DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: December 2025

Parsons - Austin

INTRODUCTION

The following data validation summary report covers eighteen (18) water samples collected on November 10, 2025 and November 16, 2025 at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-216852-1.

The samples in this SDG were analyzed for the following parameters: volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D, semivolatile organic compounds (SVOCs) by USEPA Method 8270E, explosives by USEPA Method 8330B, perchlorate by USEPA Method 6850, select metals by USEPA Method 6020B, mercury by USEPA Method 7470A, and anions (nitrate as N and nitrite as N) by U.S. EPA Method 9056A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Environmental Testing America (EETA) Denver located in Arvada, Colorado. The samples were received by EETA in five (5) coolers at temperatures ranging from 0.1 to 5.9 degrees Celsius which meet acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory properly preserved and in good condition except as follows. Perchlorate samples were not field filtered when collected on 11/10/25; therefore, the samples were recollected on 11/16/25 and were included in this SDG. In addition, the Perchlorate analyses were subcontracted to the Eurofins Lancaster laboratory location because of instrument issues at the Denver laboratory location.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	VOCs	SVOCs	Explosives	Perchlorate	Total Metals & Mercury	Dissolved Metals & Mercury	Anions	COMMENTS
QC10112025TB	280-216852-1	Water	X							Trip Blank
KMW1010112025	280-216852-2	Water	X	X	X		X	X		
KMW1010112025	280-216852-3	Water							X	
KMW15B10112025	280-216852-4	Water							X	
CMW4410112025	280-216852-5	Water	X	X	X		X	X		
CMW4410112025	280-216852-6	Water							X	
CMW2210112025	280-216852-7	Water	X	X	X		X	X		
CMW2210112025	280-216852-8	Water							X	
CMW2310112025	280-216852-10	Water							X	
CMW4610112025	280-216852-11	Water	X	X	X		X	X		
CMW4610112025	280-216852-13	Water							X	
CMW28B10112025	280-216852-14	Water	X	X	X		X	X		
CMW28B10112025	280-216852-15	Water							X	
CMW4416112025	280-216852-16	Water				X				
CMW2216112025	280-216852-17	Water				X				
KMW1016112025	280-216852-18	Water				X				
CMW28B16112025	280-216852-19	Water				X				
CMW4616112025	280-216852-20	Water				X				

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Prep Method	Analytical Method	Units
VOCs	Water	5030B	8260D	µg/L
SVOCs	Water	3510C	8270E	µg/L
Explosives	Water	3535	8330B	µg/L
Perchlorate	Water	6850 prep	6850	µg/L
Total Metals	Water	3005A	6020B	µg/L
Total Mercury	Water	7470A	7470A	µg/L
Dissolved Metals	Water	3005A	6020B	µg/L
Dissolved Mercury	Water	7470A	7470A	µg/L
Anions	Water	NA	9056A	µg/L

µg/L= micrograms per liter

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, and chain-of-custody (COC) forms.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

A table detailing the data qualifiers applied, removed, or changed for the samples in this SDG as a result of the data validation process can be found in the Data Validation Qualifier section below. The data validation checklist is included as Attachment A.

VOCS

General

The VOC portion of this SDG consisted of six (6) water samples which includes one (1) trip blank sample. The samples were collected November 10, 2025, and were analyzed in accordance with USEPA Method 8260D as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control sample (LCS), laboratory control sample duplicate (LCSD), and the surrogate spikes.

The LCS, LCSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD results.

The LCS/LCSD RPDs were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met.
- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724183/2	Bromoform Bromomethane	-27 28	±20%

The associated sample results for bromoform and bromomethane were qualified "UJ".

- The internal standard criteria were met.

One laboratory method blank was associated with the VOC analysis. No target analytes were detected in the laboratory method blank.

One trip blank sample was associated with the VOC samples. No target analytes were detected in the trip blank.

One equipment blank sample (QC11112025EB) included in SDG 280-217019-1 was associated with the VOC samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC11112025EB	Chlorodibromomethane	0.84 J
	Chloroform	0.73 J
	Dichlorobromomethane	0.58 J

Data qualification was not necessary as the associated sample results were non-detect for the analytes listed in the table above.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

SVOCS

General

The SVOC portion of this SDG consisted of five (5) water samples collected November 10, 2025, and were analyzed in accordance with USEPA Method 8270E as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Sample matrix observations (i.e. discolored sample and/or turbid sample) were discussed in the case narrative. A reduced volume was used for initial extraction volume which deviates from the standard volume of 250mL for all SVOC samples. The reporting limits have been adjusted accordingly.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and the surrogate spikes.

The LCS recoveries were within control limits except as follows.

LCS Sample ID	Analyte	LCS %R	Criteria
LCS 280-722417/2-A	4-Nitrophenol	24	25-120%

Results for 4-nitrophenol were qualified “X” in the associated field samples.

The surrogate recoveries were within control limits.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;

- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The internal standard criteria were met.

One laboratory method blank was associated with the SVOC analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC11112025EB) included in SDG 280-217019-1 was associated with the SVOC samples in this SDG. No target analytes were detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

EXPLOSIVES

General

The explosives portion of this SDG consisted of five (5) water samples which includes one (1) equipment blank sample. The samples were collected November 10, 2025 and were analyzed in accordance with USEPA Method 8330B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

All five samples required filtration to reduce matrix interferences. The samples were very cloudy with samples CMW4610112025 and CMW28B10112025 containing a thick layer of fine silt.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and the surrogate spikes.

The LCS and surrogate recoveries were within control limits.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- Column confirmation criteria for detected results met criteria with the following exception. The primary and confirmation column RPD for 1,3,5-trinitrobenzene in sample CMW4410112025 exceeded 40%; therefore, the result was qualified "J" as estimated.

One laboratory method blank was associated with the explosives analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC11112025EB) was associated with the explosive samples in this SDG. No target analytes were detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

PERCHLORATE

General

The perchlorate portion of this SDG consisted of five (5) water samples that were collected November 16, 2025, and analyzed in accordance with USEPA Method 6850 as specified

in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and LCSD.

The LCS and LCSD recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD results.

The LCS/LCSD RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The isotope ratio criteria were met for all detected samples.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The interference check solutions (ICS) were within criteria.
- The internal standard criteria were met except as follows. The internal standard recovered low and outside criteria in the following samples; therefore, detected results were qualified "J+" as estimated with a potential high bias and non-detect results were qualified "UJ" as estimated: CMW4416112025, KMW1016112025, CMW28B16112025, and CMW4616112025.
- The initial calibration blank (ICB) had a detect as follows.

Blank ID	Analyte	Concentration µg/L
ICB 410-740793/10	Perchlorate	0.0354

Perchlorate was either non-detect or detected greater than 5 times the blank concentration; therefore, data quality was not impacted, and results were not qualified.

One laboratory method blank was associated with the perchlorate analysis. Perchlorate was not detected in the laboratory method blank.

One equipment blank sample (QC11112025EB) was associated with the perchlorate samples in this SDG. Perchlorate was not detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

TOTAL AND DISSOLVED METALS

General

The metals portion of this SDG consisted of five (5) water samples collected November 10, 2025, and analyzed in accordance with USEPA Method 6020B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS.

The LCS recoveries were within acceptance limits.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration criteria were met.

- The ICV was prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The low level CCV criteria were met for a single point calibration.
- The interference check samples (ICS) were within criteria.
- The initial calibration blanks (ICBs) were non-detect for target analytes.
- The continuing calibration blank (CCB) was non-detect for target analytes except as follows.

Blank ID	Analyte	Concentration µg/L
CCB 280-725332/100	Sodium	905 J
CCB 280-725332/106	Sodium	766 J
CCB 280-725332/118	Sodium	788 J

Sodium results in the associated samples were detected greater than 5 times the blank concentration; therefore, data quality was not impacted, and results were not qualified.

- The internal standard criteria associated with the target metals met criteria for samples.

Two laboratory method blanks were associated with the metals analysis. The method blanks were non-detect for all target metals.

One equipment blank sample (QC11112025EB) was associated with the metals samples in this SDG. With the exceptions below, no target analytes were detected in the equipment blank.

Blank ID	Analyte	Concentration µg/L
QC11112025EB	Calcium, total	200
	Calcium, dissolved	170 J
	Sodium, total	580 J
	Sodium, dissolved	440 J

Calcium and sodium were detected greater than 5 times the blank concentration in all associated samples; therefore, data quality was not impacted, and results were not qualified.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

MERCURY

General

The mercury portion of this SDG consisted of five (5) water samples collected November 10, 2025, and analyzed in accordance with U.S. EPA Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the DoD QSM, version 6.0 and the project QAPP.

All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS.

All LCS spike recoveries were within acceptance criteria.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration criteria were met.
- All ICV criteria were met.
- All CCV criteria were met
- All LL ICV criteria were met.
- All ICB criteria were met.
- All CCB criteria were met.

One laboratory method blank was associated with the mercury analyses in this SDG. The laboratory method blank was non-detect for mercury.

One equipment blank sample (QC11112025EB) was associated with the mercury analyses in this SDG. The equipment blank was non-detect for mercury.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

ANIONS

General

The anions portion of this SDG consisted of seven (7) water samples collected on November 10, 2025 and were analyzed for anions as specified in the project-specific UFP-QAPP.

The anions analyses for nitrate as N and nitrite as N were performed in accordance with U.S. EPA Method SW846 9056A. All samples in this SDG were analyzed following the procedures outlined in the QSM Version 6.0 and the project QAPP.

All samples were analyzed within the holding time required by the method.

The following should be noted:

- Samples CMW4410112025 had chromatographic interferences that could adversely impact the identification and quantitation of nitrate as N causing results to have a low bias; therefore, the result for nitrate as N was qualified "J-" as estimated with a potential low bias.
- The following sample has chromatographic interferences that could adversely impact the identification and quantitation of target analytes: CMW2310112025 and CMW28B10112025. These interferences cause nitrate as N to be unidentifiable. The sample was reanalyzed at dilution, and the interference was eliminated. Nitrate as N was not present. If Nitrate as N is present in this sample it is consumed by the interference; therefore, the result was qualified "UJ" as estimated.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, LCSD, MS and MSD. Sample CMW4610112025 was selected by the laboratory for MS/MSD analysis.

All LCS/LCSD and MS/MSD spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD, MS/MSD, and laboratory duplicate concentrations.

All LCS/LCSD, MS/MSD, and laboratory duplicate RPDs were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. All ICV criteria were met.
- All initial and continuing calibration blanks (ICB/CCB) criteria were met.
- All continuing calibration verification (CCV) criteria were met.

The laboratory method blank was non-detect for all target anions.

One equipment blank sample (QC11112025EB) was associated with the samples in this SDG. The equipment blank sample was non-detect for all target anions.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. Five results for the SVOC analysis were qualified "X" indicating that those results were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. Acceptance (J-flag) or rejection (R-flag) of the

"X" qualified results should be decided by the project team during the Data Usability Assessment process.

SENSITIVITY

The limit of detection (LOD) and limit of quantitation (LOQ) values reported for the samples were compared to those listed in the project-specific UFP-QAPP to ensure that sensitivity requirements were met. LOD and LOQ limits have been updated by the lab since the UFP-QAPP was finalized. The LOD and LOQs are higher than the project action limits (PAL) as shown in the project-specific UFP-QAPP for some analytes and parameters. In many cases, the LODs and LOQs were adjusted based on dilution and/or initial/final volumes.

If the sensitivity requirements are not met for a particular analyte, the team will evaluate whether the data can still be used for project decisions. If non-detect values exceed the project quantitation limit goals (PQLGs), data are considered usable if the analyte is not a site-related compound. Analytes that are not site-related chemicals, and thus are not expected to be found, do not impact decision making. For analytes that are site-related, the team will use a "weight of evidence" approach to evaluate the likelihood of the chemical's presence. This approach uses available data that does meet sensitivity requirements to evaluate the presence or absence of the compound in other samples or other similar compounds and/or degradation products for the analyte in question.

If sufficient evidence exists to determine a compound was likely not present because of the absence of similar compounds and breakdown products, the team will conclude that the analyte was not present, and thus data are usable for decision making. If it cannot be determined that the compound is likely not present, then the risk will be calculated assuming that the compound is present at the detection limit (DL). This calculated risk will be presented as an uncertainty in the risk assessment, and the risk will not be included in the estimation of cumulative risk. It was determined that overall, the chosen laboratory provides the best value and technical quality for this project.

DATA VALIDATION QUALIFIERS

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
QC10112025TB	8260D	Bromoform	1.5	U Q	1.5	UJ	C4
QC10112025TB	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW4610112025	8260D	Bromoform	1.5	U Q	1.5	UJ	C4
CMW4610112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW28B10112025	8260D	Bromoform	1.5	U Q	1.5	UJ	C4
CMW28B10112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
KMW1010112025	8260D	Bromoform	1.5	U Q	1.5	UJ	C4
KMW1010112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
CMW4410112025	8260D	Bromoform	1.5	U Q	1.5	UJ	C4
CMW4410112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW2210112025	8260D	Bromoform	1.5	U Q	1.5	UJ	C4
CMW2210112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
KMW1010112025	8270E	4-Nitrophenol	30	U Q	30	X	L3
CMW4410112025	8270E	4-Nitrophenol	30	U M Q	30	X	L3
CMW2210112025	8270E	4-Nitrophenol	75	U Q	75	X	L3
CMW4610112	8270E	4-Nitrophenol	150	U Q	150	X	L3
CMW28B1011	8270E	4-Nitrophenol	150	U M Q	150	X	L3
CMW4410112025	8330B	1,3,5-Trinitrobenzene	0.97	M J1	0.97	J	C6
CMW4416112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
KMW1016112025	6850	Perchlorate	1.2	Q	1.2	J+	I10
CMW28B16112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
CMW4616112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
CMW4410112025	9056A	Nitrate as N	170	J M	170	J	P3
CMW2310112025	9056A	Nitrate as N	250	U M	250	UJ	P3
CMW28B10112025	9056A	Nitrate as N	250	U M	250	UJ	P3

DATA VALIDATION QUALIFIER DEFINITIONS

The data validation qualifiers are defined in WS #36, Table 36.2 of the project QAPP as follows.

U = The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.

J = The reported result was an estimated value with an unknown bias.

J+ = The reported result was an estimated quantity, but the result may be biased high.

J- = The reported result was an estimated quantity, but the result may be biased low.

UJ = The analyte was not detected and was reported as less than the LOD. However, the reported numerical value is approximate.

X= The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance (J-flag) or rejection (R-flag) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.

R = Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

REASON CODE DEFINITIONS

These data validation reason codes were used to document the logic behind data validation qualifiers:

Qualification Reason	Reason Code
Chemical Preservation Insufficient or Incorrect	P1
Cooler Temperature Exceedance	T1
Holding Time Exceedance, Sampling to Analysis	H1
Holding Time Exceedance, Sampling to Extraction	H2
Holding Time Exceedance, Extraction to Analysis	H3
Performance Evaluation Sample/Tune Criteria Not Met	P2
Resolution Check Criteria Not Met	R1
Initial Calibration Frequency Not Met	I1
Initial Calibration Insufficient Number of Standards	I2
Initial Calibration RRF Criteria Not Met	I3
Initial Calibration %RSD, r or r^2 Value Exceedance	I4
ICV/CCV Frequency Exceedance	C1
ICV/CCV RRF Criteria Not Met	C2
ICV/CCV %D/ %R Exceedance –High	C3
ICV/CCV %D/ %R Exceedance –Low	C4
Second Column Confirmation Analysis Not Performed	C5
Second Column Confirmation RPD Exceedance	C6
ICB/CCB Frequency Exceedance	B1
ICB/CCB Detection	B2
ICS Frequency Exceedance	I5
ICS A Exceedance (Detection)	I6
ICS AB Exceedance – Recovery High	I7
ICS AB Exceedance – Recovery Low	I8
Internal Standard Exceedance - Response High	I9
Internal Standard Exceedance – Response Low	I10
Internal Standard RT Exceedance	I11
EIS Exceedance – Recovery High	I12
EIS Exceedance – Recovery Low	I13
NIS Exceedance – Recovery High	I14
NIS Exceedance – Recovery Low	I15
Ion Mass Ratio Criteria Exceedance	I16

Qualification Reason	Reason Code
Required Sample Cleanup Not Performed	R2
Method Blank Frequency Exceedance	B3
Method Blank Detection	B4
Storage Blank Detection	B5
Trip Blank Detection	B6
Field / Ambient Blank Detection	B7
Equipment Blank Detection	B8
Instrument Blank Detection	B9
Source Blank Detection	B10
LCS Frequency Exceedance	L1
LCS Exceedance – Recovery High	L2
LCS Exceedance – Recovery Low	L3
LCS/LCSD RPD Exceedance	L4
MS/MSD Frequency Exceedance	M1
MS/MSD Exceedance – Recovery High	M2
MS/MSD Exceedance – Recovery Low	M3
MS/MSD RPD Exceedance	M4
Post Digestion Spike Exceedance	M5
Matrix Duplicate / Laboratory Duplicate RPD Exceedance	M6
Surrogate Exceedance – Recovery High	S1
Surrogate Exceedance – Recovery Low	S2
Serial Dilution Exceedance	S3
Sample RT or RRT Exceedance	R3
Spectral Match Exceedance	S4
Result Exceeds Calibration Range	R4
Field Duplicate Precision Exceedance	D1
Laboratory Duplicate Precision Exceedance	D2
Reporting Limit Exceeds Action Level	R5
Professional Judgment (see DVR)	P3

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

CCB Continuing Calibration Blank

CCV Continuing Calibration Verification

CoC	Chain of Custody
DL	Detection Limit
DoD	Department of Defense
ECO	Eco & Associates, Inc.
ETTA	Eurofins Environment Testing America
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
ICS	Interference Check Sample
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PDS	Post Digestion Spike
PQL	Project Quantitation Limit
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Checklists

VALIDATION CHECKLIST

SDG#: 280-216852-1

Laboratory: ETTA

Date: December 2025

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?		X		Perchlorate samples were not field filtered when collected on 11/10/25; therefore, the samples were recollected on 11/16/25 and were included in this SDG.
2B	3	Were holding times met?	X			
2B	4	Were the requested analyses performed/reported as requested on the COC?	X			
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?	X			
2B	9	Were target analytes in the field blank/trip blank less than the DL?	X			
2B	10	Were target analytes in the equipment blank less than the DL?		X		See VOC and metals method sections of the DVR.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?		X		See SVOC method section of the DVR.
2B	12	Were MS/MSD recoveries and RPD within project specified limits?	X			
2B	13	Were post spike recoveries and dilution test within			X	Not applicable for this SDG.

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
		acceptance criteria?				
2B	14	Were surrogate recoveries within project specified limits?	X			
2B	15	Were internal standards within acceptance limits?		X		See Perchlorate method section of the DVR.
2B	16	Did field duplicates meet the required RPD for the project?			X	Not applicable for this SDG.
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?	X			
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?		X		See VOC method sections of the DVR.
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.	X			
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?		X		See Metals section of the DVR.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?	X			
2B	25	Were ICS within acceptance criteria?	X			
2B	26	Did confirmation column meet acceptance limits?		X		See Explosives section of the DVR.
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?		X		See Sensitivity section of the DVR.
2B	29	Have all Case Narrative findings been addressed?	X			

DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: January 2026

Parsons - Austin

INTRODUCTION

The following data validation summary report covers thirty-seven (37) water samples collected from November 10, 2025 through November 12, 2025 at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-217019-1.

The samples in this SDG were analyzed for the following parameters: volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D, semivolatile organic compounds (SVOCs) by USEPA Method 8270E, organochlorine pesticides by USEPA Method 8081B, explosives by USEPA Method 8330B, perchlorate by USEPA Method 6850, herbicides by USEPA Method 8321B, select metals by USEPA Method 6020B, mercury by USEPA Method 7470A, and anions (nitrate as N and nitrite as N) by U.S. EPA Method 9056A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Environmental Testing America (EETA) Denver located in Arvada, Colorado. The samples were received by EETA in thirteen (13) coolers at temperatures ranging from 0.2 to 5.4 degrees Celsius which meet acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory properly preserved and in good condition except as follows.

- One unpreserved 500 milliliter (mL) amber container was received broken for sample BGMW1412112025. There was enough volume to complete all analyses.
- One of the two unpreserved 250 mL amber containers was received with a cracked lid for sample BGMW1412112025; however, the lid was still sealed on the container. Therefore, the sample was not compromised, and data quality was not impacted.
- One of three VOA vials was received frozen which results in greater than six millimeters headspace for samples BGMW1412112025, FDUP03112025, and BGMW15121120205. A vial without headspace was used for analysis.

