmed proper quantitation for antimony, arsenic, barium, and hardness.

Reported results were correctly quantified.

7.8.15 DATA REPORTING AND ANALYTICAL PROCEDURE

Eurofins J qualified results with detected concentrations less than the RL. WSP agrees these results are quantitatively uncertain and has maintained Eurofins' J qualifiers. (J, DL)

7.9 MERCURY BY EPA METHOD 7470A

7.9.1 PRESERVATION AND HOLDING TIME COMPLIANCE

Due to the high pH and buffering capacity of groundwater from the Site, many samples for mercury analysis were received at the lab with pH greater than 2 SU, and the lab was unable to permanently reduce the pH through additional acid addition to the bulk sample. Details include the following:

- According to the case narrative, samples MW-04_GW, MW-10_GW, MW-54_GW, MW-55_GW, and MW-56_GW were improperly preserved in the field for mercury analysis. Eurofins added nitric acid to the samples to achieve the desired pH and proceeded with analysis. However, sample MW-04_GW did not hold preservation after 24 hours. WSP J qualified the detected and UJ qualified the non-detect mercury results from sample MW-04_GW due to insufficient preservation. (J/UJ, NP)
- According to the case narrative, samples MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW were received at the laboratory with insufficient preservation for mercury analysis. Eurofins attempted to adjust the pH, but the samples remained strongly basic. WSP J qualified the detected and UJ qualified the non-detect mercury results from the associated samples due to insufficient preservation. (J/UJ, NP)

The samples were analyzed within the QAPP-specified maximum holding time of 28 days from sampling until analysis.

7.9.2 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of daily calibration with a minimum of five standards and a blank, correlation coefficient ≥ 0.995, or r^2 ≥ 0.99.

7.9.3 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 90 to 110% limits.

7.9.4 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the QAPP-specified frequency of the beginning and end of each analytical sequence and after every 10 field samples. CCV recoveries were within the QAPP-specified 90 to 110% limits.

7.9.5 LABORATORY, EQUIPMENT, AND CALIBRATION BLANK DETECTIONS

Mercury was not detected in the laboratory, equipment, or calibration blanks reviewed during this validation.

7.9.6 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits.

7.9.7 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits.

7.9.8 TOTAL AND DISSOLVED DATA ASSESSMENT

Total and dissolved mercury were not detected in the samples reviewed during this validation and analytical precision is acceptable.

7.9.9 STAGE 4 QUANTITATIVE CHECKS

WSP confirmed proper quantitation for mercury results in all field samples.

Reported results were correctly quantified.

7.9.10 DATA REPORTING AND ANALYTICAL PROCEDURE

There were no data reporting and analytical procedure anomalies associated with the mercury analysis of the samples reviewed in this validation.

7.10 ANIONS BY EPA METHOD 9056A

Anion results are fully usable without limitations.

7.10.1 HOLDING TIME COMPLIANCE

The samples were analyzed within the QAPP-specified maximum holding times of 28 days from sampling until analysis.

7.10.2 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of a minimum of three standards and a blank, with one of the standards having a concentration ≤ RL and correlation coefficients ≥ 0.995.

7.10.3 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 90 to 110% limits.

7.10.4 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the QAPP-specified frequency of the beginning and end of each analytical sequence and after every 10 field samples. Low-level CCV recoveries were within the QAPP-specified 50 to 150% limits and mid-level CCV recoveries were within the QAPP-specified 90 to 110% limits.

7.10.5 LABORATORY, EQUIPMENT, AND CALIBRATION BLANK DETECTIONS

Target analytes were not detected in the laboratory, equipment, or calibration blanks reviewed during this validation.

7.10.6 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits.

7.10.7 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51-GW and equipment blank EB-01. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits.

7.10.8 LABORATORY DUPLICATE PRECISION

Eurofins performed duplicate analyses on sample MW-51_GW and equipment blank EB-01. RPDs were less than the QAPP-specified maximum of 20%, indicating acceptable analytical precision.

7.10.9 STAGE 4 QUANTITATIVE CHECKS

WSP confirmed proper quantitation for chloride.

Reported results were correctly quantified.

7.10.10 DATA REPORTING AND ANALYTICAL PROCEDURE

There were no data reporting and analytical procedure anomalies associated with the anion analysis of the samples reviewed in this validation.

7.11 TOC BY EPA METHOD 9060A

TOC results are fully usable without limitations.

7.11.1 PRESERVATION AND HOLDING TIME COMPLIANCE

Due to the high pH and buffering capacity of groundwater from the Site, many samples for TOC analysis were received at the lab with pH greater than 2 SU, and the lab was unable to permanently reduce the pH through additional acid addition to the bulk sample. Details include the following:

- According to the case narrative, samples MW-04_GW, MW-10_GW, MW-54_GW, MW-55_GW, and MW-56_GW were improperly preserved in the field for TOC analysis. Eurofins added additional acid to the samples to achieve the desired pH and proceeded with analysis. However, sample MW-04_GW did not hold preservation after 24 hours. Eurofins adjusted the pH in an aliquot of the associated sample for TOC analysis, achieved the desired pH, and proceeded with analysis.
- According to the case narrative, samples MW-10_GW, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW, MW-51_GW_DUP, MW-57_GW, MW-63_GW, and MW-64_GW were received at the laboratory with insufficient preservation for TOC analysis. Eurofins attempted to adjust the pH, but the samples remained strongly basic. Eurofins adjusted the pH in aliquots of the associated samples for TOC analysis, achieved the desired pH, and proceeded with analysis.

The samples were analyzed within the QAPP-specified maximum holding time of 28 days from sampling until analysis. Based on professional judgment, WSP did not qualify any TOC data because of the matrix related inadequate preservation.

7.11.2 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the analysis of the samples reviewed in this report met the QAPP-specified criteria of a minimum of five points, correlation coefficient ≥ 0.995, or r^2 ≥ 0.99.

7.11.3 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 90 to 110% limits.

7.11.4 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCVs were analyzed at the QAPP-specified frequency of the beginning and end of each analytical sequence and after every 10 field samples. Low-level CCV recoveries were within the QAPP-specified 50 to 150% limits and mid-level CCV recoveries were within the QAPP-specified 90 to 110% limits.

7.11.5 LABORATORY, EQUIPMENT, AND CALIBRATION BLANK DETECTIONS

Target analytes were not detected in the laboratory, equipment, or calibration blanks reviewed during this validation, with the following exception:

- TOC was detected at a concentration of 0.52 milligrams per liter (mg/L) in equipment blank EB-01, associated with samples MW-14_GW, MW-17_GW, MW-30_GW, MW-54_GW, and MW-56_GW. TOC either was not analyzed for in the associated samples, or the detected concentrations were greater than ten times the concentration detected in the blank and data usability is not adversely affected by the blank detection.

7.11.6 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits.

7.11.7 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on equipment blank EB-01. Recoveries and RPDs between MS and MSD results were within laboratory-specified limits.

7.11.8 LABORATORY DUPLICATE PRECISION

Eurofins did not perform a duplicate analysis on the samples reviewed during this validation.

7.11.9 STAGE 4 QUANTITATIVE CHECKS

WSP confirmed proper quantitation for TOC in all field samples.

Reported results were correctly quantified.

7.11.10 DATA REPORTING AND ANALYTICAL PROCEDURE

There were no data reporting and analytical procedure anomalies associated with the TOC analysis of the samples reviewed in this validation.

7.12 ALKALINITY BY SM 2320B

Alkalinity results are fully usable without limitations.

7.12.1 HOLDING TIME COMPLIANCE

The samples were analyzed within the QAPP-specified maximum holding time of 14 days from sampling until analysis.

7.12.2 LABORATORY, EQUIPMENT, AND CALIBRATION BLANK DETECTIONS

Target analytes were not detected in the laboratory, equipment, or calibration blanks reviewed during this validation, with the following exceptions:

- Total alkalinity (8.7 mg/L), carbonate alkalinity (5.5 mg/L), and hydroxide alkalinity (3.2 mg/L) were detected in equipment blank EB-01, associated with samples MW-14_GW, MW-17_GW, MW-30_GW, MW-54_GW, and MW-56_GW. Total alkalinity, carbonate alkalinity, and hydroxide alkalinity either were not analyzed for in the associated samples, not detected in the associated samples, or the detected concentrations were greater than ten times the concentrations detected in the blank. Data usability is not adversely affected by the blank detections.
- Total alkalinity and bicarbonate alkalinity were detected at concentrations of 6.73 mg/L and 5.77 mg/L, respectively, in the laboratory blank associated with the analysis of samples MW-04_GW, MW-10_GW, MW-14_GW, MW-30_GW, MW-54_GW, MW-56_GW, and MW-57_GW. Total alkalinity and bicarbonate alkalinity were detected in the associated samples at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total alkalinity and bicarbonate alkalinity were both detected at a concentration of 2.50 mg/L in the laboratory blank associated with the analysis of samples MW-15_GW, MW-16_GW, MW-51_GW, MW-51_GW_DUP, MW-63_GW, and MW-64_GW. Total alkalinity and bicarbonate alkalinity either were not detected in the associated samples or the detected concentrations were greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total alkalinity and bicarbonate alkalinity were both detected at a concentration of 3.70 mg/L in the calibration blank associated with the analysis of sample MW-55_GW. Total alkalinity and bicarbonate alkalinity were detected in the associated samples at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total alkalinity and bicarbonate alkalinity were detected at concentrations of 7.69 mg/L and 5.16 mg/L, respectively, in the calibration blank associated with the analysis of samples MW-04_GW, MW-10_GW, MW-14_GW, MW-30_GW, MW-54_GW, MW-56_GW, and MW-57_GW. Total alkalinity and bicarbonate alkalinity were detected in the associated samples at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- Total alkalinity and bicarbonate alkalinity were both detected at concentrations of 6.34 mg/L in the calibration blank associated with the analysis of samples MW-14_GW and MW-30_GW. Total alkalinity and bicarbonate alkalinity were detected in the associated samples at concentrations greater than ten times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.

7.12.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries and RPDs between LCS and LCSD results were within laboratory-specified limits.

7.12.4 LABORATORY DUPLICATE PRECISION

Eurofins performed duplicate analyses on samples MW-10_GW and MW-51_GW. RPDs between primary and duplicate analyses were less than the QAPP-specified maximum of 20%, demonstrating acceptable analytical precision.

7.12.5 STAGE 4 QUANTITATIVE CHECKS

WSP confirmed proper analyte identification and quantitation for total alkalinity in all field samples.

Reported results were correctly quantified.

7.12.6 DATA REPORTING AND ANALYTICAL PROCEDURE

There were no data reporting and analytical procedure anomalies associated with the alkalinity analyses of the samples reviewed in this validation.

7.13 DIOXINS AND FURANS BY EPA METHOD 1613B

Dioxin and furan results generated by Eurofins may be considered usable with the limitations described in Sections 7.13.1 through 7.13.12.

7.13.1 PRESERVATION AND HOLDING TIME COMPLIANCE

According to the case narrative, equipment blank EB-01 and samples 18R-1_GW, 18R-1_GW_DUP, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW_DUP, MW-54_GW, MW-55_GW, MW-56_GW, MW-57_GW, MW-63_GW, and MW-64_GW were received with elevated pH. Eurofins added sulfuric acid to the samples to reduce the pH below 9 SU, as recommended by the method for storage prior to extraction. The pH reduction required addition of 2 milliliters concentrated sulfuric acid, which resulted in a mild bubbling and foaming reaction. After the pH was reduced, the laboratory proceeded with extraction and analysis. While this is not a preservation deficiency, it is noted as further information about the challenges to reducing pH in the groundwater samples from this site.

Samples were analyzed for dioxins/furans within the QAPP-specified maximum holding time of one year from collection until analysis.

7.13.2 INITIAL CALIBRATION COMPLIANCE

ICALs associated with the dioxin/furan analyses of these samples met the method-specified criteria of RSDs less than or equal to 20% for average RF calibration models, with a signal to noise ratio of at least ten, and ion abundances within specified control limits.

7.13.3 INITIAL CALIBRATION VERIFICATION ACCURACY

ICV recoveries were within the QAPP-specified 70 to 130% limits.

7.13.4 CONTINUING CALIBRATION VERIFICATION ACCURACY

CCV recoveries were within the laboratory-specified limits, with the following exception:

- 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) recovery was high at 116% in the CCV associated with the analysis of sample MW-56_GW. WSP UJ qualified the non-detected 1,2,3,7,8,9-HxCDF result from sample MW-56_GW because the CCV recovery was outside of limits. (UJ, CH)

7.13.5 LABORATORY BLANK DETECTIONS

Target analytes were not detected in the laboratory blanks associated with the samples reviewed in this report, with the following exceptions:

- 2,3,7,8-Tetrachlorodibenzofuran (TCDF [0.898 picograms per liter {pg/L}]), 1,2,3,7,8-pentachlorodibenzofuran (PeCDF [0.907 pg/L]), 1,2,3,4,7,8-hexachlorodibenzo-p-dioxin (HxCDD [2.17 pg/L]), 1,2,3,7,8,9-HxCDD (0.895 pg/L), 1,2,3,4,7,8-HxCDF (1.01 pg/L), 1,2,3,7,8,9-HxCDF (3.30 pg/L), 2,3,4,6,7,8-HxCDF (0.462 pg/L), 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin (HpCDD [1.76 pg/L]), 1,2,3,4,6,7,8-heptachlorodibenzofuran (HpCDF [1.77 pg/L]), 1,2,3,4,7,8,9-HpCDF (1.65 pg/L), octachlorodibenzo-p-dioxin (OCDD [10.3 pg/L]), octachlorodibenzofuran (OCDF [4.17 pg/L]), total TCDF (0.898

pg/L), total PeCDF (0.907 pg/L), total HxCDD (3.07 pg/L), total HxCDF (5.29 pg/L), total HpCDD (3.36 pg/L), and total HpCDF (3.42 pg/L) were detected in the laboratory blank associated with samples MW-04_GW, MW-10_GW, and MW-51_GW. Data limitations are summarized below.

- WSP U qualified the 2,3,7,8-TCDF result from sample MW-04_GW because the concentration detected in the sample was less than the concentration detected in the blank. (U, MB)
- WSP J+ qualified the 2,3,7,8-TCDF result from samples MW-10_GW because the concentration detected in the sample was greater than the concentration detected in the blank. (J+ MB)
- WSP J+ qualified the 2,3,4,6,7,8-HxCDF results from samples MW-10_GW and MW-51_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, MB)
- WSP U qualified the 1,2,3,4,7,8,9-HpCDF results from samples MW-10_GW and MW-51_GW because the concentrations detected in the samples were less than the concentration detected in the blank. (U, MB)
- WSP U qualified the 1,2,3,7,8-PeCDF result from sample MW-51_GW because the concentration detected in the sample was less than the concentration detected in the blank. (U, MB)
- WSP U qualified the 1,2,3,7,8,9-HxCDD results from sample MW-51_GW because the concentration detected in the sample was less than the concentration detected in the blank. (U, MB)
- WSP J+ qualified the 1,2,3,4,7,8-HxCDD results from samples MW-04_GW, MW-10_GW, and MW-51_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, MB)
- WSP U qualified the 1,2,3,7,8,9-HxCDF, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, and OCDF results from samples MW-04_GW, MW-10_GW, and MW-51_GW because the concentrations detected in the samples were less than the concentrations detected in the blank. (U, MB)
- The remaining associated analytes were not detected in the remaining associated samples and data usability is not adversely affected by the blank detections.
- According to the QAPP, “totals” are not considered target analytes, and no data were qualified based on the total TCDF, total PeCDF, total HxCDD, total HxCDF, total HpCDD, and total HpCDF detections in the blank.

– 1,2,3,4,6,7,8-HpCDF (1.12 pg/L), OCDD (8.08 pg/L), OCDF (3.63 pg/L), and total HpCDF (1.12 pg/L) were detected in the laboratory blank associated with the analysis of samples 18R-1_GW, 18R-1_GW_DUP, MW-14_GW, MW-15_GW, MW-16_GW, MW-30_GW, MW-51_GW_DUP, MW-54_GW, MW-55_GW, MW-56_GW, MW-57_GW, MW-63_GW, and MW-64_GW. Data limitations are summarized below.

- WSP U qualified the OCDD results from samples MW-16_GW, MW-55_GW, MW-57_GW, and MW-64_GW because the concentrations detected in the samples were less than the concentration detected in the blank. (U, MB)
- WSP J+ qualified the OCDD results from samples 18R-1_GW_DUP and MW-51_GW_DUP because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, MB)
- WSP J+ qualified the OCDF result from sample MW-51_GW_DUP because the concentration detected in the sample was greater than the concentration detected in the blank. (J+, MB)
- The remaining associated analytes either were not detected in the remaining associated samples or the detected concentrations were greater than five times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- According to the QAPP, “totals” are not considered target analytes and no data were qualified based on the total HpCDF detection in the blank.

7.13.6 EQUIPMENT BLANK DETECTIONS

Target analytes were not detected in the equipment blank associated with the samples reviewed in this report, with the following exceptions:

- 1,2,3,4,7,8-HxCDD (3.4 pg/L), 1,2,3,4,7,8-HxCDF (1.7 pg/L), 1,2,3,6,7,8-HxCDF (1.0 pg/L), 1,2,3,7,8,9-HxCDF (2.1 pg/L), 2,3,4,6,7,8-HxCDF (0.89 pg/L), 1,2,3,4,6,7,8-HpCDD (3.0 pg/L), 1,2,3,4,6,7,8-HpCDF (1.1 pg/L), 1,2,3,4,7,8,9- HpCDF (3.0 pg/L), OCDD (6.3 pg/L), OCDF (3.9 pg/L), total HxCDD (3.4 pg/L), total HxCDF (5.8 pg/L), total HpCDD (3.0 pg/L), and total HpCDF (4.1 pg/L) were detected in equipment blank EB-01, associated with all samples in SDG 280-198804-2. Data limitations are summarized below.
  - WSP U qualified the 1,2,3,4,7,8-HxCDD results from samples MW-04_GW, MW-10_GW, and MW-51_GW, superseding the J+ qualifiers applied because of a detection in the associated laboratory blank, because the concentrations detected in the samples were less than the concentration detected in the blank. (U, EB)
  - WSP J+ qualified the 1,2,3,4,7,8-HxCDD result from sample MW-63_GW because the concentration detected in the sample was greater than the concentration detected in the blank. (J+, EB)
  - WSP J+ qualified the 1,2,3,4,7,8-HxCDF results from samples MW-51_GW_DUP and MW-63_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, EB)
  - WSP U qualified the 1,2,3,6,7,8-HxCDF result from sample MW-51_GW because the concentration detected in the sample was less than the concentration detected in the blank. (U, EB)
  - WSP J+ qualified the 1,2,3,6,7,8-HxCDF results from samples MW-51_GW_DUP and MW-63_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, EB)
  - WSP U qualified the 1,2,3,7,8,9-HxCDF results from samples 18R-1_GW, MW-30_GW, and MW-51_GW because the concentrations detected in the samples were less than the concentration detected in the blank. (U, EB)
  - The 1,2,3,7,8,9-HxCDF results from samples MW-04_GW, and MW-10_GW were greater than the concentration detected in the blank, but WSP maintained the U qualifiers previously applied due to a detection in the associated laboratory blank. (U, EB)
  - WSP J+ qualified the 1,2,3,7,8,9-HxCDF result from sample MW-63_GW because the concentration detected in the sample was greater than the concentration detected in the blank. (J+, EB)
  - WSP U qualified the 2,3,4,6,7,8-HxCDF results from samples MW-10_GW and MW-51_GW, superseding the J+ qualifiers applied because of a detection in the associated laboratory blank, because the concentrations detected in the samples were greater than the concentration detected in the blank. (U, EB)
  - WSP J+ qualified the 2,3,4,6,7,8-HxCDF results from samples MW-51_GW_DUP and MW-63_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, EB)
  - WSP U qualified the 1,2,3,4,6,7,8-HpCDD results from samples MW-04_GW, MW-10_GW, MW-15_GW, MW-51_GW, and MW-54_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (U, EB)
  - WSP J+ qualified the 1,2,3,4,6,7,8-HpCDD result from sample MW-51_GW_DUP because the concentration detected in the sample was greater than the concentration detected in the blank. (J+, EB)
  - WSP U qualified the 1,2,3,4,6,7,8-HpCDF results from samples MW-04_GW and MW-51_GW because the concentrations detected in the samples were less than the concentration detected in the blank. (U, EB)

- The 1,2,3,4,6,7,8-HpCDF result from sample MW-10_GW was greater than the concentration detected in the blank, but WSP maintained the U qualifier previously applied to the results because of a detection in the associated laboratory blank. (U, EB)
- WSP U qualified the 1,2,3,4,7,8,9-HpCDF results from samples MW-10_GW and MW-51_GW because the concentrations detected in the samples were less than the concentration detected in the blank. (U, EB)
- WSP J+ qualified the 1,2,3,4,7,8,9-HpCDF result from sample MW-63_GW because the concentration detected in the sample was greater than the concentration detected in the blank. (J+, EB)
- WSP U qualified the OCDD results from samples MW-10_GW, MW-16_GW, MW-55_GW, MW-57_GW, and MW-64_GW because the concentrations detected in the samples were less than the concentration detected in the blank. (U, EB)
- The OCDD result from sample MW-51_GW was greater than the concentration detected in the blank, but WSP maintained the U qualifier previously applied to the results because of a detection in the associated laboratory blank. (U, EB)
- WSP J+ qualified the OCDD results from samples 18R-1_GW_DUP and MW-04_GW because the concentrations detected in the samples were greater than the concentration detected in the blank. (J+, EB)
- WSP U qualified the OCDF results from samples MW-04_GW, MW-10_GW, and MW-51_GW because the concentrations detected in the samples were less than the concentration detected in the blank . (U, EB)
- WSP J+ qualified the OCDF result from sample MW-51_GW_DUP because the concentration detected in the sample was greater than the concentration detected in the blank. (J+, EB)
- The remaining associated analytes either were not detected in the remaining associated samples or the detected concentrations were greater than five times the concentrations detected in the blank and data usability is not adversely affected by the blank detections.
- According to the QAPP, “totals” are not considered target analytes, and no data were qualified based on the total HxCDD, total HxCDF, total HpCDD, and total HpCDF blank detections.

7.13.7 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries were within laboratory-specified limits, and RPDs between LCS and LCSD results were less than the laboratory-specified maximum of 50%.

7.13.8 MATRIX SPIKE ACCURACY AND PRECISION

Eurofins performed MS and MSD analyses on sample MW-51_GW. MS and MSD recoveries were within the laboratory-specified limits, and RPDs between MS and MSD results were less than the QAPP-specified maximum of 20%.

7.13.9 SURROGATE RECOVERIES

Surrogate recoveries were within the laboratory-specified limits.

7.13.10 ISOTOPE DILUTION STANDARD RECOVERIES

Isotope dilution standard (IDS) recoveries were within the laboratory-specified limits.

7.13.11 STAGE 4 QUALITATIVE AND QUANTITATIVE CHECKS

WSP confirmed proper analyte identification and quantitation for 2,3,7,8-TCDF, 2,3,7,8-tetrachlorodibenzo-p-dioxin, and 1,2,3,7,8-PeCDF in all field samples.

