GROUNDWATER AND SURFACE WATER MONITORING DATA RELEASE 2017 SAMPLING EVENT SHALLOW LAND DISPOSAL AREA FUSRAP SITE

U.S. Army Corps of Engineers
Building Strong®
Pittsburgh District

August 2018

Formerly Utilized Sites Remedial Action Program (FUSRAP)

FUSRAP was initiated in 1974 to identify, investigate, and if necessary, cleanup or control sites throughout the United States that were part of the Nation's early atomic weapons and energy programs during the 1940s, 1950s, and 1960s. When implementing FUSRAP, the United States Army Corps of Engineers (USACE) follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The USACE is the lead federal agency under FUSRAP remediating the Shallow Land Disposal Area (SLDA) site.

Site Description

The SLDA is located in Parks Township, Armstrong County, Pennsylvania, about 23 miles (37 kilometers) east-northeast of Pittsburgh, Pennsylvania (Figure 1). The 44-acre (18-hectare) site is predominantly an open field partially bordered by woodland. Ten (10) disposal trenches were excavated in the overburden soils and together encompass approximately 1.2 acres (0.49 hectares); the trenches are separated geographically into the Trench 1 through 9 area (or the upper trench area) and Trench 10 (the lower trench area). Site topography declines approximately 115 feet (35 meters) from the southeast to northwest, or from Trenches 1 through 9 toward Trench 10 (Figure 2). The depths of the upper trenches vary between 10 and 15 feet, whereas Trench 10 varies up to 20 feet in depth.

The upper trench area is underlain by up to 20 feet of native silty soils that blanket the following four groundwater-bearing bedrock zones:

- First Shallow Bedrock - averages 13 feet in thickness between elevation 881 and 894 feet,
- Second Shallow Bedrock - averages 14-feet in thickness between elevation 856 and 870 feet,
- Upper Freeport Coal – averages 4 feet in thickness between elevations 832 and 836 feet and was subjected to room and pillar mining (now exhibits open-channel flow), and
- Deep Bedrock Zone - averages about 36 feet in thickness between elevations 757 and 793 feet.

In the Trench 10 area, the Freeport coal seam was strip mined and the general area backfilled with approximately 22 feet of shale rock spoils. Figure 3 presents a generalized northwest to southeast geologic cross section through the site to depict these site entities and groundwater zones.

Groundwater under the upper trench area flows predominantly in the following directions in each layer:

- Northerly in the soil layer (Figure 4),
- North to northeasterly in the first shallow bedrock zone (Figure 5),
- Both the northeasterly and southwesterly in the second shallow bedrock zone (Figure 6) due to a flow divide under the site,
- Southerly in the Freeport Coal (Figure 7), and
- Southwesterly in the deep bedrock zone (Figure 8).

Groundwater surrounding Trench 10 appears to enter the Upper Freeport Coal seam, which generally drains to the south (Figure 7).

The site is drained by a small ephemeral stream identified as Dry Run (Figure 2). A portion of the flow in Dry Run infiltrates into the coal mine spoils near Trench 10 and then the abandoned coal mines that underlie most of the site (see Figure 2-14 in USACE 2005). The balance of flow in Dry Run continues northwest into the Kiskiminetas River.

Land use surrounding the SLDA site consists of medium-sized residential communities and individual rural residences, small farms with croplands and pastures, idle farmland, forestlands, and light industrial areas. The closest community is Kiskimere, which is adjacent to and to the south of the SLDA; some residences are located within several hundred feet of the SLDA.

Previous Groundwater Monitoring Results

A series of non-USACE groundwater monitoring actions began in 1981 and led to a quarterly monitoring program that ceased in 2000; the USACE initiated site activities in 2002. The historical and USACE-generated data are summarized in the Remedial Investigation (RI) performed by the USACE (USACE 2005).

Groundwater sampling conducted by the USACE during the RI included the following radionuclides:

- Radium-228
- Uranium-234, -235, -238
- Thorium-228, -232
- Plutonium-239,-241
- Americium-241

In addition, 10% of the RI samples were analyzed for cesium-137, cobalt-60, thorium-230, radium-226, plutonium-238, -240, -242, and gross alpha and beta. The RI sampling of groundwater indicated that FUSRAP-related constituents were not a threat to human health and the environment (USACE 2005).

From April to December 2011 (during the initial remedial action), groundwater was sampled monthly at 14 locations for the following constituents: isotopic uranium (U-234, -235, -238), isotopic thorium (Th-228, -232), radium-228, plutonium-239 and -241, americium-241, total uranium, target analyte list (TAL) metals (plus molybdenum), anions, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total organic carbon, and total dissolved solids. The radiological and metals analyses include both unfiltered and filtered samples. These sampling results were consistent with the RI sampling (i.e., FUSRAP-related radiologic constituents are not a risk to

groundwater at the SLDA). This monitoring effort was suspended in 2012 due to a remediation hiatus and will re-initiate once remediation recommences; the 2011 data are presented in the 2013 groundwater sampling report (USACE 2014).

Annual Sampling Program Purpose

The groundwater monitoring plan that was developed in 2013 is used to guide annual sampling activities through the completion of the remedial action (USACE 2013). The overarching objective of the sampling effort is to ensure the protection of human health and the environment from FUSRAP-related constituents of concern at the SLDA site. The USACE plan delineated an optimal monitoring program to detect the potential for off-site migration, specifically towards the Kiskimere community.

