Data Validation Report
Remedial Investigation at RVAAP-66 Facility Wide Groundwater
Semi-Annual & Quarterly Sampling Event for April/May 2017

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Contract Number: W9133L-14-D-0008

Task Order Number: 0003

Laboratory SDG 280-96349-1

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CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

TEC-WESTON Joint Venture has completed this Data Validation Report. Data validation was performed by the Validation Chemist and Secondary QC Review was performed by a Senior Chemist. Signatures indicate the report is approved for release.

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INTRODUCTION

This report summarizes the results of the **EPA Stage 2B** data validation performed on groundwater samples and quality control (QC) sample data for the Remedial Investigation for RVAAP-66, Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio. Results are reported in laboratory sample delivery group (SDG) **280-96349-1**.

TestAmerica, Inc., Denver, Colorado performed the analyses listed in the table below:

Parameters	Analytical Method	Laboratory Location
Volatile Organic Compounds (VOCs)	8260B	Denver, CO
Semivolatile Organic Compounds (SVOCs)	8270D	Denver, CO
Polycyclic Aromatic Hydrocarbons (PAHs)	8270D SIM	Denver, CO
Organochlorine Pesticides	8081B	Denver, CO
Polychlorinated Biphenyls (PCBs)	8082A	Denver, CO
Explosives	8330B	Denver, CO
Nitroguanidine	8330	Sacramento, CA
Metals	6010C/6020A/7470A	Denver, CO
Perchlorate	6860	Denver, CO
Alkalinity	2320B	Denver, CO
Total Cyanide	9012B	Denver, CO
Hexavalent Chromium	7196A	Denver, CO
Nitrocellulose	353.2	Sacramento, CA
Sulfide	9034	Denver, CO
Nitrate	9056A	Denver, CO

The data were reviewed using guidance and quality control criteria documented in the *Draft Remedial Investigation Work Plan for Groundwater and Environmental Services for RVAAP-66 Facility-Wide Groundwater, Appendix A: Sampling Analysis Plan, A.2: Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio Attachment A Data Validation Evaluation Sheets (January 2016)* which are based on the *Department of Defense Quality Systems Manual (DoD QSM), Version 5.0*; *USEPA National Functional Guidelines for Organic Data Review* (*EPA 2014*); and *USEPA National Functional Guidelines for Inorganic Data Review* (*EPA 2014*), the analytical methods, and professional judgment.

During data validation, qualifiers are assigned to assist in proper data interpretation. If values are estimated, data may be used for site evaluation purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. Data that have been rejected (R)

should not be used for any purpose. Results with no qualifiers meet all data quality goals as outlined in the UFP-QAPP.

The data was reviewed and validated by calculating Relative Percent Difference (RPD) between spiked sample values according to the *USEPA National Functional Guidelines for Organic Data Review* (*EPA 2014*) and *USEPA National Functional Guidelines for Inorganic Data Review* (*EPA 2014*). Therefore, the RPDs were calculated using the percent recovery values as stated in the above referenced USEPA documents. SW-846 Methods were utilized for this project and they recommend using the actual spiked sample values to calculate RPD values. However, the laboratory used varying spike amounts due to sample aliquot and percent moisture differences which lead to variations in the spike amounts making it very difficult to compare the spiked sample values. These differences would have created poor precision results for the spiked sample values that were not necessarily indicative of the data quality. The use of comparing spike recovery values in this case was a much better indicator of analytical precision.