Reported results were correctly identified and quantified.

7.13.12 DATA REPORTING AND ANALYTICAL PROCEDURES

Eurofins J qualified analytes with detected concentrations less than the RL. WSP agrees that these results are quantitatively uncertain and has maintained Eurofins's J qualifiers. (J, DL)

Eurofins q qualified data when results met all method-specified identification criteria except for ion ratios, indicating the results should be considered EMPCs. WSP U qualified all EMPC results, including results previous J+ qualified due to detections in the associated laboratory and/or equipment blanks, because of uncertainty in analyte identification, consistent with Method 1613B requirements for qualitative identification. (U, EM)

8 FIELD DUPLICATE PRECISION

WSP collected field duplicates with samples 18R-1_GW and MW-51. Detections in the field duplicate pair are summarized in Table 2.

Precision values were within the QAPP-specified criteria of ≤ 50% when both concentrations were greater than five times the RL or differences between concentrations were ≤ the QL when one or both samples had detected concentrations ≤ five times the RL.

9 CONCLUSIONS

WSP reviewed 4,187 records, including results from dilutions and re-analyses, from field samples during this validation. WSP applied the following qualifiers to the data during validation.

- WSP R qualified and rejected 70 records (1.7%) due to extremely low LCS or MS recoveries, or excessive difference between results from second column confirmation analyses.
- WSP J qualified 401 records (9.6%) due to missed hold times, insufficient sample preservation, and or detected concentrations less than the RL.
- WSP J+ qualified 25 records (0.60%) due to high CCV and/or surrogate recoveries, low internal standard area counts, and/or analyte detections in associated laboratory and/or equipment blanks.
- WSP J- qualified 31 records (0.74%) due to the laboratory's inability to lower sample pHs during extraction, and/or low surrogate or MS recoveries.
- WSP NJ qualified 14 records (0.33%) because of poor agreement between sample spectra and standard spectra, ion ratios being outside of limits, or imprecision between results from dual column analyses.
- WSP U qualified 86 records (2.0%) due to detections in associated equipment and/or laboratory blanks, and/or results being EMPCs.
- WSP UJ qualified 983 records (23%) because of high or low CCV recoveries, insufficient sample preservation, missed hold times, low surrogate recoveries, low MS recoveries, and/or low interna standard area counts.

More than 98% of the data may be considered usable for project purposes with the addition of the qualifiers summarized in Table 3, meeting the QAPP-specified 90% completeness goal.

10 REFERENCES

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TABLES

Table 1
Field Samples Submitted to Eurofins Environment Testing
Alkali Lake Groundwater Recon
Lake County, Oregon

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
MW-10_GW	10/28/24 10:05	280-198804-1	
TB-23	10/28/24 10:05	280-198804-2	Trip blank
MW-04_GW	10/28/24 11:55	280-198804-3	
TB-20	10/28/24 11:55	280-198804-4	Trip blank
MW-51_GW	10/26/24 11:16	280-198804-5	
TB-15	10/26/24 11:16	280-198804-6	Trip blank
EB-01	10/27/24 15:30	280-198804-7	Equipment blank
TB-19	10/28/24 15:30	280-198804-8	Trip blank
MW-57_GW	10/28/24 10:00	280-198804-9	
TB-22	10/28/24 10:00	280-198804-10	Trip blank
18R-1_GW	10/26/24 10:20	280-198804-11	
TB-10	10/26/24 10:20	280-198804-12	Trip blank
18R-1_GW_DUP	10/26/24 10:20	280-198804-13	Field duplicate
TB-12	10/26/24 10:20	280-198804-14	Trip blank
MW-64_GW	10/26/24 16:30	280-198804-15	
TB-09	10/26/24 16:30	280-198804-16	Trip blank
MW-55_GW	10/28/24 11:40	280-198804-17	
TB-21	10/28/24 11:40	280-198804-18	Trip blank
MW-63_GW	10/26/24 15:23	280-198804-19	
TB-07	10/26/24 15:23	280-198804-20	Trip blank
MW-16_GW	10/26/24 13:40	280-198804-21	
TB-14	10/26/24 13:40	280-198804-22	Trip blank
MW-17_GW	10/27/24 14:40	280-198804-23	
MW-51_GW_DUP	10/26/24 11:16	280-198804-25	Field duplicate
TB-17	10/26/24 11:16	280-198804-26	Trip blank
MW-54_GW	10/27/24 12:25	280-198804-27	
TB-16	10/27/24 12:25	280-198804-28	Trip blank
MW-56_GW	10/27/24 12:10	280-198804-29	
TB-04	10/27/24 12:10	280-198804-30	Trip blank
MW-30_GW	10/27/24 10:45	280-198804-31	
TB-05	10/27/24 10:45	280-198804-32	Trip blank
MW-14_GW	10/27/24 10:30	280-198804-33	
TB-11	10/27/24 10:30	280-198804-34	Trip blank
MW-15_GW	10/26/24 16:28	280-198804-35	
TB-06	10/26/24 16:28	280-198804-36	Trip blank
MW-64_GW	10/28/24 12:15	280-198804-37	

Table 2
Precision Between Primary Sample and Field Duplicate Detections
Alkali Lake Groundwater Recon
Lake County, Oregon

Analyte	Method	Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples 18R-1_GW and 18R-1_GW_DUP						
Aluminum	EPA 6020B	200 ug/L	13 J	17 J	27%	
Aluminum, disolved	EPA 6020B	200 ug/L	13 J	12 J	8%	
Arsenic	EPA 6020B	5.0 ug/L	24	24	0%	
Arsenic, disolved	EPA 6020B	5.0 ug/L	25	24	4%	
Barium, disolved	EPA 6020B	3.0 ug/L	0.49 J	0.38 U	NC	± 2RL
Calcium	EPA 6020B	200 ug/L	240	240	0%	
Calcium, disolved	EPA 6020B	200 ug/L	300	240	22%	
Chloride	EPA 6020B	30 mg/L	31	32	3%	
Chromium	EPA 6020B	3.0 ug/L	0.54 J	0.66 J	20%	
Chromium, disolved	EPA 6020B	3.0 ug/L	0.54 J	0.50 U	NC	± 2RL
Copper	EPA 6020B	2.0 ug/L	0.71 U	3.5	NC	± 2RL
Iron	EPA 6020B	200 ug/L	17 J	11 J	43%	
Iron, disolved	EPA 6020B	200 ug/L	9.4 J	9.8 J	4%	
Magnesium	EPA 6020B	200 ug/L	9.3 J	10 J	7%	
Magnesium, disolved	EPA 6020B	200 ug/L	12 J	11 J	9%	
Molybdenum	EPA 6020B	2.0 ug/L	6.8	6.5	5%	
Molybdenum, disolved	EPA 6020B	2.0 ug/L	6.7	7.2	7%	
Potassium	EPA 6020B	1,000 ug/L	16,000	16,000	0%	
Potassium, disolved	EPA 6020B	1,000 ug/L	16,000	16,000	0%	
Sodium	EPA 6020B	1,000 ug/L	130,000	130,000	0%	
Sodium, disolved	EPA 6020B	1,000 ug/L	140,000	140,000	0%	
Sulfate	EPA 6020B	5.0 mg/L	32	32	0%	
Vanadium	EPA 6020B	5.0 ug/L	8.5	8.4	1%	
Vanadium, disolved	EPA 6020B	5.0 ug/L	8.2	8.5	4%	
Total Organic Carbon	EPA 9060A	1.0 mg/L	1.5	1.0	40%	
Alkalinity, bicarbonate (as $CaCO_3$)	SM2320B	10 mg/L	72	79	9%	
Alkalinity, carbonate (as $CaCO_3$)	SM2320B	10 mg/L	180	170	6%	
Alkalinity, total (as $CaCO_3$)	SM2320B	10 mg/L	250	250	0%	
Total Hardness (as $CaCO_3$)	SM2340B	3.0 mg/L	0.64 J	0.64 J	0%	

Table 2
Precision Between Primary Sample and Field Duplicate Detections
Alkali Lake Groundwater Recon
Lake County, Oregon

Analyte	Method	Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples MW-51_GW and MW-51_GW_DUP						
1,2,3,6,7,8-HxCDD	EPA 1613B	47 pg/L	0.37 U	1.2 J	NC	± 2RL
1,2,3,6,7,8-HxCDF	EPA 1613B	47 pg/L	0.28 U	1.1 J	NC	± 2RL
1,2,3,7,8,9-HxCDD	EPA 1613B	47 pg/L	0.38 U	1.2 J+	NC	± 2RL
1,2,3,7,8-PeCDF	EPA 1613B	47 pg/L	0.19 U	0.87 J+	NC	± 2RL
OCDD	EPA 1613B	93 pg/L	0.36 U	0.84 J+	NC	± 2RL
Antimony	EPA 6020B	20 ug/L	4.0 J	4.0 J	0%	
Antimony, dissolved	EPA 6020B	20 ug/L	4.0 J	4.0 J	0%	
Arsenic	EPA 6020B	50 ug/L	5.0 J	5.0 J	0%	
Arsenic, dissolved	EPA 6020B	50 ug/L	5.0 J	5.0 J	0%	
Barium	EPA 6020B	30 ug/L	3.8 J	3.8 J	0%	
Barium, dissolved	EPA 6020B	30 ug/L	3.8 J	3.8 J	0%	
Cadmium	EPA 6020B	10 ug/L	1.9 J	1.9 J	0%	
Cadmium, dissolved	EPA 6020B	10 ug/L	1.9 J	1.9 J	0%	
Calcium	EPA 6020B	2,000 ug/L	320 J	320 J	0%	
Calcium, dissolved	EPA 6020B	2,000 ug/L	320 J	320 J	0%	
Iron	EPA 6020B	2,000 ug/L	87 J	87 J	0%	
Iron, dissolved	EPA 6020B	2,000 ug/L	87 J	87 UJ	0%	
Magnesium	EPA 6020B	2,000 ug/L	42 J	42 J	0%	
Magnesium, dissolved	EPA 6020B	2,000 ug/L	42 J	42 J	0%	
Manganese, dissolved	EPA 6020B	30 ug/L	5.1 J	5.1 J	0%	
Molybdenum	EPA 6020B	1,000 ug/L	190 J	190 J	0%	
Molybdenum, dissolved	EPA 6020B	1,000 ug/L	190 J	190 J	0%	
Nickel	EPA 6020B	30 ug/L	8.3 J	8.3 J	0%	
Nickel, dissolved	EPA 6020B	30 ug/L	8.3 J	8.3 J	0%	
Potassium	EPA 6020B	500,000 ug/L	26000 J	26,000 J	0%	
Potassium, dissolved	EPA 6020B	500,000 ug/L	26,000 J	26,000 J	0%	
Selenium	EPA 6020B	50 ug/L	10 J-	10 J-	0%	
Selenium, dissolved	EPA 6020B	50 ug/L	10 J-	10 J-	0%	
Sodium	EPA 6020B	500000 ug/L	37,000 J	37,000 J	0%	
Sodium, dissolved	EPA 6020B	500000 ug/L	37,000 J	37,000 J	0%	
Zinc, dissolved	EPA 6020B	100 ug/L	20 UJ	20 J	0%	
2,4-Dichlorophenol	EPA 8270E	9.7 ug/L	2.9 J-	2.9 UJ	0%	
Chloride	EPA 9056A	300 mg/L	100	100	0%	
Sulfate	EPA 9056A	500 mg/L	100	100	0%	
Total Organic Carbon (Rep1)	EPA 9060A	21 mg/L	8.6	6.9	22%	
Alkalinity, bicarbonate (as CaCO3)	SM2320B	10 mg/L	3.1	3.1	0%	
Alkalinity, carbonate (as CaCO3)	SM2320B	10 mg/L	3.1	3.1	0%	
Alkalinity, total (as CaCO3)	SM2320B	10 mg/L	3.1	3.1	0%	
Total Hardness (CaCO3)	SM2340B	3.0 mg/L	0.30 J	0.30 J	0%	

Table 2
Precision Between Primary Sample and Field Duplicate Detections
Alkali Lake Groundwater Recon
Lake County, Oregon

Notes:

µg/L = micrograms per liter
EPA = United States Environmental Protection Agency
mg $CaCO_3$/L = milligrams of calcium carbonate per liter
mg/L = milligrams per liter
NC = not calculable
pg/L = picograms per liter
RPD = relative percent difference
SM = Standard Methods for the Examination of Water and Wastewater

Qualifiers:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, but the result may be biased high.
J- = The result is an estimated quantity, but the result may be biased low.
U = The analyte was analyzed for but was not detected at a concentration greater than the reported sample quantitation limit.
UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

Reason Code:

± 2RL = The difference between analyte concentrations is less than twice the reporting limit, meeting the project-specified precision criteria.

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
18R-1_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	1.3 pg/L	U EB
18R-1_GW	EPA 1613B	Total HpCDD	1.8 pg/L	U EM
18R-1_GW	EPA 1613B	Total HxCDF	1.3 pg/L	J DL
18R-1_GW	EPA 6020B	Aluminum	13 µg/L	J DL
18R-1_GW	EPA 6020B	Aluminum, dissolved	13 µg/L	J DL
18R-1_GW	EPA 6020B	Barium, dissolved	0.49 µg/L	J DL
18R-1_GW	EPA 6020B	Chromium	0.54 µg/L	J DL
18R-1_GW	EPA 6020B	Chromium, dissolved	0.54 µg/L	J DL
18R-1_GW	EPA 6020B	Iron	17 µg/L	J DL
18R-1_GW	EPA 6020B	Iron, dissolved	9.4 µg/L	J DL
18R-1_GW	EPA 6020B	Magnesium	9.3 µg/L	J DL
18R-1_GW	EPA 6020B	Magnesium, dissolved	12 µg/L	J DL
18R-1_GW	EPA 8081B	2,4'-DDE	0.0074 µg/L	UJ LC
18R-1_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ LC
18R-1_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ LC
18R-1_GW	EPA 8270E	Pyridine	17 µg/L	R LL
18R-1_GW	EPA 8321B	2,4,5-TP (Silvex)	0.33 µg/L	UJ CH
18R-1_GW	EPA 8321B	Dinoseb	0.23 µg/L	UJ LC
18R-1_GW	SM2340B	Total Hardness (as $CaCO_3$)	0.64 mg/L	J DL
18R-1_GW_DUP	EPA 1613B	OCDD	18 pg/L	U MB, EB, EM
18R-1_GW_DUP	EPA 6020B	Aluminum	17 µg/L	J DL
18R-1_GW_DUP	EPA 6020B	Aluminum, dissolved	12 µg/L	J DL
18R-1_GW_DUP	EPA 6020B	Chromium	0.66 µg/L	J DL
18R-1_GW_DUP	EPA 6020B	Iron	11 µg/L	J DL
18R-1_GW_DUP	EPA 6020B	Iron, dissolved	9.8 µg/L	J DL
18R-1_GW_DUP	EPA 6020B	Magnesium	10 µg/L	J DL
18R-1_GW_DUP	EPA 6020B	Magnesium, dissolved	11 µg/L	J DL
18R-1_GW_DUP	EPA 8081B	2,4'-DDE	0.0072 µg/L	UJ LC
18R-1_GW_DUP	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ LC
18R-1_GW_DUP	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ LC
18R-1_GW_DUP	EPA 8270E	Pyridine	17 µg/L	R LL
18R-1_GW_DUP	EPA 8321B	2,4,5-TP (Silvex)	0.33 µg/L	UJ CH
18R-1_GW_DUP	EPA 8321B	Dinoseb	0.23 µg/L	UJ LC
18R-1_GW_DUP	SM2340B	Total Hardness (as $CaCO_3$)	0.64 mg/L	J DL
MW-04_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDD	0.67 pg/L	U MB, EB, EM
MW-04_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDF	0.80 pg/L	U MB, EB, EM
MW-04_GW	EPA 1613B	1,2,3,4,7,8-HxCDD	1.3 pg/L	U MB, EB, EM
MW-04_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	2.2 pg/L	U MB, EB
MW-04_GW	EPA 1613B	1,2,3,7,8-PeCDD	13 pg/L	J DL
MW-04_GW	EPA 1613B	2,3,7,8-TCDF	0.75 pg/L	U MB, EM
MW-04_GW	EPA 1613B	OCDD	7.8 pg/L	U MB, EB, EM
MW-04_GW	EPA 1613B	OCDF	1.7 pg/L	U MB, EB
MW-04_GW	EPA 1613B	Total HpCDD	2.1 pg/L	U EM
MW-04_GW	EPA 1613B	Total HpCDF	1.5 pg/L	U EM
MW-04_GW	EPA 1613B	Total HxCDD	2.7 pg/L	U EM
MW-04_GW	EPA 1613B	Total HxCDF	4.8 pg/L	U EM
MW-04_GW	EPA 1613B	Total PeCDD	110 pg/L	U EM
MW-04_GW	EPA 1613B	Total PeCDF	20 pg/L	U EM

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-04_GW	EPA 1613B	Total TCDF	73 pg/L	U EM
MW-04_GW	EPA 6020B	Aluminum	27 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Aluminum, dissolved	13 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Antimony	2.0 µg/L	J NP
MW-04_GW	EPA 6020B	Antimony, dissolved	1.8 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Arsenic	2,400 µg/L	J NP
MW-04_GW	EPA 6020B	Arsenic, dissolved	2,200 µg/L	J NP
MW-04_GW	EPA 6020B	Barium	3.3 µg/L	J NP
MW-04_GW	EPA 6020B	Barium, dissolved	3.7 µg/L	J NP
MW-04_GW	EPA 6020B	Beryllium	0.30 µg/L	UJ NP
MW-04_GW	EPA 6020B	Beryllium, dissolved	0.30 µg/L	UJ NP
MW-04_GW	EPA 6020B	Cadmium	0.22 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Cadmium, dissolved	0.19 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Calcium	580 µg/L	J NP
MW-04_GW	EPA 6020B	Calcium, dissolved	600 µg/L	J NP
MW-04_GW	EPA 6020B	Chromium	0.50 µg/L	UJ NP
MW-04_GW	EPA 6020B	Chromium, dissolved	0.50 µg/L	UJ NP
MW-04_GW	EPA 6020B	Cobalt	0.33 µg/L	UJ NP
MW-04_GW	EPA 6020B	Cobalt, dissolved	0.33 µg/L	UJ NP
MW-04_GW	EPA 6020B	Copper	10 µg/L	J NP
MW-04_GW	EPA 6020B	Copper, dissolved	2.0 µg/L	J NP
MW-04_GW	EPA 6020B	Iron	35 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Iron, dissolved	8.7 µg/L	UJ NP
MW-04_GW	EPA 6020B	Lead	0.30 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Lead, dissolved	0.23 µg/L	UJ NP
MW-04_GW	EPA 6020B	Magnesium	93 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Magnesium, dissolved	33 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Manganese	0.63 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Manganese, dissolved	0.51 µg/L	UJ NP
MW-04_GW	EPA 6020B	Molybdenum	2,100 µg/L	J NP
MW-04_GW	EPA 6020B	Molybdenum, dissolved	2,300 µg/L	J NP
MW-04_GW	EPA 6020B	Nickel	2.3 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Nickel, dissolved	2.7 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Potassium	340,000 µg/L	J NP
MW-04_GW	EPA 6020B	Potassium, dissolved	340,000 µg/L	J NP
MW-04_GW	EPA 6020B	Selenium	3.3 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Selenium, dissolved	2.2 µg/L	J NP, DL
MW-04_GW	EPA 6020B	Silver	0.045 µg/L	UJ NP
MW-04_GW	EPA 6020B	Silver, dissolved	0.045 µg/L	UJ NP
MW-04_GW	EPA 6020B	Sodium	4,400,000 µg/L	J NP
MW-04_GW	EPA 6020B	Sodium, dissolved	4,700,000 µg/L	J NP
MW-04_GW	EPA 6020B	Thallium	0.21 µg/L	UJ NP
MW-04_GW	EPA 6020B	Thallium, dissolved	0.21 µg/L	UJ NP
MW-04_GW	EPA 6020B	Vanadium	17 µg/L	J NP
MW-04_GW	EPA 6020B	Vanadium, dissolved	7.9 µg/L	J NP
MW-04_GW	EPA 6020B	Zinc	2.0 µg/L	UJ NP
MW-04_GW	EPA 6020B	Zinc, dissolved	2.0 µg/L	UJ NP
MW-04_GW	EPA 7470A	Mercury	0.061 µg/L	UJ NP
MW-04_GW	EPA 7470A	Mercury, dissolved	0.061 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-04_GW	EPA 8081B	2,4'-DDE	0.40 µg/L	UJ LC
MW-04_GW	EPA 8081B	4,4'-DDD	60 µg/L	R SE
MW-04_GW	EPA 8081B	Aldrin	0.52 µg/L	R SE
MW-04_GW	EPA 8081B	cis-Chlordane	82 µg/L	R SE
MW-04_GW	EPA 8081B	delta-BHC	1.5 µg/L	R SE
MW-04_GW	EPA 8081B	Endrin	39 µg/L	NJ SE
MW-04_GW	EPA 8081B	Toxaphene	77 µg/L	UJ LC
MW-04_GW	EPA 8260D	1,1,1-Trichloroethane	2.0 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	1.1 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,1,2-Trichloroethane	1.4 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,1-Dichloroethane	1.1 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,1-Dichloroethene	1.2 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2,3-Trichlorobenzene	6.0 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2,3-Trichloropropane	1.4 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2,4-Trichlorobenzene	2.9 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.75 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	2.1 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2-Dibromoethane	0.92 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2-Dichlorobenzene	0.72 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2-Dichloroethane	1.4 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,2-Dichloropropane	1.2 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.61 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,3-Dichlorobenzene	1.7 µg/L	UJ HT
MW-04_GW	EPA 8260D	1,4-Dichlorobenzene	1.9 µg/L	UJ HT
MW-04_GW	EPA 8260D	2-Butanone	23 µg/L	UJ HT
MW-04_GW	EPA 8260D	2-Hexanone	4.1 µg/L	UJ HT
MW-04_GW	EPA 8260D	4-Methyl-2-Pentanone	4.9 µg/L	UJ HT
MW-04_GW	EPA 8260D	Acetone	33 µg/L	UJ HT
MW-04_GW	EPA 8260D	Benzene	12 µg/L	J HT
MW-04_GW	EPA 8260D	Bromochloromethane	2.0 µg/L	UJ HT
MW-04_GW	EPA 8260D	Bromodichloromethane	0.94 µg/L	UJ HT
MW-04_GW	EPA 8260D	Bromoform	1.2 µg/L	UJ HT
MW-04_GW	EPA 8260D	Bromomethane	12 µg/L	UJ HT
MW-04_GW	EPA 8260D	Carbon disulfide	1.3 µg/L	UJ HT
MW-04_GW	EPA 8260D	Carbon tetrachloride	1.3 µg/L	J DL, HT
MW-04_GW	EPA 8260D	Chlorobenzene	0.46 µg/L	UJ HT
MW-04_GW	EPA 8260D	Chloroethane	3.2 µg/L	UJ HT
MW-04_GW	EPA 8260D	Chloroform	1.8 µg/L	UJ HT
MW-04_GW	EPA 8260D	Chloromethane	1.1 µg/L	UJ HT
MW-04_GW	EPA 8260D	cis-1,2-Dichloroethene	590 µg/L	J HT
MW-04_GW	EPA 8260D	cis-1,3-Dichloropropene	0.78 µg/L	UJ HT
MW-04_GW	EPA 8260D	Cyclohexane	2.2 µg/L	UJ HT
MW-04_GW	EPA 8260D	Dibromochloromethane	1.4 µg/L	UJ HT
MW-04_GW	EPA 8260D	Dichlorodifluoromethane	1.5 µg/L	UJ HT
MW-04_GW	EPA 8260D	Ethylbenzene	1.7 µg/L	J DL, HT
MW-04_GW	EPA 8260D	Isopropylbenzene	0.79 µg/L	UJ HT
MW-04_GW	EPA 8260D	m+p-Xylene	2.6 µg/L	J DL, HT
MW-04_GW	EPA 8260D	Methyl acetate	8.2 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-04_GW	EPA 8260D	Methyl tert-Butyl Ether	1.3 µg/L	UJ HT
MW-04_GW	EPA 8260D	Methylcyclohexane	1.9 µg/L	J DL, HT
MW-04_GW	EPA 8260D	Methylene chloride	4.7 µg/L	UJ HT
MW-04_GW	EPA 8260D	o-Xylene	1.6 µg/L	J DL, HT
MW-04_GW	EPA 8260D	Styrene	0.63 µg/L	UJ HT
MW-04_GW	EPA 8260D	Tetrachloroethene	57 µg/L	J HT
MW-04_GW	EPA 8260D	Toluene	5.0 µg/L	J HT
MW-04_GW	EPA 8260D	trans-1,2-Dichloroethene	1.8 µg/L	UJ HT
MW-04_GW	EPA 8260D	trans-1,3-Dichloropropene	0.72 µg/L	UJ HT
MW-04_GW	EPA 8260D	Trichloroethene	26 µg/L	J HT
MW-04_GW	EPA 8260D	Trichlorofluoromethane	0.99 µg/L	UJ HT
MW-04_GW	EPA 8260D	Vinyl chloride	1.1 µg/L	UJ HT
MW-04_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	7.5 µg/L	UJ IP, LM
MW-04_GW	EPA 8270E	2,4,5-Trichlorophenol	43 µg/L	J- IP, LM
MW-04_GW	EPA 8270E	2,4,6-Trichlorophenol	9.0 µg/L	J- DL, IP, LM
MW-04_GW	EPA 8270E	2,4-Dichlorophenol	260 µg/L	J- IP
MW-04_GW	EPA 8270E	2,4-Dimethylphenol	1.4 µg/L	UJ IP
MW-04_GW	EPA 8270E	2,4-Dinitrophenol	14 µg/L	R IP, LM
MW-04_GW	EPA 8270E	2-Chlorophenol	3.3 µg/L	J- DL, IP
MW-04_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	4.3 µg/L	R IP, LM
MW-04_GW	EPA 8270E	2-Methylphenol	15 µg/L	J- IP
MW-04_GW	EPA 8270E	2-Nitrophenol	3.7 µg/L	UJ IP
MW-04_GW	EPA 8270E	3&4-Methylphenol	20 µg/L	NJ IP, SB
MW-04_GW	EPA 8270E	4-Chloro-3-methylphenol	1.8 µg/L	UJ IP
MW-04_GW	EPA 8270E	4-Nitrophenol	9.6 µg/L	R IP, LM
MW-04_GW	EPA 8270E	Pentachlorophenol	21 µg/L	R IP, LM
MW-04_GW	EPA 8270E	Phenol	0.98 µg/L	UJ IP
MW-04_GW	EPA 8270E	Pyridine	19 µg/L	R LL
MW-04_GW	EPA 8321B	2,4,5-TP (Silvex)	11 µg/L	J+ CH, HS, LI
MW-04_GW	EPA 8321B	2,4-D	6.4 µg/L	J+ HS, LI
MW-04_GW	EPA 8321B	2,4-DB	3.1 µg/L	J+ HS, LI, DL
MW-04_GW	EPA 8321B	MCPA	40 µg/L	J+ HS, LI
MW-04_GW	EPA 8321B	Pentachlorophenol	1.4 µg/L	NJ HS, MI
MW-04_GW	SM2340B	Total Hardness (as $CaCO_3$)	1.8 mg/L	J NP, DL
MW-10_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDD	0.94 pg/L	U MB, EB, EM
MW-10_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDF	1.4 pg/L	U MB, EB, EM
MW-10_GW	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.52 pg/L	U MB, EB, EM
MW-10_GW	EPA 1613B	1,2,3,4,7,8-HxCDD	1.2 pg/L	U MB, EB, EM
MW-10_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	2.5 pg/L	U MB, EB
MW-10_GW	EPA 1613B	2,3,4,6,7,8-HxCDF	0.71 pg/L	U MB, EB
MW-10_GW	EPA 1613B	2,3,7,8-TCDF	2.9 pg/L	J+ MB, DL
MW-10_GW	EPA 1613B	OCDD	5.9 pg/L	U MB, EB, EM
MW-10_GW	EPA 1613B	OCDF	2.1 pg/L	U MB, EB
MW-10_GW	EPA 1613B	Total HpCDD	2.0 pg/L	U EM
MW-10_GW	EPA 1613B	Total HpCDF	3.1 pg/L	U EM
MW-10_GW	EPA 1613B	Total HxCDD	1.2 pg/L	U EM
MW-10_GW	EPA 1613B	Total HxCDF	13 pg/L	U EM
MW-10_GW	EPA 1613B	Total PeCDD	4.3 pg/L	U EM
MW-10_GW	EPA 1613B	Total PeCDF	100 pg/L	U EM