The goals of the groundwater monitoring program include:

- Specify analytical parameters for collected samples (Table 1)
- Identify the locations to be sampled (Table 2)
- Identify the frequency of sampling (i.e., annual sampling)

This sampling program was developed in consultation with the U.S. Environmental Protection Agency (USEPA); the USEPA also sampled groundwater in 2017 at the SLDA and presents the findings under separate cover (see: www.EPA.gov). USEPA did not collect groundwater samples during the 2018 groundwater monitoring event and have no plans to sample groundwater moving forward until site remediation activities resume.

Sampling Scope

Annual groundwater monitoring for 2017 at the SLDA was conducted on June 13 and 14, 2017. Twenty-four (24) groundwater locations were sampled and generally lie between the 10 trenches and the neighboring residences (Figure 9). Two (2) surface-water locations were also sampled to verify the protection of human health and the environment. Nine (9) wells planned for sampling did not yield water (pumped dry and did not recharge), which were substituted with nine (9) other wells to ensure completeness of the program. Table 1 lists the constituents analyzed and Table 2 lists the planned locations, along with well substitutions. The constituents listed in Table 1 are a subset of the analytes sampled during the RI and remedial action; this annual sampling program focuses on site contaminants specifically listed in the record of decision (ROD) (USACE 2007).

Static water levels from all site wells were recorded synchronously to the nearest 0.01 foot to determine whether adequate volumes were available for sampling and to confirm groundwater flow directions. These measurements are listed in Table 3; wells omitted from this list were either decommissioned during remedial action or previously damaged (unreliable). Figures 4 through 8 graphically present the groundwater elevation data and inferred flow directions for the five water bearing zones underlying the SLDA.

Low-flow sampling techniques consistent with USEPA guidance (Puls and Barcelona 1996) and the Department of Defense (DoD) (DoD 2013) were utilized for the groundwater sampling. Prior to sampling, wells were purged until the following field parameters stabilized according to the sampling plan: temperature, pH, specific conductance, oxidation-reduction potential (ORP), turbidity, and dissolved oxygen. These data are listed in Table 4.

Both unfiltered (total fraction) and field-filtered (dissolved fraction) groundwater samples were obtained where well yield allowed. All 2017 wells yielded enough groundwater to collect both sample sets for radionuclides and metals. Filtered samples were collected by utilizing a disposable 0.45 micron in-line filter. Field duplicates provided quality

control samples, which were collected at a rate of approximately one duplicate for every ten regular samples. Samples were packaged according to standard practices and shipped to DoD Environmental Laboratory Accreditation Program (ELAP) accredited laboratories. Laboratory data were reviewed and qualified per laboratory performance quality indicators, the applicable laboratory and method criteria, and the DoD Quality Systems Manual.

The sampling task produced investigation derived waste (IDW) that consisted of solids and liquids. The solid IDW generated from groundwater sampling and decontamination activities (i.e., personal protective equipment, sample tubing, etc.) was assessed for radioactivity and either disposed of as general trash or retained on site for disposition. The liquid IDW consisted of purge water that was containerized on site for future disposition.

Sampling Results

Figure 9 highlights the wells that were sampled in 2017; Tables 5 and 6 list the unfiltered (total) and filtered (dissolved phase) analytical results for the 2017 monitoring event. Table 7 presents a summary of all groundwater sampling results (2003-2017), comparative drinking water standards, and up-gradient values for radionuclides derived during the USACE RI. The 2017 analytical results are consistent with past sampling and select wells exhibit unique values for some analytes relative to the overall dataset; these are discussed below.

Metals Data:
The site-wide ranges of the 2017 data fall within the historical site ranges. The following metals exceeded their respective water quality standards in 2017 (Table 5):

- Aluminum
- Antimony
- Arsenic
- Beryllium
- Iron
- Manganese
- Nickel

The site-wide average values for aluminum, iron, and manganese exceed the primary or secondary drinking water standards (Table 7) due to the naturally low-oxygen or reducing conditions in the coal mine and deep groundwater zones below the coal mine. A singular arsenic exceedance in MW-22 (deep zone) was recorded in 2017 and reflects previous values from this well. This reducing condition commonly solubilizes these metals from natural minerals, which are persistent in the historic data ranges. A singular antimony exceedance in MW-59 (overburden well) was recorded in 2017 (0.0064 mg/L), which was only slightly above the drinking water standard listed in Table 7 (0.006 mg/L). The site-wide average for beryllium also exceeds the primary drinking water standard; in 2017, well MW-39 (coal mine well) near Trench 10 shows an exceedance and will be monitored in future events. Nickel also was exceeded in well MW-39, a coal-mine well, exhibiting very low pH (Table 4) and reflects previous values form this well.

Radionuclides:
The site-wide ranges of the 2017 data fall within the historical site ranges. No radionuclides exceed the drinking water standards, as listed in Tables 6 and 7. Where calculated, the 2017 data generally reflect natural background ranges or are well below the drinking water standards. Figure 10 presents filtered total uranium results in groundwater wells sampled in June 2017, arranged in the direction of groundwater flow.

Conclusions

The 2017 USACE sampling shows that radionuclides are present in site groundwater at concentrations indicative of background and well below USEPA MCLs or dose-based drinking water standards. Sampling results for metals show select constituents are above drinking water standards, primarily in the coal mine and deeper water-bearing zones. Other exceptions for metals vary throughout the hydrogeologic zones at the site and do not indicate a contiguously contaminated zone. The overall sampling results are consistent with past USACE findings that indicate no FUSRAP-related radionuclides exceed the USEPA MCLs or dose-based drinking water standards. The 2018 annual groundwater sampling event was conducted between 30 July and 02 August 2018.