The following samples were validated:

Sample ID	Laboratory ID	Sample Date	Matrix	QC Sample	VOCs	SVOCs (phthalates)	SVOCs (full list)	PAHs	Pesticides	PCBs	Explosives	Nitroguanidine	Perchlorate	Metals	Total Cyanide	Hexavalent Chromium	Alkalinity	Nitrocellulose
FWGmw-019-042517-GW	280-96349-1	04/25/17	Groundwater		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
FWGmw-022-042517-GW	280-96349-2	04/25/17	Groundwater		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
LL1mw-089-042517-GW	280-96349-3	04/25/17	Groundwater		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
LL12mw-187-042517-GW	280-96349-4	04/25/17	Groundwater			✓								✓				
LL12mw-245-042517-GW	280-96349-5	04/25/17	Groundwater			✓					✓			✓				
LL12mw-242-042517-GW	280-96349-6	04/25/17	Groundwater			✓					✓			✓				
LL12mw-242-042517-GF	280-96349-7	04/25/17	Groundwater											✓				
LL12mw-185-042517-GW	280-96349-8	04/25/17	Groundwater	MS/MSD											✓			
LL12mw-505-042517-GW	280-96349-9	04/25/17	Groundwater	Field Duplicate										✓	✓			
LL12mw-247-042517-GW	280-96349-10	04/25/17	Groundwater			✓					✓			✓	✓	✓		
LL12mw-506-042517-GW	280-96349-11	04/25/17	Groundwater	Field Duplicate							✓				✓			
LL3mw-244-042417-GW	280-96349-12	04/24/17	Groundwater			✓			✓		✓			✓				
BKGmw-006-042417-GW	280-96349-13	04/24/17	Groundwater											✓			✓	
LL2mw-270-042517-GW	280-96349-14	04/25/17	Groundwater							✓								
LL2mw-267-042517-GW	280-96349-15	04/25/17	Groundwater			✓					✓			✓				
DA2mw-115-042417-GW	280-96349-16	04/24/17	Groundwater			✓					✓			✓	✓			
DET-003-042417-GW	280-96349-17	04/24/17	Groundwater		✓		✓	✓	✓	✓	✓			✓	✓			
DET-500-042417-GW	280-96349-18	04/24/17	Groundwater	Field Duplicate	✓		✓	✓	✓	✓	✓			✓	✓			
TRIP BLANK1	280-96349-19	04/24/17	Water	Trip Blank	✓													
TRIP BLANK2	280-96349-20	04/24/17	Water	Trip Blank	✓													

Sample LL12mw-505-042517-GW is the field duplicate of sample LL12mw-185-042517-GW.
Sample LL12mw-506-042517-GW is the field duplicate of sample LL12mw-247-042517-GW.
Sample DET-500-042417-GW is the field duplicate of sample DET-003-042417-GW.
Additional analyses reported for samples LL12mw-247-042517-GW and LL12mw-506-042517-GW are reported and validated under separate cover.
Some samples were analyzed for natural attenuation parameters. Natural attenuation parameters are reported, but not validated in accordance with the QAPP.

DATA VALIDATION REPORT

1.1 DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative. All requested target analytes were reported for each sample.

1.2 SAMPLE RECEIPT

The samples were received by the laboratory on April 26, 2017; the samples were received in good condition, under chain-of-custody, and custody seals intact. Samples were properly preserved and cooler temperatures were less than 6°C.

Nitroguanidine and nitrocellulose analyses were performed by TestAmerica Sacramento.

Three trip blank sets were received by the laboratory, but were not listed on the chain of custody. One of the trip blank sets were received broken. The two unbroken trip blank sets were logged as TRIP BLANK1 and TRIP BLANK2.

One of three VOA vials submitted for sample DET-003-042417-GW was received by the laboratory broken. Sufficient vials remained to proceed with analysis.

One of three VOA vials submitted for sample FWGmw-022-042517-GW was received by the laboratory with a bubble greater than 6 millimeters in diameter. Sufficient vials without bubbles remained to proceed with analysis.

1.3 DEFINITIONS

Detection limit (DL): The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration with 99% confidence. At the DL, the false positive rate is 1%. A DL may be used as the lowest concentration for reliably reporting a detection of a specific matrix with a specific method with 99% confidence.

Limit of detection (LOD): The smallest concentration of a substance that must be present in a sample in order to be detected at the DL with 99% confidence. At the LOD, the false negative rate

is 1%. An LOD may be used as the lowest concentration for reliably reporting a non-detect of a specific analyte in a specific matrix with a specific method with 99% confidence.