Samples for analysis of perchlorate by 6850 were subcontracted to the Eurofins Lancaster laboratory location because of instrument issues at the Denver laboratory location. The samples arrived at the Lancaster lab at an acceptable temperature.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for

Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	VOCs	SVOCs	Organochlorine Pesticides	Explosives	Perchlorate	Herbicides	Total Metals & Mercury	Dissolved Metals & Mercury	Anions	COMMENTS
QC11112025TB	280-217019-1	Water	X									Trip Blank
CMW31B11112025	280-217019-2	Water									X	MS/MSD
FDUP02112025	280-217019-3	Water									X	Field Duplicate of sample -7
CMW4511112025	280-217019-4	Water									X	
QC11112025EB	280-217019-5	Water									X	Equipment Blank
CMW2611112025	280-217019-6	Water									X	
CMW36B11112025	280-217019-7	Water									X	Stage 4 validation
CMW251112025	280-217019-8	Water									X	Stage 4 validation
CMW27B1112025	280-217019-9	Water									X	Stage 4 validation
FDUP01112025	280-217019-10	Water									X	Field Duplicate of sample -6; Stage 4 validation
CMW2310112025	280-217019-11	Water	X	X		X	X		X	X		Stage 4 validation
CMW27B11112025	280-217019-12	Water	X	X		X	X		X	X		Stage 4 validation
CMW2611112025	280-217019-13	Water	X	X		X	X		X	X		Stage 4 validation
FDUP01112025	280-217019-14	Water	X	X		X	X		X	X		Field Duplicate of sample -13
CMW36B11112025	280-217019-15	Water	X	X		X	X		X	X		
FDUP02112025	280-217019-16	Water	X	X		X	X		X	X		Field Duplicate of sample -15
CMW2511112025	280-217019-17	Water	X	X		X	X		X	X		
QC11112025EB	280-217019-18	Water	X	X		X	X		X	X		Equipment Blank
KMW15B10112025	280-217019-19	Water	X			X	X		X	X		
CMW4511112025	280-217019-20	Water	X	X		X	X		X	X		

Client Sample ID	Laboratory Sample ID	Matrix	VOCs	SVOCs	Organochlorine Pesticides	Explosives	Perchlorate	Herbicides	Total Metals & Mercury	Dissolved Metals & Mercury	Anions	COMMENTS
CMW31B11112025	280-217019-21	Water	X	X		X	X		X	X		MS/MSD
QC12112025TB	280-217019-22	Water	X									Trip Blank
BGMW1512112025	280-217019-23	Water									X	
BGMW0612112025	280-217019-24	Water									X	
FDUP03112025	280-217019-25	Water									X	Field Duplicate of sample -23
BGMW1412112025	280-217019-26	Water									X	
BGMW1612112025	280-217019-27	Water									X	
QC12112025EB	280-217019-28	Water									X	Equipment Blank
CMW36A12112025	280-217019-29	Water									X	
BGMW0612112025	280-217019-30	Water	X	X	X	X	X	X	X	X		
QC12112025EB	280-217019-31	Water	X	X	X	X	X	X	X	X		Equipment Blank
BGMW1612112025	280-217019-32	Water	X	X	X	X	X	X	X	X		Stage 4 validation
CMW36A12112025	280-217019-33	Water	X	X		X	X		X	X		
BGMW1412112025	280-217019-34	Water	X	X	X	X	X	X	X	X		
FDUP03112025	280-217019-35	Water	X	X	X	X	X	X	X	X		Field Duplicate of sample -36
BGMW1512112025	280-217019-36	Water	X	X	X	X	X	X	X	X		
CMW4310112025	280-217019-37	Water				X	X					

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Prep Method	Analytical Method	Units
VOCs	Water	5030B	8260D	µg/L
SVOCs	Water	3510C	8270E	µg/L
Organochlorine Pesticides	Water	3510C	8081B	µg/L
Explosives	Water	3535	8330B	µg/L
Perchlorate	Water	6850 prep	6850	µg/L
Herbicides	Water	8321B	8321B	µg/L
Total Metals	Water	3005A	6020B	µg/L
Total Mercury	Water	7470A	7470A	µg/L
Dissolved Metals	Water	3005A	6020B	µg/L
Dissolved Mercury	Water	7470A	7470A	µg/L
Anions	Water	NA	9056A	µg/L

µg/L= micrograms per liter

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Additionally, this SDG was selected for Stage 4 validation to be performed on 10% of the sample results for each parameter. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, chain-of-custody (COC) forms, manual integrations, and recalculation of QC (ICAL, LCS, MS/MSD, Surrogate) and 10% of sample results for each parameter.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

A table detailing the data qualifiers applied, removed, or changed for the samples in this SDG as a result of the data validation process can be found in the Data Validation Qualifier section below. The data validation checklist is included as Attachment A. Calculations are included as Attachment B.

VOCS

General

The VOC portion of this SDG consisted of twenty (20) water samples which includes three (3) field duplicates, two (2) equipment blanks, and two (2) trip blank samples. The samples were collected November 10, 2025 through November 12, 2025, and were analyzed in accordance with USEPA Method 8260D as specified in the project-specific UFP-QAPP

and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control sample (LCS), laboratory control sample duplicate (LCSD), matrix spike (MS), matrix spike duplicate (MSD), and the surrogate spikes. Sample CMW31B11112025 was designated for MS/MSD analysis on the COC.

The LCS and LCSD recoveries were within control limits except as follows.

LCS/LCSD Sample ID	Analyte	LCS %R	LCSD %R	Criteria
280-724152/4 280-724152/5	Bromomethane	176	182	53-141%

( ) indicates the %R was within limits.

The samples associated with this LCS and LCSD were non-detect for bromomethane; therefore, data quality was not impacted, and results were not qualified.

The MS, MSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD, MS/MSD, and field duplicate results.

The LCS/LCSD and MS/MSD RPDs were within acceptance criteria.

The field duplicate and parent results were non-detect for all target analytes; therefore, RPD could not be calculated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration (ICAL) criteria were met.

- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met except as follows.

ICV ID	Analyte	%D	Criteria
ICV 280-722955/23	Trans-1,2-dichloropropene	40	±30%

The sample results for trans-1,2-dichloropropene associated with the ICV were qualified "UJ".

- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724152/2	Bromomethane	76	±20%
CCVC 280-724152/36	Bromomethane	59	±50%

The associated sample results for bromomethane were qualified "X" because the initial CCV had a %D greater than 50%.

- The internal standard criteria were met.

One laboratory method blank was associated with the VOC analysis. No target analytes were detected in the laboratory method blank.

Two trip blank samples were associated with the VOC samples. No target analytes were detected in the trip blanks.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the VOC samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC11112025EB	Chlorodibromomethane	0.84 J
	Chloroform	0.73 J
	Dichlorobromomethane	0.58 J
QC12112025EB	Chlorodibromomethane	0.86 J
	Chloroform	0.82 J
	Dichlorobromomethane	0.65 J

Data qualification was not necessary as the associated sample results were non-detect for the analytes listed in the table above.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

SVOCS

General

The SVOC portion of this SDG consisted of seventeen (17) water samples collected which includes three (3) field duplicates, two (2) equipment blanks. The samples were collected November 10, 2025 through November 12, 2025, and were analyzed in accordance with USEPA Method 8270E as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

The initial volume used for samples CMW36A1211202 and FDUP03112025 in preparation batch 280-723361 deviated from the standard procedure at 50mL instead of 250mL due to the sample matrix. The reporting limits (RLs) have been adjusted proportionately.

The initial volume used for samples BGMW1412112025 in preparation batch 280-723361 deviated from the standard procedure at 125mL instead of 250mL due to sample matrix. The reporting limits (RLs) have been adjusted proportionately.

The initial volume used for the following sample BGMW15121120205 in preparation batch 280-723583 deviated from the standard procedure. 50mL was used as the initial volume due to the matrix consisting of a highly turbid liquid with a light odor. The reporting limits (RLs) have been adjusted proportionately.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, MS, MSD, and the surrogate spikes. Sample CMW31B11112025 was designated for MS/MSD analysis on the COC.

The LCS, MS, and MSD recoveries were within control limits.

The surrogate recoveries were within control limits except as follows.

Sample ID	Surrogate Analyte	%R	Criteria
CMW27B11112025	Terphenyl-d14	46	50-134%

The base neutral analytes in the sample were qualified “UJ” as estimated.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the MS/MSD and field duplicate results.

The MS/MSD RPDs were within acceptance criteria.

The field duplicate and parent results were non-detect for all target analytes; therefore, RPD could not be calculated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-723359/5	Caprolactam	24	±20%
CCV 280-723766/3	2,2-oxybis(1-chloropropane) 4-Nitrophenol	-28 -23	±20%

The associated sample results for the analytes listed in the table above were qualified "UJ".

- The internal standard criteria were met.

Three laboratory method blanks were associated with the SVOC analysis. No target analytes were detected in the laboratory method blank.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the SVOC samples in this SDG. No target analytes were detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

PESTICIDES

General

The pesticide portion of this SDG consisted of six (6) water samples which includes one (1) field duplicate and one (1) equipment blank sample. The samples were collected November 12, 2025, and were analyzed in accordance with USEPA Method 8081B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version

6.0. The samples were prepared and analyzed within the holding time required by the method.

The initial volumes used for the following samples FDUP03112025 in preparation batch 280-723497 deviated from the standard procedure. 125 mL was used for the initial volume because the matrix consisted of a highly turbid liquid. The RLs have been adjusted proportionately.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and surrogate spikes.

The LCS recoveries were within acceptance limits.

The surrogate recoveries were within acceptance limits except as follows.

Sample ID	Surrogate Analyte	%R	Criteria
BGMW0612112025	Decachlorobiphenyl	25	27-134%

Evidence of matrix interference was present; therefore, re-extraction and/or re-analysis was not performed. The pesticide analytes in the sample were qualified "UJ" as estimated.

Precision

Precision could not be calculated for the pesticide samples in this SDG. The results in both the parent and field duplicate were non-detect; therefore. RPDs could not be calculated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method except as noted. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-723737/30	Beta-BHC	21	±20%

The sample results for beta-BHC in the samples associated with the CCV were qualified "UJ".

- The internal standard criteria were met.
- The degradation criteria were met.
- Column confirmation RPD was not applicable because all sample results for pesticides were non-detect.

One laboratory method blank was associated with the pesticide analysis. The method blank sample was non-detect for all target pesticides.

One equipment blank sample (QC12112025EB) was associated with the pesticide samples in this SDG. The equipment blank was non-detect for all target pesticide analytes.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

HERBICIDES

General

The herbicides portion of this SDG consisted of six (6) water samples which includes one (1) field duplicate and one (1) equipment blank sample. The samples were collected November 12, 2025, and were analyzed in accordance with USEPA Method 8321B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, MS, MSD, and surrogate spikes. Sample QC12112025EB was selected by the laboratory for MS/MSD analysis. The equipment blank was selected for MS/MSD analysis; therefore, the MS and MSD results were not evaluated.

The LCS, LCSD, and surrogate recoveries were within acceptance limits.

Precision

Precision was evaluated using the RPD obtained from the MS/MSD and field duplicate.

The MS/MSD RPDs were within acceptance criteria.

The results in both the parent and FD were non-detect; therefore. FD RPDs could not be calculated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The ICB was non-detect for target analytes.
- The CCB was non-detect for target analytes.
- The internal standard criteria were met.

One laboratory method blank was associated with the herbicide analysis. The method blank sample was non-detect for all target herbicides.

One equipment blank sample (QC12112025EB) was associated with the herbicide samples in this SDG. The equipment blank was non-detect for all target herbicide analytes.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

EXPLOSIVES

General

The explosives portion of this SDG consisted of nineteen (19) water samples which includes three (3) field duplicate samples and two (2) equipment blank samples. The samples were collected November 10, 2025 through November 12, 2025 and were analyzed in accordance with USEPA Method 8330B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

The following samples required filtration to reduce matrix interferences: CMW27B11112025, CMW2511112025, KMW15B10112025, CMW4310112025. CMW4511112025, CMW31B11112025, BGMW0612112025), CMW36A12112025, FDUP03112025, and BGMW15121120205. The samples were cloudy and either sediment, fine silt, or full of small, suspended particles.

Sample BGMW1412112025 was decanted to 500mL prior to preparation as the only sample bottle received was 1L. Therefore, the original container could not be rinsed after extraction.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, MS, MSD, and surrogate spikes. Sample CMW31B11112025 was designated for MS/MSD analysis on the COC.

The LCS recoveries were within control limits except as follows.

LCS Sample ID	Analyte	LCS %R	Criteria
280-723473/2-A	1,3-Dinitrobenzene	121	78-120%

The samples associated with this LCS were non-detect for 1,3-dinitrobenzene; therefore, data quality was not impacted, and results were not qualified

The MS, MSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the MS/MSD and field duplicate.

The MS/MSD RPDs were within acceptance criteria.

The results in both the parent and FD were non-detect; therefore. FD RPDs could not be calculated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared

and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- Column confirmation criteria for detected results exceeded 40% RPD for the following samples and analytes.
    - CMW4511112025: RDX
    - QC12112025EB: RDX
    - BGMW1612112025: HMX

  Results for the analytes and samples noted above were qualified "J" as estimated.

Four laboratory method blanks were associated with the explosives analysis. No target analytes were detected in the laboratory method blanks.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the explosive samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	RDX	0.13 J J1 C2 0.24 J J1

Data qualification was not necessary as the associated sample results were either non-detect for RDX or detected greater than 5 times the equipment blank concentration.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

PERCHLORATE

General

The perchlorate portion of this SDG consisted of nineteen (19) water samples which includes three (3) field duplicate samples and two (2) equipment blank samples. The samples were collected November 10, 2025 through November 12, 2025, and analyzed in accordance with USEPA Method 6850 as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, MS, and MSD. Sample CMW31B11112025 was designated for MS/MSD analysis on the COC.

The LCS, LCSD, MS, and MSD recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD, MS/MSD, and field duplicate results.

The LCS/LCSD and MS/MSD RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The isotope ratio criteria were met for all detected samples.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The interference check solutions (ICS) were within criteria.
- The internal standard criteria were met except as follows. The internal standard recovered low for sample CMW2310112025, KMW15B10112025, BGMW1612112025, and CMW4310112025; therefore, the perchlorate results in the samples were qualified as estimated, "UJ" if non-detect and "J+" if detected.
- The initial calibration blank (ICB) had a detect as follows.

Blank ID	Analyte	Concentration µg/L
ICB 410-740793/10	Perchlorate	0.0354

Perchlorate was either non-detect or detected greater than 5 times the blank concentration in associated samples; therefore, data quality was not impacted, and results were not qualified.

Three laboratory method blank samples were associated with the perchlorate analysis. Perchlorate was not detected in the laboratory method blanks.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the perchlorate samples in this SDG. Perchlorate was not detected in the equipment blank samples.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

TOTAL AND DISSOLVED METALS

General

The metals portion of this SDG consisted of eighteen (18) water samples which includes three (3) field duplicate and two (2) equipment blank samples. The samples were collected November 10, 2025 through November 12, 2025, and analyzed in accordance with USEPA Method 6020B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, MS, and MSD. Sample CMW31B11112025 was designated for MS/MSD analysis on the COC. In addition, the laboratory selected sample CMW4511112025 for MS/MSD analysis of dissolved metals.

The LCS recoveries were within acceptance limits.

The MS and MSD recoveries were within acceptance limits except as follows.

Associated Sample	Analyte	MS %R	MSD %R	Criteria
CMW31B11112025	Aluminum (total)	126	129	84-117%
	Potassium (total)	(114)	128	87-115%
	Potassium (dissolved)	123	(115)	87-115%
( ) indicates the recovery met laboratory criteria.				

The parent sample result for the analytes listed above were qualified “J+”.

The results in parent sample CMW31B11112025 for several analytes (dissolved and total) and result for sodium (dissolved) in parent sample CMW4511112025 were not included in the table above but were greater than 4 times the spike concentration and are not considered to be representative measure of accuracy; therefore, data quality was not impacted, and results were not qualified.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD, MS/MSD, and field duplicate results.

The LCS/LCSD, MS/MSD, and field duplicate RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration criteria were met.
- The ICV was prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The low level CCV criteria did not meet for a few analytes; however, these analytes were not reported from the field samples associated with the low level CCV. Therefore, data quality was not impacted and results were not qualified.
- The interference check samples (ICS) were within criteria.
- The initial calibration blanks (ICBs) were non-detect for target analytes.
- The continuing calibration blank (CCB) was non-detect for target analytes except as follows. Several CCBs had detections for sodium; however, the associated sample results for sodium were detected greater than 5 times the CCB concentration. Therefore, data quality was not impacted and results were not qualified.
- The internal standard criteria associated with the target metals met criteria for samples.
- The post digestion spike (PDS) and serial dilution or dilution test (DT) were within criteria for applicable metals.

Three laboratory method blanks were associated with the metals analysis. The method blanks were non-detect for all target metals.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the metals samples in this SDG. With the exceptions below, no target analytes were detected in the equipment blank.

Blank ID	Analyte	Concentration µg/L
QC11112025EB	Calcium, total	200
	Calcium, dissolved	170 J
	Sodium, total	580 J
	Sodium, dissolved	440 J
QC12112025EB	Calcium, total	190 J
	Calcium, dissolved	200
	Sodium, total	620 J
	Sodium, dissolved	640 J
	Iron, Total	100 J

The result for total iron was qualified "J+" as estimated with a potential high bias in sample BGMW1412112025. All other results for total iron associated with the equipment blank were detected greater than 5 times the blank concentration and were not qualified. Results for calcium and sodium were detected greater than 5 times the blank concentration in all associated samples; therefore, data quality was not impacted, and results were not qualified.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

MERCURY

General

The mercury portion of this SDG consisted of eighteen (18) water samples which includes three (3) field duplicate and two (2) equipment blank samples. The samples were collected November 10, 2025 through November 12, 2025, and analyzed in accordance with U.S. EPA Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the DoD QSM, version 6.0 and the project QAPP.

All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, MS, and MSD, CMW31B11112025 was designated for MS/MSD analysis on the COC.

The LCS, MS, and MSD spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the MS/MSD and field duplicate.

The MS/MSD RPDs were within acceptance criteria.

The results in both the parent and FDs were non-detect; therefore. FD RPDs could not be calculated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration criteria were met.
- All ICV criteria were met.
- All CCV criteria were met
- All LL ICV criteria were met.
- All ICB criteria were met.
- All CCB criteria were met.

Two laboratory method blanks were associated with the mercury analyses in this SDG. The laboratory method blanks were non-detect for mercury.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the mercury analyses in this SDG. The equipment blanks were non-detect for mercury.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

ANIONS

General

The anions portion of this SDG consisted of sixteen (16) water samples which includes three (3) field duplicate and two (2) equipment blank samples that were collected on November 11, 2025 and November 12, 2025. The samples were analyzed for anions as specified in the project-specific UFP-QAPP. The anions analyses for nitrate as N and nitrite as N were performed in accordance with U.S. EPA Method SW846 9056A. All samples in this SDG were analyzed following the procedures outlined in the QSM Version 6.0 and the project QAPP.

The samples were analyzed within the 48 hour holding time required by the method with the following exceptions. The coolers were delayed by one day and were delivered to the laboratory with the following samples either outside holding time or with less than half the holding time remaining: CMW31B11112025, FDUP02112025, CMW4511112025, QC11112025EB, CMW2611112025, CMW36B11112025, CMW251112025, CMW27B1112025, and FDUP01112025. The results for nitrate as N and nitrite as N in the samples were qualified "J-" or "UJ" as estimated.

The following chromatographic interferences occurred and impacted data:

- Samples CMW4511112025, CMW27B1112025 and FDUP01112025 had chromatographic interferences that could adversely impact the identification and quantitation of nitrate as N causing results to have a low bias; therefore, the results for nitrate as N were qualified "J-" as estimated with a potential low bias.
- Samples FDUP02112025, CMW36B11112025, CMW251112025, and BGMW1412112025 had chromatographic interferences that could adversely impact the identification and quantitation of target analytes. These interferences cause nitrate as N to be unidentifiable. The sample was reanalyzed at dilution, and the interference was eliminated. Nitrate as N was not present. If Nitrate as N is present in the samples it is consumed by the interference; therefore, the results were qualified "UJ" as estimated.
- Sample BGMW1612112025 had chromatographic interferences that could adversely impact the identification and quantitation of target analytes. These interferences cause nitrite as N to be unidentifiable. The sample was reanalyzed at dilution, and the interference was eliminated. Nitrite as N was not present. If Nitrite as N is present in the samples it is consumed by the interference; therefore, the results were qualified "UJ" as estimated.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, LCSD, MS and MSD. Sample CMW31B11112025 was designated on the COC for MS/MSD analysis.

All LCS/LCSD and MS/MSD spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD, MS/MSD, laboratory duplicate, and field duplicate concentrations.

All LCS/LCSD, MS/MSD, and field duplicate RPDs were within acceptance criteria.

Laboratory duplicate RPD could not be calculated because results in both the duplicate and parent sample were non-detect for nitrate as N and nitrite as N.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method except as previously noted. The following QC elements were also evaluated:

- All initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. All ICV criteria were met.
- All initial and continuing calibration blanks (ICB/CCB) criteria were met.
- All continuing calibration verification (CCV) criteria were met.

The laboratory method blanks were non-detect for all target anions.

Two equipment blank samples (QC11112025EB and QC12112025EB) were associated with the samples in this SDG. The equipment blank samples were non-detect for the target anions.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. Twenty-one (21) results for bromomethane were qualified "X" indicating that those results were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. Acceptance (J-flag) or rejection (R-flag) of the "X" qualified results should be decided by the project team during the Data Usability Assessment process.

SENSITIVITY

The limit of detection (LOD) and limit of quantitation (LOQ) values reported for the samples were compared to those listed in the project-specific UFP-QAPP to ensure that sensitivity requirements were met. LOD and LOQ limits have been updated by the lab since the UFP-QAPP was finalized. The LOD and LOQs are higher than the project action limits (PAL) as shown in the project-specific UFP-QAPP for some analytes and parameters. In many cases, the LODs and LOQs were adjusted based on dilution and/or initial/final volumes.

If the sensitivity requirements are not met for a particular analyte, the team will evaluate whether the data can still be used for project decisions. If non-detect values exceed the project quantitation limit goals (PQLGs), data are considered usable if the analyte is not a site-related compound. Analytes that are not site-related chemicals, and thus are not expected to be found, do not impact decision making. For analytes that are site-related, the team will use a "weight of evidence" approach to evaluate the likelihood of the chemical's presence. This approach uses available data that does meet sensitivity requirements to evaluate the presence or absence of the compound in other samples or other similar compounds and/or degradation products for the analyte in question.

If sufficient evidence exists to determine a compound was likely not present because of the absence of similar compounds and breakdown products, the team will conclude that the analyte was not present, and thus data are usable for decision making. If it cannot be determined that the compound is likely not present, then the risk will be calculated assuming that the compound is present at the detection limit (DL). This calculated risk will be presented as an uncertainty in the risk assessment, and the risk will not be included in the estimation of cumulative risk. It was determined that overall, the chosen laboratory provides the best value and technical quality for this project.