References

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TABLES

Table 1. Site Monitoring Program and Analytical Methods

Analyte	Fraction	Method
Target Analyte List (TAL) Metals	Filtered and Unfiltered	EPA 6020, Inductively Coupled Plasma Mass-Spectrometry (ICPMS)
Total Uranium	Filtered and Unfiltered	ASTM D5174, Trace Uranium by Pulsed-Laser Phosphorimetry
Thorium-228 Thorium-230 Thorium-232 Uranium-234 Uranium-235 Uranium-238 Plutonium-238 Plutonium-239/240 Americium-241	Filtered and Unfiltered	Alpha Spectrometry
Plutonium-241	Filtered and Unfiltered	Liquid Scintillation

Table 2. Shallow Land Disposal Area FUSRAP Site Groundwater Monitoring Well Summary (2017)

Well/Location	Top of Casing Elevation (ft AMSL)	Zone	Up (U) or Down (D) Gradient from Disposal Areas	Monitoring Activity			Rationale
				Water Level	Unfiltered GW	Filtered GW	
02U11	925.99	OB	D	X			Water Levels
02U13	923.45	OB	D	X			Water Levels
03U05	924.1	OB	D	X			Water Levels
05U07	935.1	OB	U	X			Water Levels
06U05	941.26	OB	D	X			Water Levels
08U04	938.94	OB	D	X			Water Levels
08U05	940.93	OB	D	X			Water Levels
09U07	927.69	OB	D	X			Water Levels
10L31	859.84	UF	U	X	X	X	Trench Containment Verification
10L32	848.69	UF	U	X			Water Levels
MW-01	845.79	UF	U	X	◊	◊	Water Levels
MW-02	884.22	DB	U	X			Water Levels
MW-02A	885.43	UF	D	X	X	X	Trench Containment Verification
MW-03	890.5	UF	D	X	NS	NS	Trench Containment Verification
MW-04	NA	UF	D	X			Water Levels
MW-05	865.49	UF	U	X	X	X	Trench Containment Verification
MW-07	921.52	1S	U/cross gradient	X	X	X	Trench Containment Verification
MW-08	931.77	1S	U	X	X	X	Trench Containment Verification
MW-09A	945.45	1S	U	X	X	X	Trench Containment Verification
MW-11D	909.8	2S	D	X			Water Levels
MW-11S	909.27	OB	D	X			Water Levels
MW-12D	919.31	1S	D	X			Water Levels
MW-13	948.68	1S	U	X	X	X	Trench Containment Verification
MW-14	947.33	1S	U	X	X	X	Trench Containment Verification
MW-15	940.31	1S	U	X	X	X	Trench Containment Verification
MW-17	913.71	2S	D	X			Water Levels
MW-19	861.45	DB	U	X			Water Levels
MW-20	889.87	UF	D	X	NS	NS	Trench Containment Verification
MW-21	888.32	UF	D	X	NS	NS	Trench Containment Verification
MW-22	893.41	DB	D	X	X	X	Trench Containment Verification
MW-25	910.07	1S	D	X			Water Levels
MW-26	919.56	1S	D	X			Water Levels
MW-27	929.99	1S	D	X			Water Levels
MW-29	912.53	1S	D	X			Water Levels
MW-32	925.89	1S	U	X	NS	NS	Trench Containment Verification
MW-33	940.76	2S	U	X	X	X	Trench Containment Verification
MW-34A	926.84	DB	D	X	NS	NS	Trench Containment Verification
MW-35	913.68	DB	U	X			Water Levels
MW-37	926.58	2S	D	X			Water Levels
MW-38	943.81	1S	U	X	◊	◊	Water Levels

Well/Location	Top of Casing Elevation (ft AMSL)	Zone	Up (U) or Down (D) Gradient from Disposal Areas	Monitoring Activity			Rationale
				Water Level	Unfiltered GW	Filtered GW	
MW-39	891.99	UF	D	X	X	X	Trench Containment Verification
MW-40	939.63	DB	D	X	X	X	Trench Containment Verification
MW-41	912.86	1S	D	X			Water Levels
MW-42	916.5	1S	D	X			Water Levels
MW-43	916.32	2S	D	X			Water Levels
MW-44	930.98	1S	D	X	◊	◊	Water Levels
MW-45	929.9	2S	U	X	NS	NS	Trench Containment Verification
MW-46	924.18	UF	D	X	NS	NS	Trench Containment Verification
MW-47	925.18	OB	U	X	X	X	Trench Containment Verification
MW-50	902.02	1S	D	X	◊	◊	Water Levels
MW-51	925.43	1S	D	X	◊	◊	Water Levels
MW-52	924.73	2S	U	X	NS	NS	Trench Containment Verification
MW-53	925.34	2S	D	X	◊	◊	Water Levels
MW-58	838.93	DB	U	X			Water Levels
MW-59	932.45	OB	U	X	◊	◊	Water Levels
MW-61	932.49	2S	U	X	NS	NS	Trench Containment Verification
MW-62	926.22	UF	D	X			Water Levels
MW-64	946.5	OB	U	X			Water Levels
MW-69	947.43	OB	U	X			Water Levels
MW-74	925.3	OB	U	X			Water Levels
MW-80	916.07	1S	D	X			Water Levels
MW-81	898.22	1S	D	X			Water Levels
MW-82	921.22	1S	D	X			Water Levels
MW-83	916.03	OB	D	X			Water Levels
MW-84	923.36	1S	D	X			Water Levels
MW-86	928.02	1S	D	X			Water Levels
NWS-01A	931.57	Varies	Varies	--			FLUTe Well – Not Measured
NWS-02	946.35	Varies	Varies	--			FLUTe Well – Not Measured
NWS-03	946.87	Varies	Varies	--			FLUTe Well – Not Measured
NWS-04	925.25	Varies	Varies	--			FLUTe Well – Not Measured
NWS-05	914.28	Varies	Varies	--			FLUTe Well – Not Measured
PZ-01	907.53	OB	D	X	◊	◊	Water Levels
PZ-02	913.49	OB	D	X			Water Levels
PZ-03A	920.72	OB	D	X			Water Levels
PZ-04	920.85	OB	D	X			Water Levels
PZ-05	929.78	OB	D	X			Water Levels
PZ-06A	943.23	OB	D	X			Water Levels
PZ-07	942.67	OB	U	X			Water Levels
PZ-08	933.31	OB	U	X	◊	◊	Water Levels
PZ-09	938.49	OB	U	X	X	X	Trench Containment Verification
TPZ-01	924.3	1S	U	X			Water Levels
TPZ-02	926.38	1S	U	X			Water Levels