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-10_GW	EPA 1613B	Total TCDD	360 pg/L	U EM
MW-10_GW	EPA 1613B	Total TCDF	480 pg/L	U EM
MW-10_GW	EPA 6020B	Aluminum	41 µg/L	UJ NP
MW-10_GW	EPA 6020B	Aluminum, dissolved	41 µg/L	UJ NP
MW-10_GW	EPA 6020B	Antimony	2.0 µg/L	UJ NP
MW-10_GW	EPA 6020B	Antimony, dissolved	2.0 µg/L	UJ NP
MW-10_GW	EPA 6020B	Arsenic	2,500 µg/L	J NP
MW-10_GW	EPA 6020B	Arsenic, dissolved	2,500 µg/L	J NP
MW-10_GW	EPA 6020B	Barium	2.4 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Barium, dissolved	1.9 µg/L	UJ NP
MW-10_GW	EPA 6020B	Beryllium	1.5 µg/L	UJ NP
MW-10_GW	EPA 6020B	Beryllium, dissolved	1.5 µg/L	UJ NP
MW-10_GW	EPA 6020B	Cadmium	0.95 µg/L	UJ NP
MW-10_GW	EPA 6020B	Cadmium, dissolved	0.95 µg/L	UJ NP
MW-10_GW	EPA 6020B	Calcium	680 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Calcium, dissolved	720 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Chromium	2.5 µg/L	UJ NP
MW-10_GW	EPA 6020B	Chromium, dissolved	2.5 µg/L	UJ NP
MW-10_GW	EPA 6020B	Cobalt	1.7 µg/L	UJ NP
MW-10_GW	EPA 6020B	Cobalt, dissolved	1.7 µg/L	UJ NP
MW-10_GW	EPA 6020B	Copper	16 µg/L	J NP
MW-10_GW	EPA 6020B	Copper, dissolved	5.4 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Iron	69 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Iron, dissolved	43 µg/L	UJ NP
MW-10_GW	EPA 6020B	Lead	1.2 µg/L	UJ NP
MW-10_GW	EPA 6020B	Lead, dissolved	1.2 µg/L	UJ NP
MW-10_GW	EPA 6020B	Magnesium	160 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Magnesium, dissolved	140 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Manganese	2.6 µg/L	UJ NP
MW-10_GW	EPA 6020B	Manganese, dissolved	2.6 µg/L	UJ NP
MW-10_GW	EPA 6020B	Molybdenum	3,100 µg/L	J NP
MW-10_GW	EPA 6020B	Molybdenum, dissolved	3,100 µg/L	J NP
MW-10_GW	EPA 6020B	Nickel	9.4 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Nickel, dissolved	8.4 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Potassium	470,000 µg/L	J NP
MW-10_GW	EPA 6020B	Potassium, dissolved	480,000 µg/L	J NP
MW-10_GW	EPA 6020B	Selenium	7.7 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Selenium, dissolved	7.8 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Silver	0.23 µg/L	UJ NP
MW-10_GW	EPA 6020B	Silver, dissolved	0.23 µg/L	UJ NP
MW-10_GW	EPA 6020B	Sodium	7,000,000 µg/L	J NP
MW-10_GW	EPA 6020B	Sodium, dissolved	6,900,000 µg/L	J NP
MW-10_GW	EPA 6020B	Thallium	1.1 µg/L	UJ NP
MW-10_GW	EPA 6020B	Thallium, dissolved	1.1 µg/L	UJ NP
MW-10_GW	EPA 6020B	Vanadium	39 µg/L	J NP
MW-10_GW	EPA 6020B	Vanadium, dissolved	34 µg/L	J NP
MW-10_GW	EPA 6020B	Zinc	10 µg/L	J NP, DL
MW-10_GW	EPA 6020B	Zinc, dissolved	10 µg/L	UJ NP
MW-10_GW	EPA 7470A	Mercury	0.061 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-10_GW	EPA 7470A	Mercury, dissolved	0.061 µg/L	UJ NP
MW-10_GW	EPA 8081B	2,4'-DDE	0.39 µg/L	UJ LC
MW-10_GW	EPA 8081B	4,4'-DDD	76 µg/L	R SE
MW-10_GW	EPA 8081B	4,4'-DDT	5.3 µg/L	NJ SE
MW-10_GW	EPA 8081B	Aldrin	8.1 µg/L	NJ SE
MW-10_GW	EPA 8081B	cis-Chlordane	150 µg/L	NJ SE
MW-10_GW	EPA 8081B	delta-BHC	2.1 µg/L	R SE
MW-10_GW	EPA 8081B	Endrin aldehyde	0.52 µg/L	R SE
MW-10_GW	EPA 8081B	Toxaphene	75 µg/L	UJ LC
MW-10_GW	EPA 8260D	1,1,1-Trichloroethane	2.0 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	1.1 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,1,2-Trichloroethane	1.4 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,1-Dichloroethane	1.1 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,1-Dichloroethene	1.2 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2,3-Trichlorobenzene	6.0 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2,3-Trichloropropane	1.4 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2,4-Trichlorobenzene	2.9 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2,4-Trimethylbenzene	27 µg/L	J HT
MW-10_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	2.1 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2-Dibromoethane	0.92 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2-Dichlorobenzene	18 µg/L	J HT
MW-10_GW	EPA 8260D	1,2-Dichloroethane	1.4 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,2-Dichloropropane	1.2 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,3,5-Trimethylbenzene	14 µg/L	J HT
MW-10_GW	EPA 8260D	1,3-Dichlorobenzene	1.7 µg/L	UJ HT
MW-10_GW	EPA 8260D	1,4-Dichlorobenzene	4.8 µg/L	J DL, HT
MW-10_GW	EPA 8260D	2-Butanone	23 µg/L	UJ HT
MW-10_GW	EPA 8260D	2-Hexanone	4.1 µg/L	UJ HT
MW-10_GW	EPA 8260D	4-Methyl-2-Pentanone	4.9 µg/L	UJ HT
MW-10_GW	EPA 8260D	Acetone	33 µg/L	UJ HT
MW-10_GW	EPA 8260D	Benzene	7.6 µg/L	J HT
MW-10_GW	EPA 8260D	Bromochloromethane	2.0 µg/L	UJ HT
MW-10_GW	EPA 8260D	Bromodichloromethane	0.94 µg/L	UJ HT
MW-10_GW	EPA 8260D	Bromoform	1.2 µg/L	UJ HT
MW-10_GW	EPA 8260D	Bromomethane	12 µg/L	UJ HT
MW-10_GW	EPA 8260D	Carbon disulfide	1.3 µg/L	UJ HT
MW-10_GW	EPA 8260D	Carbon tetrachloride	1.1 µg/L	UJ HT
MW-10_GW	EPA 8260D	Chlorobenzene	0.46 µg/L	UJ HT
MW-10_GW	EPA 8260D	Chloroethane	3.2 µg/L	UJ HT
MW-10_GW	EPA 8260D	Chloroform	1.8 µg/L	UJ HT
MW-10_GW	EPA 8260D	Chloromethane	1.1 µg/L	UJ HT
MW-10_GW	EPA 8260D	cis-1,2-Dichloroethene	6.9 µg/L	J HT
MW-10_GW	EPA 8260D	cis-1,3-Dichloropropene	0.78 µg/L	UJ HT
MW-10_GW	EPA 8260D	Cyclohexane	2.2 µg/L	UJ HT
MW-10_GW	EPA 8260D	Dibromochloromethane	1.4 µg/L	UJ HT
MW-10_GW	EPA 8260D	Dichlorodifluoromethane	1.5 µg/L	UJ HT
MW-10_GW	EPA 8260D	Ethylbenzene	58 µg/L	J HT
MW-10_GW	EPA 8260D	Isopropylbenzene	7.4 µg/L	J HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-10_GW	EPA 8260D	m+p-Xylene	280 µg/L	J HT
MW-10_GW	EPA 8260D	Methyl acetate	8.2 µg/L	UJ HT
MW-10_GW	EPA 8260D	Methyl tert-Butyl Ether	1.3 µg/L	UJ HT
MW-10_GW	EPA 8260D	Methylcyclohexane	1.6 µg/L	UJ HT
MW-10_GW	EPA 8260D	Methylene chloride	4.7 µg/L	UJ HT
MW-10_GW	EPA 8260D	o-Xylene	63 µg/L	J HT
MW-10_GW	EPA 8260D	Styrene	0.63 µg/L	UJ HT
MW-10_GW	EPA 8260D	Tetrachloroethene	2.0 µg/L	UJ HT
MW-10_GW	EPA 8260D	Toluene	8.7 µg/L	J HT
MW-10_GW	EPA 8260D	trans-1,2-Dichloroethene	1.8 µg/L	UJ HT
MW-10_GW	EPA 8260D	trans-1,3-Dichloropropene	0.72 µg/L	UJ HT
MW-10_GW	EPA 8260D	Trichloroethene	1.5 µg/L	UJ HT
MW-10_GW	EPA 8260D	Trichlorofluoromethane	0.99 µg/L	UJ HT
MW-10_GW	EPA 8260D	Vinyl chloride	1.1 µg/L	UJ HT
MW-10_GW	EPA 8270E	1,1'-Biphenyl	1.3 µg/L	UJ LS
MW-10_GW	EPA 8270E	1,2,4,5-Tetrachlorobenzene	1.9 µg/L	UJ LS
MW-10_GW	EPA 8270E	1-Methylnaphthalene	1.3 µg/L	UJ LS
MW-10_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	7.6 µg/L	UJ IP, LM
MW-10_GW	EPA 8270E	2,4,5-Trichlorophenol	2.7 µg/L	UJ IP, LM
MW-10_GW	EPA 8270E	2,4,6-Trichlorophenol	2.5 µg/L	UJ IP, LM
MW-10_GW	EPA 8270E	2,4-Dichlorophenol	140,000 µg/L	J- IP
MW-10_GW	EPA 8270E	2,4-Dimethylphenol	1.5 µg/L	UJ IP
MW-10_GW	EPA 8270E	2,4-Dinitrophenol	14 µg/L	R IP, LM
MW-10_GW	EPA 8270E	2,4-Dinitrotoluene	1.5 µg/L	UJ LS
MW-10_GW	EPA 8270E	2,6-Dinitrotoluene	1.5 µg/L	UJ LS
MW-10_GW	EPA 8270E	2-Chloronaphthalene	1.4 µg/L	UJ LS
MW-10_GW	EPA 8270E	2-Chlorophenol	7,700 µg/L	J- IP
MW-10_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	4.3 µg/L	R IP, LM
MW-10_GW	EPA 8270E	2-Methylnaphthalene	1.3 µg/L	UJ LS
MW-10_GW	EPA 8270E	2-Methylphenol	590 µg/L	J- IP
MW-10_GW	EPA 8270E	2-Nitroaniline	2.8 µg/L	UJ LS
MW-10_GW	EPA 8270E	2-Nitrophenol	3.7 µg/L	UJ IP
MW-10_GW	EPA 8270E	3&4-Methylphenol	160 µg/L	NJ IP, SB
MW-10_GW	EPA 8270E	3,3-Dichlorobenzidine	100 µg/L	J- LS
MW-10_GW	EPA 8270E	3-Nitroaniline	3.6 µg/L	UJ LS
MW-10_GW	EPA 8270E	4-Bromophenyl phenyl ether	1.1 µg/L	UJ LS
MW-10_GW	EPA 8270E	4-Chloro-3-methylphenol	1.8 µg/L	UJ IP
MW-10_GW	EPA 8270E	4-Chloroaniline	6.7 µg/L	UJ LS
MW-10_GW	EPA 8270E	4-Chlorophenyl phenyl ether	1.3 µg/L	UJ LS
MW-10_GW	EPA 8270E	4-Nitroaniline	2.8 µg/L	UJ LS
MW-10_GW	EPA 8270E	4-Nitrophenol	9.7 µg/L	R IP, LM
MW-10_GW	EPA 8270E	Acenaphthene	1.0 µg/L	UJ LS
MW-10_GW	EPA 8270E	Acenaphthylene	0.80 µg/L	UJ LS
MW-10_GW	EPA 8270E	Acetophenone	2.4 µg/L	UJ LS
MW-10_GW	EPA 8270E	Anthracene	0.62 µg/L	UJ LS
MW-10_GW	EPA 8270E	Atrazine	0.70 µg/L	UJ LS
MW-10_GW	EPA 8270E	Benzaldehyde	1.2 µg/L	UJ LS
MW-10_GW	EPA 8270E	Benzo(a)anthracene	1.0 µg/L	UJ LS
MW-10_GW	EPA 8270E	Benzo(a)pyrene	0.54 µg/L	UJ LS

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-10_GW	EPA 8270E	Benzo(b)fluoranthene	2.3 µg/L	UJ LS
MW-10_GW	EPA 8270E	Benzo(g,h,i)perylene	3.0 µg/L	UJ LS
MW-10_GW	EPA 8270E	Benzo(k)fluoranthene	1.1 µg/L	UJ LS
MW-10_GW	EPA 8270E	Bis(2-chloroethoxy)methane	2.6 µg/L	UJ LS
MW-10_GW	EPA 8270E	Bis(2-chloroethyl)ether	2.2 µg/L	UJ LS
MW-10_GW	EPA 8270E	Bis(2-chloroisopropyl)ether	1.4 µg/L	UJ LS
MW-10_GW	EPA 8270E	Bis(2-ethylhexyl)phthalate	3.6 µg/L	UJ LS
MW-10_GW	EPA 8270E	Butyl Benzyl Phthalate	1.6 µg/L	UJ LS
MW-10_GW	EPA 8270E	Caprolactam	5.9 µg/L	UJ LS
MW-10_GW	EPA 8270E	Carbazole	1.5 µg/L	UJ LS
MW-10_GW	EPA 8270E	Chrysene	1.0 µg/L	UJ LS
MW-10_GW	EPA 8270E	Dibenzo(a,h)anthracene	5.1 µg/L	UJ LS
MW-10_GW	EPA 8270E	Dibenzofuran	1.0 µg/L	UJ LS
MW-10_GW	EPA 8270E	Diethyl Phthalate	1.5 µg/L	UJ LS
MW-10_GW	EPA 8270E	Dimethyl Phthalate	0.80 µg/L	UJ LS
MW-10_GW	EPA 8270E	Di-n-butyl Phthalate	2.2 µg/L	UJ LS
MW-10_GW	EPA 8270E	Di-n-octyl Phthalate	3.9 µg/L	UJ LS
MW-10_GW	EPA 8270E	Fluoranthene	1.2 µg/L	UJ LS
MW-10_GW	EPA 8270E	Fluorene	0.84 µg/L	UJ LS
MW-10_GW	EPA 8270E	Hexachlorobenzene	2.4 µg/L	UJ LS
MW-10_GW	EPA 8270E	Hexachlorobutadiene	3.1 µg/L	UJ LS
MW-10_GW	EPA 8270E	Hexachlorocyclopentadiene	17 µg/L	UJ LS
MW-10_GW	EPA 8270E	Hexachloroethane	4.8 µg/L	UJ LS
MW-10_GW	EPA 8270E	Indeno(1,2,3-cd)pyrene	3.7 µg/L	UJ LS
MW-10_GW	EPA 8270E	Isophorone	2.1 µg/L	UJ LS
MW-10_GW	EPA 8270E	Naphthalene	14,000 µg/L	J- LS
MW-10_GW	EPA 8270E	Nitrobenzene	1.3 µg/L	UJ LS
MW-10_GW	EPA 8270E	N-Nitrosodi-n-propylamine	2.0 µg/L	UJ LS
MW-10_GW	EPA 8270E	N-Nitrosodiphenylamine	1.9 µg/L	UJ LS
MW-10_GW	EPA 8270E	Pentachlorophenol	100 µg/L	J- IP, LM
MW-10_GW	EPA 8270E	Phenanthrene	1.7 µg/L	UJ LS
MW-10_GW	EPA 8270E	Phenol	53 µg/L	J- IP
MW-10_GW	EPA 8270E	Pyrene	2.6 µg/L	UJ LS
MW-10_GW	EPA 8270E	Pyridine	19 µg/L	R LL
MW-10_GW	EPA 8321B	2,4,5-TP (Silvex)	47 µg/L	J+ CH, LI, DL
MW-10_GW	EPA 8321B	Dalapon	2.2 µg/L	UJ LI
MW-10_GW	EPA 8321B	Dicamba	1,400 µg/L	NJ LI, MI
MW-10_GW	EPA 8321B	Dichlorprop	14 µg/L	J+ LI
MW-10_GW	EPA 8321B	Dinoseb	0.23 µg/L	UJ LI
MW-10_GW	EPA 8321B	MCPP	73 µg/L	J+ LI
MW-10_GW	SM2340B	Total Hardness (as $CaCO_3$)	2.4 mg/L	J NP, DL
MW-14_GW	EPA 1613B	2,3,7,8-TCDF	7.8 pg/L	U EM
MW-14_GW	EPA 1613B	Total HpCDD	1.1 pg/L	U EM
MW-14_GW	EPA 1613B	Total PeCDF	18 pg/L	U EM
MW-14_GW	EPA 1613B	Total TCDD	13 pg/L	U EM
MW-14_GW	EPA 1613B	Total TCDF	23 pg/L	U EM
MW-14_GW	EPA 6020B	Aluminum	33 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Aluminum, dissolved	17 µg/L	UJ NP
MW-14_GW	EPA 6020B	Antimony	7.4 µg/L	J NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-14_GW	EPA 6020B	Antimony, dissolved	7.3 µg/L	J NP
MW-14_GW	EPA 6020B	Arsenic	3,900 µg/L	J NP
MW-14_GW	EPA 6020B	Arsenic, dissolved	3,800 µg/L	J NP
MW-14_GW	EPA 6020B	Barium	1.7 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Barium, dissolved	1.7 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Beryllium	0.61 µg/L	UJ NP
MW-14_GW	EPA 6020B	Beryllium, dissolved	0.61 µg/L	UJ NP
MW-14_GW	EPA 6020B	Cadmium	0.50 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Cadmium, dissolved	0.43 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Calcium	680 µg/L	J NP
MW-14_GW	EPA 6020B	Calcium, dissolved	840 µg/L	J NP
MW-14_GW	EPA 6020B	Chromium	1.0 µg/L	UJ NP
MW-14_GW	EPA 6020B	Chromium, dissolved	1.0 µg/L	UJ NP
MW-14_GW	EPA 6020B	Cobalt	0.66 µg/L	UJ NP
MW-14_GW	EPA 6020B	Cobalt, dissolved	0.66 µg/L	UJ NP
MW-14_GW	EPA 6020B	Copper	4.9 µg/L	J NP
MW-14_GW	EPA 6020B	Copper, dissolved	1.4 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Iron	48 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Iron, dissolved	17 µg/L	UJ NP
MW-14_GW	EPA 6020B	Lead	0.46 µg/L	UJ NP
MW-14_GW	EPA 6020B	Lead, dissolved	0.46 µg/L	UJ NP
MW-14_GW	EPA 6020B	Magnesium	150 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Magnesium, dissolved	110 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Manganese	1.0 µg/L	UJ NP
MW-14_GW	EPA 6020B	Manganese, dissolved	1.0 µg/L	UJ NP
MW-14_GW	EPA 6020B	Molybdenum	5,200 µg/L	J NP
MW-14_GW	EPA 6020B	Molybdenum, dissolved	5,100 µg/L	J NP
MW-14_GW	EPA 6020B	Nickel	8.8 µg/L	J NP
MW-14_GW	EPA 6020B	Nickel, dissolved	8.0 µg/L	J NP
MW-14_GW	EPA 6020B	Potassium	530,000 µg/L	J NP
MW-14_GW	EPA 6020B	Potassium, dissolved	530,000 µg/L	J NP
MW-14_GW	EPA 6020B	Selenium	7.2 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Selenium, dissolved	8.9 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Silver	0.090 µg/L	UJ NP
MW-14_GW	EPA 6020B	Silver, dissolved	0.090 µg/L	UJ NP
MW-14_GW	EPA 6020B	Sodium	7,800,000 µg/L	J NP
MW-14_GW	EPA 6020B	Sodium, dissolved	7,600,000 µg/L	J NP
MW-14_GW	EPA 6020B	Thallium	0.42 µg/L	UJ NP
MW-14_GW	EPA 6020B	Thallium, dissolved	0.42 µg/L	UJ NP
MW-14_GW	EPA 6020B	Vanadium	8.5 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Vanadium, dissolved	7.5 µg/L	J NP, DL
MW-14_GW	EPA 6020B	Zinc	4.0 µg/L	UJ NP
MW-14_GW	EPA 6020B	Zinc, dissolved	4.0 µg/L	UJ NP
MW-14_GW	EPA 7470A	Mercury	0.061 µg/L	UJ NP
MW-14_GW	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-14_GW	EPA 8081B	2,4'-DDE	0.0075 µg/L	UJ LC
MW-14_GW	EPA 8081B	4,4'-DDD	0.21 µg/L	NJ SE
MW-14_GW	EPA 8081B	4,4'-DDE	0.029 µg/L	R SE
MW-14_GW	EPA 8081B	Aldrin	0.011 µg/L	R SE