Limits of Quantitation (LOQ): The smallest concentration that produces a quantitative result with known and recorded precision and bias. For DoD/DOE projects, the LOQ shall be set at or above the concentration of the lowest initial calibration standard and within the calibration range.

The following validation flags and reason codes were applied:

Validation Flag	Reason Code	Description
U	B	Non-detection; blank detection.
UJ	CC	Estimated non-detection; continuing calibration criteria not met.
UJ	M	Estimated non-detection; MS/MSD percent recovery or RPD exceedance.
UJ	L	Estimated non-detection; LCS/LCSD percent recovery or RPD exceedance.
UJ	Q	Estimated non-detection; based on reviewer's professional judgement, result is qualified.
J	P	Estimated detection; post digestion spike percent recovery exceedance.

1.4 TECHNICAL DATA VALIDATION

1.4.1 Volatile Organic Compounds by Method 8260B

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- Surrogate recoveries
- LCS recoveries
- LODs and LOQs
- Instrument tuning
- Internal standard area counts
- Initial calibration
- Initial calibration verification
- Closing calibration verification
- Trip blank
- Field duplicates

All analytical or quality parameters requiring further discussion for Method 8260B are described in the sections below.

1.4.1.1 Method Blanks

Methylene chloride (0.524 µg/L) was detected in the method blank at a concentration below the LOQ (5.0 µg/L). Methylene chloride was non-detect in all associated samples; therefore, no qualification was necessary.

1.4.2 Semivolatile Organic Compounds by Method 8270D

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- Method blanks
- LCS recoveries
- LODs and LOQs
- Instrument tuning
- Internal standard area counts
- Initial calibration
- Initial calibration verification
- Closing calibration verification
- Field duplicates

All analytical or quality parameters requiring further discussion for Method 8270D are described in the sections below.

1.4.2.1 Surrogate Recoveries

Surrogate terphenyl-d14 (33%) recovered below the control limits (50-134%) in sample LL12mw-242-042517-GW. Only phthalates were reported for this sample and the surrogate terphenyl-d14 is not associate with any of the phthalate analytes; therefore no qualification was necessary.

1.4.2.2 Continuing Calibration Verification

Hexachlorocyclopentadiene (-75.4%D) recovered below control limits (±50%D) in the continuing calibration verification CCV 280-372679/25 associated with samples DET-003-042417-GW and DET-500-042417-GW. All associated hexachlorocyclopentadiene sample results were qualified as qualified (UJ CC). It is noted that hexachlorocyclopentadiene is a poor performer for this method.

1.4.3 Polycyclic Aromatic Hydrocarbons by Method 8270D SIM

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- Surrogate recoveries

- Method blanks
- Laboratory control samples
- LODs and LOQs
- Instrument tuning
- Internal standard area counts
- Initial calibration
- Initial calibration verification
- Closing calibration verification
- Field duplicates

No analytical or quality parameters required further discussion for Method 8270D SIM.

1.4.4 Organochlorine Pesticides by Method 8081B

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- Surrogate recoveries
- Method blank
- Initial calibration
- Initial calibration verification
- Continuing calibration verification
- Internal standards
- Endrin/DDT breakdown check
- Second column confirmation

All analytical or quality parameters requiring further discussion for Method 8081B are described in the sections below.

1.4.4.1 Laboratory Control Samples

Aldrin was recovered below the control limits (46-134%) in the LCS (26%) and LCSD (22%). All associated aldrin sample results were qualified as estimated (UJ L).

Heptachlor was recovered below the control limits (54-130%) in the LCS (39%) and LCSD (23%). All associated heptachlor sample results were qualified as estimated (UJ L).

gamma-Chlordane was recovered below the control limits (56-136%) in the LCSD (54%). The LCS recovery and RPD were within control limits; therefore, no qualification was necessary.