Well/Location	Top of Casing Elevation (ft AMSL)	Zone	Up (U) or Down (D) Gradient from Disposal Areas	Monitoring Activity			Rationale
				Water Level	Unfiltered GW	Filtered GW	
TPZ-03	895.5	1S	D	X			Water Levels
TPZ-04	914.09	1S	D	X			Water Levels
TPZ-05	916.51	1S	D	X			Water Levels
TPZ-06	907.77	OB	D	X			Water Levels
TPZ-07	917.35	OB	D	X			Water Levels
TPZ-08	924.45	OB	D	X			Water Levels

Notes:

ft AMSL	feet above mean sea level	UF	Upper Freeport Coal
GW	Groundwater	DB	Deep Bedrock Zone
OB	Overburden	NA	Data Not Available
1S	First Shallow Bedrock Zone	NS	Dry or Non-producing Well
2S	Second Shallow Bedrock Zone		
◊	Water-level Well Sampled as a Replacment for Dry or Non-producing Trench Containment Well		

Table 3. 2017 SLDA Groundwater Levels

Well ID	Date	Depth to Water	Depth to Bottom from TOC	New Remarks
01U17	6/12/2017	--	16.18	Not Measured - Damaged Riser
03U05	6/15/2017	11.05	11.41	
06U05	6/12/2017	10.74	17.33	
08U04	6/12/2017	Dry	17.33	
10L31	6/12/2017	22.56	25.00	
10L32	6/12/2017	10.64	12.20	
MW-01	6/12/2017	8.13	20.00	
MW-02	6/12/2017	77.23	92.00	
MW-02A	6/12/2017	46.95	51.30	
MW-03	6/12/2017	52.31	53.20	
MW-05	6/12/2017	26.03	27.33	
MW-07	6/12/2017	31.45	35.44	
MW-08	6/12/2017	12.45	35.88	Requires Cap Replacement
MW-09A	6/12/2017	19.64	37.21	
MW-11D	6/12/2017	40.45	42.90	
MW-11S	6/12/2017	11.45	11.90	
MW-13	6/12/2017	22.72	38.65	
MW-14	6/12/2017	13.84	32.20	
MW-15	6/12/2017	11.87	31.23	
MW-17	6/12/2017	56.70	79.00	
MW-19	6/12/2017	56.71	109.20	
MW-20	6/12/2017	Dry	55.00	
MW-21	6/12/2017	Dry	50.50	
MW-22	6/12/2017	88.64	113.70	
MW-25	6/12/2017	16.90	38.65	Requires Cap Replacement
MW-26	6/12/2017	17.65	28.22	
MW-27	6/12/2017	34.31	38.61	
MW-29	6/15/2017	18.06	39.16	
MW-32	6/12/2017	26.40	26.15	Dry - Sediment in Bottom
MW-33	6/12/2017	56.09	83.75	
MW-34A	6/12/2017	100.55	100.60	Dry
MW-35	6/15/2017	112.45	167.70	
MW-37	6/12/2017	Dry	69.20	Dry and Possibly Collapsed Riser
MW-38	6/12/2017	40.72	63.30	
MW-39	6/12/2017	55.33	58.35	
MW-40	6/12/2017	122.81	191.80	
MW-41	6/12/2017	19.70	36.70	
MW-42	6/12/2017	23.90	41.70	
MW-43	6/12/2017	41.40	46.81	Maintenance Required
MW-44	6/12/2017	40.67	54.65	
MW-45	6/12/2017	67.80	67.25	Dry
MW-46	6/12/2017	39.50	39.47	Dry
MW-47	6/13/2017	--	20.95	Damaged Riser - Requires Maintenance
MW-50	6/12/2017	34.60	35.10	Dry
MW-51	6/12/2017	31.40	36.24	
MW-52	6/12/2017	34.88	44.29	
MW-53	6/12/2017	54.83	62.11	
MW-58	6/12/2017	6.29	36.75	Possibly Damaged at 36.75 feet - Clogged