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-14_GW	EPA 8260D	1,1,1-Trichloroethane	0.39 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	0.73 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,1,2-Trichloroethane	0.27 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,1-Dichloroethane	0.22 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,1-Dichloroethene	0.23 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2,3-Trichlorobenzene	1.2 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2,3-Trichloropropane	0.28 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2,4-Trichlorobenzene	0.58 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.15 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ HT, LC
MW-14_GW	EPA 8260D	1,2-Dibromoethane	0.18 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2-Dichlorobenzene	0.14 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2-Dichloroethane	0.28 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,2-Dichloropropane	0.24 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.12 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,3-Dichlorobenzene	0.33 µg/L	UJ HT
MW-14_GW	EPA 8260D	1,4-Dichlorobenzene	0.39 µg/L	UJ HT
MW-14_GW	EPA 8260D	2-Butanone	4.6 µg/L	UJ HT
MW-14_GW	EPA 8260D	2-Hexanone	0.81 µg/L	UJ HT
MW-14_GW	EPA 8260D	4-Methyl-2-Pentanone	0.98 µg/L	UJ HT
MW-14_GW	EPA 8260D	Acetone	6.6 µg/L	UJ HT
MW-14_GW	EPA 8260D	Benzene	0.60 µg/L	J DL, HT
MW-14_GW	EPA 8260D	Bromochloromethane	0.40 µg/L	UJ HT
MW-14_GW	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ HT
MW-14_GW	EPA 8260D	Bromoform	0.25 µg/L	UJ HT
MW-14_GW	EPA 8260D	Bromomethane	2.4 µg/L	UJ HT
MW-14_GW	EPA 8260D	Carbon disulfide	0.26 µg/L	UJ HT
MW-14_GW	EPA 8260D	Carbon tetrachloride	0.23 µg/L	UJ HT
MW-14_GW	EPA 8260D	Chlorobenzene	0.092 µg/L	UJ HT
MW-14_GW	EPA 8260D	Chloroethane	0.64 µg/L	UJ HT
MW-14_GW	EPA 8260D	Chloroform	0.36 µg/L	UJ HT
MW-14_GW	EPA 8260D	Chloromethane	0.23 µg/L	UJ HT
MW-14_GW	EPA 8260D	cis-1,2-Dichloroethene	0.67 µg/L	J DL, HT
MW-14_GW	EPA 8260D	cis-1,3-Dichloropropene	0.16 µg/L	UJ HT
MW-14_GW	EPA 8260D	Cyclohexane	0.44 µg/L	UJ HT
MW-14_GW	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ HT
MW-14_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ HT
MW-14_GW	EPA 8260D	Ethylbenzene	0.14 µg/L	UJ HT
MW-14_GW	EPA 8260D	Isopropylbenzene	0.16 µg/L	UJ HT
MW-14_GW	EPA 8260D	m+p-Xylene	0.36 µg/L	UJ HT
MW-14_GW	EPA 8260D	Methyl acetate	1.6 µg/L	UJ HT
MW-14_GW	EPA 8260D	Methyl tert-Butyl Ether	0.25 µg/L	UJ HT
MW-14_GW	EPA 8260D	Methylcyclohexane	0.31 µg/L	UJ HT
MW-14_GW	EPA 8260D	Methylene chloride	0.94 µg/L	UJ HT
MW-14_GW	EPA 8260D	o-Xylene	0.15 µg/L	J DL, HT
MW-14_GW	EPA 8260D	Styrene	0.13 µg/L	UJ HT
MW-14_GW	EPA 8260D	Tetrachloroethene	0.40 µg/L	UJ HT
MW-14_GW	EPA 8260D	Toluene	0.32 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-14_GW	EPA 8260D	trans-1,2-Dichloroethene	0.37 µg/L	UJ HT
MW-14_GW	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ HT
MW-14_GW	EPA 8260D	Trichloroethene	0.30 µg/L	UJ HT
MW-14_GW	EPA 8260D	Trichlorofluoromethane	0.20 µg/L	UJ HT
MW-14_GW	EPA 8260D	Vinyl chloride	0.23 µg/L	UJ HT
MW-14_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	6.8 µg/L	UJ IP, LM
MW-14_GW	EPA 8270E	2,4,5-Trichlorophenol	9.0 µg/L	J- DL, IP, LM
MW-14_GW	EPA 8270E	2,4,6-Trichlorophenol	2.2 µg/L	UJ IP, LM
MW-14_GW	EPA 8270E	2,4-Dichlorophenol	7.6 µg/L	J- DL, IP
MW-14_GW	EPA 8270E	2,4-Dimethylphenol	1.3 µg/L	UJ IP
MW-14_GW	EPA 8270E	2,4-Dinitrophenol	12 µg/L	R IP, LM
MW-14_GW	EPA 8270E	2-Chlorophenol	3.3 µg/L	J- DL, IP
MW-14_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	3.9 µg/L	R IP, LM
MW-14_GW	EPA 8270E	2-Methylphenol	1,600 µg/L	J- IP
MW-14_GW	EPA 8270E	2-Nitrophenol	3.3 µg/L	UJ IP
MW-14_GW	EPA 8270E	3&4-Methylphenol	2.1 µg/L	UJ IP
MW-14_GW	EPA 8270E	4-Chloro-3-methylphenol	1.6 µg/L	UJ IP
MW-14_GW	EPA 8270E	4-Nitrophenol	8.7 µg/L	R IP, LM
MW-14_GW	EPA 8270E	Acetophenone	9.7 µg/L	NJ SB
MW-14_GW	EPA 8270E	Pentachlorophenol	19 µg/L	R IP, LM
MW-14_GW	EPA 8270E	Phenol	0.88 µg/L	UJ IP
MW-14_GW	EPA 8270E	Pyridine	17 µg/L	R LL
MW-14_GW	EPA 8321B	Dinoseb	0.23 µg/L	UJ LC
MW-14_GW	SM2340B	Total Hardness (as $CaCO_3$)	2.3 mg/L	J NP, DL
MW-15_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDD	0.95 pg/L	U EB, EM
MW-15_GW	EPA 1613B	Total HpCDD	1.6 pg/L	U EM
MW-15_GW	EPA 6020B	Aluminum	320 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Aluminum, dissolved	83 µg/L	UJ NP
MW-15_GW	EPA 6020B	Antimony	8.3 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Antimony, dissolved	9.9 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Arsenic	8,800 µg/L	J NP
MW-15_GW	EPA 6020B	Arsenic, dissolved	9,900 µg/L	J NP
MW-15_GW	EPA 6020B	Barium	9.3 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Barium, dissolved	4.6 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Beryllium	3.0 µg/L	UJ NP
MW-15_GW	EPA 6020B	Beryllium, dissolved	3.0 µg/L	UJ NP
MW-15_GW	EPA 6020B	Cadmium	1.9 µg/L	UJ NP
MW-15_GW	EPA 6020B	Cadmium, dissolved	1.9 µg/L	UJ NP
MW-15_GW	EPA 6020B	Calcium	1,700 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Calcium, dissolved	920 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Chromium	5.0 µg/L	UJ NP
MW-15_GW	EPA 6020B	Chromium, dissolved	5.0 µg/L	UJ NP
MW-15_GW	EPA 6020B	Cobalt	3.3 µg/L	UJ NP
MW-15_GW	EPA 6020B	Cobalt, dissolved	3.3 µg/L	UJ NP
MW-15_GW	EPA 6020B	Copper	7.1 µg/L	UJ NP
MW-15_GW	EPA 6020B	Copper, dissolved	7.1 µg/L	UJ NP
MW-15_GW	EPA 6020B	Iron	350 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Iron, dissolved	87 µg/L	UJ NP
MW-15_GW	EPA 6020B	Lead	2.3 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-15_GW	EPA 6020B	Lead, dissolved	2.3 µg/L	UJ NP
MW-15_GW	EPA 6020B	Magnesium	670 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Magnesium, dissolved	100 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Manganese	6.3 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Manganese, dissolved	5.1 µg/L	UJ NP
MW-15_GW	EPA 6020B	Molybdenum	16,000 µg/L	J NP
MW-15_GW	EPA 6020B	Molybdenum, dissolved	18,000 µg/L	J NP
MW-15_GW	EPA 6020B	Nickel	9.7 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Nickel, dissolved	12 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Potassium	840,000 µg/L	J NP
MW-15_GW	EPA 6020B	Potassium, dissolved	980,000 µg/L	J NP
MW-15_GW	EPA 6020B	Selenium	10 µg/L	UJ NP
MW-15_GW	EPA 6020B	Selenium, dissolved	13 µg/L	J NP, DL
MW-15_GW	EPA 6020B	Silver	0.45 µg/L	UJ NP
MW-15_GW	EPA 6020B	Silver, dissolved	0.45 µg/L	UJ NP
MW-15_GW	EPA 6020B	Sodium	13,000,000 µg/L	J NP
MW-15_GW	EPA 6020B	Sodium, dissolved	15,000,000 µg/L	J NP
MW-15_GW	EPA 6020B	Thallium	2.1 µg/L	UJ NP
MW-15_GW	EPA 6020B	Thallium, dissolved	2.1 µg/L	UJ NP
MW-15_GW	EPA 6020B	Vanadium	11 µg/L	UJ NP
MW-15_GW	EPA 6020B	Vanadium, dissolved	11 µg/L	UJ NP
MW-15_GW	EPA 6020B	Zinc	20 µg/L	UJ NP
MW-15_GW	EPA 6020B	Zinc, dissolved	20 µg/L	UJ NP
MW-15_GW	EPA 7470A	Mercury	0.37 µg/L	UJ NP
MW-15_GW	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-15_GW	EPA 8081B	2,4'-DDE	0.0076 µg/L	UJ LC
MW-15_GW	EPA 8260D	1,1,1-Trichloroethane	0.39 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	0.73 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,1,2-Trichloroethane	0.27 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,1-Dichloroethane	0.22 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,1-Dichloroethene	0.23 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2,3-Trichlorobenzene	1.2 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2,3-Trichloropropane	0.28 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2,4-Trichlorobenzene	0.58 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.15 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ HT, LC
MW-15_GW	EPA 8260D	1,2-Dibromoethane	0.18 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2-Dichlorobenzene	0.14 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2-Dichloroethane	0.28 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,2-Dichloropropane	0.24 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.12 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,3-Dichlorobenzene	0.33 µg/L	UJ HT
MW-15_GW	EPA 8260D	1,4-Dichlorobenzene	0.39 µg/L	UJ HT
MW-15_GW	EPA 8260D	2-Butanone	4.6 µg/L	UJ HT
MW-15_GW	EPA 8260D	2-Hexanone	0.81 µg/L	UJ HT
MW-15_GW	EPA 8260D	4-Methyl-2-Pentanone	0.98 µg/L	UJ HT
MW-15_GW	EPA 8260D	Acetone	6.6 µg/L	UJ HT
MW-15_GW	EPA 8260D	Benzene	0.14 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-15_GW	EPA 8260D	Bromochloromethane	0.40 µg/L	UJ HT
MW-15_GW	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ HT
MW-15_GW	EPA 8260D	Bromoform	0.25 µg/L	UJ HT
MW-15_GW	EPA 8260D	Bromomethane	2.4 µg/L	UJ HT
MW-15_GW	EPA 8260D	Carbon disulfide	0.26 µg/L	UJ HT
MW-15_GW	EPA 8260D	Carbon tetrachloride	0.23 µg/L	UJ HT
MW-15_GW	EPA 8260D	Chlorobenzene	0.092 µg/L	UJ HT
MW-15_GW	EPA 8260D	Chloroethane	0.64 µg/L	UJ HT
MW-15_GW	EPA 8260D	Chloroform	0.36 µg/L	UJ HT
MW-15_GW	EPA 8260D	Chloromethane	0.23 µg/L	UJ HT
MW-15_GW	EPA 8260D	cis-1,2-Dichloroethene	0.32 µg/L	UJ HT
MW-15_GW	EPA 8260D	cis-1,3-Dichloropropene	0.16 µg/L	UJ HT
MW-15_GW	EPA 8260D	Cyclohexane	0.44 µg/L	UJ HT
MW-15_GW	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ HT
MW-15_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ HT
MW-15_GW	EPA 8260D	Ethylbenzene	0.14 µg/L	UJ HT
MW-15_GW	EPA 8260D	Isopropylbenzene	0.16 µg/L	UJ HT
MW-15_GW	EPA 8260D	m+p-Xylene	0.36 µg/L	UJ HT
MW-15_GW	EPA 8260D	Methyl acetate	1.6 µg/L	UJ HT
MW-15_GW	EPA 8260D	Methyl tert-Butyl Ether	0.25 µg/L	UJ HT
MW-15_GW	EPA 8260D	Methylcyclohexane	0.31 µg/L	UJ HT
MW-15_GW	EPA 8260D	Methylene chloride	0.94 µg/L	UJ HT
MW-15_GW	EPA 8260D	o-Xylene	0.11 µg/L	UJ HT
MW-15_GW	EPA 8260D	Styrene	0.13 µg/L	UJ HT
MW-15_GW	EPA 8260D	Tetrachloroethene	0.40 µg/L	UJ HT
MW-15_GW	EPA 8260D	Toluene	0.32 µg/L	UJ HT
MW-15_GW	EPA 8260D	trans-1,2-Dichloroethene	0.37 µg/L	UJ HT
MW-15_GW	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ HT
MW-15_GW	EPA 8260D	Trichloroethene	0.30 µg/L	UJ HT
MW-15_GW	EPA 8260D	Trichlorofluoromethane	0.20 µg/L	UJ HT
MW-15_GW	EPA 8260D	Vinyl chloride	0.23 µg/L	UJ HT
MW-15_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	7.2 µg/L	UJ IP, LM
MW-15_GW	EPA 8270E	2,4,5-Trichlorophenol	2.6 µg/L	UJ IP, LM
MW-15_GW	EPA 8270E	2,4,6-Trichlorophenol	2.4 µg/L	UJ IP, LM
MW-15_GW	EPA 8270E	2,4-Dichlorophenol	3.1 µg/L	UJ IP
MW-15_GW	EPA 8270E	2,4-Dimethylphenol	1.4 µg/L	UJ IP
MW-15_GW	EPA 8270E	2,4-Dinitrophenol	13 µg/L	R IP, LM
MW-15_GW	EPA 8270E	2-Chlorophenol	2.6 µg/L	UJ IP
MW-15_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	4.1 µg/L	R IP, LM
MW-15_GW	EPA 8270E	2-Methylphenol	0.78 µg/L	UJ IP
MW-15_GW	EPA 8270E	2-Nitrophenol	3.5 µg/L	UJ IP
MW-15_GW	EPA 8270E	3&4-Methylphenol	2.2 µg/L	UJ IP
MW-15_GW	EPA 8270E	4-Chloro-3-methylphenol	1.7 µg/L	UJ IP
MW-15_GW	EPA 8270E	4-Nitrophenol	9.2 µg/L	R IP, LM
MW-15_GW	EPA 8270E	Pentachlorophenol	20 µg/L	R IP, LM
MW-15_GW	EPA 8270E	Phenol	0.93 µg/L	UJ IP
MW-15_GW	EPA 8270E	Pyridine	18 µg/L	R LL
MW-15_GW	SM2340B	Total Hardness (as $CaCO_3$)	6.9 mg/L	J NP
MW-16_GW	EPA 1613B	OCDD	3.0 pg/L	U MB, EB

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-16_GW	EPA 6020B	Aluminum	83 µg/L	UJ NP
MW-16_GW	EPA 6020B	Aluminum, dissolved	83 µg/L	UJ NP
MW-16_GW	EPA 6020B	Antimony	6.5 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Antimony, dissolved	6.4 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Arsenic	15,000 µg/L	J NP
MW-16_GW	EPA 6020B	Arsenic, dissolved	16,000 µg/L	J NP
MW-16_GW	EPA 6020B	Barium	5.5 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Barium, dissolved	3.8 µg/L	UJ NP
MW-16_GW	EPA 6020B	Beryllium	3.0 µg/L	UJ NP
MW-16_GW	EPA 6020B	Beryllium, dissolved	3.0 µg/L	UJ NP
MW-16_GW	EPA 6020B	Cadmium	2.9 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Cadmium, dissolved	2.2 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Calcium	6,000 µg/L	J NP
MW-16_GW	EPA 6020B	Calcium, dissolved	1,000 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Chromium	5.0 µg/L	UJ NP
MW-16_GW	EPA 6020B	Chromium, dissolved	5.0 µg/L	UJ NP
MW-16_GW	EPA 6020B	Cobalt	3.3 µg/L	UJ NP
MW-16_GW	EPA 6020B	Cobalt, dissolved	3.3 µg/L	UJ NP
MW-16_GW	EPA 6020B	Copper	7.1 µg/L	UJ NP
MW-16_GW	EPA 6020B	Copper, dissolved	7.1 µg/L	UJ NP
MW-16_GW	EPA 6020B	Iron	180 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Iron, dissolved	87 µg/L	UJ NP
MW-16_GW	EPA 6020B	Lead	2.3 µg/L	UJ NP
MW-16_GW	EPA 6020B	Lead, dissolved	2.3 µg/L	UJ NP
MW-16_GW	EPA 6020B	Magnesium	2,300 µg/L	J NP
MW-16_GW	EPA 6020B	Magnesium, dissolved	170 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Manganese	12 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Manganese, dissolved	5.1 µg/L	UJ NP
MW-16_GW	EPA 6020B	Molybdenum	22,000 µg/L	J NP
MW-16_GW	EPA 6020B	Molybdenum, dissolved	23,000 µg/L	J NP
MW-16_GW	EPA 6020B	Nickel	8.9 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Nickel, dissolved	8.3 µg/L	UJ NP
MW-16_GW	EPA 6020B	Potassium	1,300,000 µg/L	J NP
MW-16_GW	EPA 6020B	Potassium, dissolved	1,400,000 µg/L	J NP
MW-16_GW	EPA 6020B	Selenium	22 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Selenium, dissolved	20 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Silver	0.45 µg/L	UJ NP
MW-16_GW	EPA 6020B	Silver, dissolved	0.45 µg/L	UJ NP
MW-16_GW	EPA 6020B	Sodium	17,000,000 µg/L	J NP
MW-16_GW	EPA 6020B	Sodium, dissolved	18,000,000 µg/L	J NP
MW-16_GW	EPA 6020B	Thallium	2.1 µg/L	UJ NP
MW-16_GW	EPA 6020B	Thallium, dissolved	2.1 µg/L	UJ NP
MW-16_GW	EPA 6020B	Vanadium	15 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Vanadium, dissolved	16 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Zinc	67 µg/L	J NP, DL
MW-16_GW	EPA 6020B	Zinc, dissolved	20 µg/L	UJ NP
MW-16_GW	EPA 7470A	Mercury	0.37 µg/L	UJ NP
MW-16_GW	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-16_GW	EPA 8081B	2,4'-DDE	0.0074 µg/L	UJ LC