1.4.5 Polychlorinated Biphenyls by Method 8082A

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- Surrogate recoveries
- Method blank

- LCS recoveries
- Initial calibration
- Initial calibration verification
- Continuing calibration verification
- Internal standards
- Second column confirmation
- Field duplicates

All analytical or quality parameters requiring further discussion for Method 8082A are described in the sections below.

1.4.5.1 Matrix Interferences

It was noted in the case narrative that sample FWGmw-022-042517-GW had chromatographic interferences that could adversely impact the identification and quantitation of target analytes. All associated sample results were qualified as estimated (UJ Q).

1.4.6 Explosives by Method 8330B

The following parameters were evaluated and met the required criteria. No validation flags were assigned:

- Holding times
- Method blanks
- LCS recoveries
- Initial calibration
- Initial calibration verification
- Initial calibration blank
- Continuing calibration verification
- Continuing calibration blank
- LODs and LOQs
- Initial calibration verification
- 2nd column confirmation
- Field duplicates

All analytical or quality parameters requiring further discussion for Method 8330B are described in the sections below.

1.4.6.1 Sample Preparation

Samples LL12mw-242-042517-GW and LL2mw-267-042517-GW were filtered prior to analysis to reduce matrix interferences.

1.4.7 Nitroguanidine by Method 8330

The following parameters were evaluated and met the required criteria. No validation flags were assigned:

- Holding times
- Method blanks

- LCS recoveries
- Initial calibration
- Initial calibration verification
- Initial calibration blank
- Continuing calibration verification
- Continuing calibration blank
- LODs and LOQs
- Initial calibration verification

No analytical or quality parameters required further discussion for Method 8330.

1.4.8 Perchlorate by Method 6860

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- LCS recoveries
- Method blank
- Initial calibration verification
- Continuing calibration verification
- Continuing calibration blank
- Detection limit check
- Interference check standards

All analytical or quality parameters requiring further discussion for Method 6860 are described in the sections below.

1.4.8.1 Dilutions

Due to matrix interferences, sample FWGmw-022-042517-GW required a 10x dilution prior to analysis. The sample was non-detect for perchlorate and was not reanalyzed at a lower dilution. As a result, the reporting limits were elevated (LOQ = 0.50 µg/L, LOD = 0.10 µg/L, DL = 0.040 µg/L).

1.4.8.2 Initial Calibration Blank

Due to an instrument error, an initial calibration blank was not injected after the calibration was performed. A method blank was run at the beginning of the analytical batch and perchlorate was not detected. No qualifications were made.

1.4.9 Total Metals by Method 6010C/6020A/7470A

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs

- LCS recoveries
- Serial dilution
- Initial calibration verification
- Continuing calibration verification
- Contract required detection limit standard
- Instrument tuning
- Interference check solutions
- Field duplicates

All analytical or quality issues requiring further discussion for Methods 6010C, 6020A, and/or 7470A are described in the sections below.

1.4.9.1 Method Blanks

Several analytes were detected in the method blank. The following table presents the method blank detections:

Method Blank	Associated Samples	Analyte	Blank Detection (µg/L)	LOQ (µg/L)	Assigned Flags	Samples Qualified
MB 280-371323/1-A	FWGmw-019-042517-GW FWGmw-022-042517-GW LL1mw-089-042517-GW LL12mw-187-042517-GW LL12mw-245-042517-GW	Calcium	49.1	1000	N/A	None
	LL12mw-242-042517-GW LL12mw-242-042517-GF LL12mw-505-042517-GW LL12mw-247-042517-GW LL3mw-244-042417-GW	Magnesium	16.5	500	N/A	None
	BKGmw-006-042417-GW LL2mw-267-042517-GW DA2mw-115-042417-GW DET-003-042417-GW DET-500-042417-GW	Sodium	120	5000	U B	LL1mw-089-042517-GW LL3mw-244-042417-GW
MB 280-371325/1-A	FWGmw-019-042517-GW FWGmw-022-042517-GW LL1mw-089-042517-GW LL12mw-187-042517-GW LL12mw-245-042517-GW LL12mw-242-042517-GW LL12mw-242-042517-GF	Lead	0.297	3	U B	LL12mw-242-042517-GF LL12mw-505-042517-GW LL12mw-247-042517-GW
	LL12mw-505-042517-GW LL12mw-247-042517-GW LL3mw-244-042417-GW BKGmw-006-042417-GW LL2mw-267-042517-GW DA2mw-115-042417-GW DET-003-042417-GW DET-500-042417-GW	Manganese	0.338	3.5	U B	LL3mw-244-042417-GW