Well ID	Date	Depth to Water	Depth to Bottom from TOC	New Remarks
MW-59	6/15/2017	6.90	14.14	
MW-61	6/15/2017	67.73	68.00	Dry
MW-62	6/12/2017	87.67	90.70	
MW-64	6/12/2017	13.73	21.95	
MW-69	6/12/2017	14.72	22.54	
MW-74	6/15/2017	15.22	15.24	Dry
MW-80	6/12/2017	26.40	39.42	
MW-81	6/12/2017	8.70	15.10	Ant Colony
MW-82	6/12/2017	29.50	38.31	
MW-83	6/12/2017	48.60	74.30	
MW-84	6/12/2017	34.21	39.56	
MW-86	6/12/2017	37.67	38.09	
PZ-01	6/12/2017	11.35	18.60	
PZ-02	6/12/2017	17.70	19.80	
PZ-04	6/12/2017	--	16.55	Destroyed by Remedial Action
PZ-05	6/12/2017	19.63	19.74	
PZ-06A	6/12/2017	6.74	17.31	
PZ-07	6/12/2017	6.84	19.80	
PZ-08	6/12/2017	8.10	19.88	
PZ-09	6/12/2017	8.34	19.28	
TPZ-01	6/12/2017	--	--	Not Measured - Off-site Location
TPZ-02	6/12/2017	--	--	Not Measured - Off-site Location
TPZ-03	6/12/2017	9.57	13.90	
TPZ-04	6/12/2017	19.55	27.66	
TPZ-05	6/12/2017	22.50	32.26	
TPZ-06	6/12/2017	--	7.55	Not Measured - Damaged Riser
TPZ-07	6/12/2017	--	7.55	Not Measured - Damaged Riser

Table 4. Groundwater Sampling Field Data (2017)

Well ID	Collect Date	Temperature (F)	pH (standard unit)	ORP (mV)	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Purge Rate (mL/min)	Comments
10L31	13-Jun-17	72.0	6.79	381	0.420	0.0	3.50	150	Neglible drawdown (<0.1 foot)
MW-01	13-Jun-17	60.6	6.37	355	0.320	0.0	2.55	150	No Drawdown
MW-02A	14-Jun-17	63.9	5.61	165	0.308	0.0	4.08	340	1.5 feet of drawdown
MW-05	13-Jun-17	75.0	6.22	372	0.434	0.0	1.11	140	Neglible drawdown (<0.2 foot)
MW-07	13-Jun-17	60.5	7.05	170	0.371	2.9	0.73	225	Neglible drawdown (<0.1 foot)
MW-08	13-Jun-17	67.6	7.30	-29	0.296	0.0	1.22	95	Slight drawdown (<0.9 foot)
MW-09A	13-Jun-17	62.3	7.19	277	0.255	0.0	6.04	230	3.0 feet of drawdown
MW-13	13-Jun-17	61.9	7.31	42	0.212	109.0	2.27	230	Neglible drawdown (<0.3 foot)
MW-14	13-Jun-17	62.7	6.36	-34	0.246	4.9	1.31	210	Slight drawdown (<0.6 foot)
MW-15	13-Jun-17	63.7	5.82	72	0.156	170.0	0.72	210	2.0 feet of drawdown
MW-22	14-Jun-17	65.1	6.20	-83	1.110	97.0	0.96	540	Neglible drawdown (<0.2 foot)
MW-33	13-Jun-17	65.4	6.09	-55	0.414	26.5	1.08	200	4.0 feet of drawdown
MW-38	14-Jun-17	57.7	7.73	-131	0.331	4.8	0.52	300	Neglible drawdown (<0.1 foot)
MW-39	13-Jun-17	56.8	3.03	395	0.900	2.9	4.40	825	No Drawdown - Open Mine Well
MW-40	13-Jun-17	62.7	7.87	-121	0.748	1.2	1.35	200	3.6 feet of drawdown
MW-44	14-Jun-17	60.8	6.48	40	0.303	0.0	2.37	450	3.0 feet of drawdown
MW-47	13-Jun-17	73.6	4.30	299	0.175	610.0	4.77	60	Purge water retained for samples - Dry
MW-50	14-Jun-17	58.4	6.06	143	0.192	0.0	0.55	150	1.7 feet drawdown
MW-51	14-Jun-17	54.7	7.24	-81	0.399	0.0	0.55	400	0.3 foot of drawdown
MW-53	14-Jun-17	68.3	7.33	76	1.030	0.0	3.36	150	Neglible drawdown (<0.2 foot)
MW-59	13-Jun-17	66.4	4.62	332	0.131	126.0	2.19	270	4.4 feet of drawdown
PZ-01	13-Jun-17	63.4	5.85	228	0.197	0.0	1.89	115	Neglible drawdown (<0.4 foot)
PZ-08	14-Jun-17	68.4	5.66	155	0.061	105.0	0.96	160	2.3 feet of drawdown
PZ-09	13-Jun-17	61.6	4.83	228	0.140	0.0	1.80	210	Slight drawdown (<0.8 foot)
SP-DR-01	15-Jun-17	67.7	6.34	163	0.249	74.6	8.60	--	Groundwater seep near Trenches 4-5
WS-CR-06	13-Jun-17	69.9	7.55	182	0.319	13.9	6.10	--	Carnahan Run Outlet at Kiski River