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-16_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ LC
MW-16_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ LC
MW-16_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	6.6 µg/L	UJ IP, LM
MW-16_GW	EPA 8270E	2,4,5-Trichlorophenol	2.4 µg/L	UJ IP, LM
MW-16_GW	EPA 8270E	2,4,6-Trichlorophenol	2.2 µg/L	UJ IP, LM
MW-16_GW	EPA 8270E	2,4-Dichlorophenol	2.8 µg/L	UJ IP
MW-16_GW	EPA 8270E	2,4-Dimethylphenol	1.3 µg/L	UJ IP
MW-16_GW	EPA 8270E	2,4-Dinitrophenol	12 µg/L	R IP, LM
MW-16_GW	EPA 8270E	2-Chlorophenol	2.4 µg/L	UJ IP
MW-16_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	3.8 µg/L	R IP, LM
MW-16_GW	EPA 8270E	2-Methylphenol	0.72 µg/L	UJ IP
MW-16_GW	EPA 8270E	2-Nitrophenol	3.3 µg/L	UJ IP
MW-16_GW	EPA 8270E	3&4-Methylphenol	2.0 µg/L	UJ IP
MW-16_GW	EPA 8270E	4-Chloro-3-methylphenol	1.6 µg/L	UJ IP
MW-16_GW	EPA 8270E	4-Nitrophenol	8.5 µg/L	R IP, LM
MW-16_GW	EPA 8270E	Pentachlorophenol	19 µg/L	R IP, LM
MW-16_GW	EPA 8270E	Phenol	0.87 µg/L	UJ IP
MW-16_GW	EPA 8270E	Pyridine	17 µg/L	R LL
MW-16_GW	SM2340B	Total Hardness (as $CaCO_3$)	25 mg/L	J NP
MW-17_GW	EPA 8260D	1,1,1-Trichloroethane	0.39 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	0.73 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,1,2-Trichloroethane	0.27 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,1-Dichloroethane	0.22 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,1-Dichloroethene	0.23 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2,3-Trichlorobenzene	1.2 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2,3-Trichloropropane	0.28 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2,4-Trichlorobenzene	0.58 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.15 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ HT, LC
MW-17_GW	EPA 8260D	1,2-Dibromoethane	0.18 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2-Dichlorobenzene	0.14 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2-Dichloroethane	0.28 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,2-Dichloropropane	0.24 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.12 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,3-Dichlorobenzene	0.33 µg/L	UJ HT
MW-17_GW	EPA 8260D	1,4-Dichlorobenzene	0.39 µg/L	UJ HT
MW-17_GW	EPA 8260D	2-Butanone	4.6 µg/L	UJ HT
MW-17_GW	EPA 8260D	2-Hexanone	0.81 µg/L	UJ HT
MW-17_GW	EPA 8260D	4-Methyl-2-Pentanone	0.98 µg/L	UJ HT
MW-17_GW	EPA 8260D	Acetone	6.6 µg/L	UJ HT
MW-17_GW	EPA 8260D	Benzene	0.14 µg/L	UJ HT
MW-17_GW	EPA 8260D	Bromochloromethane	0.40 µg/L	UJ HT
MW-17_GW	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ HT
MW-17_GW	EPA 8260D	Bromoform	0.25 µg/L	UJ HT
MW-17_GW	EPA 8260D	Bromomethane	2.4 µg/L	UJ HT
MW-17_GW	EPA 8260D	Carbon disulfide	0.26 µg/L	UJ HT
MW-17_GW	EPA 8260D	Carbon tetrachloride	0.23 µg/L	UJ HT
MW-17_GW	EPA 8260D	Chlorobenzene	0.092 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-17_GW	EPA 8260D	Chloroethane	0.64 µg/L	UJ HT
MW-17_GW	EPA 8260D	Chloroform	0.36 µg/L	UJ HT
MW-17_GW	EPA 8260D	Chloromethane	0.23 µg/L	UJ HT
MW-17_GW	EPA 8260D	cis-1,2-Dichloroethene	0.32 µg/L	UJ HT
MW-17_GW	EPA 8260D	cis-1,3-Dichloropropene	0.16 µg/L	UJ HT
MW-17_GW	EPA 8260D	Cyclohexane	0.44 µg/L	UJ HT
MW-17_GW	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ HT
MW-17_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ HT
MW-17_GW	EPA 8260D	Ethylbenzene	0.14 µg/L	UJ HT
MW-17_GW	EPA 8260D	Isopropylbenzene	0.16 µg/L	UJ HT
MW-17_GW	EPA 8260D	m+p-Xylene	0.36 µg/L	UJ HT
MW-17_GW	EPA 8260D	Methyl acetate	1.6 µg/L	UJ HT
MW-17_GW	EPA 8260D	Methyl tert-Butyl Ether	0.25 µg/L	UJ HT
MW-17_GW	EPA 8260D	Methylcyclohexane	0.31 µg/L	UJ HT
MW-17_GW	EPA 8260D	Methylene chloride	0.94 µg/L	UJ HT
MW-17_GW	EPA 8260D	o-Xylene	0.11 µg/L	UJ HT
MW-17_GW	EPA 8260D	Styrene	0.13 µg/L	UJ HT
MW-17_GW	EPA 8260D	Tetrachloroethene	0.40 µg/L	UJ HT
MW-17_GW	EPA 8260D	Toluene	0.32 µg/L	UJ HT
MW-17_GW	EPA 8260D	trans-1,2-Dichloroethene	0.37 µg/L	UJ HT
MW-17_GW	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ HT
MW-17_GW	EPA 8260D	Trichloroethene	0.30 µg/L	UJ HT
MW-17_GW	EPA 8260D	Trichlorofluoromethane	0.20 µg/L	UJ HT
MW-17_GW	EPA 8260D	Vinyl chloride	0.23 µg/L	UJ HT
MW-30_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDF	6.8 pg/L	J DL
MW-30_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	1.5 pg/L	U EB, EM
MW-30_GW	EPA 1613B	2,3,7,8-TCDF	1.1 pg/L	J DL
MW-30_GW	EPA 1613B	OCDF	86 pg/L	J DL
MW-30_GW	EPA 1613B	Total HpCDF	25 pg/L	J DL
MW-30_GW	EPA 1613B	Total HxCDF	1.5 pg/L	U EM
MW-30_GW	EPA 1613B	Total PeCDF	87 pg/L	U EM
MW-30_GW	EPA 1613B	Total TCDF	120 pg/L	U EM
MW-30_GW	EPA 1613B	Total TCDD	48 pg/L	U EM
MW-30_GW	EPA 6020B	Aluminum	42 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Aluminum, dissolved	17 µg/L	UJ NP
MW-30_GW	EPA 6020B	Antimony	0.80 µg/L	UJ NP
MW-30_GW	EPA 6020B	Antimony, dissolved	0.80 µg/L	UJ NP
MW-30_GW	EPA 6020B	Arsenic	1,900 µg/L	J NP
MW-30_GW	EPA 6020B	Arsenic, dissolved	1,800 µg/L	J NP
MW-30_GW	EPA 6020B	Barium	2.1 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Barium, dissolved	1.5 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Beryllium	0.61 µg/L	UJ NP
MW-30_GW	EPA 6020B	Beryllium, dissolved	0.61 µg/L	UJ NP
MW-30_GW	EPA 6020B	Cadmium	0.38 µg/L	UJ NP
MW-30_GW	EPA 6020B	Cadmium, dissolved	0.41 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Calcium	700 µg/L	J NP
MW-30_GW	EPA 6020B	Calcium, dissolved	700 µg/L	J NP
MW-30_GW	EPA 6020B	Chromium	2.1 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Chromium, dissolved	1.0 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-30_GW	EPA 6020B	Cobalt	0.66 µg/L	UJ NP
MW-30_GW	EPA 6020B	Cobalt, dissolved	0.66 µg/L	UJ NP
MW-30_GW	EPA 6020B	Copper	20 µg/L	J NP
MW-30_GW	EPA 6020B	Copper, dissolved	6.1 µg/L	J NP
MW-30_GW	EPA 6020B	Iron	64 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Iron, dissolved	19 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Lead	1.0 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Lead, dissolved	0.46 µg/L	UJ NP
MW-30_GW	EPA 6020B	Magnesium	180 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Magnesium, dissolved	140 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Manganese	1.0 µg/L	UJ NP
MW-30_GW	EPA 6020B	Manganese, dissolved	1.0 µg/L	UJ NP
MW-30_GW	EPA 6020B	Molybdenum	3,200 µg/L	J NP
MW-30_GW	EPA 6020B	Molybdenum, dissolved	3,200 µg/L	J NP
MW-30_GW	EPA 6020B	Nickel	4.7 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Nickel, dissolved	4.5 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Potassium	490,000 µg/L	J NP
MW-30_GW	EPA 6020B	Potassium, dissolved	500,000 µg/L	J NP
MW-30_GW	EPA 6020B	Selenium	5.4 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Selenium, dissolved	5.3 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Silver	0.090 µg/L	UJ NP
MW-30_GW	EPA 6020B	Silver, dissolved	0.090 µg/L	UJ NP
MW-30_GW	EPA 6020B	Sodium	7,100,000 µg/L	J NP
MW-30_GW	EPA 6020B	Sodium, dissolved	7,400,000 µg/L	J NP
MW-30_GW	EPA 6020B	Thallium	0.42 µg/L	UJ NP
MW-30_GW	EPA 6020B	Thallium, dissolved	0.42 µg/L	UJ NP
MW-30_GW	EPA 6020B	Vanadium	4.2 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Vanadium, dissolved	3.3 µg/L	J NP, DL
MW-30_GW	EPA 6020B	Zinc	4.0 µg/L	UJ NP
MW-30_GW	EPA 6020B	Zinc, dissolved	4.0 µg/L	UJ NP
MW-30_GW	EPA 7470A	Mercury	0.061 µg/L	UJ NP
MW-30_GW	EPA 7470A	Mercury, dissolved	0.061 µg/L	UJ NP
MW-30_GW	EPA 8081B	cis-Chlordane	7.6 µg/L	R SE
MW-30_GW	EPA 8260D	1,1,1-Trichloroethane	0.39 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	0.73 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,1,2-Trichloroethane	0.27 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,1-Dichloroethane	0.22 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,1-Dichloroethene	0.23 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,2,3-Trichlorobenzene	1.2 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,2,3-Trichloropropane	0.28 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,2,4-Trichlorobenzene	0.58 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,2,4-Trimethylbenzene	2.8 µg/L	J HT
MW-30_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ HT, LC
MW-30_GW	EPA 8260D	1,2-Dibromoethane	0.18 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,2-Dichlorobenzene	0.22 µg/L	J DL, HT
MW-30_GW	EPA 8260D	1,2-Dichloroethane	0.28 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,2-Dichloropropane	0.24 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,3,5-Trimethylbenzene	1.2 µg/L	J HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-30_GW	EPA 8260D	1,3-Dichlorobenzene	0.33 µg/L	UJ HT
MW-30_GW	EPA 8260D	1,4-Dichlorobenzene	0.39 µg/L	UJ HT
MW-30_GW	EPA 8260D	2-Butanone	4.6 µg/L	UJ HT
MW-30_GW	EPA 8260D	2-Hexanone	0.81 µg/L	UJ HT
MW-30_GW	EPA 8260D	4-Methyl-2-Pentanone	0.98 µg/L	UJ HT
MW-30_GW	EPA 8260D	Acetone	6.6 µg/L	UJ HT
MW-30_GW	EPA 8260D	Benzene	1.6 µg/L	J HT
MW-30_GW	EPA 8260D	Bromochloromethane	0.40 µg/L	UJ HT
MW-30_GW	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ HT
MW-30_GW	EPA 8260D	Bromoform	0.25 µg/L	UJ HT
MW-30_GW	EPA 8260D	Bromomethane	2.4 µg/L	UJ HT
MW-30_GW	EPA 8260D	Carbon disulfide	0.26 µg/L	UJ HT
MW-30_GW	EPA 8260D	Carbon tetrachloride	0.23 µg/L	UJ HT
MW-30_GW	EPA 8260D	Chlorobenzene	0.092 µg/L	UJ HT
MW-30_GW	EPA 8260D	Chloroethane	0.64 µg/L	UJ HT
MW-30_GW	EPA 8260D	Chloroform	0.36 µg/L	UJ HT
MW-30_GW	EPA 8260D	Chloromethane	0.23 µg/L	UJ HT
MW-30_GW	EPA 8260D	cis-1,2-Dichloroethene	2.1 µg/L	J HT
MW-30_GW	EPA 8260D	cis-1,3-Dichloropropene	0.16 µg/L	UJ HT
MW-30_GW	EPA 8260D	Cyclohexane	0.44 µg/L	UJ HT
MW-30_GW	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ HT
MW-30_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ HT
MW-30_GW	EPA 8260D	Ethylbenzene	11 µg/L	J HT
MW-30_GW	EPA 8260D	Isopropylbenzene	0.84 µg/L	J DL, HT
MW-30_GW	EPA 8260D	m+p-Xylene	44 µg/L	J HT
MW-30_GW	EPA 8260D	Methyl acetate	1.6 µg/L	UJ HT
MW-30_GW	EPA 8260D	Methyl tert-Butyl Ether	0.25 µg/L	UJ HT
MW-30_GW	EPA 8260D	Methylcyclohexane	0.31 µg/L	UJ HT
MW-30_GW	EPA 8260D	Methylene chloride	0.94 µg/L	UJ HT
MW-30_GW	EPA 8260D	o-Xylene	10 µg/L	J HT
MW-30_GW	EPA 8260D	Styrene	0.13 µg/L	UJ HT
MW-30_GW	EPA 8260D	Tetrachloroethene	0.40 µg/L	UJ HT
MW-30_GW	EPA 8260D	Toluene	0.73 µg/L	J DL, HT
MW-30_GW	EPA 8260D	trans-1,2-Dichloroethene	0.37 µg/L	UJ HT
MW-30_GW	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ HT
MW-30_GW	EPA 8260D	Trichloroethene	0.30 µg/L	UJ HT
MW-30_GW	EPA 8260D	Trichlorofluoromethane	0.20 µg/L	UJ HT
MW-30_GW	EPA 8260D	Vinyl chloride	0.23 µg/L	UJ HT
MW-30_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	7.5 µg/L	UJ IP, LM
MW-30_GW	EPA 8270E	2,4,5-Trichlorophenol	150 µg/L	UJ IP, LM
MW-30_GW	EPA 8270E	2,4,6-Trichlorophenol	2.5 µg/L	UJ IP, LM
MW-30_GW	EPA 8270E	2,4-Dichlorophenol	110 µg/L	J- IP
MW-30_GW	EPA 8270E	2,4-Dimethylphenol	4.5 µg/L	J- DL, IP
MW-30_GW	EPA 8270E	2,4-Dinitrophenol	14 µg/L	R IP, LM
MW-30_GW	EPA 8270E	2-Chlorophenol	2.7 µg/L	UJ IP
MW-30_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	4.3 µg/L	R IP, LM
MW-30_GW	EPA 8270E	2-Methylphenol	1,300 µg/L	J- IP
MW-30_GW	EPA 8270E	2-Nitrophenol	3.7 µg/L	UJ IP
MW-30_GW	EPA 8270E	3&4-Methylphenol	580 µg/L	NJ IP, SB

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-30_GW	EPA 8270E	4-Chloro-3-methylphenol	21 µg/L	J- IP
MW-30_GW	EPA 8270E	4-Nitrophenol	9.6 µg/L	R IP, LM
MW-30_GW	EPA 8270E	Pentachlorophenol	21 µg/L	R IP, LM
MW-30_GW	EPA 8270E	Phenol	0.98 µg/L	UJ IP
MW-30_GW	EPA 8270E	Pyridine	19 µg/L	R LL
MW-30_GW	EPA 8321B	2,4,5-T	3.3 µg/L	UJ LI
MW-30_GW	EPA 8321B	2,4,5-TP (Silvex)	21 µg/L	J+ HS, LI
MW-30_GW	EPA 8321B	2,4-D	13 µg/L	J+ HS, LI
MW-30_GW	EPA 8321B	2,4-DB	130 µg/L	J+ LI
MW-30_GW	EPA 8321B	Dalapon	2.2 µg/L	UJ LI
MW-30_GW	EPA 8321B	Dicamba	8.5 µg/L	UJ LI
MW-30_GW	EPA 8321B	Dichlorprop	6.9 µg/L	J+ HS, LI
MW-30_GW	EPA 8321B	MCPP	28 µg/L	J+ HS, LI
MW-30_GW	SM2340B	Total Hardness (as $CaCO_3$)	2.5 mg/L	J NP, DL
MW-51_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDD	1.5 pg/L	U MB, EB, EM
MW-51_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDF	0.86 pg/L	U MB, EB, EM
MW-51_GW	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.95 pg/L	U MB, EB
MW-51_GW	EPA 1613B	1,2,3,4,7,8-HxCDD	1.8 pg/L	U MB, EB, EM
MW-51_GW	EPA 1613B	1,2,3,6,7,8-HxCDF	0.75 pg/L	U EB
MW-51_GW	EPA 1613B	1,2,3,7,8,9-HxCDD	0.81 pg/L	U MB, EM
MW-51_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	1.8 pg/L	U MB, EB, EM
MW-51_GW	EPA 1613B	1,2,3,7,8-PeCDF	0.69 pg/L	U MB, EM
MW-51_GW	EPA 1613B	2,3,4,6,7,8-HxCDF	0.77 pg/L	U MB, EB
MW-51_GW	EPA 1613B	2,3,4,7,8-PeCDF	0.84 pg/L	U EM
MW-51_GW	EPA 1613B	OCDD	8.2 pg/L	U MB, EB, EM
MW-51_GW	EPA 1613B	OCDF	2.7 pg/L	U MB, EB
MW-51_GW	EPA 1613B	Total HpCDD	2.7 pg/L	U EM
MW-51_GW	EPA 1613B	Total HpCDF	1.8 pg/L	U EM
MW-51_GW	EPA 1613B	Total HxCDD	2.6 pg/L	U EM
MW-51_GW	EPA 1613B	Total HxCDF	3.3 pg/L	U EM
MW-51_GW	EPA 1613B	Total PeCDF	1.5 pg/L	U EM
MW-51_GW	EPA 6020B	Aluminum	83 µg/L	UJ NP
MW-51_GW	EPA 6020B	Aluminum, dissolved	83 µg/L	UJ NP
MW-51_GW	EPA 6020B	Antimony	11 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Antimony, dissolved	11 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Arsenic	35,000 µg/L	J NP
MW-51_GW	EPA 6020B	Arsenic, dissolved	36,000 µg/L	J NP
MW-51_GW	EPA 6020B	Barium	42 µg/L	J NP
MW-51_GW	EPA 6020B	Barium, dissolved	44 µg/L	J NP
MW-51_GW	EPA 6020B	Beryllium	3.0 µg/L	UJ NP
MW-51_GW	EPA 6020B	Beryllium, dissolved	3.0 µg/L	UJ NP
MW-51_GW	EPA 6020B	Cadmium	4.8 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Cadmium, dissolved	5.4 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Calcium	1,700 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Calcium, dissolved	1,700 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Chromium	5.0 µg/L	UJ NP
MW-51_GW	EPA 6020B	Chromium, dissolved	5.0 µg/L	UJ NP
MW-51_GW	EPA 6020B	Cobalt	3.3 µg/L	UJ NP
MW-51_GW	EPA 6020B	Cobalt, dissolved	3.3 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-51_GW	EPA 6020B	Copper	7.1 µg/L	UJ NP
MW-51_GW	EPA 6020B	Copper, dissolved	7.1 µg/L	UJ NP
MW-51_GW	EPA 6020B	Iron	100 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Iron, dissolved	97 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Lead	2.3 µg/L	UJ NP
MW-51_GW	EPA 6020B	Lead, dissolved	2.3 µg/L	UJ NP
MW-51_GW	EPA 6020B	Magnesium	570 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Magnesium, dissolved	600 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Manganese	5.1 µg/L	UJ NP
MW-51_GW	EPA 6020B	Manganese, dissolved	5.1 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Molybdenum	53,000 µg/L	J NP
MW-51_GW	EPA 6020B	Molybdenum, dissolved	59,000 µg/L	J NP
MW-51_GW	EPA 6020B	Nickel	20 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Nickel, dissolved	23 µg/L	J NP, DL
MW-51_GW	EPA 6020B	Potassium	2,400,000 µg/L	J NP
MW-51_GW	EPA 6020B	Potassium, dissolved	2,600,000 µg/L	J NP
MW-51_GW	EPA 6020B	Selenium	12 µg/L	J- NP, LM, DL
MW-51_GW	EPA 6020B	Selenium, dissolved	14 µg/L	J- NP, LM, DL
MW-51_GW	EPA 6020B	Silver	0.45 µg/L	UJ NP
MW-51_GW	EPA 6020B	Silver, dissolved	0.45 µg/L	UJ NP
MW-51_GW	EPA 6020B	Sodium	28,000,000 µg/L	J NP
MW-51_GW	EPA 6020B	Sodium, dissolved	30,000,000 µg/L	J NP
MW-51_GW	EPA 6020B	Thallium	2.1 µg/L	UJ NP
MW-51_GW	EPA 6020B	Thallium, dissolved	2.1 µg/L	UJ NP
MW-51_GW	EPA 6020B	Vanadium	11 µg/L	UJ NP
MW-51_GW	EPA 6020B	Vanadium, dissolved	11 µg/L	UJ NP
MW-51_GW	EPA 6020B	Zinc	20 µg/L	UJ NP
MW-51_GW	EPA 6020B	Zinc, dissolved	20 µg/L	UJ NP
MW-51_GW	EPA 7470A	Mercury	0.37 µg/L	UJ NP
MW-51_GW	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-51_GW	EPA 8081B	2,4'-DDE	0.39 µg/L	UJ LC
MW-51_GW	EPA 8081B	Toxaphene	74 µg/L	UJ LC
MW-51_GW	EPA 8260D	1,1,1-Trichloroethane	2.0 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	1.1 µg/L	UJ HT, LM
MW-51_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,1,2-Trichloroethane	1.4 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,1-Dichloroethane	1.1 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,1-Dichloroethene	1.2 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2,3-Trichlorobenzene	6.0 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2,3-Trichloropropane	1.4 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2,4-Trichlorobenzene	2.9 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.75 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	2.1 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2-Dibromoethane	0.92 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2-Dichlorobenzene	0.72 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2-Dichloroethane	1.4 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,2-Dichloropropane	1.2 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.61 µg/L	UJ HT
MW-51_GW	EPA 8260D	1,3-Dichlorobenzene	1.7 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-51_GW	EPA 8260D	1,4-Dichlorobenzene	1.9 µg/L	UJ HT
MW-51_GW	EPA 8260D	2-Butanone	23 µg/L	UJ HT
MW-51_GW	EPA 8260D	2-Hexanone	4.1 µg/L	UJ HT
MW-51_GW	EPA 8260D	4-Methyl-2-Pentanone	4.9 µg/L	UJ HT
MW-51_GW	EPA 8260D	Acetone	33 µg/L	UJ HT
MW-51_GW	EPA 8260D	Benzene	0.72 µg/L	UJ HT
MW-51_GW	EPA 8260D	Bromochloromethane	2.0 µg/L	UJ HT
MW-51_GW	EPA 8260D	Bromodichloromethane	0.94 µg/L	UJ HT, LM
MW-51_GW	EPA 8260D	Bromoform	1.2 µg/L	UJ HT, LM
MW-51_GW	EPA 8260D	Bromomethane	12 µg/L	UJ HT
MW-51_GW	EPA 8260D	Carbon disulfide	1.3 µg/L	UJ HT
MW-51_GW	EPA 8260D	Carbon tetrachloride	1.1 µg/L	UJ HT
MW-51_GW	EPA 8260D	Chlorobenzene	0.46 µg/L	UJ HT
MW-51_GW	EPA 8260D	Chloroethane	3.2 µg/L	UJ HT
MW-51_GW	EPA 8260D	Chloroform	1.8 µg/L	UJ HT
MW-51_GW	EPA 8260D	Chloromethane	1.1 µg/L	UJ HT
MW-51_GW	EPA 8260D	cis-1,2-Dichloroethene	1.6 µg/L	UJ HT
MW-51_GW	EPA 8260D	cis-1,3-Dichloropropene	0.78 µg/L	UJ HT
MW-51_GW	EPA 8260D	Cyclohexane	2.2 µg/L	UJ HT
MW-51_GW	EPA 8260D	Dibromochloromethane	1.4 µg/L	UJ HT, LM
MW-51_GW	EPA 8260D	Dichlorodifluoromethane	1.5 µg/L	UJ HT
MW-51_GW	EPA 8260D	Ethylbenzene	0.72 µg/L	UJ HT
MW-51_GW	EPA 8260D	Isopropylbenzene	0.79 µg/L	UJ HT
MW-51_GW	EPA 8260D	m+p-Xylene	1.8 µg/L	UJ HT
MW-51_GW	EPA 8260D	Methyl acetate	8.2 µg/L	UJ HT
MW-51_GW	EPA 8260D	Methyl tert-Butyl Ether	1.3 µg/L	UJ HT
MW-51_GW	EPA 8260D	Methylcyclohexane	1.6 µg/L	UJ HT
MW-51_GW	EPA 8260D	Methylene chloride	4.7 µg/L	UJ HT
MW-51_GW	EPA 8260D	o-Xylene	0.57 µg/L	UJ HT
MW-51_GW	EPA 8260D	Styrene	0.63 µg/L	UJ HT
MW-51_GW	EPA 8260D	Tetrachloroethene	2.0 µg/L	UJ HT
MW-51_GW	EPA 8260D	Toluene	1.6 µg/L	UJ HT
MW-51_GW	EPA 8260D	trans-1,2-Dichloroethene	1.8 µg/L	UJ HT
MW-51_GW	EPA 8260D	trans-1,3-Dichloropropene	0.72 µg/L	UJ HT, LM
MW-51_GW	EPA 8260D	Trichloroethene	1.5 µg/L	UJ HT
MW-51_GW	EPA 8260D	Trichlorofluoromethane	0.99 µg/L	UJ HT
MW-51_GW	EPA 8260D	Vinyl chloride	1.1 µg/L	UJ HT
MW-51_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	6.8 µg/L	UJ IP, LM
MW-51_GW	EPA 8270E	2,4,5-Trichlorophenol	2.5 µg/L	UJ IP, LM
MW-51_GW	EPA 8270E	2,4,6-Trichlorophenol	2.2 µg/L	UJ IP, LM
MW-51_GW	EPA 8270E	2,4-Dichlorophenol	3.8 µg/L	J- DL, IP
MW-51_GW	EPA 8270E	2,4-Dimethylphenol	1.3 µg/L	UJ IP
MW-51_GW	EPA 8270E	2,4-Dinitrophenol	12 µg/L	R IP, LM
MW-51_GW	EPA 8270E	2-Chlorophenol	2.5 µg/L	UJ IP
MW-51_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	3.9 µg/L	R IP, LM
MW-51_GW	EPA 8270E	2-Methylphenol	0.74 µg/L	UJ IP
MW-51_GW	EPA 8270E	2-Nitrophenol	3.3 µg/L	UJ IP
MW-51_GW	EPA 8270E	3&4-Methylphenol	2.1 µg/L	UJ IP
MW-51_GW	EPA 8270E	4-Chloro-3-methylphenol	1.6 µg/L	UJ IP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-51_GW	EPA 8270E	4-Nitrophenol	8.7 µg/L	R IP, LM
MW-51_GW	EPA 8270E	Pentachlorophenol	19 µg/L	R IP, LM
MW-51_GW	EPA 8270E	Phenol	0.88 µg/L	UJ IP
MW-51_GW	EPA 8270E	Pyridine	17 µg/L	R LL
MW-51_GW	EPA 8321B	Dalapon	11 µg/L	UJ LM
MW-51_GW	SM2340B	Total Hardness (as $CaCO_3$)	6.6 mg/L	J NP
MW-51_GW_DUP	EPA 1613B	1,2,3,4,6,7,8-HpCDD	4.2 pg/L	U EB, EM
MW-51_GW_DUP	EPA 1613B	1,2,3,4,6,7,8-HpCDF	34 pg/L	J DL
MW-51_GW_DUP	EPA 1613B	1,2,3,4,7,8-HxCDF	5.3 pg/L	J+ EB, DL
MW-51_GW_DUP	EPA 1613B	1,2,3,6,7,8-HxCDF	1.0 pg/L	U EB, EM
MW-51_GW_DUP	EPA 1613B	2,3,4,6,7,8-HxCDF	2.5 pg/L	J+ EB, DL
MW-51_GW_DUP	EPA 1613B	OCDD	37 pg/L	U MB, EM
MW-51_GW_DUP	EPA 1613B	OCDF	15 pg/L	J+ MB, EB, DL
MW-51_GW_DUP	EPA 1613B	Total HpCDD	12 pg/L	U EM
MW-51_GW_DUP	EPA 1613B	Total HpCDF	34 pg/L	J DL
MW-51_GW_DUP	EPA 1613B	Total HxCDD	2.6 pg/L	U EM
MW-51_GW_DUP	EPA 1613B	Total HxCDF	16 pg/L	U EM
MW-51_GW_DUP	EPA 6020B	Aluminum	83 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Aluminum, dissolved	83 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Antimony	11 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Antimony, dissolved	11 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Arsenic	34,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Arsenic, dissolved	35,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Barium	40 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Barium, dissolved	42 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Beryllium	3.0 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Beryllium, dissolved	3.0 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Cadmium	4.3 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Cadmium, dissolved	4.8 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Calcium	1,600 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Calcium, dissolved	1,700 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Chromium	5.0 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Chromium, dissolved	5.0 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Cobalt	3.3 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Cobalt, dissolved	3.3 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Copper	7.1 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Copper, dissolved	7.1 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Iron	130 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Iron, dissolved	87 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Lead	2.3 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Lead, dissolved	2.3 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Magnesium	560 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Magnesium, dissolved	590 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Manganese	5.1 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Manganese, dissolved	5.1 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Molybdenum	53,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Molybdenum, dissolved	58,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Nickel	19 µg/L	J NP, DL
MW-51_GW_DUP	EPA 6020B	Nickel, dissolved	19 µg/L	J NP, DL