Detections less than the LOQ in associated samples are qualified as not detected at the LOQ (U B).

1.4.9.2 Calibration Blanks

Several analytes were detected in the calibration blanks bracketing the samples. The following table presents the initial and continuing calibration blank detections:

Calibration Blank	Associated Samples	Analyte	Blank Detection (µg/L)	LOQ (µg/L)	Assigned Flags	Samples Qualified
ICB 280-372035/10	FWGmw-019-042517-GW FWGmw-022-042517-GW LL1mw-089-042517-GW LL12mw-187-042517-GW LL12mw-245-042517-GW LL12mw-242-042517-GW LL12mw-242-042517-GF	Antimony	0.58	2	U B	FWGmw-019-042517-GW FWGmw-022-042517-GW LL12mw-245-042517-GW LL12mw-505-042517-GW LL3mw-244-042417-GW
	LL12mw-505-042517-GW LL12mw-247-042517-GW LL3mw-244-042417-GW BKGmw-006-042417-GW LL2mw-267-042517-GW DA2mw-115-042417-GW DET-003-042417-GW DET-500-042417-GW	Vanadium	0.594	5	N/A	None
CCB 280-372035/73	LL12mw-242-042517-GF LL12mw-505-042517-GW LL12mw-247-042517-GW LL3mw-244-042417-GW BKGmw-006-042417-GW	Beryllium	0.08	1	U B	LL12mw-242-042517-GF LL12mw-505-042517-GW
	LL2mw-267-042517-GW DA2mw-115-042417-GW DET-003-042417-GW DET-500-042417-GW	Thallium	0.05	1	U B	LL12mw-242-042517-GF LL12mw-505-042517-GW

CCB = continuing calibration blank
ICB = initial calibration blank

Detections less than the LOQ in associated samples are qualified as not detected at the LOQ (U B).

1.4.9.3 Matrix Spike/Matrix Spike Duplicates

An MS/MSD was performed on sample FWGmw-019-042517-GW. Calcium (86%) recovered below control limits (87-113%) in the MSD. The MS recovery and RPD were within control limits; therefore, no qualification was necessary.

1.4.9.4 Post Digestion Spike

A PDS was performed on sample FWGmw-019-042517-GW. Calcium (57%) recovered below control limits (80-120%) in the PDS. The calcium result in the parent sample was qualified as estimated (J P).

1.4.10 Nitrocellulose by Method 353.2

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- LCS recoveries
- Method blank
- MS/MSD recoveries and RPDs
- Initial calibration verification
- Continuing calibration verification
- Initial calibration blank
- Continuing calibration blank

No analytical or quality parameters required further discussion for Method 353.2.

1.4.11 Hexavalent Chromium by Method 7196A

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- LCS recoveries
- Method blank
- MS/MSD recoveries and RPDs
- Initial calibration verification
- Continuing calibration verification
- Initial calibration blank
- Continuing calibration blank

No analytical or quality parameters required further discussion for Method 7196A.

1.4.12 Total Cyanide by Method 9012B

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- LCS recoveries
- Initial calibration verification
- Continuing calibration verification
- Initial calibration blank
- Continuing calibration blank
- Field duplicates

All analytical or quality issues requiring further discussion for Methods 9012B are described in the sections below.