Maximum	75.0	7.9	395	1.110	610.0	8.6	825.0
Minimum	54.7	3.0	-131	0.061	0.0	0.5	60.0
Average	64.3	6.3	136	0.374	51.9	2.5	250.4
Geometric Mean	64.1	6.2	--	0.302	--	1.8	212.6

NOTES:
Temperature (F) - Degrees Fahrenheit
Specific Conductance (mS/cm) - millisiemens per centimeter
ORP (mV) - Oxidation Reduction Potential in milliivolts
Turbidity (NTU) - Nephelometric Turbidity Units
Purge Rate (mL/min) - milliliters per minute ("Pump Max" reflects maximum peristaltic rate of approximately 0.4 gallons [1.5 liters] per minute)

Table 5. Comprehensive Metals Sampling Results at SLDA

Well	Year	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM, TOTAL	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
10L31	2013	0.01 J	0.00052 U	0.00061 U	0.039		0.00027 U	79	0.0013 J	0.00036 J	0.0008 J	0.29	0.00024 U	42
	2014	0.0038 J	0.001 U	0.001 U	0.043	0.0005 U	0.0005 U	67	0.0028 J	0.0005 U	0.00035 J	0.26	0.0005 U	36
	2015	0.0084 J	0.001 U	0.001 U	0.06	0.0005 U	0.0005 U	54	0.00061 J	0.0005 U	0.0005 U	0.15 J	0.0005 U	27
	2016	0.015 J	0.00075 U	0.001 U	0.078	0.0005 U	0.0005 U	54	0.00062 J	0.00016 J	0.00073 J	0.62 U	0.0005 U	32
	2017	0.13	0.0011 J	0.001 U	0.082	0.0005 U	0.0005 U	53	0.00044 J	0.00034 J	0.00089 J	0.66	0.00036 J	30
10L31 (Filtered)	2013	0.0099 J	0.00052 U	0.00061 U	0.03	0.00025 U	0.00027 U	65	0.0016 J	0.00018 J	0.00088 J	0.098 J	0.00024 U	32
	2014	0.0025 U	0.001 U	0.001 U	0.038	0.00034 J	0.0005 U	65	0.0018 J	0.00022 J	0.0015 J	0.47	0.0005 U	33
	2015	0.0027 J	0.00062 J	0.001 U	0.054	0.0005 U	0.0005 U	54	0.002 J	0.00026 J	0.0005 U	0.16 J	0.0005 U	29
	2016	0.38	0.00075 U	0.001 U	0.075	0.0005 U	0.0005 U	52	0.00071 J	0.00013 J	0.0013 J	0.62 U	0.0005 U	29
	2017	0.005 U	0.00075 U	0.001 U	0.076	0.0005 U	0.0005 U	32	0.0005 U	0.00022 J	0.00096 J	0.47	0.0005 U	28
MW-01	2013	0.012 J	0.00052 U	0.00061 U	0.048		0.00027 U	46	0.00092 J	0.00022 J	0.0008 J	0.19 J	0.0003 J	23
	2014	0.0043 U	0.00076 J	0.001 U	0.046	0.0005 U	0.0005 U	37	0.00066 J	0.0005 U	0.00046 U	0.12 U	0.0005 U	19
	2015	0.027 J	0.001 U	0.0032	0.07	0.0005 U	0.0005 U	26	0.0005 U	0.00013 J	0.00024 U	4.2	0.0005 U	13
	2016	0.012 J	0.00075 U	0.001 U	0.048	0.0005 U	0.0005 U	29	0.00054 J	0.0005 U	0.00055 J	0.62 U	0.0005 U	18
	2017	0.0032 U	0.00075 U	0.001 U	0.053	0.0005 U	0.0005 U	31	0.00038 J	0.0005 U	0.00057 J	0.19 J	0.0005 U	19
MW-01 (Filtered)	2013	0.0017 J	0.00052 U	0.00061 U	0.043	0.00025 U	0.00027 U	44	0.00031 J	0.00012 U	0.0004 J	0.048 U	0.00024 U	21
	2014	0.0025 U	0.001 U	0.001 U	0.047	0.0005 U	0.0005 U	33	0.00078 J	0.0005 U	0.0003 J	0.12 U	0.0005 U	17
	2015	0.0044 J	0.001 U	0.001 U	0.054	0.0005 U	0.0005 U	26	0.0012 J	0.00057 J	0.0005 U	0.31	0.0005 U	13
	2016	0.46	0.00075 U	0.001 U	0.048	0.0005 U	0.0005 U	32	0.00041 J	0.0005 U	0.0024 J	0.62 U	0.0005 U	17
	2017	0.005 U	0.00075 U	0.001 U	0.054	0.0005 U	0.0005 U	32	0.0005 U	0.0005 U	0.0015 U	0.31	0.0005 U	18
MW-02A	2013	0.041 J	0.0011 J	0.00061 U	0.035		0.00027 U	58	0.0017 J	0.0033 J	0.0027 J	0.38	0.00046 J	15
	2015	0.073	0.001 U	0.001 U	0.034	0.0005 U	0.0005 U	27	0.0012 J	0.00089 J	0.00024 U	0.27	0.0005 U	11
	2016	0.028 J	0.00075 U	0.001 U	0.033	0.0005 U	0.0005 U	32	0.00041 J	0.00082 J	0.0017 J	0.62 U	0.0005 U	11
	2017	0.033 J	0.0031	0.001 U	0.034	0.0005 U	0.0005 U	40	0.0013 J	0.00028 J	0.0011 J	0.28	0.0005 U	13
MW-02A (Filtered)	2013	0.0094 J	0.00052 U	0.00061 U	0.03	0.00025 U	0.00027 U	59	0.00075 J	0.003	0.0028 J	0.46	0.00024 U	14
	2015	0.01 J	0.001 U	0.001 U	0.035	0.0005 U	0.0005 U	27	0.0011 J	0.00094 J	0.0005 U	0.091 J	0.0005 U	11
	2016	0.86	0.00075 U	0.001 U	0.029	0.0005 U	0.0005 U	35	0.00045 J	0.00084 J	0.0031 J	0.62 U	0.0005 U	11