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-51_GW_DUP	EPA 6020B	Potassium	2,400,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Potassium, dissolved	2,600,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Selenium	16 µg/L	J- NP, LM, DL
MW-51_GW_DUP	EPA 6020B	Selenium, dissolved	15 µg/L	J- NP, LM, DL
MW-51_GW_DUP	EPA 6020B	Silver	0.45 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Silver, dissolved	0.45 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Sodium	28,000,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Sodium, dissolved	30,000,000 µg/L	J NP
MW-51_GW_DUP	EPA 6020B	Thallium	2.1 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Thallium, dissolved	2.1 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Vanadium	11 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Vanadium, dissolved	11 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Zinc	20 µg/L	UJ NP
MW-51_GW_DUP	EPA 6020B	Zinc, dissolved	22 µg/L	J NP, DL
MW-51_GW_DUP	EPA 7470A	Mercury	0.37 µg/L	UJ NP
MW-51_GW_DUP	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-51_GW_DUP	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ LM
MW-51_GW_DUP	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ LC
MW-51_GW_DUP	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ LM
MW-51_GW_DUP	EPA 8260D	Bromoform	0.25 µg/L	UJ LM
MW-51_GW_DUP	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ LM
MW-51_GW_DUP	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ LC
MW-51_GW_DUP	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ LM
MW-51_GW_DUP	EPA 8270E	2,3,4,6-Tetrachlorophenol	6.8 µg/L	UJ IP, LM
MW-51_GW_DUP	EPA 8270E	2,4,5-Trichlorophenol	2.5 µg/L	UJ IP, LM
MW-51_GW_DUP	EPA 8270E	2,4,6-Trichlorophenol	2.2 µg/L	UJ IP, LM
MW-51_GW_DUP	EPA 8270E	2,4-Dichlorophenol	2.9 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	2,4-Dimethylphenol	1.3 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	2,4-Dinitrophenol	12 µg/L	R IP, LM
MW-51_GW_DUP	EPA 8270E	2-Chlorophenol	2.5 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	2-Methyl-4,6-dinitrophenol	3.9 µg/L	R IP, LM
MW-51_GW_DUP	EPA 8270E	2-Methylphenol	0.74 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	2-Nitrophenol	3.4 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	3&4-Methylphenol	2.1 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	4-Chloro-3-methylphenol	1.6 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	4-Nitrophenol	8.7 µg/L	R IP, LM
MW-51_GW_DUP	EPA 8270E	Pentachlorophenol	19 µg/L	R IP, LM
MW-51_GW_DUP	EPA 8270E	Phenol	0.89 µg/L	UJ IP
MW-51_GW_DUP	EPA 8270E	Pyridine	17 µg/L	R LL
MW-51_GW_DUP	EPA 8321B	Dalapon	11 µg/L	UJ LM
MW-51_GW_DUP	SM2340B	Total Hardness (as $CaCO_3$)	6.3 mg/L	J NP
MW-54_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDD	1.8 pg/L	U EB
MW-54_GW	EPA 1613B	2,3,7,8-TCDF	2.7 pg/L	J DL
MW-54_GW	EPA 1613B	Total HpCDD	4.0 pg/L	J DL
MW-54_GW	EPA 1613B	Total PeCDF	7.1 pg/L	U EM
MW-54_GW	EPA 1613B	Total TCDF	6.2 pg/L	U EM
MW-54_GW	EPA 6020B	Aluminum	180 µg/L	J DL
MW-54_GW	EPA 6020B	Antimony	3.6 µg/L	J+ EB
MW-54_GW	EPA 6020B	Cadmium	0.27 µg/L	J DL

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-54_GW	EPA 6020B	Chromium	0.52 µg/L	J DL
MW-54_GW	EPA 6020B	Cobalt, dissolved	0.42 µg/L	J DL
MW-54_GW	EPA 6020B	Copper	1.7 µg/L	J DL
MW-54_GW	EPA 6020B	Iron, dissolved	49 µg/L	J DL
MW-54_GW	EPA 6020B	Lead, dissolved	0.45 µg/L	J DL
MW-54_GW	EPA 6020B	Magnesium, dissolved	64 µg/L	J DL
MW-54_GW	EPA 6020B	Nickel, dissolved	1.6 µg/L	J DL
MW-54_GW	EPA 6020B	Zinc	5.3 µg/L	J DL
MW-54_GW	EPA 6850	Perchlorate	0.015 µg/L	J DL
MW-54_GW	EPA 8081B	2,4'-DDE	0.0079 µg/L	UJ LC
MW-54_GW	EPA 8260D	1,1,1-Trichloroethane	0.39 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	0.73 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,1,2-Trichloroethane	0.27 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,1-Dichloroethane	0.22 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,1-Dichloroethene	0.23 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2,3-Trichlorobenzene	1.2 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2,3-Trichloropropane	0.28 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2,4-Trichlorobenzene	0.58 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.15 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ HT, LC
MW-54_GW	EPA 8260D	1,2-Dibromoethane	0.18 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2-Dichlorobenzene	0.14 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2-Dichloroethane	0.28 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,2-Dichloropropane	0.24 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.12 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,3-Dichlorobenzene	0.33 µg/L	UJ HT
MW-54_GW	EPA 8260D	1,4-Dichlorobenzene	0.39 µg/L	UJ HT
MW-54_GW	EPA 8260D	2-Butanone	4.6 µg/L	UJ HT
MW-54_GW	EPA 8260D	2-Hexanone	0.81 µg/L	UJ HT
MW-54_GW	EPA 8260D	4-Methyl-2-Pentanone	0.98 µg/L	UJ HT
MW-54_GW	EPA 8260D	Acetone	14 µg/L	J DL, HT
MW-54_GW	EPA 8260D	Benzene	0.33 µg/L	J DL, HT
MW-54_GW	EPA 8260D	Bromochloromethane	0.40 µg/L	UJ HT
MW-54_GW	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ HT
MW-54_GW	EPA 8260D	Bromoform	0.25 µg/L	UJ HT
MW-54_GW	EPA 8260D	Bromomethane	2.4 µg/L	UJ HT
MW-54_GW	EPA 8260D	Carbon disulfide	2.2 µg/L	J HT
MW-54_GW	EPA 8260D	Carbon tetrachloride	0.23 µg/L	UJ HT
MW-54_GW	EPA 8260D	Chlorobenzene	0.092 µg/L	UJ HT
MW-54_GW	EPA 8260D	Chloroethane	0.64 µg/L	UJ HT
MW-54_GW	EPA 8260D	Chloroform	0.36 µg/L	UJ HT
MW-54_GW	EPA 8260D	Chloromethane	0.23 µg/L	UJ HT
MW-54_GW	EPA 8260D	cis-1,2-Dichloroethene	0.32 µg/L	UJ HT
MW-54_GW	EPA 8260D	cis-1,3-Dichloropropene	0.16 µg/L	UJ HT
MW-54_GW	EPA 8260D	Cyclohexane	0.44 µg/L	UJ HT
MW-54_GW	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ HT
MW-54_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ HT
MW-54_GW	EPA 8260D	Ethylbenzene	0.14 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-54_GW	EPA 8260D	Isopropylbenzene	0.16 µg/L	UJ HT
MW-54_GW	EPA 8260D	m+p-Xylene	0.36 µg/L	UJ HT
MW-54_GW	EPA 8260D	Methyl acetate	1.6 µg/L	UJ HT
MW-54_GW	EPA 8260D	Methyl tert-Butyl Ether	0.25 µg/L	UJ HT
MW-54_GW	EPA 8260D	Methylcyclohexane	0.31 µg/L	UJ HT
MW-54_GW	EPA 8260D	Methylene chloride	0.94 µg/L	UJ HT
MW-54_GW	EPA 8260D	o-Xylene	0.11 µg/L	UJ HT
MW-54_GW	EPA 8260D	Styrene	0.13 µg/L	UJ HT
MW-54_GW	EPA 8260D	Tetrachloroethene	0.40 µg/L	UJ HT
MW-54_GW	EPA 8260D	Toluene	0.32 µg/L	UJ HT
MW-54_GW	EPA 8260D	trans-1,2-Dichloroethene	0.37 µg/L	UJ HT
MW-54_GW	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ HT
MW-54_GW	EPA 8260D	Trichloroethene	0.30 µg/L	UJ HT
MW-54_GW	EPA 8260D	Trichlorofluoromethane	0.20 µg/L	UJ HT
MW-54_GW	EPA 8260D	Vinyl chloride	0.23 µg/L	UJ HT
MW-54_GW	EPA 8270E	Pyridine	19 µg/L	R LL
MW-55_GW	EPA 1613B	OCDD	6.2 pg/L	U MB, EB, EM
MW-55_GW	EPA 1613B	Total TCDF	3.1 pg/L	U EM
MW-55_GW	EPA 6020B	Chromium	1.2 µg/L	J DL
MW-55_GW	EPA 6020B	Silver	0.46 µg/L	J DL
MW-55_GW	EPA 8081B	2,4'-DDE	0.0079 µg/L	UJ LC
MW-55_GW	EPA 8081B	gamma-BHC (Lindane)	0.012 µg/L	NJ SE, DL
MW-55_GW	EPA 8260D	1,1,1-Trichloroethane	2.0 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	1.1 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,1,2-Trichloroethane	1.4 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,1-Dichloroethane	1.1 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,1-Dichloroethene	1.2 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2,3-Trichlorobenzene	6.0 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2,3-Trichloropropane	1.4 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2,4-Trichlorobenzene	2.9 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.75 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	2.1 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2-Dibromoethane	0.92 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2-Dichlorobenzene	0.72 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2-Dichloroethane	1.4 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,2-Dichloropropane	1.2 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.61 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,3-Dichlorobenzene	1.7 µg/L	UJ HT
MW-55_GW	EPA 8260D	1,4-Dichlorobenzene	1.9 µg/L	UJ HT
MW-55_GW	EPA 8260D	2-Butanone	35 µg/L	J DL, HT
MW-55_GW	EPA 8260D	2-Hexanone	4.1 µg/L	UJ HT
MW-55_GW	EPA 8260D	4-Methyl-2-Pentanone	4.9 µg/L	UJ HT
MW-55_GW	EPA 8260D	Acetone	33 µg/L	UJ HT
MW-55_GW	EPA 8260D	Benzene	0.72 µg/L	UJ HT
MW-55_GW	EPA 8260D	Bromochloromethane	2.0 µg/L	UJ HT
MW-55_GW	EPA 8260D	Bromodichloromethane	0.94 µg/L	UJ HT
MW-55_GW	EPA 8260D	Bromoform	1.2 µg/L	UJ HT
MW-55_GW	EPA 8260D	Bromomethane	12 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-55_GW	EPA 8260D	Carbon disulfide	1.3 µg/L	UJ HT
MW-55_GW	EPA 8260D	Carbon tetrachloride	1.1 µg/L	UJ HT
MW-55_GW	EPA 8260D	Chlorobenzene	0.46 µg/L	UJ HT
MW-55_GW	EPA 8260D	Chloroethane	3.2 µg/L	UJ HT
MW-55_GW	EPA 8260D	Chloroform	1.8 µg/L	UJ HT
MW-55_GW	EPA 8260D	Chloromethane	1.1 µg/L	UJ HT
MW-55_GW	EPA 8260D	cis-1,2-Dichloroethene	1.6 µg/L	UJ HT
MW-55_GW	EPA 8260D	cis-1,3-Dichloropropene	0.78 µg/L	UJ HT
MW-55_GW	EPA 8260D	Cyclohexane	2.2 µg/L	UJ HT
MW-55_GW	EPA 8260D	Dibromochloromethane	1.4 µg/L	UJ HT
MW-55_GW	EPA 8260D	Dichlorodifluoromethane	1.5 µg/L	UJ HT
MW-55_GW	EPA 8260D	Ethylbenzene	0.72 µg/L	UJ HT
MW-55_GW	EPA 8260D	Isopropylbenzene	0.79 µg/L	UJ HT
MW-55_GW	EPA 8260D	m+p-Xylene	1.8 µg/L	UJ HT
MW-55_GW	EPA 8260D	Methyl acetate	8.2 µg/L	UJ HT
MW-55_GW	EPA 8260D	Methyl tert-Butyl Ether	1.3 µg/L	UJ HT
MW-55_GW	EPA 8260D	Methylcyclohexane	1.6 µg/L	UJ HT
MW-55_GW	EPA 8260D	Methylene chloride	4.7 µg/L	UJ HT
MW-55_GW	EPA 8260D	o-Xylene	0.57 µg/L	UJ HT
MW-55_GW	EPA 8260D	Styrene	0.63 µg/L	UJ HT
MW-55_GW	EPA 8260D	Tetrachloroethene	2.0 µg/L	UJ HT
MW-55_GW	EPA 8260D	Toluene	3.8 µg/L	J DL, HT
MW-55_GW	EPA 8260D	trans-1,2-Dichloroethene	1.8 µg/L	UJ HT
MW-55_GW	EPA 8260D	trans-1,3-Dichloropropene	0.72 µg/L	UJ HT
MW-55_GW	EPA 8260D	Trichloroethene	1.5 µg/L	UJ HT
MW-55_GW	EPA 8260D	Trichlorofluoromethane	0.99 µg/L	UJ HT
MW-55_GW	EPA 8260D	Vinyl chloride	1.1 µg/L	UJ HT
MW-55_GW	EPA 8270E	2,4-Dimethylphenol	2.5 µg/L	J- DL
MW-55_GW	EPA 8270E	2-Methylphenol	8.1 µg/L	J- DL
MW-55_GW	EPA 8270E	3&4-Methylphenol	5.1 µg/L	NJ DL, SB
MW-55_GW	EPA 8270E	Diethyl Phthalate	2.1 µg/L	J DL
MW-55_GW	EPA 8270E	Pyridine	19 µg/L	R LL
MW-55_GW	EPA 8321B	2,4-D	0.49 µg/L	J+ HS, LI, DL
MW-55_GW	EPA 8321B	Dinoseb	0.23 µg/L	UJ LC
MW-55_GW	EPA 8321B	MCPA	1.6 µg/L	J+ HS, LI, DL
MW-56_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	0.67 pg/L	UJ CH
MW-56_GW	EPA 6020B	Aluminum	68 µg/L	J DL
MW-56_GW	EPA 6020B	Antimony	2.1 µg/L	J+ EB
MW-56_GW	EPA 6020B	Antimony, dissolved	1.9 µg/L	J DL
MW-56_GW	EPA 6020B	Cadmium	0.19 µg/L	J DL
MW-56_GW	EPA 6020B	Copper, dissolved	0.90 µg/L	J DL
MW-56_GW	EPA 6020B	Iron, dissolved	110 µg/L	J DL
MW-56_GW	EPA 6020B	Lead, dissolved	0.69 µg/L	J DL
MW-56_GW	EPA 6020B	Magnesium	150 µg/L	J DL
MW-56_GW	EPA 6020B	Magnesium, dissolved	60 µg/L	J DL
MW-56_GW	EPA 6020B	Silver	0.39 µg/L	J DL
MW-56_GW	EPA 6020B	Zinc	9.5 µg/L	J DL
MW-56_GW	EPA 6020B	Zinc, dissolved	2.2 µg/L	J DL
MW-56_GW	EPA 8081B	2,4'-DDE	0.0088 µg/L	UJ LC