1.4.12.1 Method Blanks

Total cyanide (5.16 µg/L) was detected in the method blank at a concentration below the LOQ (10 µg/L). Total cyanide was also detected in sample FWGmw-019-042517-GW (2.2 µg/L) at a concentration below the LOQ. This sample result was qualified as non-detect at the LOQ (U B). All other associated sample results were non-detect; therefore, no qualification was necessary.

1.4.12.2 Matrix Spike/Matrix Spike Duplicates

An MS/MSD was performed on sample LL12mw-185-042517-GW. The MSD (46%) recovered below the control limits (83-116%). The RPD (61%) exceeded the control limit (20%) as well. The parent sample result was qualified as estimated (UJ M).

1.4.13 Alkalinity by Method 2320B

The following parameters were evaluated and met the required criteria. No validation flags were assigned based on the following:

- Holding times
- LODs and LOQs
- LCS recoveries
- Initial calibration verification
- Continuing calibration verification
- Initial calibration blank
- Continuing calibration blank

All analytical or quality issues requiring further discussion for Methods 2320B are described in the sections below.

1.4.13.1 Method Blanks

Alkalinity (2.15 µg/L) was detected in the method blank at a concentration above the LOQ (5.0 µg/L). Alkalinity was detected at a concentration above the LOQ in all associated samples; therefore, no qualification was necessary.