DATA VALIDATION QUALIFIERS

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
QC11112025TB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW2310112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW27B11112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW2611112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
FDUP01112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW36B11112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
FDUP02112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW2511112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC11112025EB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
KMW15B10112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW4511112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW31B11112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC12112025TB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
BGMW0612112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC12112025EB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
BGMW1612112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW36A12112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
BGMW1412112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
FDUP03112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
BGMW1512112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC11112025TB	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW2310112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW27B11112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW2611112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
FDUP01112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW36B11112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
FDUP02112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW2511112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
QC11112025EB	8260D	Bromomethane	4.0	U Q	4.0	X	C3
KMW15B10112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW4511112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW31B11112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
QC12112025TB	8260D	Bromomethane	4.0	U Q	4.0	X	C3
BGMW0612112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
QC12112025EB	8260D	Bromomethane	4.0	U Q	4.0	X	C3
BGMW1612112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
CMW36A12112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
BGMW1412112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
FDUP03112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
BGMW1512112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
QC11112025TB	8260D	Bromomethane	4.0	U Q	4.0	X	C3
CMW27B11112025	8270E	2,2'-oxybis[1-chloropropane]	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	2,4-Dinitrotoluene	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	2,6-Dinitrotoluene	8.4	U M	8.4	UJ	S2
CMW27B11112025	8270E	2-Chloronaphthalene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	2-Methylnaphthalene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	2-Nitroaniline	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	3,3'-Dichlorobenzidine	21	U	21	UJ	S2
CMW27B11112025	8270E	3-Nitroaniline	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	4-Bromophenyl phenyl ether	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	4-Chloroaniline	16	U	16	UJ	S2
CMW27B11112025	8270E	4-Chlorophenyl phenyl ether	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	4-Nitroaniline	8.4	U M	8.4	UJ	S2
CMW27B11112025	8270E	Acenaphthene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Acenaphthylene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Anthracene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Benzaldehyde	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Benzo[a]anthracene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Benzo[a]pyrene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Benzo[b]fluoranthene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Benzo[g,h,i]perylene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Benzo[k]fluoranthene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Bis(2-chloroethoxy)methane	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Bis(2-chloroethyl)ether	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Bis(2-ethylhexyl) phthalate	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Butyl benzyl phthalate	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Caprolactam	16	U M Q	16	UJ	S2, C3
CMW27B11112025	8270E	Carbazole	3.1	U	3.1	UJ	S2

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
CMW27B11112025	8270E	Chrysene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Dibenz(a,h)anthracene	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Dibenzofuran	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Diethyl phthalate	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Dimethyl phthalate	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Di-n-butyl phthalate	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Di-n-octyl phthalate	8.4	U M	8.4	UJ	S2
CMW27B11112025	8270E	Fluoranthene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Fluorene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Hexachlorobenzene	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Hexachlorobutadiene	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Hexachlorocyclopentadiene	42	U	42	UJ	S2
CMW27B11112025	8270E	Hexachloroethane	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Indeno[1,2,3-cd]pyrene	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Isophorone	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Naphthalene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Nitrobenzene	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	N-Nitrosodi-n-propylamine	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	N-Nitrosodiphenylamine	8.4	U	8.4	UJ	S2
CMW27B11112025	8270E	Phenanthrene	3.1	U	3.1	UJ	S2
CMW27B11112025	8270E	Pyrene	8.4	U	8.4	UJ	S2
CMW2310112025	8270E	Caprolactam	14	U M Q	14	UJ	C3
CMW2611112025	8270E	Caprolactam	16	U Q	16	UJ	C3
FDUP01112025	8270E	Caprolactam	16	U M Q	16	UJ	C3
CMW36B11112025	8270E	Caprolactam	16	U Q	16	UJ	C3
FDUP02112025	8270E	Caprolactam	15	U Q	15	UJ	C3
CMW2511112025	8270E	Caprolactam	15	U Q	15	UJ	C3
QC11112025EB	8270E	Caprolactam	15	U M Q	15	UJ	C3
CMW4511112025	8270E	Caprolactam	15	U Q	15	UJ	C3
CMW31B11112025	8270E	Caprolactam	16	U M Q	16	UJ	C3
BGMW0612112025	8270E	Caprolactam	15	U M Q	15	UJ	C3
QC12112025EB	8270E	Caprolactam	15	U Q	15	UJ	C3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
BGMW1612112025	8270E	Caprolactam	17	U M Q	17	UJ	C3
BGMW1512112025	8270E	2,2-oxybis(1-chloropropane)	40	U Q	40	UJ	C4
BGMW1512112025	8270E	4-Nitrophenol	75	U M Q	75	UJ	C4
BGMW0612112025	8081B	All pesticide analytes	0.042	U	0.042	UJ	S2
BGMW0612112025	8081B	Toxaphene	2.7	U	2.7	UJ	S2
QC12112025EB	8081B	beta-BHC	0.041	U Q	0.041	UJ	C3
BGMW1612112025	8081B	beta-BHC	0.043	U Q	0.043	UJ	C3
BGMW0612112025	8081B	beta-BHC	0.042	U Q	0.042	UJ	S2, C3
BGMW1412112025	8081B	beta-BHC	0.043	U Q	0.043	UJ	C3
FDUP03112025	8081B	beta-BHC	0.080	U Q	0.080	UJ	C3
BGMW1512112025	8081B	beta-BHC	0.040	U Q	0.040	UJ	C3
CMW4511112025	8330B	RDX	0.29	J M J1	0.29	J	C6
CMW4511112025	8330B	RDX	1.3	M J1 C2	1.3	J	C6
QC12112025EB	8330B	RDX	0.13	J J1 C2	0.13	J	C6
QC12112025EB	8330B	RDX	0.24	J J1	0.24	J	C6
BGMW1612112025	8330B	HMX	0.12	J J1 M C2	0.12	J	C6
BGMW1612112025	8330B	HMX	0.68	M J1	0.68	J	C6
CMW2310112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
KMW15B10112025	6850	Perchlorate	0.11	J Q	0.11	J+	I10
BGMW1612112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
CMW4310112025	6850	Perchlorate	0.38	Q	0.38	J+	I10
CMW31B11112025	6020B	Aluminum, total	720	J1	720	J+	M2
CMW31B11112025	6020B	Potassium, total	8000	J1	8000	J+	M2
CMW31B11112025	6020B	Potassium, dissolved	7800	J1	7800	J+	M2
BGMW1412112025	6020B	Iron, total	500	None	500	J+	B8
CMW31B11112025	9056A	Nitrate as N	250	U H M	250	UJ	H1
FDUP02112025	9056A	Nitrate as N	250	U H M	250	UJ	H1, P3
CMW4511112025	9056A	Nitrate as N	930	H M	930	J-	H1, P3
QC11112025EB	9056A	Nitrate as N	250	U H	250	UJ	H1
CMW2611112025	9056A	Nitrate as N	1000	H M	1000	J-	H1
CMW36B11112025	9056A	Nitrate as N	250	U H M	250	UJ	H1, P3
CMW251112025	9056A	Nitrate as N	250	U H M	250	UJ	H1, P3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
CMW27B1112025	9056A	Nitrate as N	140	J H M	140	J-	H1, P3
FDUP01112025	9056A	Nitrate as N	990	H M	990	J-	H1, P3
CMW31B11112025	9056A	Nitrite as N	250	U H	250	UJ	H1
FDUP02112025	9056A	Nitrite as N	250	U H	250	UJ	H1
CMW4511112025	9056A	Nitrite as N	250	U H	250	UJ	H1
QC11112025EB	9056A	Nitrite as N	250	U H	250	UJ	H1
CMW2611112025	9056A	Nitrite as N	250	U H	250	UJ	H1
CMW36B11112025	9056A	Nitrite as N	250	U H	250	UJ	H1
CMW251112025	9056A	Nitrite as N	250	U H	250	UJ	H1
CMW27B1112025	9056A	Nitrite as N	250	U H	250	UJ	H1
FDUP01112025	9056A	Nitrite as N	250	U H	250	UJ	H1
BGMW1412112025	9056A	Nitrate as N	250	U M	250	UJ	P3
BGMW1612112025	9056A	Nitrite as N	250	U	250	UJ	P3

DATA VALIDATION QUALIFIER DEFINITIONS

The data validation qualifiers are defined in WS #36, Table 36.2 of the project QAPP as follows.

U = The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.

J = The reported result was an estimated value with an unknown bias.

J+ = The reported result was an estimated quantity, but the result may be biased high.

J- = The reported result was an estimated quantity, but the result may be biased low.

UJ = The analyte was not detected and was reported as less than the LOD. However, the reported numerical value is approximate.

X= The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance (J-flag) or rejection (R-flag) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.

R = Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

REASON CODE DEFINITIONS

These data validation reason codes were used to document the logic behind data validation qualifiers:

Qualification Reason	Reason Code
Chemical Preservation Insufficient or Incorrect	P1
Cooler Temperature Exceedance	T1
Holding Time Exceedance, Sampling to Analysis	H1
Holding Time Exceedance, Sampling to Extraction	H2
Holding Time Exceedance, Extraction to Analysis	H3
Performance Evaluation Sample/Tune Criteria Not Met	P2
Resolution Check Criteria Not Met	R1
Initial Calibration Frequency Not Met	I1
Initial Calibration Insufficient Number of Standards	I2
Initial Calibration RRF Criteria Not Met	I3
Initial Calibration %RSD, r or r^2 Value Exceedance	I4
ICV/CCV Frequency Exceedance	C1
ICV/CCV RRF Criteria Not Met	C2
ICV/CCV %D/ %R Exceedance –High	C3
ICV/CCV %D/ %R Exceedance –Low	C4
Second Column Confirmation Analysis Not Performed	C5
Second Column Confirmation RPD Exceedance	C6
ICB/CCB Frequency Exceedance	B1
ICB/CCB Detection	B2
ICS Frequency Exceedance	I5
ICS A Exceedance (Detection)	I6
ICS AB Exceedance – Recovery High	I7
ICS AB Exceedance – Recovery Low	I8
Internal Standard Exceedance - Response High	I9
Internal Standard Exceedance – Response Low	I10
Internal Standard RT Exceedance	I11
EIS Exceedance – Recovery High	I12
EIS Exceedance – Recovery Low	I13
NIS Exceedance – Recovery High	I14
NIS Exceedance – Recovery Low	I15
Ion Mass Ratio Criteria Exceedance	I16
Required Sample Cleanup Not Performed	R2
Method Blank Frequency Exceedance	B3
Method Blank Detection	B4
Storage Blank Detection	B5
Trip Blank Detection	B6

Qualification Reason	Reason Code
Field / Ambient Blank Detection	B7
Equipment Blank Detection	B8
Instrument Blank Detection	B9
Source Blank Detection	B10
LCS Frequency Exceedance	L1
LCS Exceedance – Recovery High	L2
LCS Exceedance – Recovery Low	L3
LCS/LCSD RPD Exceedance	L4
MS/MSD Frequency Exceedance	M1
MS/MSD Exceedance – Recovery High	M2
MS/MSD Exceedance – Recovery Low	M3
MS/MSD RPD Exceedance	M4
Post Digestion Spike Exceedance	M5
Matrix Duplicate / Laboratory Duplicate RPD Exceedance	M6
Surrogate Exceedance – Recovery High	S1
Surrogate Exceedance – Recovery Low	S2
Serial Dilution Exceedance	S3
Sample RT or RRT Exceedance	R3
Spectral Match Exceedance	S4
Result Exceeds Calibration Range	R4
Field Duplicate Precision Exceedance	D1
Laboratory Duplicate Precision Exceedance	D2
Reporting Limit Exceeds Action Level	R5
Professional Judgment (see DVR)	P3

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CoC	Chain of Custody
DL	Detection Limit
DoD	Department of Defense

ECO	Eco & Associates, Inc.
ETTA	Eurofins Environment Testing America
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
ICS	Interference Check Sample
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PDS	Post Digestion Spike
PQL	Project Quantitation Limit
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Checklists

VALIDATION CHECKLIST

SDG#: 280-217019-1

Laboratory: ETTA

Date: January 2026

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?		X		• One unpreserved 500 milliliter (mL) amber container was received broken for sample BGMW1412112025. There was enough volume to complete all analyses. • One of the two unpreserved 250 mL amber containers was received with a cracked lid for sample BGMW1412112025; however, the lid was still sealed on the container. Therefore, the sample was not compromised, and data quality was not impacted. • One of three VOA vials was received frozen which results in greater than six millimeters headspace for samples BGMW1412112025, FDUP03112025, and BGMW15121120205. A vial without headspace was used for analysis.

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	3	Were holding times met?		X		See anions method section of the DVR.
2B	4	Were the requested analyses performed/reported as requested on the COC?	X			
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?	X			
2B	9	Were target analytes in the field blank/trip blank less than the DL?	X			
2B	10	Were target analytes in the equipment blank less than the DL?		X		See VOC, explosives, and metals method sections of the DVR.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?		X		See VOC and explosives method section of the DVR.
2B	12	Were MS/MSD recoveries and RPD within project specified limits?		X		See metals method section of the DVR.
2B	13	Were post spike recoveries and dilution test within acceptance criteria?	X			
2B	14	Were surrogate recoveries within project specified limits?		X		See SVOC, pesticide, and explosives method sections of the DVR.
2B	15	Were internal standards within acceptance limits?		X		See Perchlorate method section of the DVR.
2B	16	Did field duplicates meet the required RPD for the project?	X			
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?	X			
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?		X		See VOC, SVOC, and pesticide method sections of the DVR.
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.		X		See VOC and metals method section of the DVR.
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?		X		See metals and Perchlorate method sections of the

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
						DVR.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?	X			
2B	25	Were ICS within acceptance criteria?	X			
2B	26	Did confirmation column meet acceptance limits?		X		See explosives method section of the DVR.
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?		X		See Sensitivity section of the DVR.
2B	29	Have all Case Narrative findings been addressed?	X			

Attachment B

Calculations

Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Denver
Method: 8260D
Instrument: VMS_MS1
SDG: 280-217019-1
Curve Date: 11/15/2025
Compound: Benzene
Internal Standard: Fluorobenzene

red text = manually input values from lab report
green text = values match lab report

Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area Ais	Compound Conc Cx	ISTD Conc Cis	Y-Values	X-Values	X^2	RF
				Ax/Ais	Cx/Cis	$(Cx/Cis)^2$	(Ax*Cis)/(Ais*Cx)
24487	2734469	0.5	50	0.895494	1	1	0.895494
46566	2738144	1	50	1.700641	2	4	0.850321
91656	2748344	2	50	3.334954	4	16	0.833738
236441	2834229	5	50	8.342339	10	100	0.834234
442383	2854084	10	50	15.499999	20	400	0.775000
2321657	2868094	50	50	80.947730	100	10000	0.809477
2837829	2499127	75	50	113.552813	150	22500	0.757019
4477351	2891001	100	50	154.871998	200	40000	0.774360
8255412	2844140	200	50	290.260395	400	160000	0.725651
SUM OF EACH COLUMN :				669.4064	887.0000	233021.0000	7.2553

CALIBRATION MODELS:
Average Response Factor:
Cx = Ax*Cis/Ais/RF

Average RF	0.806	AVERAGE(RF)
RSD	6.56%	STDEV(RF)/(AveRF)

Sample Concentration Calculations

Sample ID	File ID	Compound Area Ax	ISTD Area Ais	ISTD Conc Cis	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Final Volume (mL)	Initial Volume (mL)	Dilution factor	Final Concentration (ug/L)	Spike amount. (ug/L)	% Recovery	RPD	%D
Equations:					Ax*Cis/Ais/RF	((Ax/Ais-b)/m)*Cis	(	Final Conc = (Raw result * Final Vol * DF) / (Initial Vol)				%R = (final conc / spike amt.)x100		RPD= [(Cs-Cd)]/[(Cs+Cd)/2]* 100	%D = ABS((final conc-spike amt)/spike amt)*100
ICV 280-722955/23	MS1_5616.D	1941379	2427822	50	49.6			5.000	5.00	1.000	49.6	50.000	NA	NA	1
CCVIS 280-724152/2	MS1_5981.D	1530802	1950903	50	48.7			5.000	5.00	1.000	48.7	50.000	NA	NA	3
CCVC 280-724152/36	MS1_6010.D	1458929	1880235	50	48.1			5.000	5.00	1.000	48.1	50.000	NA	NA	4
MB 280-724152/10	MS1_5987.D	0	1917294	50	0.0			5.000	5.00	1.000	0.0	NA	NA	NA	NA
280-217019-21 MS	MS1_6008.D	1500788	1891421	50	49.2			5.000	5.00	1.000	49.2	NA	NA	NA	NA
280-217019-21 MSD	MS1_6009.D	1617321	2032886	50	49.3			5.000	5.00	1.000	49.3	NA	NA	NA	NA
LCS 280-724152/4	MS1_5981a.D	1530802	1950903	50	48.7			5.000	5.00	1.000	48.7	50.000	97	1	NA
LCSD 280-724152/5	MS1_5983.D	1479955	1863061	50	49.3			5.000	5.00	1.000	49.3	50.000	99		NA

Laboratory Sample ID	sample conc. (mg/kg)	MS/MSD conc. (mg/kg)	Spike amount (mg/kg)	% Recovery	RPD
				(Cm-Cs) / Ck *100	RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100
280-217019-21 MS	0.0	49.2	50.000	98	0
280-217019-21 MSD	0.0	49.3	50.000	99	

Module 1: Analysis by GC/MS
Lab/SDG: Eurofins Denver / 280-217019-1
Method: 8260D

fb Cbn dcbd4 fb

	CMW2310112025				CMW27B11112025			
Surrogate	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane
DF	1	1	1	1	1	1	1	1
Initial Vol (mL)	5	5	5	5	5	5	5	5
Final Vol. (mL)	5	5	5	5	5	5	5	5
IS Response	1861167	438541	718725	1861167	1852102	431660	702501	1852102
Surrogate Response	464533	1870614	634255	397062	460573	1852644	623792	399514
Calibration RF	0.2567	4.1785	0.9396	0.2154	0.2567	4.1785	0.9396	0.2154
IS spike concentration (ppb)	50	50	50	50	50	50	50	50
Surr Spike Conc. (ppb)	50	50	50	50	50	50	50	50
On column Surr Conc. (ppb)	48.6	51.0	47.0	49.5	48.4	51.4	47.3	50.1
Final Conc. (ppm)	48.6	51.0	47.0	49.5	48.4	51.4	47.3	50.1
Surr %R	97	102	94	99	97	103	95	100

	CMW2611112025				BGMW1612112025			
Surrogate	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane
DF	1	1	1	1	1	1	1	1
Initial Vol (mL)	5	5	5	5	5	5	5	5
Final Vol. (mL)	5	5	5	5	5	5	5	5
IS Response	1870820	438899	714172	1870820	1792329	426691	701068	1792329
Surrogate Response	463300	1897642	631993	399531	447906	1814941	610332	394400
Calibration RF	0.2567	4.1785	0.9396	0.2154	0.2567	4.1785	0.9396	0.2154
IS spike concentration (ppb)	50	50	50	50	50	50	50	50
Surr Spike Conc. (ppb)	50	50	50	50	50	50	50	50
On column Surr Conc. (ppb)	48.2	51.7	47.1	49.6	48.7	50.9	46.3	51.1
Final Conc. (ppb)	48.2	51.7	47.1	49.6	48.7	50.9	46.3	51.1
Surr %R	96	103	94	99	97	102	93	102

	MB 280-724152/10				LCS 280-724152/4			
Surrogate	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane
DF	1	1	1	1	1	1	1	1
Initial Vol (mL)	5	5	5	5	5	5	5	5
Final Vol. (mL)	5	5	5	5	5	5	5	5
IS Response	1917294	446409	736936	1917294	1950903	459247	771249	1950903
Surrogate Response	485895	1939040	651977	425405	494035	1985422	683680	438524
Calibration RF	0.2567	4.1785	0.9396	0.2154	0.2567	4.1785	0.9396	0.2154
IS spike concentration (ppb)	50	50	50	50	50	50	50	50
Surr Spike Conc. (ppb)	50	50	50	50	50	50	50	50
On column Surr Conc. (ppb)	49.4	52.0	47.1	51.5	49.3	51.7	47.2	52.2
Final Conc. (ppb)	49.4	52.0	47.1	51.5	49.3	51.7	47.2	52.2
Surr %R	99	104	94	103	99	103	94	104

	MS (CMW31B11112025)				MSD (CMW31B11112025)			
Surrogate	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	Dibromofluoromethane
DF	1	1	1	1	1	1	1	1
Initial Vol	5	5	5	5	5	5	5	5
Final Vol.	5	5	5	5	5	5	5	5
IS Response	1891421	443157	734874	1891421	2032886	457320	758915	2032886
Surrogate Response	469599	1917799	653487	423764	513525	2060164	672641	468267
Calibration RF	0.2567	4.1785	0.9396	0.2154	0.2567	4.1785	0.9396	0.2154
IS spike concentration (ppb)	50	50	50	50	50	50	50	50
Surr Spike Conc. (ppb)	50	50	50	50	50	50	50	50
On column Surr Conc. (ppb)	48.4	51.8	47.3	52.0	49.2	53.9	47.2	53.5
Final Conc. (ppb)	48.4	51.8	47.3	52.0	49.2	53.9	47.2	53.5
Surr %R	97	104	95	104	98	108	94	107

yellow highlighted cells include calculations.

Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Denver
Method: 8270E
Instrument: SMS_1
SDG: 280-217019-1
Curve Date: 11/8/2025
Compound: Naphthalene
Internal Standard: Naphthalene-d

red text = manually input values from lab report
green text = values match lab report

Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area Ais	Compound Conc Cx	ISTD Conc Cis	Y-Values	X-Values	X^2	RF
				Ax/Ais	Cx/Cis	$(Cx/Cis)^2$	(Ax*Cis)/(Ais*Cx)
265837	2463660	1	10	10.790328	10	100	1.079033
594191	2133496	2.5	10	27.850580	25	625	1.114023
1147568	2111068	5	10	54.359594	50	2500	1.087192
2242927	1665862	12.5	10	134.640624	125	15625	1.077125
4571937	2264399	20	10	201.905097	200	40000	1.009525
5278711	1816725	30	10	290.561918	300	90000	0.968540
6241381	1719226	40	10	363.034354	400	160000	0.907586
SUM OF EACH COLUMN :				1083.1425	1110.0000	308850.0000	7.2430

CALIBRATION MODELS:
Average Response Factor:
Cx = Ax*Cis/Ais/RF

Average RF	1.035	AVERAGE(RF)
RSD	7.27%	STDEV(RF)/(AveRF)

Sample Concentration Calculations

Sample ID	File ID	Compound Area Ax	ISTD Area Ais	ISTD Conc Cis	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Final Volume (mL)	Initial Volume (mL)	Dilution factor	Final Concentration (ug/L)	Spike amount. (ug/L)	% Recovery	RPD	%D
Equations:					Ax*Cis/Ais/RF	((Ax/Ais-b)/m)*Cis		Final Conc = (Raw result * Final Vol * DF) / (Initial Vol)*1000				%R = (final conc / spike amt.)x100		RPD= [(Cs-Cd)]/[(Cs+Cd)/2]* 100	%D = ABS((final conc-spike amt)/spike amt)*100
ICV				10	#DIV/0!			1.000	1.00	1.000	#DIV/0!	20.000	NA	NA	#DIV/0!
CCVIS 280-723359/3	SMS_1-111825003.D	4331526	2278485	10	18.4			1.000	1.00	1.000	18.4	20.000	NA	NA	8
CCVC 280-723359/34	SMS_1-111825034.D	5010216	2656217	10	18.2			1.000	1.00	1.000	18.2	20.000	NA	NA	9
MB 280-723057/1-A	SMS_1-111825006.D	0	2180017	10	0.0			1.000	1.00	1.000	0.0000	NA	NA	NA	NA
280-217019-21 MS	SMS_1-111825025.D	3513130	2632207	10	12.9			1.000	253.10	1.000	51.0	NA	NA	NA	NA
280-217019-21 MSD	SMS_1-111825026.D	3399058	2698656	10	12.2			1.000	259.70	1.000	46.9	NA	NA	NA	NA
LCS 280-723057/2-A	SMS_1-111825011.D	2750258	2274714	10	11.7			1.000	250.00	1.000	46.7	50.000	93	NA	NA

Laboratory Sample ID	sample conc. (mg/kg)	MS/MSD conc. (mg/kg)	Spike amount (mg/kg)	% Recovery	RPD
				(Cm-Cs) / Ck *100	RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100
280-217019-21 MS	0.0	51.0	79.000	65	8
280-217019-21 MSD	0.0	46.9	77.000	61	

Module 1: Analysis by GC/MS
Lab/SDG: Eurofins Denver / 280-217019-1
Method: 8270E

	CMW2310112025		CMW27B11112025		CMW2611112025		BGMW1612112025	
Surrogate	2,4,6-Tribromophenol	Nitrobenzene-d5	Nitrobenzene-d5	Phenol-d5	2-Fluorophenol	Terphenyl-d14	2-Fluorobiphenyl	2-Fluorophenol
DF	1	1	1	1	1	1	1	1
Initial Vol (mL)	261.4	261.4	239.5	239.5	230.7	230.7	226.9	226.9
Final Vol. (mL)	1	1	1	1	1	1	1	1
IS Response	1939406	2152127	2396980	655348	644729	1487765	1813837	845196
Surrogate Response	325306	1480225	1621769	801597	1135005	3335025	3530086	1331198
Calibration RF	0.0941	0.4048	0.4048	1.7017	1.2848	1.0638	1.3144	1.2848
IS spike concentration (ppb)	10	10	10	10	10	10	10	10
Surr Spike Conc. (ppb)	25	25	25	25	25	25	25	25
On column Surr Conc. (ppb)	17.8	17.0	16.7	7.2	13.7	21.1	14.8	12.3
Surr %R	71	68	67	29	55	84	59	49

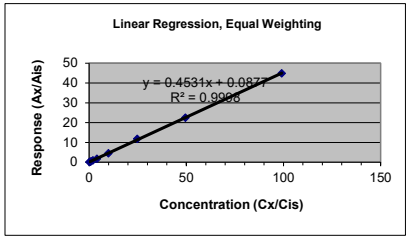
	MB 280-723057/1-A		LCS 280-723057/2-A		280-217019-21 MS		280-217019-21 MSD	
Surrogate	2,4,6-Tribromophenol	Nitrobenzene-d5	Nitrobenzene-d5	Phenol-d5	2-Fluorophenol	Terphenyl-d14	2-Fluorobiphenyl	2-Fluorophenol
DF	1	1	1	1	1	1	1	1
Initial Vol (mL)	250	250	250	250	253.1	253.1	259.7	259.7
Final Vol. (mL)	1	1	1	1	1	1	1	1
IS Response	2036926	2180017	2274714	625150	735719	1526447	1447756	756506
Surrogate Response	324589	1558996	1744906	842058	1256682	3441458	3324749	1197917
Calibration RF	0.0941	0.4048	0.4048	1.7017	1.2848	1.0638	1.3144	1.2848
IS spike concentration (ppb)	10	10	10	10	10	10	10	10
Surr Spike Conc. (ppb)	25	25	25	25	25	25	25	25
On column Surr Conc. (ppb)	16.9	17.7	18.9	7.9	13.3	21.2	17.5	12.3
Surr %R	68	71	76	32	53	85	70	49

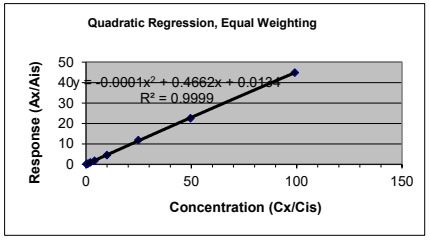
yellow highlighted cells include calculations.

Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Lancaster
Method: 6850
Instrument: 42521
SDG: 280-217019-1
Curve Date: 10/17/2025
Compound: Perchlorate
Internal Standard: Perchlorate-18O

red text = manually input values from lab report
green text = values match lab report





Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area Ais	Compound Conc Cx	ISTD Conc Cis	Y-Values Ax/Ais	X-Values Cx/Cis	X^2 $(Cx/Cis)^2$	RF (Ax*Cis)/(Ais*Cx)
218663	1846354	0.2	1.009	0.118429619	0.198216056	0.039289605	0.597
340890	1744341	0.4	1.009	0.195426238	0.396432111	0.157158419	0.493
844043	1822538	1	1.009	0.463114075	0.991080278	0.982240116	0.467
1698674	1839897	2	1.009	0.923244073	1.982160555	3.928960466	0.466
3102898	1752292	4	1.009	1.770765375	3.96432111	15.71584186	0.447
8135086	1781901	10	1.009	4.565397292	9.910802775	98.22401165	0.461
17675597	1494187	25	1.009	11.82957488	24.77700694	613.9000728	0.477
30550264	1355305	50	1.009	22.54124644	49.55401388	2455.600291	0.455
51600645	1149824	100	1.009	44.87699422	99.10802775	9822.401165	0.453
SUM OF EACH COLUMN :				**87.2842**	**190.8820614**	**13010.94903**	**4.3160**

CALIBRATION MODELS:

Average Response Factor:
Cx = Ax*Cis/Ais/RF

Average RF		AVERAGE(RF)
RSD		STDEV(RF)/(AveRF)

Linear Regression:

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

Weighting		1/X		Equation
Slope (m)		0.45623		SLOPE(RatioY,RatioX)
Intercept (b)		0.02209		INTERCEPT(RatioY,RatioX)
CC (R)		0.99983		CORREL(RatioY,RatioX)
COD (R^2)		0.99965		POWER(R,2)

Quadratic Regression:

$y = ax^2 + bx + c$
Cx=(SQRT(b^2-(4*a*(c-(Ax/Ais))))-b)/(2*a)*Cis

Weighting	Equal	1/X	$1/X^2$	Equation
x^2 Coefficient (a)				LINEST(RatioY,RatioX:RatioX^2,1,1)
x Coefficient (b)				INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),1,2)
Intercept (c)				INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),1,3)
COD (R^2)				INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),3,1)

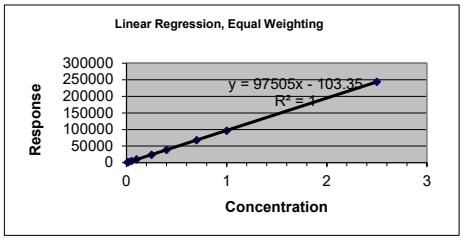
Sample Concentration Calculations

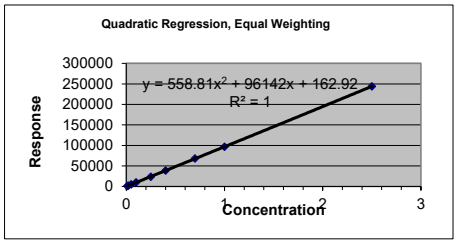
Sample ID	File ID	Compound Area Ax	ISTD Area Ais	ISTD Conc Cis	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Linear Cal On-column Conc $1/X^2$ Weighting	Quadratic Cal On-column Conc Equal Weighting	Quadratic Cal On-column Conc 1/X Weighting	Quadratic Cal On-column Conc $1/X^2$ Weighting	% Recovery	% RPD
Equations:					Ax*Cis/Ais/RF	((Ax/Ais-b)/m)*Cis			(SQRT(b^2-(4*a*(c-(Ax/Ais))))-b)/(2*a)*Cis			%R = (final conc / spike amt.)x100	RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100
CMW2611112025	25DEC03P-091.d	554460	1301532	1.009			0.893					NA	NA
LCS 410-738517/2-A	25DEC03P-086.d	930482	2012976	1.009			0.973					97	-9
LCSD 410-738517/3-A	25DEC03P-087.d	1007371	1992926	1.009			1.07					107	
MB (410-738517/1-A)	52DEC03P-085.d	29758	1947771	1.009			-0.015					NA	NA
INF (410-738517/4-A)	25DEC03P-088.d	729685	1477675	1.009			1.043					104	NA
CCV (410-738364/73)	25DEC03P-084.d	3569920	2009056	1.009			3.88					97	NA
CCV (410-738364/74)	25DEC03P-099.d	3513731	2128853	1.009			3.60					90	NA
ICV (410-716806/11)	25OCT17P-CAL011.d	3065958	1754485	1.009			3.82					95	NA

External Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Denver
Method: 8330B
Instrument: CHHPLC_X3
Curve Date: 10/23/2025
Compound: HMX
SDG: 280-217019

red text = manually input values from lab report
green text = values match lab report





Initial Calibration Model Worksheet

Y-Values Compound Area Ax	X-Values Compound Conc Cx	X^2 $(Cx)^2$	RF Ax/Cx	Y^2 $(Ax)^2$	XY (Cx*Ax)
1070	0.01	0.000	107000	1.14E+06	10.7
2076	0.02	0.000	103800	4.31E+06	41.5
5113	0.05	0.003	102260	2.61E+07	255.7
9996	0.1	0.010	99960	9.99E+07	999.6
23706	0.25	0.063	94824	5.62E+08	5926.5
38753	0.4	0.160	96883	1.50E+09	15501.2
68112	0.7	0.490	97303	4.64E+09	47678.4
96677	1	1.000	96677	9.35E+09	96677.0
244015	2.5	6.250	97606	5.95E+10	610037.5
489518	**5.03**	**7.9755**	**9**	**75724294004**	**777128.1**

CALIBRATION MODELS:

Average Response Factor:
Cx = Ax/RF

Average RF		AVERAGE(RF)
RSD		STDEV(RF)/(AveRF)

Linear Regression:

y = mx + b
Cx = (Ax-b)/m

Weighting	EQUAL	1/X	$1/X^2$	Equation
Slope (m)			97320.32	((WXY*W)-(WX*WY))/((
Intercept (b)			107.90	((WX²*WY)-(WX*WXY)'
CC (R) (>0.99)			0.9998	((W*WXY)-(WX*WY))/(S
COD (R^2) (>0.98)			0.9996	F34^2

Quadratic Regression:

$y = ax^2 + bx + c$
Cx=(SQRT(b^2-(4*a*(c-(Ax))))-b)/(2*a)

Weighting	Equal	1/X	$1/X^2$	Equation
x^2 Coefficient (a)				
x Coefficient (b)				.1.1),1.2)
Intercept (c)				.1.1),1.3)
COD (R^2) (>0.99)				.1.1),3.1)

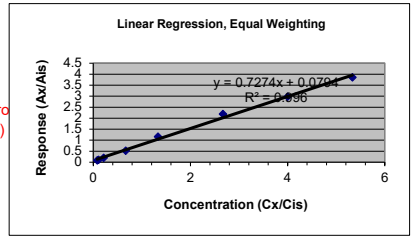
Sample Concentration Calculations

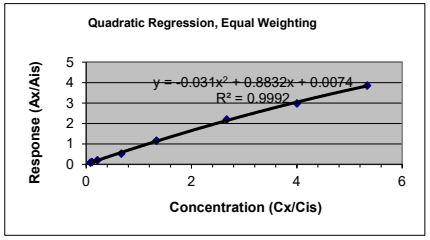
Sample ID	File ID	Compound Area Ax	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Linear Cal On-column Conc $1/X^2$ Weighting	Final Volume (mL)	Initial Volume (mL)	Dilution factor	Final Concentration (ug/L)	Spike amount (mg/kg)	% Recovery	RPD	%D
Equations:			Ax/RF	((Ax-b)/m)			Final Conc = (On column * Final Vol * DF) / (Initial Vol)				%R = (final conc / spike amt.)x100		RPD= [(Cs-Cd)]/[(Cs+Cd)/2]* 100	%D = ABS((final conc-spike amt)/spike amt)*100
BGMW1612112025	11190014.D	6117				0.0617	5.000	456.2	1	0.68	NA	NA	NA	NA
CMW2611112025	11170023.D	8632				0.0876	5.000	486.6	1	0.90	NA	NA	NA	NA
MB 280-722809/1-A	11170010.D	0				-0.001	5.000	500	1	-0.01	NA	NA	NA	NA
LCS 280-722809/2-A	11170011.D	18781				0.192	5.000	500	1	1.92	2.0	96	NA	NA
280-217019-21 MS	11180016.D	17912				0.183	5.000	484.1	1	1.89	2.07	91	-3	NA
280-217019-21 MSD	11180017.D	18534				0.189	5.000	488.6	1	1.94	2.05	95		NA
CCV 280-722986/7	11170007.D	24269				0.248				0.248	0.25			1
CCV 280-722986/20	11170020.D	24388				0.249				0.249	0.25			0
CCV 280-722986/31	11170031.D	24557				0.251				0.251	0.25			0
ICV 280-719319/19	10230019.D	42191				0.432				0.432	0.5			14

Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Lancaster
Method: 8081B
Instrument: SGC_C
SDG: 280-217019-1
Curve Date: 11/18/2025
Compound: DCB Decachlorobiphenyl (Surro
Internal Standard: 1-Bromo-2-nitrobenzene (BNB)

red text = manually input values from lab report
green text = values match lab report





Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area Ais	Compound Conc Cx	ISTD Conc Cis	Y-Values Ax/Ais	X-Values Cx/Cis	X^2 $(Cx/Cis)^2$	RF (Ax*Cis)/(Ais*Cx)
10964763	127901827	6	75	0.085727962	0.08	0.0064	1.072
14286105	129610136	8	75	0.110223671	0.106666667	0.011377778	1.033
25985430	130392406	16	75	0.199286376	0.213333333	0.045511111	0.934
67388639	129137043	50	75	0.521838176	0.666666667	0.444444444	0.783
152136638	131014638	100	75	1.161218627	1.333333333	1.777777778	0.871
282760089	129051487	200	75	2.191064168	2.666666667	7.111111111	0.822
401451730	134663287	300	75	2.98115202	4	16	0.745
524725318	135970488	400	75	3.859111824	5.333333333	28.44444444	0.724
SUM OF EACH COLUMN :				**11.1096**	**14.4**	**53.84106667**	**6.9833**

CALIBRATION MODELS:

Average Response Factor:
Cx = Ax*Cis/Ais/RF

Average RF		**AVERAGE(RF)**
RSD		**STDEV(RF)/(AveRF)**

Linear Regression:

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

Weighting	**Equal**	**1/X**	**$1/X^2$**	**Equation**
Slope (m)			0.77865	**SLOPE(RatioY,RatioX)**
Intercept (b)			0.025454	**INTERCEPT(RatioY,RatioX)**
CC (R)			0.99740	**CORREL(RatioY,RatioX)**
COD (R^2)			0.995	**POWER(R,2)**

Quadratic Regression:

$y = ax^2 + bx + c$
Cx=(SQRT(b^2-(4*a*(c-(Ax/Ais))))-b)/(2*a)*Cis

Weighting	**Equal**	**1/X**	**$1/X^2$**	**Equation**
x^2 Coefficient (a)				**LINEST(RatioY,RatioX:RatioX^2,1,1)**
x Coefficient (b)				**INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),1,2)**
Intercept (c)				**INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),1,3)**
COD (R^2)				**INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),3,1)**

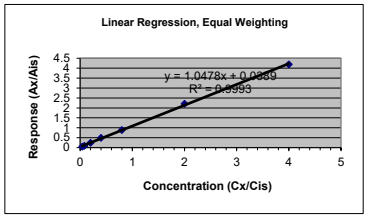
Sample Concentration Calculations

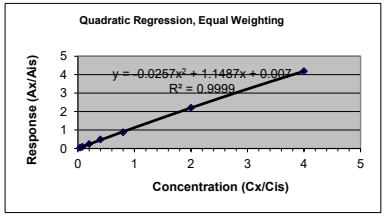
Sample ID	File ID	Compound Area Ax	ISTD Area Ais	ISTD Conc Cis	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Linear Cal On-column Conc $1/X^2$ Weighting	% Recovery	% RPD	%D
Equations:					**Ax*Cis/Ais/RF**	**((Ax/Ais-b)/m)*Cis**			**%R = (final conc / spike amt.)x100**	**RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100**	**%D = ABS((final conc-spike amt)/spike amt)*101**
BGMW1612112025	1120028.D	9907336	123585702	75				5.270	NA	NA	NA
MB 280-723497/1-A	1120011.D	12763336	120711997	75				7.73	NA	NA	NA
LCS 280-723497/2-A	1120012.D	13318431	117440005	75				8.47	84.7	NA	NA
CCVIS 280-723737/4	1120006.D	260906710	125737112	75				197.4	99	NA	1
CCV 280-723737/23	1120025.D	283252494	118132997	75				228.5	114	NA	14
CCV 280-723737/30	1120032.D	283932355	115918933	75				233.5	117	NA	17

Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Denver
Method: 8321B
Instrument: LC_LCMS12
SDG: 280-217019-1
Curve Date: 11/18/2025
Compound: Silvex
Internal Standard: 2,4-dichlorophenoxyacetic acid (13C6)

red text = manually input values from lab report
green text = values match lab report





Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area Ais	Compound Conc Cx	ISTD Conc Cis	Y-Values Ax/Ais	X-Values Cx/Cis	X^2 $(Cx/Cis)^2$	RF (Ax*Cis)/(Ais*Cx)
315861	7103423	1	25	0.044466027	0.04	0.0016	1.112
648631	7149831	2	25	0.090719767	0.08	0.0064	1.134
1751866	7147966	5	25	0.245085945	0.2	0.04	1.225
3467535	7068125	10	25	0.490587674	0.4	0.16	1.226
6508553	7368334	20	25	0.883314057	0.8	0.64	1.104
16185947	7332040	50	25	2.207563925	2	4	1.104
29456837	7029527	100	25	4.190443681	4	16	1.048
SUM OF EACH COLUMN :				**8.1522**	**7.52**	**20.848**	**7.9531**

CALIBRATION MODELS:

Average Response Factor:
Cx = Ax*Cis/Ais/RF

Average RF		AVERAGE(RF)
RSD		STDEV(RF)/(AveRF)

Linear Regression:

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

Weighting	Equal	1/X	$1/X^2$	Equation
Slope (m)		1.07568		SLOPE(RatioY,RatioX)
Intercept (b)		0.00901		INTERCEPT(RatioY,RatioX)
CC (R)		0.99897		CORREL(RatioY,RatioX)
COD (R^2)		0.99794		POWER(R,2)

Quadratic Regression:

$y = ax^2 + bx + c$
Cx=(SQRT(b^2-(4*a*(c-(Ax/Ais))))-b)/(2*a)*Cis

Weighting	Equal	1/X	$1/X^2$	Equation
x^2 Coefficient (a)				LINEST(RatioY,RatioX:RatioX^2,1,1)
x Coefficient (b)				INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),1,2)
Intercept (c)				INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),1,3)
COD (R^2)				INDEX(LINEST(RatioY,RatioX:RatioX^2,1,1),3,1)

Sample Concentration Calculations

Sample ID	File ID	Compound Area Ax	ISTD Area Ais	ISTD Conc Cis	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Final Volume (mL)	Initial Volume (mL)	Dilution factor	Final Concentration (ug/L)	Spike amount (mg/kg)	% Recovery	% RPD	%D
Equations:					Ax*Cis/Ais/RF	((Ax/Ais-b)/m)*Cis		Final Conc = (On column * Final Vol * DF) / (Initial Vol)					%R = (final conc / spike amt.)x100	RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100	%D = ABS((final conc-spike amt)/spike amt)*100
LCS 280-723315/16	Herb111825b.019.d	2899923	7931259	25			8.29	1.00	0.50	1.00	16.6	20.0	83	-7	
LCSD 280-723315/17	Herb111825b.020.d	2929705	7503202	25			8.87	1.00	0.50	1.00	17.7	20.0	89		
280-217019-31 MS	Herb111825b.022.d	2873425	7386206	25			8.83	1.00	0.50	1.00	17.7	20.0	88	-3	
280-217019-31 MSD	Herb111825b.023.d	2984860	7478567	25			9.07	1.00	0.50	1.00	18.1	20.0	91		
ICV 280-723314/11	Herb111825.014.d	3075034	7337908	25			9.53				9.53	10.0			5
CCVL 280-723315/12	Herb111825.015.d	707351	7191687	25			2.08				2.08	2.0			4
CCV 280-723315/13	Herb111825b.016.d	6536772	7002455	25			21.5				21.49	20.0			7
CCV 280-723315/22	Herb111825b.025.d	6567495	7128514	25			21.2				21.20	20.0			6

Calculation Worksheet

Lab: Eurofins Denver
SDG: 280-217019-1
Method: 6020B
Instrument: MT_079
Compound: Barium

red text = manually input values from lab report
green text = values match lab report

Client Sample ID	Laboratory Sample ID	Raw Result	Final Volume (mL)	Initial Volume (mL)	Dilution	Final Conc. (ug/L)	Total (T) or Dissolved (D)
		Final Conc = (Raw result x Final Vol x Dilution) / (Initial Vol)					
CMW2310112025	280-217019-11	14.8530	50	50	1	15	T
CMW27B11112025	280-217019-12	376.846	50	50	1	377	T
CMW2611112025	280-217019-13	86.642	50	50	1	87	T
BGMW1612112025	280-217019-32	798.517	50	50	1	799	T
CMW2310112025	280-217019-11	7.846	50	50	1	7.8	D
CMW27B11112025	280-217019-12	35.591	50	50	1	35.6	D
CMW2611112025	280-217019-13	43.747	50	50	1	43.7	D
BGMW1612112025	280-217019-32	799.607	50	50	1	800	D

Client Sample ID	Laboratory Sample ID	Raw Result	Final Volume (mL)	Initial Volume (mL)	Dilution	Final Conc. (ug/L)	True Conc.	% Recovery
		Equations:	Final Conc = (Raw result x Final Vol x Dilution) / (Initial Vol)					
MB	MB 280-723216/1-A	0.054	50	50	1	0.05	NA	NA
LCS	LCS 280-723216/2-A	102.371	50	50	1	102	100	102

Laboratory Sample ID	sample conc.	MS/MSD conc.	Spike amount	% Recovery	RPD
			(Cm-Cs) / Ck *100		RPD= [(Cs-Cd)]/[(Cs+Cd)/2]* 100
280-217019-20 MS	34	131	100	97	2
280-217019-20 MSD	34	129	100	95	

ICAL: The internal standard response is compared against the response of the particular analyte. The software automatically calculates the linear equation.

External Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Denver
Method: 7470A
SDG: 280-217019-1
Instrument: MT_36
Curve Date: 11/19/2025

red text = manually input values from lab report
green text = values match lab report

Initial Calibration Model Worksheet

Y-Values Compound Area Ax	X-Values Compound Conc Cx	X^2 $(Cx)^2$	RF Ax/Cx	Y^2 $(Ax)^2$	XY (Cx*Ax)
40	0	0.000	#DIV/0!	1.60E+03	0.0
746	0.06	0.004	12433.3333	5.57E+05	44.8
1481	0.12	0.014	12341.6667	2.19E+06	177.7
3660	0.3	0.090	12200.0000	1.34E+07	1098.0
7219	0.6	0.360	12031.6667	5.21E+07	4331.4
14296	1.2	1.440	11913.3333	2.04E+08	17155.2
36373	3	9.000	12124.3333	1.32E+09	109119.0
71289	6	36.000	11881.5000	5.08E+09	427734.0
135104	**11.28**	**46.908**	**7**	**6.68E+009**	**559660.1**

Linear Regression:

y = mx + b
Cx = (Ax-b)/m

Weighting	EQUAL	1/X	$1/X^2$	Equation
Slope (m)	11907.27			m = [(sumwxy * sumw) - (sumwx * sumwy)] / delta
Intercept (b)	98.75			b = [(sumwx^2 * sumwy) - (sumwx * sumwxy)] / delta
CC (R) (>0.99)	**1.0000**			r = [(sumw * sumwxy) - (sumwx * sumwy)] / (sqrt(temp))]
COD (R^2) (>0.98)	0.9999			G34^2

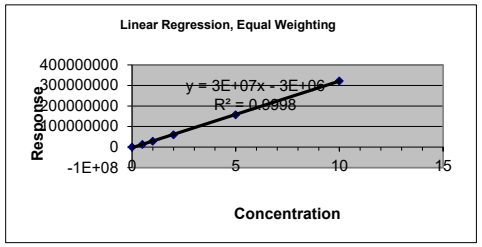
Sample Concentration Calculations

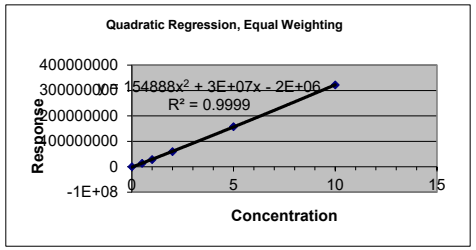
Sample ID		Compound Area Ax	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Linear Cal On-column Conc $1/X^2$ Weighting	Final Volume (mL)	Initial Volume (mL)	Dilution factor	Final Concentration (ug/L)	Spike amount.	%Recovery
Equations:			Ax/RF	((Ax-b)/m)			Final Conc = (On column * Final Vol * DF) / (Initial Vol)				%R = (final conc / spike amt.)x100	
CMW2310112025		23		-0.0064			50.0	30.0	1.0	-0.0106	NA	NA
CMW27B11112025		131		0.0027			50.0	30.0	1.0	0.0045	NA	NA
CMW2611112025		32		-0.0056			50.0	30.0	1.0	-0.0093	NA	NA
MB 280-723330/1-A		-6		-0.0088			50.0	30.0	1.0	-0.0147	NA	NA
LCS 280-723330/2-A		34326		2.87			50.0	30.0	1.0	4.79	5.000	96%
ICV 280-723401/9-A		27483		2.30			50.0	30.0	1.0	3.83	4.000	96%
CCV 280-723401/12-A	11/19/2025 13:19	32777		2.744			50.0	30.0	1.0	4.57	5.000	91%
CCV 280-723401/12-A	11/19/2025 13:35	36065		3.021			50.0	30.0	1.0	5.03	5.000	101%
CCV 280-723401/12-A	11/19/2025 13:52	33047		2.767			50.0	30.0	1.0	4.61	5.000	92%
CCV 280-723401/12-A	11/19/2025 14:08	35840		3.002			50.0	30.0	1.0	5.00	5.000	100%
CCV 280-723401/12-A	11/19/2025 14:25	36351		3.045			50.0	30.0	1.0	5.07	5.000	101%

External Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Denver
Method: 9056A
Instrument: WC_IonChrom18
Curve Date: 9/26/2025
Compound: Nitrate
SDG: 280-217019-1

red text = manually input values from lab report
green text = values match lab report





Initial Calibration Model Worksheet

Y-Values Compound Area Ax	X-Values Conc Compound Cx	X^2 $(Cx)^2$	RF Ax/Cx	Y^2 $(Ax)^2$	XY (Cx*Ax)
0	0	0.000	#DIV/0!	0.00E+00	0.0
13351378	0.5	0.250	26702756	1.78E+14	6675689.0
28614446	1	1.000	28614446	8.19E+14	28614446.0
60118656	2	4.000	30059328	3.61E+15	120237312.0
157608014	5	25.000	31521603	2.48E+16	788040070.0
322482492	10	100.000	32248249	1.04E+17	3224824920.0
582174986	**18.5**	**130.25**	**5**	**1.33447E+17**	**4168392437.0**

CALIBRATION MODELS:

Average Response Factor:
Cx = Ax/RF

Average RF		**AVERAGE(RF)**
RSD		**STDEV(RF)/(AveRF)**

Linear Regression:

y = mx + b
Cx = (Ax-b)/m

Weighting	EQUAL	1/X	$1/X^2$	Equation
Slope (m)	32419163.08			((WXY*W)-(WX*WY))/((W*WX²)-(WX*WX))
Intercept (b)	-2929921.82			((WX²*WY)-(WX*WXY))/((W*WX²)-(WX*WX))
CC (R) (>0.99)	0.9999			((W*WXY)-(WX*WY))/(SQRT((((W*WX²)-(WX*WX))*((W*WY²)-(WY*WY)))))
COD (R^2) (>0.98)	0.9998			F34^2

Quadratic Regression:

$y = ax^2 + bx + c$
Cx=(SQRT(b^2-(4*a*(c-(Ax))))-b)/(2*a)

Weighting	Equal	1/X	$1/X^2$	Equation
x^2 Coefficient (a)				
x Coefficient (b)				1.1).1.2)
Intercept (c)				1.1).1.3)
COD (R^2) (>0.99)				1.1).3.1)

Sample Concentration Calculations

Sample ID	File ID	Compound Area Ax	Ave RF On-column Conc	Linear Cal On-column Conc Equal Weighting	Linear Cal On-column Conc 1/X Weighting	Linear Cal On-column Conc $1/X^2$ Weighting	Final Volume (mL)	Initial Volume (mL)	Dilution factor	Final Concentration (ug/L)	Spike amount (mg/kg)	% Recovery	RPD
Equations:			Ax/RF	((Ax-b)/m)			Final Conc = (On column * Final Vol * DF) / (Initial Vol)				%R = (final conc / spike amt.)x100		RPD= [(Cs-Cd)]/[(Cs+Cd)/2]* 100
CMW27B1112025	13_Nov_2025 22_32.d	1727035		0.1436			10	10	1	143.6	NA	NA	NA
FDUP01112025	13_Nov_2025 22_18.d	29087146		0.9876			10	10	1	987.6	NA	NA	NA
ICV	26_Sep_2025 17_47.d	125416931		3.96						3.96	4.0	99	NA
LCS (280-722592/4)	13_Nov_2025 18_04.d	151507516		4.76			1	1	1	4763.30	5000.0	95	0
LCSD (280-722592/5)	13_Nov_2025 18_18.d	151506653		4.76			1	1	1	4763.77	5000.0	95	
CCV	13_Nov_2025 17_22.d	151492401		4.76						4.76	5.0	95	
CCV	13_Nov_2025 21_50.d	151888145		4.78						4.78	5.0	96	

DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: January 2026

Parsons - Austin

INTRODUCTION

The following data validation summary report covers nine (9) water samples collected on November 13, 2025 at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-217076-1.

The samples in this SDG were analyzed for the following parameters: volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D, semivolatile organic compounds (SVOCs) by USEPA Method 8270E, explosives by USEPA Method 8330B, perchlorate by USEPA Method 6850, select metals by USEPA Method 6020B, and mercury by USEPA Method 7470A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Environmental Testing America (EETA) Denver located in Arvada, Colorado. The samples were received by EETA in six (6) coolers at temperatures ranging from 0.1 to 1.2 degrees Celsius which meet acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory properly preserved and in good condition. Samples for analysis of perchlorate by 6850 were subcontracted to the Eurofins Lancaster laboratory location because of instrument issues at the Denver laboratory location. The samples arrived at the Lancaster lab at acceptable temperatures. In addition, samples were received for nitrate as N and nitrite as N by U.S. EPA Method 9056A greater than 2 times outside the holding time; therefore, the sample analysis was cancelled and nitrate as N and Nitrite as N were re-collected as part of another SDG.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	VOCs	SVOCs	Explosives	Perchlorate	Total Metals & Mercury	Dissolved Metals & Mercury	COMMENTS
QC13112025TB	280-217076-8	Water	X						Trip Blank
CMW4013112025	280-217076-9	Water	X	X	X	X	X	X	
FDUP04-112025	280-217076-10	Water	X	X	X	X	X	X	Field Duplicate of sample -9
CMW4113112025	280-217076-11	Water	X	X	X	X	X	X	
KMW1113112025	280-217076-12	Water	X	X	X	X	X	X	
CMW0413112025	280-217076-13	Water	X	X	X	X	X	X	MS/MSD
CMW3913112025	280-217076-14	Water				X			
CMW3813112025	280-217076-15	Water	X	X	X	X	X	X	
KMW0913112025	280-217076-16	Water	X	X	X	X	X	X	

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Prep Method	Analytical Method	Units
VOCs	Water	5030B	8260D	µg/L
SVOCs	Water	3510C	8270E	µg/L
Explosives	Water	3535	8330B	µg/L
Perchlorate	Water	6850 prep	6850	µg/L
Total Metals	Water	3005A	6020B	µg/L
Total Mercury	Water	7470A	7470A	µg/L
Dissolved Metals	Water	3005A	6020B	µg/L
Dissolved Mercury	Water	7470A	7470A	µg/L

µg/L= micrograms per liter

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, and chain-of-custody (COC) forms.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

A table detailing the data qualifiers applied, removed, or changed for the samples in this SDG as a result of the data validation process can be found in the Data Validation Qualifier section below. The data validation checklist is included as Attachment A.

VOCS

General

The VOC portion of this SDG consisted of eight (8) water samples which includes one (1) trip blank sample. The samples were collected November 13, 2025, and were analyzed in accordance with USEPA Method 8260D as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control sample (LCS), laboratory control sample duplicate (LCSD), matrix spike (MS), matrix spike duplicate (MSD), and the surrogate spikes.

The LCS and LCSD recoveries were within control limits except as follows.

LCS/LCSD Sample ID	Analyte	LCS %R	LCSD %R	Criteria
280-724659/5	Bromomethane	(134)	158	53-141%

( ) indicates the %R was within limits.

The samples associated with this LCS and LCSD were non-detect for bromomethane; therefore, data quality was not impacted, and results were not qualified.

The MS, MSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD, MS/MSD, and field duplicate/parent sample.

The LCS/LCSD and MS/MSD RPDs were within acceptance criteria.

Precision could not be determined from the field duplicate and parent sample results because all target VOCs were non-detect.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met except as follows.

ICV ID	Analyte	%D	Criteria
ICV 280-722955/23	Trans-1,2-dichloropropene	40	±30%

The associated sample results for trans-1,2-dichloropropene were qualified “UJ”.

- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724659/2	Bromomethane	34	±20%

CCV ID	Analyte	%D	Criteria
CCV 280-724659/36	Bromomethane	54	±50%

The associated sample results for bromomethane were qualified "UJ".

- The internal standard criteria were met.

One laboratory method blank was associated with the VOC analysis. No target analytes were detected in the laboratory method blank.

One trip blank sample was associated with the VOC samples. No target analytes were detected in the trip blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the VOC samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	Chlorodibromomethane	0.86 J
	Chloroform	0.82 J
	Dichlorobromomethane	0.65 J

Data qualification was not necessary as the associated sample results were non-detect for the analytes listed in the table above.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

SVOCS

General

The SVOC portion of this SDG consisted of seven (7) water samples collected November 13, 2025, and were analyzed in accordance with USEPA Method 8270E as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

The initial volume used for samples CMW4113112025 and CMW3813112025 deviated from the standard procedure at 50mL instead of 250mL due to the sample matrix. The laboratory reporting limits have been adjusted appropriately.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, MS, MSD, and the surrogate spikes.

The LCS and surrogate recoveries were within control limits.

The MS/MSD recoveries were within control limits except as follows.

MS/MSD Sample ID	Analyte	MS %R	MSD %R	Criteria
CMW0413112025	Hexachloroethane	(24)	19	21-115%
	Naphthalene	(44)	35	40-121%

( ) indicates the %R was within limits.

The parent sample results for the analytes listed in the table above were qualified "UJ" as estimated.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the MS/MSD and field duplicate results.

The MS/MSD RPDs were within acceptance criteria except as follows.

MS/MSD Sample ID	Analyte	MS/MSD %RPD	Criteria
CMW0413112025	2-Chloronaphthalene	44	30%
	2-Methylnaphthalene	37	
	3 &4 Methylphenol	32	
	Acenaphthene	34	
	Acenaphthylene	31	
	Hexachlorobutadiene	40	
	Hexachlorocyclopentadiene	47	
	Naphthalene	31	
	Phenol	35	

The parent sample results were non-detect for the analytes listed in the table above; therefore, data quality was not impacted, and results were not qualified.

Precision could not be determined from the field duplicate and parent sample results because all target SVOCs were non-detect.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724464/3	4-Nitrophenol	-21	±20%

  The associated sample results for 4-Nitrophenol were qualified "UJ".

- The internal standard criteria were met.

One laboratory method blank was associated with the SVOC analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the SVOC samples in this SDG. No target analytes were detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

EXPLOSIVES

General

The explosives portion of this SDG consisted of seven (7) water samples. The samples were collected November 13, 2025 and were analyzed in accordance with USEPA Method 8330B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, MS, MSD, and surrogate spikes.

The LCS, MS, MSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the MS/MSD and field duplicate results.

The MS/MSD and field duplicate RPDs were within acceptance criteria. Field duplicate RPDs are only evaluated when both the parent and field duplicate result are above the LOQ.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- Column confirmation criteria for detected results met criteria with the following exceptions. The primary and confirmation column RPD for 2-Amino-4,6-dinitrotoluene in sample CMW4013112025 and m-nitrotoluene in sample KMW0913112025 exceeded 40%; therefore, the results were qualified "J" as estimated.

One laboratory method blank was associated with the explosives analysis. No target analytes were detected in the laboratory method blank except as follows.

Method Blank Sample ID	Analyte	Concentration (ug/L)
MB 280-723742/1-A	1,3,5-Trinitrobenzene	0.124 J

Data qualification was not necessary as the associated sample results were non-detect for 1,3,5-trinitrobenzene.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the explosive samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	RDX	0.13 J J1 C2 0.24 J J1

Data qualification was not necessary as the associated sample results were either non-detect for RDX or detected greater than 5 times the equipment blank concentration.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

PERCHLORATE

General

The perchlorate portion of this SDG consisted of eight (8) water samples that were collected November 13, 2025, and analyzed in accordance with USEPA Method 6850 as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, MS, and MSD.

The LCS, LCSD, MS, and MSD recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD, MS/MSD, and field duplicate results.

The LCS/LCSD, MS/MSD, and field duplicate RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The isotope ratio criteria were met for all detected samples.
- The ICAL criteria were met.

- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The interference check solutions (ICS) were within criteria.
- The internal standard criteria were met except as follows. The internal standard recovered low for sample CMW0413112025; therefore, the perchlorate result was in the sample was qualified "UJ" as estimated.
- The initial calibration blank (ICB) had a detect as follows.

Blank ID	Analyte	Concentration µg/L
ICB 410-740793/10	Perchlorate	0.0354

Perchlorate was qualified "J+" in sample CMW3913112025 because the result was detected greater than the LOD but less than 5 times the ICB concentration. All other samples associated with this ICB were either non-detect or detected greater than 5 times the blank concentration; therefore, data quality was not impacted, and results were not qualified.

One laboratory method blank was associated with the perchlorate analysis. Perchlorate was not detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the perchlorate samples in this SDG. Perchlorate was not detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

TOTAL AND DISSOLVED METALS

General

The metals portion of this SDG consisted of seven (7) water samples collected November 13, 2025, and analyzed in accordance with USEPA Method 6020B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, MS, and MSD.

The LCS recoveries were within acceptance limits except as follows.

LCS/LCSD Sample ID	Analyte	LCS %R	Criteria
280-723548/2-A	Antimony	123	85-117%

The samples associated with this LCS were non-detect for antimony; therefore, data quality was not impacted, and results were not qualified.

The MS and MSD recoveries were within acceptance limits except as follows.

MS/MSD Sample ID	Analyte	MS %R	MSD %R	Criteria
CMW0413112025	Manganese, total	84	(93)	87-115%
	Magnesium, total	137	(117)	83-118%
	Manganese, dissolved	(103)	77	87-115%

( ) indicates the %R was within limits.

The parent sample results for total and dissolved manganese were qualified "J-" as estimated with a potential low bias. The parent sample result for magnesium, total was qualified "J+" as estimated with a potential high bias.

In addition, calcium and sodium recovered outside criteria; however, both metals in the native sample were detected greater than 4x the spike amount. Results in the native sample greater than 4x the concentration of the spike added during extraction are not considered to be a representative measure of accuracy. Further action with respect to the spike recovery or qualification of data is not considered applicable.

Precision

Precision was evaluated using the RPD obtained from the MS/MSD and field duplicate results.

The MS/MSD and field duplicate RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration criteria were met.
- The ICV was prepared from a second source standard. The ICV criteria were met except as follows.

ICV Sample ID	Analyte	%R	Criteria
ICV 280-724150/9	Antimony	112	90-110%

The antimony results for the samples associated with the CCV outside criteria were qualified "X".

- The CCV criteria were met.
- The low level CCV criteria were met for a single point calibration.
- The interference check samples (ICS) were within criteria.
- The initial calibration blanks (ICBs) were non-detect for target analytes.
- The continuing calibration blank (CCB) was non-detect for target analytes except as follows.

  Several CCBs had detections for target metals; however, the following table only includes those that resulted in qualification of the data. Results that were not qualified were either non-detect in the associated samples or were detected greater than 5 times the blank concentration.

Blank ID	Analyte	Concentration µg/L
CCB 280-724150/64	Manganese	1.66 J
CCB 280-724662/41	Cobalt	0.272 J
CCB 280-724662/50	Aluminum Iron	85.6 J 176 J

  Total manganese was qualified "J+" as estimated with a potential high bias in sample KMW1113112025. Dissolved cobalt was qualified "U" as non-detect at the LOD in sample CMW4013112025. Dissolved aluminum was qualified "J+" as estimated with a potential high bias in sample KMW0913112025. Dissolved iron was qualified J+" as estimated with a potential high bias in sample CMW3813112025 and "U" as non-detect at the LOD in sample KMW0913112025.

- The internal standard criteria associated with the target metals met criteria for samples.

One laboratory method blank was associated with the metals analysis. The method blank was non-detect for all target metals except as follows.

Blank ID	Analyte	Concentration µg/L
MB 280-723548/1-A	Cobalt Calcium	0.288 J 96.8 J
MB 280-723741/1-A	Barium Aluminum Calcium	0.566 J 41.0 J 84.6 J

The result for cobalt, total was qualified "U" as non-detect at the LOD in samples CMW4013112025 and FDUP04-112025 and "J+" as estimated with a potential high bias in sample CMW4113112025. The result for aluminum, dissolved was qualified "U" as non-detect at the LOD in sample CMW4013112025 and "J+" as estimated with a potential high bias in sample KMW0913112025. Results for calcium and barium were detected greater than 5 times the blank concentration in all associated samples; therefore, data quality was not impacted, and results were not qualified.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the metals samples in this SDG. With the exceptions below, no target analytes were detected in the equipment blank.

Blank ID	Analyte	Concentration µg/L
QC12112025EB	Calcium, total	190 J
	Calcium, dissolved	200
	Sodium, total	620 J
	Sodium, dissolved	640 J
	Iron, Total	100 J

The result for iron, total was qualified "U" as non-detect at the LOD in sample KMW0913112025 and "J+" as estimated with a potential high bias in samples CMW4013112025, FDUP04-112025, and KMW1113112025. Results for calcium and sodium were detected greater than 5 times the blank concentration in all associated samples; therefore, data quality was not impacted, and results were not qualified.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

MERCURY

General

The mercury portion of this SDG consisted of seven (7) water samples collected November 13, 2025, and analyzed in accordance with U.S. EPA Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the DoD QSM, version 6.0 and the project QAPP.

All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, MS, and MSD. Sample CMW0413112025 was designated on the COC for MS/MSD analysis.

All LCS, MS, and MSD spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the MS/MSD and field duplicate/parent sample.

The MS/MSD RPDs were within acceptance criteria.

Precision could not be determined from the field duplicate and parent sample results because mercury was non-detect.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration criteria were met.
- All ICV criteria were met.
- All CCV criteria were met
- All LL ICV criteria were met.
- All ICB criteria were met.
- All CCB criteria were met.

One laboratory method blank was associated with the mercury analyses in this SDG. The laboratory method blank was non-detect for mercury.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the mercury analyses in this SDG. The equipment blank was non-detect for mercury.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. Six results for antimony were qualified "X" indicating that those results were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. Acceptance (J-flag) or rejection (R-flag) of the "X" qualified results should be decided by the project team during the Data Usability Assessment process.

SENSITIVITY

The limit of detection (LOD) and limit of quantitation (LOQ) values reported for the samples were compared to those listed in the project-specific UFP-QAPP to ensure that sensitivity requirements were met. LOD and LOQ limits have been updated by the lab since the UFP-QAPP was finalized. The LOD and LOQs are higher than the project action limits (PAL) as shown in the project-specific UFP-QAPP for some analytes and parameters. In many cases, the LODs and LOQs were adjusted based on dilution and/or initial/final volumes.

If the sensitivity requirements are not met for a particular analyte, the team will evaluate whether the data can still be used for project decisions. If non-detect values exceed the project quantitation limit goals (PQLGs), data are considered usable if the analyte is not a site-related compound. Analytes that are not site-related chemicals, and thus are not expected to be found, do not impact decision making. For analytes that are site-related, the team will use a "weight of evidence" approach to evaluate the likelihood of the chemical's presence. This approach uses available data that does meet sensitivity requirements to evaluate the presence or absence of the compound in other samples or other similar compounds and/or degradation products for the analyte in question.