	2017	0.0096 J	0.00075 U	0.001 U	0.033	0.0005 U	0.0005 U	37	0.00054 J	0.00023 J	0.0011 J	0.33	0.0005 U	12
MW-03	2014	55	0.00055 J	0.011	0.025 J	0.033	0.0044	200	0.051	0.18	0.15	99	0.0014	69
	2015	31	0.002 J	0.005	0.0063 J	0.025	0.0013	170	0.035 J	0.14	0.074 J	69	0.0023	38
	2016	31	0.00075 U	0.002 U	0.0036 J	0.02	0.00072 J	160	0.022	0.12	0.042	67	0.001 U	59
MW-03 (Filtered)	2015	49	0.001 U	0.0016	0.0035 J	0.028	0.0014	190	0.032	0.14	0.064	75	0.0021	64
MW-05	2014	0.035 J	0.001 U	0.001 U	0.038	0.0005 J	0.0005 U	45	0.25	0.008	0.0028 J	1.3	0.0005 U	25
	2015	0.075	0.001 J	0.001 U	0.028	0.0005 U	0.0005 U	39	0.21	0.00065 J	0.0022 J	1.1	0.0005 U	20
	2016	0.012 J	0.00075 U	0.001 U	0.029	0.0005 U	0.0005 U	47	0.038	0.0003 J	0.0011 J	0.25 J	0.0005 U	28
	2017	0.01 U	0.00075 U	0.001 U	0.025	0.0005 U	0.0005 U	46	0.04	0.00034 J	0.00093 J	0.45	0.0005 U	29
MW-05 (Filtered)	2014	0.018 J	0.001 U	0.001 U	0.027	0.0005 U	0.0005 U	44	0.0062 J	0.0043	0.002 J	0.095 J	0.0005 U	23
	2015	0.63	0.001 U	0.001 U	0.028	0.00046 J	0.0005 U	43	0.01	0.0035	0.0016 J	1.5	0.0005 U	22
	2016	0.35	0.00075 U	0.001 U	0.028	0.0005 U	0.0005 U	46	0.0027 J	0.0003 J	0.0069	0.62 U	0.0005 U	26
	2017	0.005 U	0.00075 U	0.001 U	0.025 J	0.0005 U	0.0005 U	45	0.0034 J	0.00023 J	0.00054 J	0.45	0.0005 U	28
MW-07	2013	0.015 J	0.0014 J	0.00061 U	0.2		0.00027 U	70	0.002 J	0.00049 J	0.0031 J	0.16 J	0.00038 J	13
	2014	0.024 J	0.001 U	0.001 U	0.24	0.00034 J	0.0005 U	59	0.0037 J	0.0003 J	0.007	0.15 J	0.00036 J	11
	2015	0.0078 J	0.001 U	0.001 U	0.17	0.0005 U	0.0005 U	57	0.00084 J	0.00015 J	0.0006 J	0.15 J	0.00026 J	9.9
	2017	0.008 U	0.00075 U	0.001 U	0.17	0.0005 U	0.0005 U	52	0.0008 J	0.00017 J	0.00096 J	0.32	0.0005 U	11
MW-07 (Filtered)	2013	0.0095 J	0.0012 J	0.00061 U	0.16	0.00025 U	0.00027 U	58	0.0015 J	0.00027 J	0.002 J	0.048 U	0.00024 U	9.9
	2014	0.0025 U	0.001 U	0.001 U	0.21	0.0005 U	0.0005 U	57	0.00078 J	0.00024 J	0.00098 J	0.12 U	0.0005 U	10
	2015	0.0023 J	0.001 U	0.001 U	0.18	0.0005 U	0.0005 U	59	0.002 J	0.00018 J	0.0005 U	0.16 J	0.0005 U	11
	2017	0.005 U	0.00075 U	0.001 U	0.18	0.0005 U	0.0005 U	53	0.00056 J	0.0002 J	0.00064 J	0.49	0.0005 U	10
MW-08	2013	0.005 J	0.00052 U	0.0014 J	0.35 J		0.0012	43	0.0025 J	0.0015 J	0.0019 J	0.47	0.0014	8.5
	2014	0.0028 J	0.001 U	0.001 U	0.35	0.0005 U	0.0005 U	40	0.0036 J	0.00012 J	0.0005 U	0.42	0.0005 U	8.5
	2015	0.0014 U	0.001 U	0.00064 J	0.34	0.0005 U	0.0005 U	39	0.0004 J	0.0005 U	0.00024 U	0.59	0.0005 U	7.7
	2016	0.067 J	0.00075 U	0.001 U	0.37	0.0005 U	0.0005 U	38	0.00059 J	0.00032 J	0.00096 J	1.5	0.0005 U	8.7
	2017	0.0043 U	0.00075 U	0.001 U	0.36	0.0005 U	0.0005 U	37	0.00043 J	0.0005 U	0.00053 J	0.45	0.0005 U	8.9
MW-08 (Filtered)	2013	0.0016 J	0.00052 U	0.00061 U	0.33	0.00025 U	0.00027 U	44	0.0003 U	0.00012 U	0.00032 J	0.28	0.00024 U	8.3
	2014	0.0025 U	0.001 U	0.001 U	0.33	0.0005 U	0.0005 U	38	0.00066 J	0.0005 U	0.00049 J	0.11 J	0.0005 U	7.7
	2015	0.0025 U	0.001 U	0.001 U	0.34	0.0005 U	0.0005 U	39	0.00092 J	0.0005 U	0.0005 U	0.28	0.0005 U	8
	2016	0.78	0.00075 U	0.001 U	0.33	0.0005 U	0.0005 U	38	0.0005 U	0.00016 J	0.0028 J	0.3 J	0.0005 U	8
	2017	0.005 U	0.00075 U	0.001 U	0.36	0.0005 U	0.0005 U	37	0.0005 U	0.0005 U	0.0015 U	0.41	0.0005 U	8.3
MW-09A	2013	0.044 J	0.00052 U	0.0043	0.46		0.00027 U	30	0.005 J	0.00044 J	0.013	0.51	0.00031 J	6
	2014	0.0032 J	0.001 U	0.001 U	0.43	0.0005 U	0.0005 U	26	0.0045 J	0.0005 U	0.00029 J	0.22	0.0005 U	5.4
	2015	0.0025 U	0.00052 U	0.001 U	0.44	0.0005 U	0.0005 U	26	0.0042 J	0.0005 U	0.0005 U	0.072 J	0.0005 U	5
	2016	0.014 J	0.00075 U	0.001 U	0.43	0.0005 U	0.0005 U	25	0.0032 J	0.00017 J	0.00086 J	0.62 U	0.0005 U	5.9
	2017	0.0046 U	0.0012 J	0.001 U	0.46	0.0005 U	0.0005 U	27	0.004 J	0.00016 J	0.0006 J	0.18 J	0.0005 U	6.1