DATA VALIDATION TABLE

SDG	Field Sample ID	Lab Sample ID	Matrix	Parameter	CAS Number	Units	Result	Lab Flag	DV Flag	Detection	LOQ	LOD	MDL	AnalyticMethod	Reason Code
280-96349-1	FWGmw-019-042517-GW	280-96349-1	Ground Water	Calcium	7440-70-2	µg/L	100000	j	j	y	1000	140	35	Metals	P
280-96349-1	FWGmw-019-042517-GW	280-96349-1	Ground Water	Antimony	7440-36-0	µg/L	6	j	u	n	6	1	0.4	Metals	B
280-96349-1	FWGmw-019-042517-GW	280-96349-1	Ground Water	Aldrin	309-00-2	µg/L	0.021	u q	uj	n	0.05	0.02	0	Pesticides	L
280-96349-1	FWGmw-019-042517-GW	280-96349-1	Ground Water	Heptachlor	76-44-8	µg/L	0.05	u q	uj	n	0.05	0.05	0.01	Pesticides	L
280-96349-1	FWGmw-019-042517-GW	280-96349-1	Ground Water	Total Cyanide	57-12-5	µg/L	10	j b	u	n	10	5	2	Total Cyanide	B
280-96349-1	LL12mw-247-042517-GW	280-96349-10	Ground Water	Lead	7439-92-1	µg/L	3	j	u	n	3	0.7	0.18	Metals	B
280-96349-1	LL3mw-244-042417-GW	280-96349-12	Ground Water	Sodium	7440-23-5	µg/L	5000	j	u	n	5000	350	120	Metals	B
280-96349-1	LL3mw-244-042417-GW	280-96349-12	Ground Water	Antimony	7440-36-0	µg/L	6	j	u	n	6	1	0.4	Metals	B
280-96349-1	LL3mw-244-042417-GW	280-96349-12	Ground Water	Manganese	7439-96-5	µg/L	3.5	j	u	n	3.5	0.95	0.31	Metals	B
280-96349-1	LL3mw-244-042417-GW	280-96349-12	Ground Water	Aldrin	309-00-2	µg/L	0.022	u q	uj	n	0.05	0.02	0	Pesticides	L
280-96349-1	LL3mw-244-042417-GW	280-96349-12	Ground Water	Heptachlor	76-44-8	µg/L	0.051	u q	uj	n	0.05	0.05	0.01	Pesticides	L
280-96349-1	DET-003-042417-GW	280-96349-17	Ground Water	Aldrin	309-00-2	µg/L	0.022	u q	uj	n	0.05	0.02	0	Pesticides	L
280-96349-1	DET-003-042417-GW	280-96349-17	Ground Water	Heptachlor	76-44-8	µg/L	0.051	u q	uj	n	0.05	0.05	0.01	Pesticides	L
280-96349-1	DET-003-042417-GW	280-96349-17	Ground Water	Hexachlorocyclopentadiene	77-47-4	µg/L	30	u	uj	n	50	30	10	SVOCs	CC
280-96349-1	DET-500-042417-GW	280-96349-18	Ground Water	Aldrin	309-00-2	µg/L	0.022	u q	uj	n	0.05	0.02	0	Pesticides	L
280-96349-1	DET-500-042417-GW	280-96349-18	Ground Water	Heptachlor	76-44-8	µg/L	0.052	u q	uj	n	0.05	0.05	0.01	Pesticides	L
280-96349-1	DET-500-042417-GW	280-96349-18	Ground Water	Hexachlorocyclopentadiene	77-47-4	µg/L	31	u	uj	n	51	31	10	SVOCs	CC
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Antimony	7440-36-0	µg/L	6	j	u	n	6	1	0.4	Metals	B
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aldrin	309-00-2	µg/L	0.021	u q	uj	n	0.05	0.02	0	Pesticides	L
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Heptachlor	76-44-8	µg/L	0.05	u q	uj	n	0.05	0.05	0.01	Pesticides	L
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1016	12674-11-2	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1221	11104-28-2	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1232	11141-16-5	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1242	53469-21-9	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1248	12672-29-6	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1254	11097-69-1	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	FWGmw-022-042517-GW	280-96349-2	Ground Water	Aroclor-1260	11096-82-5	µg/L	0.095	u	uj	n	0.14	0.1	0.04	PCBs	Q
280-96349-1	LL1mw-089-042517-GW	280-96349-3	Ground Water	Sodium	7440-23-5	µg/L	5000	j	u	n	5000	350	120	Metals	B
280-96349-1	LL1mw-089-042517-GW	280-96349-3	Ground Water	Aldrin	309-00-2	µg/L	0.021	u q	uj	n	0.05	0.02	0	Pesticides	L
280-96349-1	LL1mw-089-042517-GW	280-96349-3	Ground Water	Heptachlor	76-44-8	µg/L	0.05	u q	uj	n	0.05	0.05	0.01	Pesticides	L
280-96349-1	LL12mw-245-042517-GW	280-96349-5	Ground Water	Antimony	7440-36-0	µg/L	6	j	u	n	6	1	0.4	Metals	B
280-96349-1	LL12mw-242-042517-GF	280-96349-7	Ground Water	Beryllium	7440-41-7	µg/L	1	j	u	n	1	0.3	0.08	Metals	B
280-96349-1	LL12mw-242-042517-GF	280-96349-7	Ground Water	Lead	7439-92-1	µg/L	3	j	u	n	3	0.7	0.18	Metals	B
280-96349-1	LL12mw-242-042517-GF	280-96349-7	Ground Water	Thallium	7440-28-0	µg/L	1	j	u	n	1	0.2	0.05	Metals	B
280-96349-1	LL12mw-185-042517-GW	280-96349-8	Ground Water	Total Cyanide	57-12-5	µg/L	5	u j	uj	n	10	5	2	Total Cyanide	M
280-96349-1	LL12mw-505-042517-GW	280-96349-9	Ground Water	Antimony	7440-36-0	µg/L	6	j	u	n	6	1	0.4	Metals	B
280-96349-1	LL12mw-505-042517-GW	280-96349-9	Ground Water	Beryllium	7440-41-7	µg/L	1	j	u	n	1	0.3	0.08	Metals	B
280-96349-1	LL12mw-505-042517-GW	280-96349-9	Ground Water	Lead	7439-92-1	µg/L	3	j	u	n	3	0.7	0.18	Metals	B
280-96349-1	LL12mw-505-042517-GW	280-96349-9	Ground Water	Thallium	7440-28-0	µg/L	1	J	u	n	1	0.2	0.05	Metals	B