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-56_GW	EPA 8260D	1,1,1-Trichloroethane	0.39 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	0.21 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	0.73 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,1,2-Trichloroethane	0.27 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,1-Dichloroethane	0.22 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,1-Dichloroethene	0.23 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2,3-Trichlorobenzene	1.2 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2,3-Trichloropropane	0.28 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2,4-Trichlorobenzene	0.58 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.15 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ HT, LC
MW-56_GW	EPA 8260D	1,2-Dibromoethane	0.18 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2-Dichlorobenzene	0.14 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2-Dichloroethane	0.28 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,2-Dichloropropane	0.24 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.12 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,3-Dichlorobenzene	0.33 µg/L	UJ HT
MW-56_GW	EPA 8260D	1,4-Dichlorobenzene	0.39 µg/L	UJ HT
MW-56_GW	EPA 8260D	2-Butanone	4.6 µg/L	UJ HT
MW-56_GW	EPA 8260D	2-Hexanone	0.81 µg/L	UJ HT
MW-56_GW	EPA 8260D	4-Methyl-2-Pentanone	0.98 µg/L	UJ HT
MW-56_GW	EPA 8260D	Acetone	7.7 µg/L	J DL, HT
MW-56_GW	EPA 8260D	Benzene	0.47 µg/L	J DL, HT
MW-56_GW	EPA 8260D	Bromochloromethane	0.40 µg/L	UJ HT
MW-56_GW	EPA 8260D	Bromodichloromethane	0.19 µg/L	UJ HT
MW-56_GW	EPA 8260D	Bromoform	0.25 µg/L	UJ HT
MW-56_GW	EPA 8260D	Bromomethane	2.4 µg/L	UJ HT
MW-56_GW	EPA 8260D	Carbon disulfide	2.2 µg/L	J HT
MW-56_GW	EPA 8260D	Carbon tetrachloride	0.23 µg/L	UJ HT
MW-56_GW	EPA 8260D	Chlorobenzene	0.092 µg/L	UJ HT
MW-56_GW	EPA 8260D	Chloroethane	0.64 µg/L	UJ HT
MW-56_GW	EPA 8260D	Chloroform	0.36 µg/L	UJ HT
MW-56_GW	EPA 8260D	Chloromethane	0.23 µg/L	UJ HT
MW-56_GW	EPA 8260D	cis-1,2-Dichloroethene	0.32 µg/L	UJ HT
MW-56_GW	EPA 8260D	cis-1,3-Dichloropropene	0.16 µg/L	UJ HT
MW-56_GW	EPA 8260D	Cyclohexane	0.44 µg/L	UJ HT
MW-56_GW	EPA 8260D	Dibromochloromethane	0.28 µg/L	UJ HT
MW-56_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ HT
MW-56_GW	EPA 8260D	Ethylbenzene	0.14 µg/L	UJ HT
MW-56_GW	EPA 8260D	Isopropylbenzene	0.16 µg/L	UJ HT
MW-56_GW	EPA 8260D	m+p-Xylene	0.36 µg/L	UJ HT
MW-56_GW	EPA 8260D	Methyl acetate	1.6 µg/L	UJ HT
MW-56_GW	EPA 8260D	Methyl tert-Butyl Ether	0.25 µg/L	UJ HT
MW-56_GW	EPA 8260D	Methylcyclohexane	0.31 µg/L	UJ HT
MW-56_GW	EPA 8260D	Methylene chloride	0.94 µg/L	UJ HT
MW-56_GW	EPA 8260D	o-Xylene	0.11 µg/L	UJ HT
MW-56_GW	EPA 8260D	Styrene	0.13 µg/L	UJ HT
MW-56_GW	EPA 8260D	Tetrachloroethene	0.40 µg/L	UJ HT
MW-56_GW	EPA 8260D	Toluene	0.32 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-56_GW	EPA 8260D	trans-1,2-Dichloroethene	0.37 µg/L	UJ HT
MW-56_GW	EPA 8260D	trans-1,3-Dichloropropene	0.14 µg/L	UJ HT
MW-56_GW	EPA 8260D	Trichloroethene	0.30 µg/L	UJ HT
MW-56_GW	EPA 8260D	Trichlorofluoromethane	0.20 µg/L	UJ HT
MW-56_GW	EPA 8260D	Vinyl chloride	0.23 µg/L	UJ HT
MW-56_GW	EPA 8270E	Pyridine	20 µg/L	R LL
MW-56_GW	EPA 8321B	Dinoseb	0.23 µg/L	UJ LC
MW-56_GW	SM2340B	Total Hardness (as $CaCO_3$)	2.4 mg/L	J DL
MW-57_GW	EPA 1613B	OCDD	3.4 pg/L	U MB, EB, EM
MW-57_GW	EPA 1613B	Total PeCDF	3.3 pg/L	U EM
MW-57_GW	EPA 1613B	Total TCDD	4.3 pg/L	U EM
MW-57_GW	EPA 1613B	Total TCDF	2.6 pg/L	U EM
MW-57_GW	EPA 6020B	Aluminum	88 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Aluminum, dissolved	17 µg/L	UJ NP
MW-57_GW	EPA 6020B	Antimony	2.7 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Antimony, dissolved	3.0 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Arsenic	3,700 µg/L	J NP
MW-57_GW	EPA 6020B	Arsenic, dissolved	4,000 µg/L	J NP
MW-57_GW	EPA 6020B	Barium	20 µg/L	J NP
MW-57_GW	EPA 6020B	Barium, dissolved	20 µg/L	J NP
MW-57_GW	EPA 6020B	Beryllium	0.61 µg/L	UJ NP
MW-57_GW	EPA 6020B	Beryllium, dissolved	0.61 µg/L	UJ NP
MW-57_GW	EPA 6020B	Cadmium	0.38 µg/L	UJ NP
MW-57_GW	EPA 6020B	Cadmium, dissolved	0.38 µg/L	UJ NP
MW-57_GW	EPA 6020B	Calcium	710 µg/L	J NP
MW-57_GW	EPA 6020B	Calcium, dissolved	660 µg/L	J NP
MW-57_GW	EPA 6020B	Chromium	1.0 µg/L	UJ NP
MW-57_GW	EPA 6020B	Chromium, dissolved	1.0 µg/L	UJ NP
MW-57_GW	EPA 6020B	Cobalt	0.66 µg/L	UJ NP
MW-57_GW	EPA 6020B	Cobalt, dissolved	0.66 µg/L	UJ NP
MW-57_GW	EPA 6020B	Copper	1.4 µg/L	UJ NP
MW-57_GW	EPA 6020B	Copper, dissolved	1.4 µg/L	UJ NP
MW-57_GW	EPA 6020B	Iron	120 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Iron, dissolved	390 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Lead	0.46 µg/L	UJ NP
MW-57_GW	EPA 6020B	Lead, dissolved	0.46 µg/L	UJ NP
MW-57_GW	EPA 6020B	Magnesium	210 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Magnesium, dissolved	39 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Manganese	3.5 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Manganese, dissolved	1.4 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Molybdenum	3,300 µg/L	J NP
MW-57_GW	EPA 6020B	Molybdenum, dissolved	3,400 µg/L	J NP
MW-57_GW	EPA 6020B	Nickel	6.5 µg/L	J NP
MW-57_GW	EPA 6020B	Nickel, dissolved	6.3 µg/L	J NP
MW-57_GW	EPA 6020B	Potassium	540,000 µg/L	J NP
MW-57_GW	EPA 6020B	Potassium, dissolved	570,000 µg/L	J NP
MW-57_GW	EPA 6020B	Selenium	2.6 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Selenium, dissolved	3.0 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Silver	0.090 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-57_GW	EPA 6020B	Silver, dissolved	0.090 µg/L	UJ NP
MW-57_GW	EPA 6020B	Sodium	7,400,000 µg/L	J NP
MW-57_GW	EPA 6020B	Sodium, dissolved	8,000,000 µg/L	J NP
MW-57_GW	EPA 6020B	Thallium	0.42 µg/L	UJ NP
MW-57_GW	EPA 6020B	Thallium, dissolved	0.42 µg/L	UJ NP
MW-57_GW	EPA 6020B	Vanadium	3.6 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Vanadium, dissolved	2.2 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Zinc	4.3 µg/L	J NP, DL
MW-57_GW	EPA 6020B	Zinc, dissolved	8.2 µg/L	J NP, DL
MW-57_GW	EPA 7470A	Mercury	0.061 µg/L	UJ NP
MW-57_GW	EPA 7470A	Mercury, dissolved	0.061 µg/L	UJ NP
MW-57_GW	EPA 8081B	2,4'-DDE	0.0080 µg/L	UJ LC
MW-57_GW	EPA 8081B	4,4'-DDD	0.012 µg/L	R SE
MW-57_GW	EPA 8081B	Aldrin	0.0066 µg/L	NJ SE, DL
MW-57_GW	EPA 8260D	1,1,1-Trichloroethane	2.0 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,1,2,2-Tetrachloroethane	1.1 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,1,2-Trichloroethane	1.4 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,1-Dichloroethane	1.1 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,1-Dichloroethene	1.2 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2,3-Trichlorobenzene	6.0 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2,3-Trichloropropane	1.4 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2,4-Trichlorobenzene	2.9 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2,4-Trimethylbenzene	0.75 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	2.1 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2-Dibromoethane	0.92 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2-Dichlorobenzene	0.72 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2-Dichloroethane	1.4 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,2-Dichloropropane	1.2 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,3,5-Trimethylbenzene	0.61 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,3-Dichlorobenzene	1.7 µg/L	UJ HT
MW-57_GW	EPA 8260D	1,4-Dichlorobenzene	1.9 µg/L	UJ HT
MW-57_GW	EPA 8260D	2-Butanone	23 µg/L	J DL, HT
MW-57_GW	EPA 8260D	2-Hexanone	4.1 µg/L	UJ HT
MW-57_GW	EPA 8260D	4-Methyl-2-Pentanone	4.9 µg/L	UJ HT
MW-57_GW	EPA 8260D	Acetone	33 µg/L	UJ HT
MW-57_GW	EPA 8260D	Benzene	0.72 µg/L	UJ HT
MW-57_GW	EPA 8260D	Bromochloromethane	2.0 µg/L	UJ HT
MW-57_GW	EPA 8260D	Bromodichloromethane	0.94 µg/L	UJ HT
MW-57_GW	EPA 8260D	Bromoform	1.2 µg/L	UJ HT
MW-57_GW	EPA 8260D	Bromomethane	12 µg/L	UJ HT
MW-57_GW	EPA 8260D	Carbon disulfide	1.3 µg/L	UJ HT
MW-57_GW	EPA 8260D	Carbon tetrachloride	1.1 µg/L	UJ HT
MW-57_GW	EPA 8260D	Chlorobenzene	0.46 µg/L	UJ HT
MW-57_GW	EPA 8260D	Chloroethane	3.2 µg/L	UJ HT
MW-57_GW	EPA 8260D	Chloroform	1.8 µg/L	UJ HT
MW-57_GW	EPA 8260D	Chloromethane	1.1 µg/L	UJ HT
MW-57_GW	EPA 8260D	cis-1,2-Dichloroethene	1.6 µg/L	UJ HT
MW-57_GW	EPA 8260D	cis-1,3-Dichloropropene	0.78 µg/L	UJ HT

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-57_GW	EPA 8260D	Cyclohexane	2.2 µg/L	UJ HT
MW-57_GW	EPA 8260D	Dibromochloromethane	1.4 µg/L	UJ HT
MW-57_GW	EPA 8260D	Dichlorodifluoromethane	1.5 µg/L	UJ HT
MW-57_GW	EPA 8260D	Ethylbenzene	0.72 µg/L	UJ HT
MW-57_GW	EPA 8260D	Isopropylbenzene	0.79 µg/L	UJ HT
MW-57_GW	EPA 8260D	m+p-Xylene	1.8 µg/L	UJ HT
MW-57_GW	EPA 8260D	Methyl acetate	8.2 µg/L	UJ HT
MW-57_GW	EPA 8260D	Methyl tert-Butyl Ether	1.3 µg/L	UJ HT
MW-57_GW	EPA 8260D	Methylcyclohexane	1.6 µg/L	UJ HT
MW-57_GW	EPA 8260D	Methylene chloride	4.7 µg/L	UJ HT
MW-57_GW	EPA 8260D	o-Xylene	0.57 µg/L	UJ HT
MW-57_GW	EPA 8260D	Styrene	0.63 µg/L	UJ HT
MW-57_GW	EPA 8260D	Tetrachloroethene	2.0 µg/L	UJ HT
MW-57_GW	EPA 8260D	Toluene	1.6 µg/L	UJ HT
MW-57_GW	EPA 8260D	trans-1,2-Dichloroethene	1.8 µg/L	UJ HT
MW-57_GW	EPA 8260D	trans-1,3-Dichloropropene	0.72 µg/L	UJ HT
MW-57_GW	EPA 8260D	Trichloroethene	1.5 µg/L	UJ HT
MW-57_GW	EPA 8260D	Trichlorofluoromethane	0.99 µg/L	UJ HT
MW-57_GW	EPA 8260D	Vinyl chloride	1.1 µg/L	UJ HT
MW-57_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	7.3 µg/L	UJ IP, LM
MW-57_GW	EPA 8270E	2,4,5-Trichlorophenol	6.1 µg/L	J- DL, IP, LM
MW-57_GW	EPA 8270E	2,4,6-Trichlorophenol	2.4 µg/L	UJ IP, LM
MW-57_GW	EPA 8270E	2,4-Dichlorophenol	26 µg/L	J- IP
MW-57_GW	EPA 8270E	2,4-Dimethylphenol	1.4 µg/L	UJ IP
MW-57_GW	EPA 8270E	2,4-Dinitrophenol	13 µg/L	R IP, LM
MW-57_GW	EPA 8270E	2-Chlorophenol	12 µg/L	J- IP
MW-57_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	4.2 µg/L	R IP, LM
MW-57_GW	EPA 8270E	2-Methylphenol	890 µg/L	J- IP
MW-57_GW	EPA 8270E	2-Nitrophenol	3.6 µg/L	UJ IP
MW-57_GW	EPA 8270E	3&4-Methylphenol	2.2 µg/L	UJ IP
MW-57_GW	EPA 8270E	4-Chloro-3-methylphenol	1.7 µg/L	UJ IP
MW-57_GW	EPA 8270E	4-Nitrophenol	9.3 µg/L	R IP, LM
MW-57_GW	EPA 8270E	Pentachlorophenol	21 µg/L	R IP, LM
MW-57_GW	EPA 8270E	Phenol	0.95 µg/L	UJ IP
MW-57_GW	EPA 8270E	Pyridine	18 µg/L	R LL
MW-57_GW	EPA 8321B	2,4-DB	4.0 µg/L	J+ HS, DL
MW-57_GW	SM2340B	Total Hardness (as $CaCO_3$)	2.7 mg/L	J NP, DL
MW-63_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDD	21 pg/L	J DL
MW-63_GW	EPA 1613B	1,2,3,4,6,7,8-HpCDF	44 pg/L	J DL
MW-63_GW	EPA 1613B	1,2,3,4,7,8,9-HpCDF	7.9 pg/L	J+ EB
MW-63_GW	EPA 1613B	1,2,3,4,7,8-HxCDD	7.5 pg/L	U EB, EM
MW-63_GW	EPA 1613B	1,2,3,4,7,8-HxCDF	7.9 pg/L	J+ EB, DL
MW-63_GW	EPA 1613B	1,2,3,6,7,8-HxCDD	4.7 pg/L	U EM
MW-63_GW	EPA 1613B	1,2,3,6,7,8-HxCDF	5.0 pg/L	J+ EB, DL
MW-63_GW	EPA 1613B	1,2,3,7,8,9-HxCDD	5.0 pg/L	J DL
MW-63_GW	EPA 1613B	1,2,3,7,8,9-HxCDF	5.6 pg/L	U EB, EM
MW-63_GW	EPA 1613B	1,2,3,7,8-PeCDD	2.6 pg/L	U EM
MW-63_GW	EPA 1613B	2,3,4,6,7,8-HxCDF	4.0 pg/L	J+ EB, DL
MW-63_GW	EPA 1613B	2,3,7,8-TCDD	5.1 pg/L	J DL

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-63_GW	EPA 1613B	OCDF	67 pg/L	J DL
MW-63_GW	EPA 1613B	Total HpCDD	36 pg/L	J DL
MW-63_GW	EPA 1613B	Total HxCDD	21 pg/L	U EM
MW-63_GW	EPA 1613B	Total HxCDF	26 pg/L	U EM
MW-63_GW	EPA 1613B	Total PeCDD	2.6 pg/L	U EM
MW-63_GW	EPA 1613B	Total TCDD	5.1 pg/L	J DL
MW-63_GW	EPA 6020B	Aluminum	41 µg/L	UJ NP
MW-63_GW	EPA 6020B	Aluminum, dissolved	41 µg/L	UJ NP
MW-63_GW	EPA 6020B	Antimony	5.8 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Antimony, dissolved	5.8 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Arsenic	18,000 µg/L	J NP
MW-63_GW	EPA 6020B	Arsenic, dissolved	17,000 µg/L	J NP
MW-63_GW	EPA 6020B	Barium	34 µg/L	J NP
MW-63_GW	EPA 6020B	Barium, dissolved	32 µg/L	J NP
MW-63_GW	EPA 6020B	Beryllium	1.5 µg/L	UJ NP
MW-63_GW	EPA 6020B	Beryllium, dissolved	1.5 µg/L	UJ NP
MW-63_GW	EPA 6020B	Cadmium	1.3 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Cadmium, dissolved	0.99 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Calcium	1,400 µg/L	J NP
MW-63_GW	EPA 6020B	Calcium, dissolved	1,300 µg/L	J NP
MW-63_GW	EPA 6020B	Chromium	2.5 µg/L	UJ NP
MW-63_GW	EPA 6020B	Chromium, dissolved	2.5 µg/L	UJ NP
MW-63_GW	EPA 6020B	Cobalt	1.7 µg/L	UJ NP
MW-63_GW	EPA 6020B	Cobalt, dissolved	1.7 µg/L	UJ NP
MW-63_GW	EPA 6020B	Copper	3.6 µg/L	UJ NP
MW-63_GW	EPA 6020B	Copper, dissolved	3.6 µg/L	UJ NP
MW-63_GW	EPA 6020B	Iron	190 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Iron, dissolved	140 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Lead	1.2 µg/L	UJ NP
MW-63_GW	EPA 6020B	Lead, dissolved	1.2 µg/L	UJ NP
MW-63_GW	EPA 6020B	Magnesium	610 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Magnesium, dissolved	600 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Manganese	4.7 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Manganese, dissolved	4.5 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Molybdenum	16,000 µg/L	J NP
MW-63_GW	EPA 6020B	Molybdenum, dissolved	15,000 µg/L	J NP
MW-63_GW	EPA 6020B	Nickel	35 µg/L	J NP
MW-63_GW	EPA 6020B	Nickel, dissolved	33 µg/L	J NP
MW-63_GW	EPA 6020B	Potassium	1,400,000 µg/L	J NP
MW-63_GW	EPA 6020B	Potassium, dissolved	1,300,000 µg/L	J NP
MW-63_GW	EPA 6020B	Selenium	15 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Selenium, dissolved	13 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Silver	0.23 µg/L	UJ NP
MW-63_GW	EPA 6020B	Silver, dissolved	0.23 µg/L	UJ NP
MW-63_GW	EPA 6020B	Sodium	14,000,000 µg/L	J NP
MW-63_GW	EPA 6020B	Sodium, dissolved	13,000,000 µg/L	J NP
MW-63_GW	EPA 6020B	Thallium	1.1 µg/L	UJ NP
MW-63_GW	EPA 6020B	Thallium, dissolved	1.1 µg/L	UJ NP
MW-63_GW	EPA 6020B	Vanadium	13 µg/L	J NP, DL

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-63_GW	EPA 6020B	Vanadium, dissolved	13 µg/L	J NP, DL
MW-63_GW	EPA 6020B	Zinc	10 µg/L	UJ NP
MW-63_GW	EPA 6020B	Zinc, dissolved	10 µg/L	UJ NP
MW-63_GW	EPA 7470A	Mercury	0.37 µg/L	UJ NP
MW-63_GW	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-63_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ LC
MW-63_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ LC
MW-63_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	6.7 µg/L	UJ IP, LM
MW-63_GW	EPA 8270E	2,4,5-Trichlorophenol	2.4 µg/L	UJ IP, LM
MW-63_GW	EPA 8270E	2,4,6-Trichlorophenol	2.2 µg/L	UJ IP, LM
MW-63_GW	EPA 8270E	2,4-Dichlorophenol	2.9 µg/L	UJ IP
MW-63_GW	EPA 8270E	2,4-Dimethylphenol	1.3 µg/L	UJ IP
MW-63_GW	EPA 8270E	2,4-Dinitrophenol	12 µg/L	R IP, LM
MW-63_GW	EPA 8270E	2-Chlorophenol	2.5 µg/L	UJ IP
MW-63_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	3.9 µg/L	R IP, LM
MW-63_GW	EPA 8270E	2-Methylphenol	0.74 µg/L	UJ IP
MW-63_GW	EPA 8270E	2-Nitrophenol	3.3 µg/L	UJ IP
MW-63_GW	EPA 8270E	3&4-Methylphenol	2.1 µg/L	UJ IP
MW-63_GW	EPA 8270E	4-Chloro-3-methylphenol	1.6 µg/L	UJ IP
MW-63_GW	EPA 8270E	4-Nitrophenol	8.6 µg/L	R IP, LM
MW-63_GW	EPA 8270E	Pentachlorophenol	19 µg/L	R IP, LM
MW-63_GW	EPA 8270E	Phenol	0.88 µg/L	UJ IP
MW-63_GW	EPA 8270E	Pyridine	17 µg/L	R LL
MW-63_GW	SM2340B	Total Hardness (as $CaCO_3$)	6.0 mg/L	J NP
MW-64_GW	EPA 1613B	OCDD	2.8 pg/L	U MB, EB, EM
MW-64_GW	EPA 6020B	Aluminum	990 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Aluminum, dissolved	83 µg/L	UJ NP
MW-64_GW	EPA 6020B	Antimony	4.0 µg/L	UJ NP
MW-64_GW	EPA 6020B	Antimony, dissolved	4.0 µg/L	UJ NP
MW-64_GW	EPA 6020B	Arsenic	35,000 µg/L	J NP
MW-64_GW	EPA 6020B	Arsenic, dissolved	32,000 µg/L	J NP
MW-64_GW	EPA 6020B	Barium	140 µg/L	J NP
MW-64_GW	EPA 6020B	Barium, dissolved	120 µg/L	J NP
MW-64_GW	EPA 6020B	Beryllium	3.0 µg/L	UJ NP
MW-64_GW	EPA 6020B	Beryllium, dissolved	3.0 µg/L	UJ NP
MW-64_GW	EPA 6020B	Cadmium	4.8 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Cadmium, dissolved	4.6 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Calcium	3,200 µg/L	J NP
MW-64_GW	EPA 6020B	Calcium, dissolved	1,900 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Chromium	5.0 µg/L	UJ NP
MW-64_GW	EPA 6020B	Chromium, dissolved	5.0 µg/L	UJ NP
MW-64_GW	EPA 6020B	Cobalt	3.3 µg/L	UJ NP
MW-64_GW	EPA 6020B	Cobalt, dissolved	3.3 µg/L	UJ NP
MW-64_GW	EPA 6020B	Copper	7.1 µg/L	UJ NP
MW-64_GW	EPA 6020B	Copper, dissolved	7.1 µg/L	UJ NP
MW-64_GW	EPA 6020B	Iron	1,200 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Iron, dissolved	140 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Lead	2.4 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Lead, dissolved	2.3 µg/L	UJ NP

Table 3
Qualifiers Applied During Validation
Alkali Lake Groundwater Recon
Lake County, Oregon