If sufficient evidence exists to determine a compound was likely not present because of the absence of similar compounds and breakdown products, the team will conclude that the

analyte was not present, and thus data are usable for decision making. If it cannot be determined that the compound is likely not present, then the risk will be calculated assuming that the compound is present at the detection limit (DL). This calculated risk will be presented as an uncertainty in the risk assessment, and the risk will not be included in the estimation of cumulative risk. It was determined that overall, the chosen laboratory provides the best value and technical quality for this project.

DATA VALIDATION QUALIFIERS

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
QC13112025TB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW4013112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
FDUP04-112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW4113112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
KMW1113112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW0413112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW3813112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
KMW0913112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC13112025TB	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW4013112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
FDUP04-112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW4113112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
KMW1113112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW0413112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW3813112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
KMW0913112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW0413112025	8270E	Hexachloroethane	8.7	U J1	8.7	UJ	M3
CMW0413112025	8270E	Naphthalene	3.3	U J1	3.3	UJ	M3
CMW4013112025	8270E	4-Nitrophenol	14	U Q M	14	UJ	C4
FDUP04-112025	8270E	4-Nitrophenol	14	U Q M	14	UJ	C4
CMW4113112025	8270E	4-Nitrophenol	75	U Q M	75	UJ	C4
KMW1113112025	8270E	4-Nitrophenol	15	U Q M	15	UJ	C4
CMW0413112025	8270E	4-Nitrophenol	16	U Q	16	UJ	C4
CMW3813112025	8270E	4-Nitrophenol	75	U Q	75	UJ	C4
KMW0913112025	8270E	4-Nitrophenol	17	U Q M	17	UJ	C4
CMW4013112025	8330B	2-Amino-4,6-dinitrotoluene	0.49	J1 C2	0.49	J	C6

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
CMW4013112025	8330B	2-Amino-4,6-dinitrotoluene	0.30	J J1	0.30	J	C6
KMW0913112025	8330B	m-Nitrotoluene	0.43	J C2 J1	0.43	J	C6
KMW0913112025	8330B	m-Nitrotoluene	0.76	J M	0.76	J	C6
CMW0413112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
CMW3913112025	6850	Perchlorate	0.17	J M	0.17	J+	B2
CMW0413112025	6020B	Manganese, total	140	J1	140	J-	M3
CMW0413112025	6020B	Manganese, dissolved	160	J1	160	J-	M3
CMW0413112025	6020B	Magnesium, total	5100	D J1	5100	J+	M2
CMW4013112025	6020B	Cobalt, total	0.32	J	0.75	U	B4
FDUP04-112025	6020B	Cobalt, total	0.33	J	0.75	U	B4
CMW4113112025	6020B	Cobalt, total	1.1	None	1.1	J+	B4
CMW4013112025	6020B	Aluminum, dissolved	43	J	75	U	B4
KMW0913112025	6020B	Aluminum, dissolved	92	J	92	J+	B4, B2
CMW4013112025	6020B	Iron, total	330	None	330	J+	B8
FDUP04-112025	6020B	Iron, total	340	None	340	J+	B8
KMW1113112025	6020B	Iron, total	300	None	300	J+	B8
KMW0913112025	6020B	Iron, total	95	J	150	U	B8
CMW4013112025	6020B	Antimony, total	1.5	U Q	1.5	X	C3
FDUP04-112025	6020B	Antimony, total	1.5	U Q	1.5	X	C3
CMW4113112025	6020B	Antimony, total	1.5	U Q	1.5	X	C3
KMW1113112025	6020B	Antimony, total	1.5	U Q	1.5	X	C3
CMW0413112025	6020B	Antimony, total	1.5	U J1 Q	1.5	X	C3
CMW3813112025	6020B	Antimony, total	1.5	U Q	1.5	X	C3
KMW1113112025	6020B	Manganese, total	2.6	J	2.6	J+	B2
CMW4013112025	6020B	Cobalt, dissolved	0.48	J	0.75	U	B2
CMW3813112025	6020B	Iron, dissolved	180	J	180	J+	B2
KMW0913112025	6020B	Iron, dissolved	140	J	150	U	B2

DATA VALIDATION QUALIFIER DEFINITIONS

The data validation qualifiers are defined in WS #36, Table 36.2 of the project QAPP as follows.

U = The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.

J = The reported result was an estimated value with an unknown bias.

J+ = The reported result was an estimated quantity, but the result may be biased high.

J- = The reported result was an estimated quantity, but the result may be biased low.

UJ = The analyte was not detected and was reported as less than the LOD. However, the reported numerical value is approximate.

X= The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance (J-flag) or rejection (R-flag) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.

R = Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

REASON CODE DEFINITIONS

These data validation reason codes were used to document the logic behind data validation qualifiers:

Qualification Reason	**Reason Code**
Chemical Preservation Insufficient or Incorrect	P1
Cooler Temperature Exceedance	T1
Holding Time Exceedance, Sampling to Analysis	H1
Holding Time Exceedance, Sampling to Extraction	H2
Holding Time Exceedance, Extraction to Analysis	H3
Performance Evaluation Sample/Tune Criteria Not Met	P2
Resolution Check Criteria Not Met	R1
Initial Calibration Frequency Not Met	I1
Initial Calibration Insufficient Number of Standards	I2
Initial Calibration RRF Criteria Not Met	I3
Initial Calibration %RSD, r or r^2 Value Exceedance	I4
ICV/CCV Frequency Exceedance	C1
ICV/CCV RRF Criteria Not Met	C2
ICV/CCV %D/ %R Exceedance –High	C3
ICV/CCV %D/ %R Exceedance –Low	C4
Second Column Confirmation Analysis Not Performed	C5
Second Column Confirmation RPD Exceedance	C6
ICB/CCB Frequency Exceedance	B1
ICB/CCB Detection	B2
ICS Frequency Exceedance	I5

Qualification Reason	Reason Code
ICS A Exceedance (Detection)	I6
ICS AB Exceedance – Recovery High	I7
ICS AB Exceedance – Recovery Low	I8
Internal Standard Exceedance - Response High	I9
Internal Standard Exceedance – Response Low	I10
Internal Standard RT Exceedance	I11
EIS Exceedance – Recovery High	I12
EIS Exceedance – Recovery Low	I13
NIS Exceedance – Recovery High	I14
NIS Exceedance – Recovery Low	I15
Ion Mass Ratio Criteria Exceedance	I16
Required Sample Cleanup Not Performed	R2
Method Blank Frequency Exceedance	B3
Method Blank Detection	B4
Storage Blank Detection	B5
Trip Blank Detection	B6
Field / Ambient Blank Detection	B7
Equipment Blank Detection	B8
Instrument Blank Detection	B9
Source Blank Detection	B10
LCS Frequency Exceedance	L1
LCS Exceedance – Recovery High	L2
LCS Exceedance – Recovery Low	L3
LCS/LCSD RPD Exceedance	L4
MS/MSD Frequency Exceedance	M1
MS/MSD Exceedance – Recovery High	M2
MS/MSD Exceedance – Recovery Low	M3
MS/MSD RPD Exceedance	M4
Post Digestion Spike Exceedance	M5
Matrix Duplicate / Laboratory Duplicate RPD Exceedance	M6
Surrogate Exceedance – Recovery High	S1
Surrogate Exceedance – Recovery Low	S2
Serial Dilution Exceedance	S3
Sample RT or RRT Exceedance	R3
Spectral Match Exceedance	S4
Result Exceeds Calibration Range	R4

Qualification Reason	Reason Code
Field Duplicate Precision Exceedance	D1
Laboratory Duplicate Precision Exceedance	D2
Reporting Limit Exceeds Action Level	R5
Professional Judgment (see DVR)	P3

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CoC	Chain of Custody
DL	Detection Limit
DoD	Department of Defense
ECO	Eco & Associates, Inc.
ETTA	Eurofins Environment Testing America
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
ICS	Interference Check Sample
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate

PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PDS	Post Digestion Spike
PQL	Project Quantitation Limit
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Checklists

VALIDATION CHECKLIST

SDG#: 280-217076-1

Laboratory: ETTA

Date: January 2026

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?	X			
2B	3	Were holding times met?		X		Samples were received for nitrate as N and nitrite as N by U.S. EPA Method 9056A greater than 2 times outside the holding time; therefore, the sample analysis was cancelled and nitrate as N and Nitrite as N were re-collected as part of another SDG.
2B	4	Were the requested analyses performed/reported as requested on the COC?	X			
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?		X		See metals and explosives method sections of the DVR.
2B	9	Were target analytes in the field blank/trip blank less than the DL?	X			
2B	10	Were target analytes in the equipment blank less than the DL?		X		See VOC, explosives, and metals method sections of the DVR.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?		X		See VOC and metals method section of the DVR.

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	12	Were MS/MSD recoveries and RPD within project specified limits?		X		See SVOC and metals method sections of the DVR.
2B	13	Were post spike recoveries and dilution test within acceptance criteria?	X			
2B	14	Were surrogate recoveries within project specified limits?	X			
2B	15	Were internal standards within acceptance limits?		X		See Perchlorate method section of the DVR.
2B	16	Did field duplicates meet the required RPD for the project?	X			
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?	X			
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?		X		See VOC and SVOC method sections of the DVR.
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.		X		See VOC and metals method section of the DVR.
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?		X		See metals and Perchlorate method sections of the DVR.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?	X			
2B	25	Were ICS within acceptance criteria?	X			
2B	26	Did confirmation column meet acceptance limits?		X		See explosives method section of the DVR.
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?		X		See Sensitivity section of the DVR.
2B	29	Have all Case Narrative findings been addressed?	X			

DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: January 2026

Parsons - Austin

INTRODUCTION

The following data validation summary report covers five (5) water samples collected on November 14, 2025 at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-217096-1.

The samples in this SDG were analyzed for the following parameters: volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D, semivolatile organic compounds (SVOCs) by USEPA Method 8270E, explosives by USEPA Method 8330B, perchlorate by USEPA Method 6850, select metals by USEPA Method 6020B, mercury by USEPA Method 7470A, and anions (nitrate as N and nitrite as N) by U.S. EPA Method 9056A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Environmental Testing America (EETA) Denver located in Arvada, Colorado. The samples were received by EETA in two (2) coolers at temperatures of 0.7 and 1.9 degrees Celsius which meet acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory properly preserved and in good condition. Samples for analysis of perchlorate by 6850 were subcontracted to the Eurofins Lancaster laboratory location because of instrument issues at the Denver laboratory location. The samples arrived at the Lancaster lab at an acceptable temperature of 5.4 degrees Celsius.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	VOCs	SVOCs	Explosives	Perchlorate	Total Metals & Mercury	Dissolved Metals & Mercury	Anions	COMMENTS
CMW0214112025	280-217096-1	Water							X	
KMW1214112025	280-217096-2	Water							X	
QC14112025TB	280-217096-3	Water	X							Trip Blank
CMW0214112025	280-217096-4	Water	X	X	X	X	X	X		
KMW1214112025	280-217096-5	Water	X	X	X	X	X	X		

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Prep Method	Analytical Method	Units
VOCs	Water	5030B	8260D	µg/L
SVOCs	Water	3510C	8270E	µg/L
Explosives	Water	3535	8330B	µg/L
Perchlorate	Water	6850 prep	6850	µg/L
Total Metals	Water	3005A	6020B	µg/L
Total Mercury	Water	7470A	7470A	µg/L
Dissolved Metals	Water	3005A	6020B	µg/L
Dissolved Mercury	Water	7470A	7470A	µg/L
Anions	Water	NA	9056A	µg/L

µg/L= micrograms per liter

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, and chain-of-custody (COC) forms.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

A table detailing the data qualifiers applied, removed, or changed for the samples in this SDG as a result of the data validation process can be found in the Data Validation Qualifier section below. The data validation checklist is included as Attachment A.

VOCS

General

The VOC portion of this SDG consisted of three (3) water samples which includes one (1) trip blank sample. The samples were collected November 14, 2025, and were analyzed in accordance with USEPA Method 8260D as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control sample (LCS), laboratory control sample duplicate (LCSD), and the surrogate spikes.

The LCS and LCSD recoveries were within control limits except as follows.

LCS/LCSD Sample ID	Analyte	LCS %R	LCSD %R	Criteria
280-724832/4 280-724832/5	Bromomethane	157	159	53-141%

The samples associated with this LCS and LCSD were non-detect for bromomethane; therefore, data quality was not impacted, and results were not qualified.

The surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD results.

The LCS/LCSD RPDs were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met except as follows.

ICV ID	Analyte	%D	Criteria
ICV 280-722955/23	Trans-1,2-dichloropropene	40	±30%

The associated sample results for trans-1,2-dichloropropene were qualified "UJ".

- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724832/2	Vinyl Chloride Bromomethane	28 59	±20%

The associated sample results for vinyl chloride were qualified "UJ". The associated sample results for bromomethane were qualified "X" because the %D exceeded 50%.

- The internal standard criteria were met.

One laboratory method blank was associated with the VOC analysis. No target analytes were detected in the laboratory method blank.

One trip blank sample was associated with the VOC samples. No target analytes were detected in the trip blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the VOC samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	Chlorodibromomethane	0.86 J
	Chloroform	0.82 J
	Dichlorobromomethane	0.65 J

Data qualification was not necessary as the associated sample results were non-detect for the analytes listed in the table above.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

SVOCS

General

The SVOC portion of this SDG consisted of two (2) water samples collected November 14, 2025, and were analyzed in accordance with USEPA Method 8270E as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, and the surrogate spikes.

The LCS, LCSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD results.

The LCS/LCSD RPDs were within acceptance criteria except as follows.

LCS/LCSD Sample ID	Analyte	LCS/LCSD %RPD	Criteria
280-723726/2-A/ 280-723726/3-A	Caprolactam	33	30%

The samples associated with the LCS/LCSD were non-detect for caprolactam; therefore, data quality was not impacted, and results were not qualified.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-723984/5	Caprolactam	28	±20%

  The associated sample results for caprolactam were qualified "UJ".

- The internal standard criteria were met.

One laboratory method blank was associated with the SVOC analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the SVOC samples in this SDG. No target analytes were detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

EXPLOSIVES

General

The explosives portion of this SDG consisted of two (2) water samples. The samples were collected November 14, 2025 and were analyzed in accordance with USEPA Method 8330B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and the surrogate spikes.

The LCS and surrogate recoveries were within control limits.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- Column confirmation could not be evaluated because results in all samples were non-detect.

One laboratory method blank was associated with the explosives analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the explosive samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	RDX	0.13 J J1 C2 0.24 J J1

Data qualification was not necessary as the associated sample results were non-detect for RDX.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

PERCHLORATE

General

The perchlorate portion of this SDG consisted of two (2) water samples that were collected November 14, 2025, and analyzed in accordance with USEPA Method 6850 as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and LCSD.

The LCS and LCSD recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD results.

The LCS/LCSD RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The isotope ratio criteria were met for all detected samples.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The interference check solutions (ICS) were within criteria.
- The internal standard criteria were met.
- The initial calibration blank (ICB) had a detect as follows.

Blank ID	Analyte	Concentration µg/L
ICB 410-740793/10	Perchlorate	0.0354

Perchlorate was either non-detect or detected greater than 5 times the blank concentration; therefore, data quality was not impacted, and results were not qualified.

One laboratory method blank was associated with the perchlorate analysis. Perchlorate was not detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the perchlorate samples in this SDG. Perchlorate was not detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

TOTAL AND DISSOLVED METALS

General

The metals portion of this SDG consisted of two (2) water samples collected November 14, 2025, and analyzed in accordance with USEPA Method 6020B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS.

The LCS recoveries were within acceptance limits.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration criteria were met.
- The ICV was prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The low level CCV criteria were met for a single point calibration.
- The interference check samples (ICS) were within criteria.
- The initial calibration blanks (ICBs) were non-detect for target analytes.
- The continuing calibration blank (CCB) was non-detect for target analytes.
- The internal standard criteria associated with the target metals met criteria for samples.

One laboratory method blank was associated with the metals analysis. The method blank was non-detect for all target metals.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the metals samples in this SDG. With the exceptions below, no target analytes were detected in the equipment blank.

Blank ID	Analyte	Concentration µg/L
QC12112025EB	Calcium, total	190 J
	Calcium, dissolved	200
	Sodium, total	620 J
	Sodium, dissolved	640 J
	Iron, Total	100 J

Calcium, iron, and sodium were detected greater than 5 times the blank concentration in all associated samples; therefore, data quality was not impacted, and results were not qualified.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

MERCURY

General

The mercury portion of this SDG consisted of two (2) water samples collected November 14, 2025, and analyzed in accordance with U.S. EPA Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the DoD QSM, version 6.0 and the project QAPP.

All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS.

All LCS spike recoveries were within acceptance criteria.

Precision

Precision could not be evaluated for this data set.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration criteria were met.
- All ICV criteria were met.
- All CCV criteria were met

- All LL ICV criteria were met.
- All ICB criteria were met.
- All CCB criteria were met.

One laboratory method blank was associated with the mercury analyses in this SDG. The laboratory method blank was non-detect for mercury.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the mercury analyses in this SDG. The equipment blank was non-detect for mercury.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

ANIONS

General

The anions portion of this SDG consisted of two (2) water samples collected on November 14, 2025 and were analyzed for anions as specified in the project-specific UFP-QAPP. The anions analyses for nitrate as N and nitrite as N were performed in accordance with U.S. EPA Method SW846 9056A. All samples in this SDG were analyzed following the procedures outlined in the QSM Version 6.0 and the project QAPP.

All samples were analyzed within the holding time required by the method.

The following should be noted:

- Sample CMW0214112025 had chromatographic interferences that could adversely impact the identification and quantitation of nitrate as N causing results to have a low bias; therefore, the result for nitrate as N was qualified “J-” as estimated with a potential low bias.
- Sample KMW1214112025 has chromatographic interferences that could adversely impact the identification and quantitation of target analytes. These interferences cause nitrate as N to be unidentifiable. The sample was reanalyzed at dilution, and the interference was eliminated. Nitrate as N was not present. If Nitrate as N is present in this sample it is consumed by the interference; therefore, the result was qualified “UJ” as estimated.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, LCSD, MS and MSD. Sample CMW0214112025 was selected by the laboratory for MS/MSD analysis.

All LCS/LCSD and MS/MSD spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD, MS/MSD, and laboratory duplicate concentrations.

All LCS/LCSD, MS/MSD, and laboratory duplicate RPDs were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. All ICV criteria were met.
- All initial and continuing calibration blanks (ICB/CCB) criteria were met.
- All continuing calibration verification (CCV) criteria were met.

The laboratory method blank was non-detect for all target anions.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the samples in this SDG. The equipment blank sample was non-detect for all target anions.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. Three results for the VOC analysis were qualified "X" indicating that those results were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. Acceptance (J-flag) or rejection (R-flag) of the "X" qualified results should be decided by the project team during the Data Usability Assessment process.

SENSITIVITY

The limit of detection (LOD) and limit of quantitation (LOQ) values reported for the samples were compared to those listed in the project-specific UFP-QAPP to ensure that sensitivity requirements were met. LOD and LOQ limits have been updated by the lab since the UFP-QAPP was finalized. The LOD and LOQs are higher than the project action limits (PAL) as shown in the project-specific UFP-QAPP for some analytes and parameters. In many cases, the LODs and LOQs were adjusted based on dilution and/or initial/final volumes.

If the sensitivity requirements are not met for a particular analyte, the team will evaluate whether the data can still be used for project decisions. If non-detect values exceed the project quantitation limit goals (PQLGs), data are considered usable if the analyte is not a site-related compound. Analytes that are not site-related chemicals, and thus are not expected to be found, do not impact decision making. For analytes that are site-related, the team will use a "weight of evidence" approach to evaluate the likelihood of the chemical's presence. This approach uses available data that does meet sensitivity requirements to evaluate the presence or absence of the compound in other samples or other similar compounds and/or degradation products for the analyte in question.

If sufficient evidence exists to determine a compound was likely not present because of the absence of similar compounds and breakdown products, the team will conclude that the analyte was not present, and thus data are usable for decision making. If it cannot be determined that the compound is likely not present, then the risk will be calculated assuming that the compound is present at the detection limit (DL). This calculated risk will be presented as an uncertainty in the risk assessment, and the risk will not be included in the estimation of cumulative risk. It was determined that overall, the chosen laboratory provides the best value and technical quality for this project.

DATA VALIDATION QUALIFIERS

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
QC14112025TB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW0214112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
KMW1214112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC14112025TB	8260D	Bromomethane	4.0	U Q	4.0	X	C3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
CMW0214112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
KMW1214112025	8260D	Bromomethane	4.0	U Q	4.0	X	C3
QC14112025TB	8260D	Vinyl Chloride	0.75	U Q	0.75	UJ	C3
CMW0214112025	8260D	Vinyl Chloride	0.75	U Q	0.75	UJ	C3
KMW1214112025	8260D	Vinyl Chloride	0.75	U Q	0.75	UJ	C3
CMW0214112025	8270E	Caprolactam	15	U Q	15	UJ	C3
KMW1214112025	8270E	Caprolactam	15	U Q	15	UJ	C3
CMW0214112025	9056A	Nitrate as N	780	None	780	J-	P3
KMW1214112025	9056A	Nitrate as N	250	U M	250	UJ	P3

DATA VALIDATION QUALIFIER DEFINITIONS

The data validation qualifiers are defined in WS #36, Table 36.2 of the project QAPP as follows.

U = The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.

J = The reported result was an estimated value with an unknown bias.

J+ = The reported result was an estimated quantity, but the result may be biased high.

J- = The reported result was an estimated quantity, but the result may be biased low.

UJ = The analyte was not detected and was reported as less than the LOD. However, the reported numerical value is approximate.

X= The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance (J-flag) or rejection (R-flag) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.

R = Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

REASON CODE DEFINITIONS

These data validation reason codes were used to document the logic behind data validation qualifiers:

Qualification Reason	Reason Code
Chemical Preservation Insufficient or Incorrect	P1

Qualification Reason	Reason Code
Cooler Temperature Exceedance	T1
Holding Time Exceedance, Sampling to Analysis	H1
Holding Time Exceedance, Sampling to Extraction	H2
Holding Time Exceedance, Extraction to Analysis	H3
Performance Evaluation Sample/Tune Criteria Not Met	P2
Resolution Check Criteria Not Met	R1
Initial Calibration Frequency Not Met	I1
Initial Calibration Insufficient Number of Standards	I2
Initial Calibration RRF Criteria Not Met	I3
Initial Calibration %RSD, r or r^2 Value Exceedance	I4
ICV/CCV Frequency Exceedance	C1
ICV/CCV RRF Criteria Not Met	C2
ICV/CCV %D/ %R Exceedance –High	C3
ICV/CCV %D/ %R Exceedance –Low	C4
Second Column Confirmation Analysis Not Performed	C5
Second Column Confirmation RPD Exceedance	C6
ICB/CCB Frequency Exceedance	B1
ICB/CCB Detection	B2
ICS Frequency Exceedance	I5
ICS A Exceedance (Detection)	I6
ICS AB Exceedance – Recovery High	I7
ICS AB Exceedance – Recovery Low	I8
Internal Standard Exceedance - Response High	I9
Internal Standard Exceedance – Response Low	I10
Internal Standard RT Exceedance	I11
EIS Exceedance – Recovery High	I12
EIS Exceedance – Recovery Low	I13
NIS Exceedance – Recovery High	I14
NIS Exceedance – Recovery Low	I15
Ion Mass Ratio Criteria Exceedance	I16
Required Sample Cleanup Not Performed	R2
Method Blank Frequency Exceedance	B3
Method Blank Detection	B4
Storage Blank Detection	B5
Trip Blank Detection	B6
Field / Ambient Blank Detection	B7

Qualification Reason	Reason Code
Equipment Blank Detection	B8
Instrument Blank Detection	B9
Source Blank Detection	B10
LCS Frequency Exceedance	L1
LCS Exceedance – Recovery High	L2
LCS Exceedance – Recovery Low	L3
LCS/LCSD RPD Exceedance	L4
MS/MSD Frequency Exceedance	M1
MS/MSD Exceedance – Recovery High	M2
MS/MSD Exceedance – Recovery Low	M3
MS/MSD RPD Exceedance	M4
Post Digestion Spike Exceedance	M5
Matrix Duplicate / Laboratory Duplicate RPD Exceedance	M6
Surrogate Exceedance – Recovery High	S1
Surrogate Exceedance – Recovery Low	S2
Serial Dilution Exceedance	S3
Sample RT or RRT Exceedance	R3
Spectral Match Exceedance	S4
Result Exceeds Calibration Range	R4
Field Duplicate Precision Exceedance	D1
Laboratory Duplicate Precision Exceedance	D2
Reporting Limit Exceeds Action Level	R5
Professional Judgment (see DVR)	P3

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CoC	Chain of Custody
DL	Detection Limit
DoD	Department of Defense
ECO	Eco & Associates, Inc.

ETTA	Eurofins Environment Testing America
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
ICS	Interference Check Sample
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PDS	Post Digestion Spike
PQL	Project Quantitation Limit
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Checklists

VALIDATION CHECKLIST

SDG#: 280-217096-1

Laboratory: ETTA

Date: December 2025

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?	X			
2B	3	Were holding times met?	X			
2B	4	Were the requested analyses performed/reported as requested on the COC?	X			
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?	X			
2B	9	Were target analytes in the field blank/trip blank less than the DL?	X			
2B	10	Were target analytes in the equipment blank less than the DL?		X		See VOC, explosives, and metals method sections of the DVR.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?		X		See VOC and SVOC method section of the DVR.
2B	12	Were MS/MSD recoveries and RPD within project specified limits?	X			
2B	13	Were post spike recoveries and dilution test within acceptance criteria?			X	Not applicable for this SDG.

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	14	Were surrogate recoveries within project specified limits?	X			
2B	15	Were internal standards within acceptance limits?		X		See Perchlorate method section of the DVR.
2B	16	Did field duplicates meet the required RPD for the project?			X	Not applicable for this SDG.
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?	X			
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?		X		See VOC and SVOC method sections of the DVR.
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.		X		See VOC method section of the DVR.
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?		X		See Perchlorate section of the DVR.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?	X			
2B	25	Were ICS within acceptance criteria?	X			
2B	26	Did confirmation column meet acceptance limits?	X			
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?		X		See Sensitivity section of the DVR.
2B	29	Have all Case Narrative findings been addressed?	X			

DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: January 2026

Parsons - Austin

INTRODUCTION

The following data validation summary report covers sixteen (16) water samples collected on November 17, 2025 at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-217318-1.

The samples in this SDG were analyzed for the following parameters: volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D, semivolatile organic compounds (SVOCs) by USEPA Method 8270E, explosives by USEPA Method 8330B, perchlorate by USEPA Method 6850, select metals by USEPA Method 6020B, mercury by USEPA Method 7470A. and anions (nitrate as N and nitrite as N) by U.S. EPA Method 9056A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Environmental Testing America (EETA) Denver located in Arvada, Colorado. The samples were received by EETA in three (3) coolers at temperatures ranging from 0.1 to 2.2 degrees Celsius which meet acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory properly preserved and in good condition except as follows.

- The containers for nitrate and nitrite analysis were partially frozen. The samples were thawed prior to analysis.
- One of three VOA vials received for 8260D analysis were received broken for samples CMW2417112025, KMW1617112025, and CMW3717112025. One of the intact vials for each of the samples was used for analysis.
- One of three VOA vials was received frozen and results in greater than six millimeters headspace for samples KMW1617112025 and CMW4217112025. A vial without headspace was used for analysis.

Samples for analysis of perchlorate by 6850 were subcontracted to the Eurofins Lancaster laboratory location because of instrument issues at the Denver laboratory location. The samples arrived at the Lancaster lab at an acceptable temperature.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity

Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	VOCs	SVOCs	Explosives	Perchlorate	Total Metals & Mercury	Dissolved Metals & Mercury	Anions	COMMENTS
CMW4117112025	280-217318-1	Water							X	
FDUP04-112025	280-217318-2	Water							X	Field Duplicate of sample -3
CMW4017112025	280-217318-3	Water							X	
KMW0917112025	280-217318-4	Water							X	
KMW1117112025	280-217318-5	Water							X	
CMW0417112025	280-217318-6	Water							X	MS/MSD
KMW1617112025	280-217318-7	Water							X	
CMW2417112025	280-217318-8	Water							X	
CMW4217112025	280-217318-9	Water							X	
CMW3717112025	280-217318-10	Water							X	
CMW3817112025	280-217318-11	Water							X	
QC17112025TB	280-217318-12	Water	X						X	Trip Blank
CMW2417112025	280-217318-13	Water	X	X	X	X	X	X		
KMW1617112025	280-217318-14	Water	X	X	X	X	X	X		
CMW4217112025	280-217318-15	Water	X	X	X	X	X	X		
CMW3717112025	280-217318-16	Water	X	X	X	X	X	X		

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Prep Method	Analytical Method	Units
VOCs	Water	5030B	8260D	µg/L
SVOCs	Water	3510C	8270E	µg/L
Explosives	Water	3535	8330B	µg/L
Perchlorate	Water	6850 prep	6850	µg/L
Total Metals	Water	3005A	6020B	µg/L
Total Mercury	Water	7470A	7470A	µg/L
Dissolved Metals	Water	3005A	6020B	µg/L
Dissolved Mercury	Water	7470A	7470A	µg/L
Anions	Water	NA	9056A	µg/L

µg/L= micrograms per liter

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, and chain-of-custody (COC) forms.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

A table detailing the data qualifiers applied, removed, or changed for the samples in this SDG as a result of the data validation process can be found in the Data Validation Qualifier section below. The data validation checklist is included as Attachment A.

VOCS

General

The VOC portion of this SDG consisted of five (5) water samples which includes one (1) trip blank sample. The samples were collected November 17, 2025, and were analyzed in accordance with USEPA Method 8260D as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control sample (LCS), laboratory control sample duplicate (LCSD), and the surrogate spikes.

The LCS and LCSD recoveries were within control limits except as follows.

LCS/LCSD Sample ID	Analyte	LCS %R	LCSD %R	Criteria
280-724152/4 280-724152/5	Bromomethane	176	182	53-141%

( ) indicates the %R was within limits.

The samples associated with this LCS and LCSD were non-detect for bromomethane; therefore, data quality was not impacted, and results were not qualified.

The surrogate recoveries were within control limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD.

The LCS/LCSD RPDs were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met except as follows.

ICV ID	Analyte	%D	Criteria
ICV 280-722955/23	Trans-1,2-dichloropropene	40	±30%

The associated sample results for trans-1,2-dichloropropene were qualified “UJ”.

- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724908/2	Bromomethane Hexachlorobutadiene	44 22	±20%

The associated sample results for bromomethane and hexachlorobutadiene were qualified “UJ”.

- The internal standard criteria were met.

One laboratory method blank was associated with the VOC analysis. No target analytes were detected in the laboratory method blank.

One trip blank sample was associated with the VOC samples. No target analytes were detected in the trip blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the VOC samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	Chlorodibromomethane	0.86 J
	Chloroform	0.82 J
	Dichlorobromomethane	0.65 J

Data qualification was not necessary as the associated sample results were non-detect for the analytes listed in the table above.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

SVOCS

General

The SVOC portion of this SDG consisted of four (4) water samples collected November 17, 2025, and were analyzed in accordance with USEPA Method 8270E as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, and the surrogate spikes.

The LCS, LCSD, and surrogate recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD.

The LCS/LCSD RPDs were within acceptance criteria except as follows.

LCS/LCSD Sample ID	Analyte	LCS/LCSD %RPD	Criteria
280-724059/2A	2-Chloronaphthalene	37	30%
280-724059/3A	Benzaldehyde	31	

The parent sample results were non-detect for the analytes listed in the table above; therefore, data quality was not impacted, and results were not qualified.

Precision could not be determined from the field duplicate and parent sample results because all target SVOCs were non-detect.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The continuing calibration verification (CCV) criteria were met except as follows.

CCV ID	Analyte	%D	Criteria
CCV 280-724398/5	Caprolactam	26	±20%

  The associated sample results for Caprolactam were qualified “UJ”.

- The internal standard criteria were met.

One laboratory method blank was associated with the SVOC analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the SVOC samples in this SDG. No target analytes were detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

EXPLOSIVES

General

The explosives portion of this SDG consisted of four (4) water samples. The samples were collected November 17, 2025 and were analyzed in accordance with USEPA Method 8330B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS and surrogate spikes.

The LCS and surrogate recoveries were within control limits.

Precision

Precision could not be evaluated for samples analyzed for explosives in this SDG.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- Column confirmation criteria for detected results met criteria.

One laboratory method blank was associated with the explosives analysis. No target analytes were detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the explosive samples in this SDG. No target analytes were detected in the equipment blank sample except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	RDX	0.13 J J1 C2 0.24 J J1

Data qualification was not necessary as the associated sample results were either non-detect for RDX or detected greater than 5 times the equipment blank concentration.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

PERCHLORATE

General

The perchlorate portion of this SDG consisted of four (4) water samples that were collected November 17, 2025, and analyzed in accordance with USEPA Method 6850 as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS, LCSD, MS, and MSD.

The LCS and LCSD recoveries were within control limits.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD results.

The LCS/LCSD RPD were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The isotope ratio criteria were met for all detected samples.
- The ICAL criteria were met.
- The ICV samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The interference check solutions (ICS) were within criteria.
- The internal standard criteria were met except as follows. The internal standard recovered low for sample CMW2417112025, KMW1617112025, and CMW3717112025; therefore, the perchlorate results in the samples were qualified as estimated, "UJ" if non-detect and "J+" if detected.
- The initial calibration blank (ICB) had a detect as follows.

Blank ID	Analyte	Concentration µg/L
ICB 410-740793/10	Perchlorate	0.0354

Perchlorate was either non-detect or detected greater than 5 times the blank concentration in associated samples; therefore, data quality was not impacted, and results were not qualified.

One laboratory method blank was associated with the perchlorate analysis. Perchlorate was not detected in the laboratory method blank.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the perchlorate samples in this SDG. Perchlorate was not detected in the equipment blank sample.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

TOTAL AND DISSOLVED METALS

General

The metals portion of this SDG consisted of four (4) water samples collected November 17, 2025, and analyzed in accordance with USEPA Method 6020B as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS.

The LCS recoveries were within acceptance limits.

Precision

Precision could not be evaluated for samples analyzed for metals in this SDG.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The instrument tune criteria were met.
- The initial calibration criteria were met.
- The ICV was prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met.
- The low level CCV criteria were met for a single point calibration.
- The interference check samples (ICS) were within criteria.
- The initial calibration blanks (ICBs) were non-detect for target analytes.
- The continuing calibration blank (CCB) was non-detect for target analytes except as follows.

  Several CCBs had detections for target metals; however, the following table only includes those that resulted in qualification of the data. Results that were not qualified were either non-detect in the associated samples or were detected greater than 5 times the blank concentration.

Blank ID	Analyte	Concentration µg/L
CCB 280-724663/28	Potassium	249 J
CCB 280-724663/39	Arsenic	0.704 J

  Dissolved potassium was qualified “J+” as estimated with a potential high bias in sample CMW2417112025. Dissolved and total arsenic was qualified “U” as non-detect at the LOD in sample KMW1617112025. Dissolved and total arsenic were

qualified “J+” as estimated with a potential high bias in sample CMW4217112025. Dissolved arsenic was qualified J+” as estimated with a potential high bias in sample CMW3717112025.

- The internal standard criteria associated with the target metals met criteria for samples.

One laboratory method blank was associated with the metals analysis. The method blank was non-detect for all target metals except as follows.

Blank ID	Analyte	Concentration µg/L
MB 280-723743/1-A	Thallium	0.583 J

Thallium was non-detect in all associated samples; therefore, data quality was not impacted, and results were not qualified.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the metals samples in this SDG. With the exceptions below, no target analytes were detected in the equipment blank.

Blank ID	Analyte	Concentration µg/L
QC12112025EB	Calcium, total	190 J
	Calcium, dissolved	200
	Sodium, total	620 J
	Sodium, dissolved	640 J
	Iron, Total	100 J

The result for total iron was qualified “J+” as estimated with a potential high bias in samples CMW2417112025. Results for calcium and sodium were detected greater than 5 times the blank concentration in all associated samples; therefore, data quality was not impacted, and results were not qualified.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

MERCURY

General

The mercury portion of this SDG consisted of four (4) water samples collected November 17, 2025, and analyzed in accordance with U.S. EPA Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the DoD QSM, version 6.0 and the project QAPP.

All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS.

The LCS spike recovery was within acceptance criteria.

Precision

Precision could not be evaluated for mercury in this SDG.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- All initial calibration criteria were met.
- All ICV criteria were met.
- All CCV criteria were met
- All LL ICV criteria were met.
- All ICB criteria were met.
- All CCB criteria were met.

One laboratory method blank was associated with the mercury analyses in this SDG. The laboratory method blank was non-detect for mercury.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the mercury analyses in this SDG. The equipment blank was non-detect for mercury.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

ANIONS

General

The anions portion of this SDG consisted of eleven (11) water samples collected on November 17, 2025 and were analyzed for anions as specified in the project-specific UFP-QAPP. The anions analyses for nitrate as N and nitrite as N were performed in accordance with U.S. EPA Method SW846 9056A. All samples in this SDG were analyzed following the procedures outlined in the QSM Version 6.0 and the project QAPP.

All samples were analyzed within the holding time required by the method except as follows. Sample CMW0417112025 was reanalyzed outside the 48 hour holding time for Nitrate as N due to QC failure in the initial analysis; therefore, the result was qualified "J" as estimated.

The following should be noted:

- Samples KMW1117112025 and CMW3817112025 had chromatographic interferences that could adversely impact the identification and quantitation of nitrate as N causing results to have a low bias; therefore, the results for nitrate as N were qualified "J-" as estimated with a potential low bias.
- Samples CMW3717112025, FDUP04-1120205, and CMW4017112025 had chromatographic interferences that could adversely impact the identification and quantitation of target analytes. These interferences cause nitrate as N to be unidentifiable. The sample was reanalyzed at dilution, and the interference was eliminated. Nitrate as N was not present. If Nitrate as N is present in the samples it is consumed by the interference; therefore, the results were qualified "UJ" as estimated.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, LCSD, MS and MSD. Sample CMW0417112025 was designated on the COC for MS/MSD analysis.

All LCS/LCSD and MS/MSD spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD, MS/MSD, laboratory duplicate, and field duplicate concentrations.

All LCS/LCSD, MS/MSD, and laboratory duplicate RPDs were within acceptance criteria.

Field duplicate RPD could not be calculated because results in both the field duplicate and parent sample were non-detect for Nitrate as N and Nitrite as N.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method except as previously noted. The following QC elements were also evaluated:

- All initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. All ICV criteria were met.
- All initial and continuing calibration blanks (ICB/CCB) criteria were met.
- All continuing calibration verification (CCV) criteria were met.

The laboratory method blanks were non-detect for all target anions.

One equipment blank sample (QC12112025EB) included in SDG 280-217019-1 was associated with the samples in this SDG. The equipment blank sample was non-detect for all target anions.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the data usability assessment (DUA) process and will be calculated after the final qualifiers have been determined.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. The validated data indicated that the laboratory correctly performed the analyses and none of the results were qualified "X" during the validation. Therefore, all reported results are considered usable as qualified for the purposes of this project.

SENSITIVITY

The limit of detection (LOD) and limit of quantitation (LOQ) values reported for the samples were compared to those listed in the project-specific UFP-QAPP to ensure that sensitivity requirements were met. LOD and LOQ limits have been updated by the lab since the UFP-QAPP was finalized. The LOD and LOQs are higher than the project action limits (PAL) as shown in the project-specific UFP-QAPP for some analytes and parameters. In many cases, the LODs and LOQs were adjusted based on dilution and/or initial/final volumes.

If the sensitivity requirements are not met for a particular analyte, the team will evaluate whether the data can still be used for project decisions. If non-detect values exceed the project quantitation limit goals (PQLGs), data are considered usable if the analyte is not a site-related compound. Analytes that are not site-related chemicals, and thus are not expected to be found, do not impact decision making. For analytes that are site-related, the team will use a "weight of evidence" approach to evaluate the likelihood of the chemical's presence. This approach uses available data that does meet sensitivity requirements to evaluate the presence or absence of the compound in other samples or other similar compounds and/or degradation products for the analyte in question.

If sufficient evidence exists to determine a compound was likely not present because of the absence of similar compounds and breakdown products, the team will conclude that the analyte was not present, and thus data are usable for decision making. If it cannot be determined that the compound is likely not present, then the risk will be calculated assuming that the compound is present at the detection limit (DL). This calculated risk will be presented as an uncertainty in the risk assessment, and the risk will not be included in the estimation of cumulative risk. It was determined that overall, the chosen laboratory provides the best value and technical quality for this project.

DATA VALIDATION QUALIFIERS

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
QC17112025TB	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW2417112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
KMW1617112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW4217112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
CMW3717112025	8260D	trans-1,3-Dichloropropene	0.75	U Q	0.75	UJ	C3
QC17112025TB	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW2417112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
KMW1617112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW4217112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
CMW3717112025	8260D	Bromomethane	4.0	U Q	4.0	UJ	C3
QC17112025TB	8260D	Hexachlorobutadiene	1.5	U Q	4.0	UJ	C3
CMW2417112025	8260D	Hexachlorobutadiene	1.5	U Q	4.0	UJ	C3
KMW1617112025	8260D	Hexachlorobutadiene	1.5	U Q	4.0	UJ	C3
CMW4217112025	8260D	Hexachlorobutadiene	1.5	U Q	4.0	UJ	C3
CMW3717112025	8260D	Hexachlorobutadiene	1.5	U Q	4.0	UJ	C3
CMW2417112025	8270E	Caprolactam	15	U M Q	15	UJ	C3
KMW1617112025	8270E	Caprolactam	14	U Q	14	UJ	C3
CMW4217112025	8270E	Caprolactam	16	U Q	16	UJ	C3
CMW3717112025	8270E	Caprolactam	16	U Q	16	UJ	C3
CMW2417112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
KMW1617112025	6850	Perchlorate	1.4	Q	1.4	J+	I10
CMW3717112025	6850	Perchlorate	0.10	U Q	0.10	UJ	I10
CMW2417112025	6020B	Potassium, dissolved	930	None	930	J+	B2
KMW1617112025	6020B	Arsenic, total	0.93	J B	1.5	U	B2
KMW1617112025	6020B	Arsenic, dissolved	0.85	J B	1.5	U	B2
CMW4217112025	6020B	Arsenic, total	1.9	J B	1.9	J+	B2
CMW4217112025	6020B	Arsenic, dissolved	1.5	J B	1.5	J+	B2
CMW3717112025	6020B	Arsenic, dissolved	2.8	B	2.8	J+	B2
CMW2417112025	6020B	Iron, total	240	None	240	J+	B8
CMW0417112025	9056A	Nitrate as N	390	J H M	390	J	H1
KMW1117112025	9056A	Nitrate as N	430	J M	430	J	P3
CMW3817112025	9056A	Nitrate as N	840	M	840	J-	P3

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
FDUP04-1120205	9056A	Nitrate as N	250	U M	250	UJ	P3
CMW4017112025	9056A	Nitrate as N	250	U M	250	UJ	P3
CMW3717112025	9056A	Nitrate as N	250	U M	250	UJ	P3

DATA VALIDATION QUALIFIER DEFINITIONS

The data validation qualifiers are defined in WS #36, Table 36.2 of the project QAPP as follows.

U = The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.

J = The reported result was an estimated value with an unknown bias.

J+ = The reported result was an estimated quantity, but the result may be biased high.

J- = The reported result was an estimated quantity, but the result may be biased low.

UJ = The analyte was not detected and was reported as less than the LOD. However, the reported numerical value is approximate.

X= The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance (J-flag) or rejection (R-flag) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.

R = Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

REASON CODE DEFINITIONS

These data validation reason codes were used to document the logic behind data validation qualifiers:

Qualification Reason	Reason Code
Chemical Preservation Insufficient or Incorrect	P1
Cooler Temperature Exceedance	T1
Holding Time Exceedance, Sampling to Analysis	H1
Holding Time Exceedance, Sampling to Extraction	H2
Holding Time Exceedance, Extraction to Analysis	H3
Performance Evaluation Sample/Tune Criteria Not Met	P2
Resolution Check Criteria Not Met	R1
Initial Calibration Frequency Not Met	I1
Initial Calibration Insufficient Number of Standards	I2

Qualification Reason	Reason Code
Initial Calibration RRF Criteria Not Met	I3
Initial Calibration %RSD, r or r^2 Value Exceedance	I4
ICV/CCV Frequency Exceedance	C1
ICV/CCV RRF Criteria Not Met	C2
ICV/CCV %D/ %R Exceedance –High	C3
ICV/CCV %D/ %R Exceedance –Low	C4
Second Column Confirmation Analysis Not Performed	C5
Second Column Confirmation RPD Exceedance	C6
ICB/CCB Frequency Exceedance	B1
ICB/CCB Detection	B2
ICS Frequency Exceedance	I5
ICS A Exceedance (Detection)	I6
ICS AB Exceedance – Recovery High	I7
ICS AB Exceedance – Recovery Low	I8
Internal Standard Exceedance - Response High	I9
Internal Standard Exceedance – Response Low	I10
Internal Standard RT Exceedance	I11
EIS Exceedance – Recovery High	I12
EIS Exceedance – Recovery Low	I13
NIS Exceedance – Recovery High	I14
NIS Exceedance – Recovery Low	I15
Ion Mass Ratio Criteria Exceedance	I16
Required Sample Cleanup Not Performed	R2
Method Blank Frequency Exceedance	B3
Method Blank Detection	B4
Storage Blank Detection	B5
Trip Blank Detection	B6
Field / Ambient Blank Detection	B7
Equipment Blank Detection	B8
Instrument Blank Detection	B9
Source Blank Detection	B10
LCS Frequency Exceedance	L1
LCS Exceedance – Recovery High	L2
LCS Exceedance – Recovery Low	L3
LCS/LCSD RPD Exceedance	L4
MS/MSD Frequency Exceedance	M1

Qualification Reason	Reason Code
MS/MSD Exceedance – Recovery High	M2
MS/MSD Exceedance – Recovery Low	M3
MS/MSD RPD Exceedance	M4
Post Digestion Spike Exceedance	M5
Matrix Duplicate / Laboratory Duplicate RPD Exceedance	M6
Surrogate Exceedance – Recovery High	S1
Surrogate Exceedance – Recovery Low	S2
Serial Dilution Exceedance	S3
Sample RT or RRT Exceedance	R3
Spectral Match Exceedance	S4
Result Exceeds Calibration Range	R4
Field Duplicate Precision Exceedance	D1
Laboratory Duplicate Precision Exceedance	D2
Reporting Limit Exceeds Action Level	R5
Professional Judgment (see DVR)	P3

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CoC	Chain of Custody
DL	Detection Limit
DoD	Department of Defense
ECO	Eco & Associates, Inc.
ETTA	Eurofins Environment Testing America
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification

ICS	Interference Check Sample
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PDS	Post Digestion Spike
PQL	Project Quantitation Limit
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Checklists

VALIDATION CHECKLIST

SDG#: 280-217318-1

Laboratory: ETTA

Date: January 2026

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?		X		• The containers for nitrate and nitrite analysis were partially frozen. The samples were thawed prior to analysis. • One of three VOA vials received for 8260D analysis were received broken for samples CMW2417112025, KMW1617112025, and CMW3717112025. One of the intact vials for each of the samples was used for analysis. • One of three VOA vials was received frozen and results in greater than six millimeters headspace for samples KMW1617112025 and CMW4217112025. A vial without headspace was used for analysis.
2B	3	Were holding times met?		X		See anions method section of the DVR.
2B	4	Were the requested analyses performed/reported as	X			

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
		requested on the COC?				
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?		X		See metals section of the DVR.
2B	9	Were target analytes in the field blank/trip blank less than the DL?	X			
2B	10	Were target analytes in the equipment blank less than the DL?		X		See VOC, explosives, and metals method sections of the DVR.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?		X		See VOC and SVOC method section of the DVR.
2B	12	Were MS/MSD recoveries and RPD within project specified limits?	X			
2B	13	Were post spike recoveries and dilution test within acceptance criteria?			X	Not applicable for this SDG
2B	14	Were surrogate recoveries within project specified limits?			X	Not applicable for this SDG.
2B	15	Were internal standards within acceptance limits?		X		See Perchlorate method section of the DVR.
2B	16	Did field duplicates meet the required RPD for the project?	X			
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?	X			
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?		X		See VOC and SVOC method sections of the DVR.
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.		X		See VOC and metals method section of the DVR.
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?		X		See metals and Perchlorate method sections of the DVR.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?	X			
2B	25	Were ICS within acceptance criteria?	X			

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	26	Did confirmation column meet acceptance limits?	X			
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?		X		See Sensitivity section of the DVR.
2B	29	Have all Case Narrative findings been addressed?	X			

DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: January 2026

Parsons

INTRODUCTION

The following data validation summary report covers three (3) water samples collected on November 12, 2025, at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-216971-1.

The samples in this SDG were analyzed for polychlorinated biphenyls (PCBs) by USEPA Method 8082A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Lancaster Laboratories Environment (ELLE) Testing, LLC located in Lancaster, Pennsylvania. The samples were received one cooler by ELLE at a temperature of 3.3 degrees Celsius which meets acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory in good condition.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	PCBs	COMMENTS
BGMW1512112025	280-216971-1	Water	X	
FDUP03-112025	280-216971-2	Water	X	Field Duplicate of sample -01
BGMW1412112025	280-216971-3	Water	X	

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Extraction Method	Analytical Method	Units
PCBs	Water	3510C	8082A	µg/L

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Additionally, this SDG was selected for Stage 4 validation to be performed on 10% of the sample results for each parameter. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, chain-of-custody (COC) forms, manual integrations, and recalculation of QC (ICAL, LCS, MS/MSD, Surrogate) and 10% of sample results for each parameter.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

The data validation checklist is included as Attachment A and calculations are included as attachment B.

PCB

General

The PCB portion of this SDG consisted of three (3) groundwater samples. The sample was collected November 12, 2025 and was analyzed in accordance with USEPA Method 8082A as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The sample was prepared and analyzed within the holding time required by the method, which is 1 year after collection.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the LCS and surrogate spikes.

The LCS and surrogate recoveries were within acceptance limits.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the field duplicate and parent sample. However, precision could not be determined because all target PCBs were non-detect in the field duplicate and parent sample.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met except as follows. The CCV on the primary column recovered low and outside criteria for PCB-1016, PCB-1260, and surrogate TCMX. However, were reported from the secondary column which was within criteria for PCBs and both surrogates; therefore, data quality was not impacted, and results were not qualified.
- Column confirmation RPD was not applicable for field samples since all results were non-detect.

One laboratory method blank was associated with the PCB analysis. The method blank sample was non-detect for all target PCBs.

One equipment blank sample (QC12112025EB) included in SDG 280-217059-1 was associated with the PCB analysis in this SDG. The equipment blank was non-detect for all target PCB analytes except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	PCB-1260	0.017

Data qualification was not necessary as the associated sample results were non-detect for PCB-1260.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

SENSITIVITY

The labs limit of quantitation (LOQ) for all PCBs were less than the project quantitation limit goals (PQLGs), therefore, sensitivity requirements are considered met for the samples discussed in this report.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. The validated data indicated that the laboratory correctly performed the analyses and none of the results were qualified during the validation. Therefore, all reported results are considered usable for the purposes of this project.

DATA VALIDATION QUALIFIERS

There were no data validation qualifiers applied to the results in this data set.

DATA QUALIFIER DEFINITIONS

The data qualifiers are defined in Table 36.2 of the project-specific UFP-QAPP, as follows.

Data Qualifier	Definitions
U	The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.
J	The reported result was an estimated value with an unknown bias.
J+	The result was an estimated quantity, but the result may be biased high.
J-	The result was an estimated quantity, but the result may be biased low.
UJ	The analyte was not detected and was reported as less than the LOD. However, the associated numerical value is approximate.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project QC criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection (“R” qualifier) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.
R	Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

% R	Percent Recovery
CCV	Continuing Calibration Verification
COC	Chain of Custody
DoD	Department of Defense
DL	Detection Limit
DUA	Data Usability Assessment
ECO	Eco & Associates, Inc.
ELLE	Eurofins Lancaster Laboratories Environment
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICV	Initial Calibration Verification
ID	Identification
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ORO	Oil Range Organics
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PCB	Polychlorinated Biphenyls
PQLG	Project Quantitation Limit Goals
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
TPH	Total Petroleum Hydrocarbon
µg/L	microgram per liter
USEPA	United States Environmental Protection Agency
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Validation Checklist

VALIDATION CHECKLIST

SDG#: 280-216971-1

Laboratory: ELLE

Date: January 2026

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?	X			
2B	3	Were holding times met?	X			
2B	4	Were the requested analyses performed/reported as requested on the COC?	X			
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?	X			
2B	9	Were target analytes in the field blank/trip blank less than the DL?			X	Not applicable for this SDG.
2B	10	Were target analytes in the equipment blank less than the DL?		X		See PCB method section; however, EB detections did not result in qualification of the data.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?	X			
2B	12	Were MS/MSD recoveries and RPD within project specified limits?			X	Not applicable for this SDG.
2B	13	Were post spike recoveries and dilution test within acceptance criteria?			X	Not applicable for this SDG.

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	14	Were surrogate recoveries within project specified limits?	X			
2B	15	Were internal standards within acceptance limits?			X	Not applicable for this SDG.
2B	16	Did field duplicates meet the required RPD for the project?	X			
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?			X	Not applicable for this SDG.
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?	X			
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.	X			
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?			X	Not applicable for this SDG.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?			X	Not applicable for this SDG.
2B	25	Were ICS within acceptance criteria?			X	Not applicable for this SDG.
2B	26	Did confirmation column meet acceptance limits?	X			
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?	X			
2B	29	Have all Case Narrative findings been addressed?	X			

DATA VALIDATION SUMMARY REPORT

for samples collected during

PARCEL 3 GROUNDWATER MONITORING

FORT WINGATE DEPOT ACTIVITY

MCKINLEY COUNTY, NEW MEXICO

Data Validation by: Beth Driskill

Project Manager: Carrie Ross

Validation Report Date: January 2026

Parsons

INTRODUCTION

The following data validation summary report covers three (3) water samples collected on November 12, 2025, at Fort Wingate Depot Activity (FWDA), located in McKinley County, New Mexico. The samples were logged under Sample Delivery Group (SDG) 280-217059-1.

The samples in this SDG were analyzed for polychlorinated biphenyls (PCBs) by USEPA Method 8082A.

The samples were collected by Eco & Associates, Inc. (ECO) and were submitted for analysis to Eurofins Lancaster Laboratories Environment (ELLE) Testing, LLC located in Lancaster, Pennsylvania. The samples were received one cooler by ELLE at a temperature of 3.1 degrees Celsius which meets acceptance criteria of 0 to 6 degrees Celsius. All containers were received at the laboratory in good condition except as follows. The one-liter unpreserved amber container for sample BGMW1612112025 was received 1/3 filled; therefore, a lesser volume of sample had to be used for extraction rather than the standard one liter volume, which caused elevated reporting limits.

The samples were prepared and analyzed following the procedures outlined in the project-specific Draft Uniform Federal Policy - Quality Assurance Project Plan (UFP-QAPP) for Fort Wingate Depot Activity MEC Remediation Project at Fort Wingate Depot Activity Parcel 3, McKinley County, New Mexico (Parsons, November 2025), the Department of Defense (DoD) Quality Systems Manual (QSM) Version 6, and method criteria as applicable.

The following table details the samples included in this SDG discussed in this report and the analytical parameters performed.

SAMPLE IDs AND REQUESTED PARAMETERS

Client Sample ID	Laboratory Sample ID	Matrix	PCBs	COMMENTS
BGMW1612112025	280-217059-1	Water	X	
BGMW0612112025	280-217059-2	Water	X	
QC12112025EB	280-217059-3	Water	X	Equipment Blank

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

Parameter	Matrix	Extraction Method	Analytical Method	Units
PCBs	Water	3510C	8082A	µg/L

EVALUATION CRITERIA

The data package submitted by the laboratory has been reviewed and verified at Stage 2B. Validation was performed following the guidelines outlined in the project-specific Draft UFP-QAPP (November 2025), DoD General Data Validation Guidelines (November 2019), applicable published DoD data validation modules, and analytical methods. Information reviewed in the data packages included sample results; field and laboratory quality control results; instrument calibration; calibration verifications; case narratives; sample receipt forms, and chain-of-custody (COC) forms.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and Final Approved QAPP were met.

A table detailing the data qualifiers applied, removed, or changed for the samples in this SDG as a result of the data validation process can be found in the Data Validation Qualifier section of the report. The data validation checklist is included as Attachment A.

PCB

General

The PCB portion of this SDG consisted of two (2) groundwater samples and one (1) equipment blank sample. The samples were collected November 12, 2025 and were analyzed in accordance with USEPA Method 8082A as specified in the project-specific UFP-QAPP and in accordance with DoD QSM Version 6.0. The sample was prepared and analyzed within the holding time required by the method, which is 1 year after collection.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the LCS and surrogate spikes.

The LCS recoveries were within acceptance limits.

The surrogate recoveries were within acceptance limits except as follows.

Sample ID	Surrogate analyte	Surrogate %R	Criteria
QC12112025EB	Decachlorobiphenyl (DCB)	199	10-148%

The detected result for PCB 1260 was qualified "J+" as estimated with a potential high bias. Non-detect results in the sample were not qualified.

Precision

Precision could not be evaluated for this SDG.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Comparing actual analytical procedures to those described in the DoD QSM and project-specific UFP-QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project-specific UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method. The following QC elements were also evaluated:

- The initial calibration (ICAL) criteria were met.
- The initial calibration verification (ICV) samples were prepared from a second source standard. The ICV criteria were met.
- The CCV criteria were met except as follows.
    - The CCV 410-737934/4 and 410-737934/13 on the primary column recovered high and outside criteria for PCB-1016, PCB-1260, and surrogate TCMX. QC samples were associated with this CCV and QC sample results were reported from the secondary column which was within CCV criteria; therefore, data quality was not impacted, and results were not qualified.
    - The CCV 410-740200/4 and 410-740200/10 on the secondary column recovered high and outside criteria for PCB-1260 and/or surrogate DCB. Samples were reported from the primary column which was within CCV criteria; therefore, data quality was not impacted, and results were not qualified.
- Column confirmation RPD criteria were met for all detected sample results.

One laboratory method blank was associated with the PCB analysis. The method blank sample was non-detect for all target PCBs.

One equipment blank sample (QC12112025EB) was associated with the PCB analysis in this SDG. The equipment blank was non-detect for all target PCB analytes except as follows.

Equipment Blank Sample ID	Analyte	Concentration (ug/L)
QC12112025EB	PCB-1260	0.017

Data qualification was not necessary as the associated sample results were non-detect for PCB-1260.

Completeness

Completeness is evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. Completeness will be evaluated as part of the DUA process and will be calculated after the final qualifiers have been determined.

SENSITIVITY

The labs limit of quantitation (LOQ) for all PCBs were less than the project quantitation limit goals (PQLGs), therefore, sensitivity requirements are considered met for the samples discussed in this report.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. The validated data indicated that the laboratory correctly performed the analyses and none of the results were qualified during the validation. Therefore, all reported results are considered usable for the purposes of this project.

DATA VALIDATION QUALIFIERS

DATA VALIDATION QUALIFIERS

The table below shows the qualifiers applied as a result of the data validation.

Sample ID	Analytical Method	Analyte	Lab Result (ug/L)	Lab Qualifier	Final Result (ug/L)	Final Data Validation Qualifier	Reason Code
QC12112025EB	8082A	PCB-1260	0.017	None	0.017	J+	S1

DATA QUALIFIER DEFINITIONS

The data qualifiers are defined in Table 36.2 of the project-specific UFP-QAPP, as follows.

Data Qualifier Definitions

U	The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.
J	The reported result was an estimated value with an unknown bias.
J+	The result was an estimated quantity, but the result may be biased high.
J-	The result was an estimated quantity, but the result may be biased low.
UJ	The analyte was not detected and was reported as less than the LOD. However, the associated numerical value is approximate.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project QC criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection ("R" qualifier) of the data should be decided by the project team (which should include a project chemist) during the Data Usability Assessment process.
R	Only to be applied as a result of the Data Usability Assessment process. The results were rejected as unusable. The decision to reject the data point was made by the project team based on serious deficiencies in the data.

REASON CODE DEFINITIONS

These data validation reason codes were used to document the logic behind all data validation qualifiers:

Qualification Reason	Reason Code
Chemical Preservation Insufficient or Incorrect	P1
Cooler Temperature Exceedance	T1
Holding Time Exceedance, Sampling to Analysis	H1
Holding Time Exceedance, Sampling to Extraction	H2
Holding Time Exceedance, Extraction to Analysis	H3
Performance Evaluation Sample/Tune Criteria Not Met	P2
Resolution Check Criteria Not Met	R1
Initial Calibration Frequency Not Met	I1
Initial Calibration Insufficient Number of Standards	I2
Initial Calibration RRF Criteria Not Met	I3
Initial Calibration %RSD, r or r^2 Value Exceedance	I4
ICV/CCV Frequency Exceedance	C1
ICV/CCV RRF Criteria Not Met	C2
ICV/CCV %D Exceedance – Recovery High	C3
ICV/CCV %D Exceedance – Recovery Low	C4
Second Column Confirmation Analysis Not Performed	C5
Second Column Confirmation RPD Exceedance	C6
ICB/CCB Frequency Exceedance	B1
ICB/CCB Detection	B2
ICS Frequency Exceedance	I5

Qualification Reason	Reason Code
ICS A Exceedance (Detection)	I6
ICS AB Exceedance – Recovery High	I7
ICS AB Exceedance – Recovery Low	I8
Internal Standard Exceedance - Response High	I9
Internal Standard Exceedance – Response Low	I10
Internal Standard RT Exceedance	I11
EIS Exceedance – Recovery High	I12
EIS Exceedance – Recovery Low	I13
NIS Exceedance – Recovery High	I14
NIS Exceedance – Recovery Low	I15
Ion Mass Ratio Criteria Exceedance	I16
Required Sample Cleanup Not Performed	R2
Method Blank Frequency Exceedance	B3
Method Blank Detection	B4
Storage Blank Detection	B5
Trip Blank Detection	B6
Field / Ambient Blank Detection	B7
Equipment Blank Detection	B8
Instrument Blank Detection	B9
Source Blank Detection	B10
LCS Frequency Exceedance	L1
LCS Exceedance – Recovery High	L2
LCS Exceedance – Recovery Low	L3
LCS/LCSD RPD Exceedance	L4
MS/MSD Frequency Exceedance	M1
MS/MSD Exceedance – Recovery High	M2
MS/MSD Exceedance – Recovery Low	M3
MS/MSD RPD Exceedance	M4
Post Digestion Spike Exceedance	M5
Matrix Duplicate / Laboratory Duplicate RPD Exceedance	M6
Surrogate Exceedance – Recovery High	S1
Surrogate Exceedance – Recovery Low	S2
Serial Dilution Exceedance	S3
Sample RT or RRT Exceedance	R3
Spectral Match Exceedance	S4
Result Exceeds Calibration Range	R4

Qualification Reason	Reason Code
Field Duplicate Precision Exceedance	D1
Reporting Limit Exceeds Action Level	R5
Professional Judgment (see DVR)	P3

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations that were used in this data validation report.

% R	Percent Recovery
CCV	Continuing Calibration Verification
COC	Chain of Custody
DoD	Department of Defense
DL	Detection Limit
DUA	Data Usability Assessment
ECO	Eco & Associates, Inc.
ELLE	Eurofins Lancaster Laboratories Environment
FWDA	Fort Wingate Depot Activity
ICAL	Initial Calibration
ICV	Initial Calibration Verification
ID	Identification
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PCB	Polychlorinated Biphenyls
PQLG	Project Quantitation Limit Goals
QC	Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
SDG	Sample Delivery Group
µg/L	microgram per liter
USEPA	United States Environmental Protection Agency
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan

Attachment A

Validation Checklist

VALIDATION CHECKLIST

SDG#: 280-217059-1

Laboratory: ELLE

Date: January 2026

Reviewer: Beth Driskill

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	1	Did the chain of custody information agree with the laboratory report?	X			
2B	2	Were samples preserved properly and received in good condition?		X		The one-liter unpreserved amber container for sample BGMW1612112025 was received 1/3 filled; therefore, a lesser amount of sample was used rather than the standard one liter which caused elevated reporting limits.
2B	3	Were holding times met?	X			
2B	4	Were the requested analyses performed/reported as requested on the COC?	X			
2B	5	Were all requested target analytes reported?	X			
2B	6	Were sample results reported with percent moisture correction if required?			X	Not applicable for water samples.
2B	7	Was a method blank prepared and analyzed for each batch?	X			
2B	8	Were target analytes in the method blank less than the DL?	X			
2B	9	Were target analytes in the field blank/trip blank less than the DL?			X	Not applicable for this SDG.
2B	10	Were target analytes in the equipment blank less than the DL?		X		See PCB method section; however, EB detections did not result in qualification of the data.
2B	11	Were LCS/LCSD recoveries and RPD within project specified limits?	X			
2B	12	Were MS/MSD recoveries and RPD within project specified limits?			X	Not applicable for this SDG.

Data Review QC	Checklist Item	Checklist Item	Yes	No	NA	Comment
2B	13	Were post spike recoveries and dilution test within acceptance criteria?			X	Not applicable for this SDG.
2B	14	Were surrogate recoveries within project specified limits?		X		See PCB method section.
2B	15	Were internal standards within acceptance limits?			X	Not applicable for this SDG.
2B	16	Did field duplicates meet the required RPD for the project?			X	Not applicable for this SDG.
2B	17	Did laboratory triplicates meet project acceptance limits?			X	Not applicable for this SDG.
2B	18	Were field triplicates analyzed at the proper frequency and in control?			X	Not applicable for this SDG.
2B	19	Were tune criteria met?			X	Not applicable for this SDG.
2B	20	Was the initial calibration within acceptance criteria?	X			
2B	21	Were CCVs at the proper frequency and within acceptance criteria?		X		See PCB method section; however, EB detections did not result in qualification of the data.
2B	22	Was an ICV performed after each ICAL and within project acceptance criteria.	X			
2B	23	Were ICB/CCBs analyzed at the required frequency and non-detect?			X	Not applicable for this SDG.
2B	24	Was a LL CCV analyzed prior to samples and within acceptance criteria?			X	Not applicable for this SDG.
2B	25	Were ICS within acceptance criteria?			X	Not applicable for this SDG.
2B	26	Did confirmation column meet acceptance limits?	X			
2B	27	Were instrument prep logs and run logs present and complete?	X			
2B	28	Were QAPP specified PALs achieved?	X			
2B	29	Have all Case Narrative findings been addressed?	X			