Sample Identification	Method	Anayte	Result	Qualifier and Reason Code
MW-64_GW	EPA 6020B	Magnesium	2,400 µg/L	J NP
MW-64_GW	EPA 6020B	Magnesium, dissolved	620 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Manganese	28 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Manganese, dissolved	7.2 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Molybdenum	64,000 µg/L	J NP
MW-64_GW	EPA 6020B	Molybdenum, dissolved	58,000 µg/L	J NP
MW-64_GW	EPA 6020B	Nickel	13 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Nickel, dissolved	12 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Potassium	2,900,000 µg/L	J NP
MW-64_GW	EPA 6020B	Potassium, dissolved	2,700,000 µg/L	J NP
MW-64_GW	EPA 6020B	Selenium	13 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Selenium, dissolved	14 µg/L	J NP, DL
MW-64_GW	EPA 6020B	Silver	0.45 µg/L	UJ NP
MW-64_GW	EPA 6020B	Silver, dissolved	0.45 µg/L	UJ NP
MW-64_GW	EPA 6020B	Sodium	38,000,000 µg/L	J NP
MW-64_GW	EPA 6020B	Sodium, dissolved	35,000,000 µg/L	J NP
MW-64_GW	EPA 6020B	Thallium	2.1 µg/L	UJ NP
MW-64_GW	EPA 6020B	Thallium, dissolved	2.1 µg/L	UJ NP
MW-64_GW	EPA 6020B	Vanadium	11 µg/L	UJ NP
MW-64_GW	EPA 6020B	Vanadium, dissolved	11 µg/L	UJ NP
MW-64_GW	EPA 6020B	Zinc	20 µg/L	UJ NP
MW-64_GW	EPA 6020B	Zinc, dissolved	20 µg/L	UJ NP
MW-64_GW	EPA 7470A	Mercury	0.37 µg/L	UJ NP
MW-64_GW	EPA 7470A	Mercury, dissolved	0.37 µg/L	UJ NP
MW-64_GW	EPA 8260D	1,2-Dibromo-3-chloropropane	0.42 µg/L	UJ LC
MW-64_GW	EPA 8260D	Dichlorodifluoromethane	0.30 µg/L	UJ LC
MW-64_GW	EPA 8270E	2,3,4,6-Tetrachlorophenol	6.5 µg/L	UJ IP, LM
MW-64_GW	EPA 8270E	2,4,5-Trichlorophenol	2.3 µg/L	UJ IP, LM
MW-64_GW	EPA 8270E	2,4,6-Trichlorophenol	2.1 µg/L	UJ IP, LM
MW-64_GW	EPA 8270E	2,4-Dichlorophenol	2.8 µg/L	UJ IP
MW-64_GW	EPA 8270E	2,4-Dimethylphenol	1.2 µg/L	UJ IP
MW-64_GW	EPA 8270E	2,4-Dinitrophenol	12 µg/L	R IP, LM
MW-64_GW	EPA 8270E	2-Chlorophenol	2.4 µg/L	UJ IP
MW-64_GW	EPA 8270E	2-Methyl-4,6-dinitrophenol	3.7 µg/L	R IP, LM
MW-64_GW	EPA 8270E	2-Methylphenol	0.71 µg/L	UJ IP
MW-64_GW	EPA 8270E	2-Nitrophenol	3.2 µg/L	UJ IP
MW-64_GW	EPA 8270E	3&4-Methylphenol	2.0 µg/L	UJ IP
MW-64_GW	EPA 8270E	4-Chloro-3-methylphenol	1.5 µg/L	UJ IP
MW-64_GW	EPA 8270E	4-Nitrophenol	8.3 µg/L	R IP, LM
MW-64_GW	EPA 8270E	Pentachlorophenol	18 µg/L	R IP, LM
MW-64_GW	EPA 8270E	Phenol	0.84 µg/L	UJ IP
MW-64_GW	EPA 8270E	Pyridine	16 µg/L	R LL
MW-64_GW	SM2340B	Total Hardness (as $CaCO_3$)	18 mg/L	J NP

Notes:
µg/L = micrograms per liter
CaCO3 = calcium carbonate
HpCDD = heptachlorodibenzo-p-dioxin
HpCDF = heptachlorodibenzfuran

HxCDD = hexachlorodibenzo-p-dioxin
HxCDF = hexachlorodibenzofuran
mg/L = milligrams per liter
OCDD = octachlorodibenzo-p-dioxin
OCDF = octachlorodibenzofuran
PeCDD = pentachlorodibenzo-p-dioxin
PeCDF = pentachlorodibenzofuran
pg/L = picograms per liter
TCDD = tetrachlorodibenzo-p-dioxin
TCDF = tetrachlorodibenzofuran

Qualifiers:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, but the result may be biased high.
J- = The result is an estimated quantity, but the result may be biased low.
NJ = The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
U = The analyte was analyzed for but was not detected at a concentration greater than the reported sample quantitation limit.
UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

Reason Codes:

CH = High continuing calibration verification (CCV) recovery.
DL = The detected concentration was less than the reporting limit.
EB = Analyte detection in an associated equipment blank.
EM = Result is an estimated maximum possible concentration and should be considered qualitatively uncertain.
HS = High surrogate recovery, Result may be biased high.
HT = Holding time exceedance.
IP = Improper sample preparation.
LC = Low CCV recovery.
LI = Low internal standard area counts.
LL = Low laboratory control sample recovery.
LM = Low matrix spike recovery.
LS = Low surrogate recovery
MB = Analyte detection in an associated laboratory blank.
MI = Potential matrix interference.
NP = Insufficient preservation.
SB = Spectra does not match reference.
SE = Excessive difference between results from the primary and confirmation analytical columns.

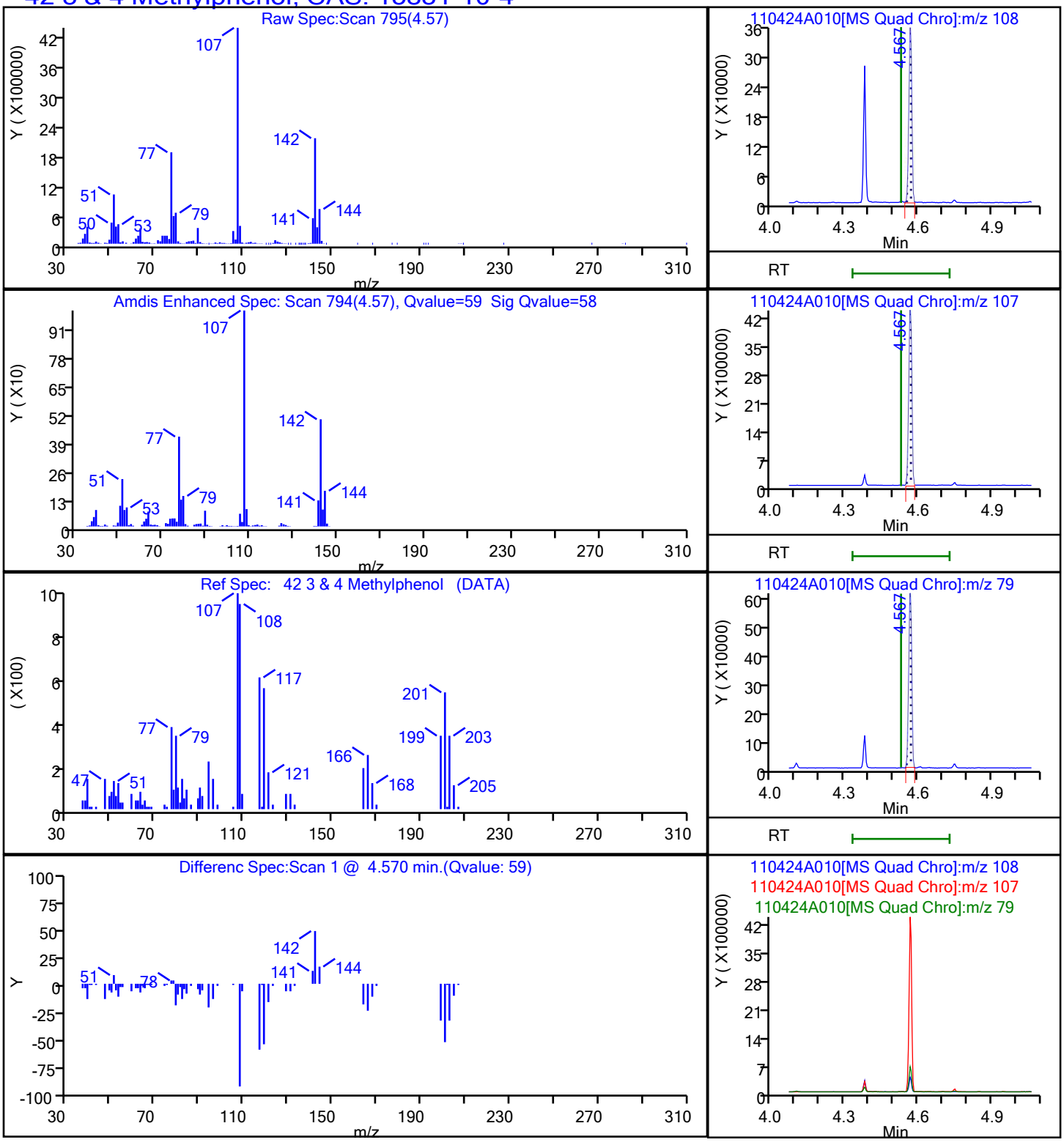
APPENDIX A

SVOC MASS SPECTRA FOR SECTION 7.2.12

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\SMS_1\20241104-139358.b\SMS_1-110424A010.D				
Injection Date:	04-Nov-2024 09:26:06	Instrument ID:	SMS_1		
Lims ID:	280-198804-F-3-A	Lab Sample ID:	280-198804-3		
Client ID:	MW-04_GW				
Operator ID:	MB	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.5 ul	Dil. Factor:	1.0000		
Method:	SMS_1 8270 RVE	Limit Group:	MSSV - 8270 D_E		
Column:	DB-5MS UI (0.18 mm)	Detector	MS Quad		

42 3 & 4 Methylphenol, CAS: 15831-10-4



Eurofins Denver

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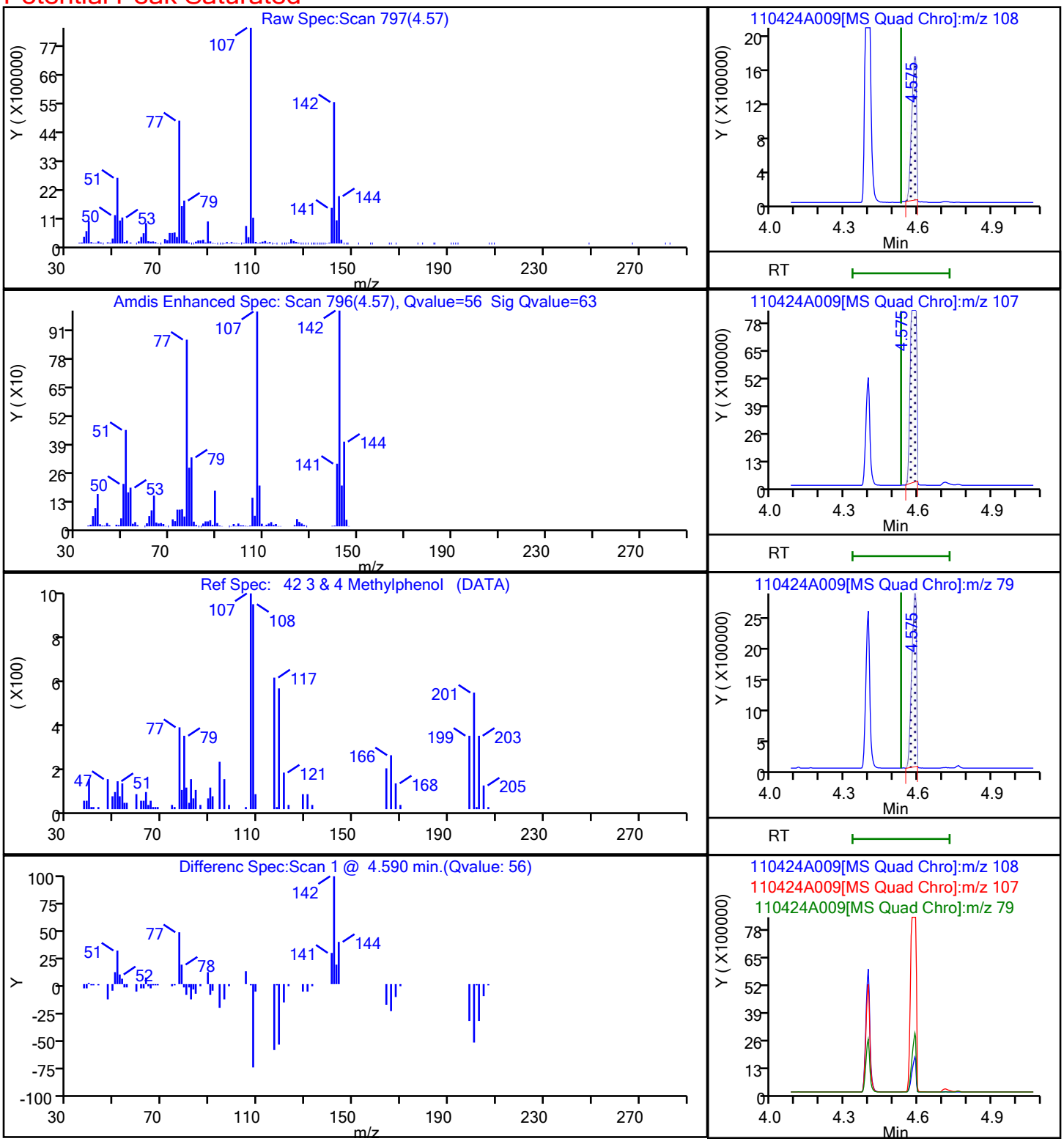
Lims ID:	280-198804-H-1-A	Lab Sample ID:	280-198804-1		
Client ID:	MW-10_GW				
Operator ID:	MB	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.5 ul	Dil. Factor:	1.0000		
Method:	SMS_1 8270 RVE	Limit Group:	MSSV - 8270 D_E		
Column:	DB-5MS UI (0.18 mm)	Detector	MS Quad		

42 3 & 4 Methylphenol, CAS: 15831-10-4

Potential Peak Saturated



11/26/2024
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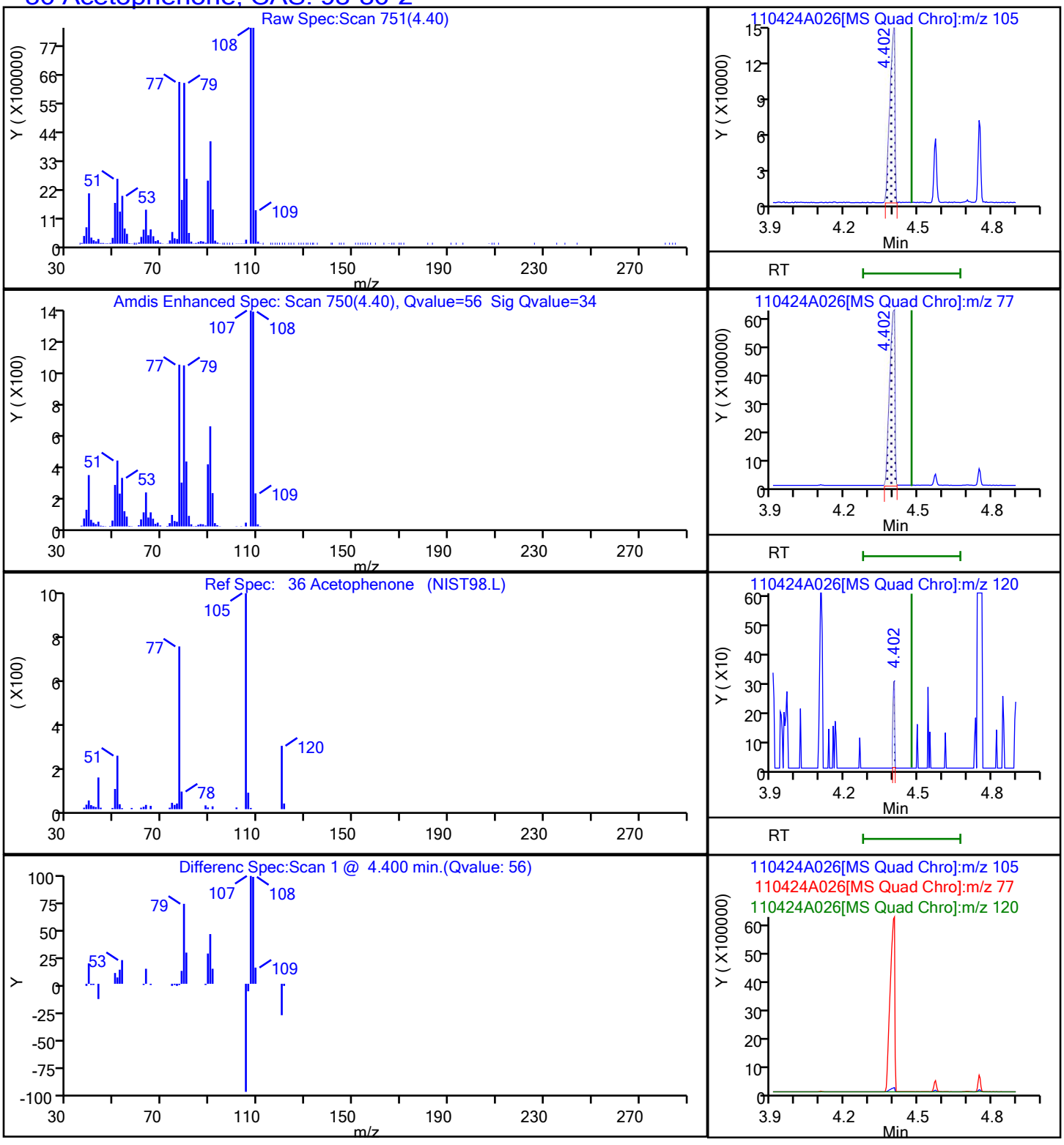
Eurofins Denver

Data File: \\chromfs\Denver\ChromData\SMS_1\20241104-139358.b\SMS_1-110424A026.D
Injection Date: 04-Nov-2024 15:09:18 Instrument ID: SMS_1
Lims ID: 280-198804-K-33-A Lab Sample ID: 280-198804-33
Client ID: MW-14_GW
Operator ID: MB ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 1.5 ul Dil. Factor: 1.0000
Method: SMS_1 8270 RVE Limit Group: MSSV - 8270 D_E
Column: DB-5MS UI (0.18 mm) Detector MS Quad

36 Acetophenone, CAS: 98-86-2



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Eurofins Denver

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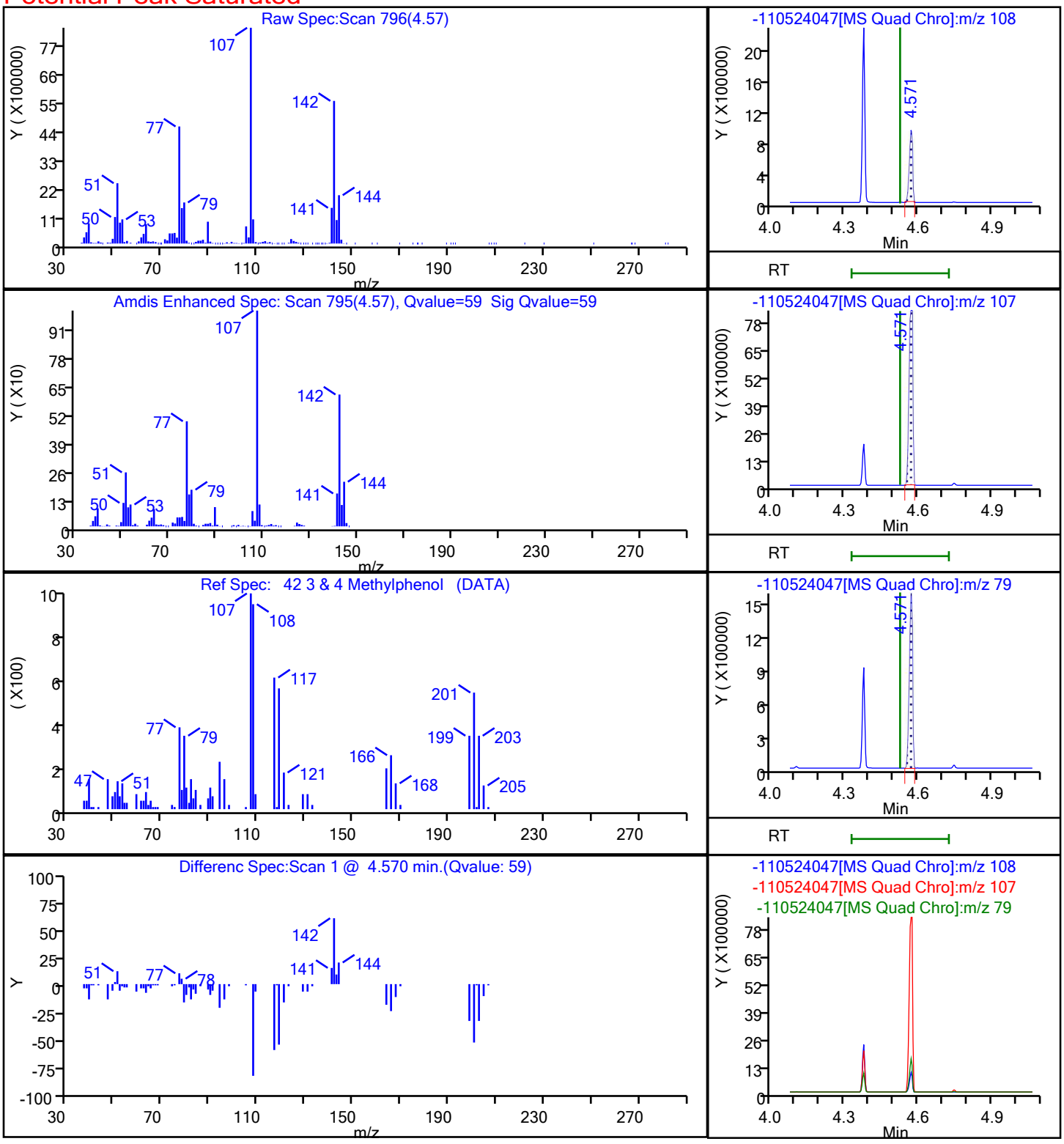
Lims ID:	280-198804-F-31-A DL	Lab Sample ID:	280-198804-31		
Client ID:	MW-30_GW				
Operator ID:	MB	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.5 ul	Dil. Factor:	10.0000		
Method:	SMS_1 8270 RVE	Limit Group:	MSSV - 8270 D_E		
Column:	DB-5MS UI (0.18 mm)	Detector	MS Quad		

42 3 & 4 Methylphenol, CAS: 15831-10-4

Potential Peak Saturated



11/26/2024
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Eurofins Denver

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Lims ID:	280-198804-G-17-A	Lab Sample ID:	280-198804-17
Client ID:	MW-55_GW		
Operator ID:	MB	ALS Bottle#:	0 Worklist Smp#: 20
Injection Vol:	1.5 ul	Dil. Factor:	1.0000
Method:	SMS_1 8270 RVE	Limit Group:	MSSV - 8270 D_E
Column:	DB-5MS UI (0.18 mm)	Detector	MS Quad

42 3 & 4 Methylphenol, CAS: 15831-10-4