Well	Year	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/Lg/L
10L31	2013	0.046	0.000086 J	0.0042 J	3.1	0.0015 U	0.00018 U	9	0.00016 U	0.00054 J	0.016 J
	2014	0.013	0.0001 U	0.002 J	2.7	0.003 J	0.0005 U	6.8	0.0005 U	0.0005 U	0.0031 J
	2015	0.0057	0.0001 U	0.0013 J	2.8	0.0025 U	0.0005 U	5.1	0.0005 U	0.0005 U	0.0018 U
	2016	0.0015 J	0.0001 U	0.0039 J	2.3 J	0.0016 J	0.0005 U	1.9 J	0.0005 U	0.0005 U	0.0054 J
	2017	0.013	0.0001 U	0.0029 J	2.5	0.0021 J	0.0005 U	2	0.0005 U	0.0025 U	0.003 J
10L31 (Filtered)	2013	0.037	0.00012 J	0.0037 J	2.5	0.0017 J	0.00028 J	7	0.00016 U	0.00049 U	0.013 J
	2014	0.013	0.0001 U	0.0017 J	2.6	0.0025 U	0.0005 U	6.2	0.0005 U	0.00094 J	0.0035 J
	2015	0.00093 J	0.0001 U	0.0014 J	2.8	0.0016 J	0.0005 U	5.5	0.0005 U	0.00054 J	0.0027 J
	2016	0.0005 U	0.0001 U	0.0023 J	2.3 J	0.0022 J	0.0005 U	1.9 J	0.0005 U	0.0005 U	0.004 J
	2017	0.00036 J	0.0001 U	0.0032 J	2.4	0.002 J	0.0005 U	2	0.0005 U	0.0025 U	0.005 U
MW-01	2013	0.014	0.000091 J	0.0034 J	1.8	0.0022 J	0.00018 U	4.8	0.0002 J	0.00049 U	0.0067 J
	2014	0.0015 J	0.0001 U	0.0014 J	1.5	0.0019 J	0.0005 U	3.2	0.0005 U	0.0005 U	0.0061 J
	2015	0.011	0.0001 U	0.001 J	1.5	0.0025 U	0.0005 U	2.1	0.0005 U	0.0005 U	0.0018 U
	2016	0.00042 J	0.0001 U	0.0016 J	1.5 J	0.0023 J	0.0005 U	3.7	0.0005 U	0.0005 U	0.0058 J
	2017	0.001 U	0.0001 U	0.0021 J	1.7	0.0025 U	0.0005 U	3.7	0.0005 U	0.0025 U	0.0037 J
MW-01 (Filtered)	2013	0.00086 J	0.000085 J	0.0032 J	1.7	0.0018 J	0.00018 U	4.5	0.00016 U	0.00049 U	0.0027 J
	2014	0.00061 J	0.0001 U	0.0012 J	1.3	0.0024 J	0.0005 U	3	0.0005 U	0.00068 J	0.0022 J
	2015	0.012	0.0001 U	0.00098 J	1.7	0.0022 J	0.0005 U	2.4	0.0005 U	0.0005 U	0.0027 J
	2016	0.0005 U	0.0001 U	0.0019 J	1.6 J	0.0016 J	0.0005 U	3.7	0.0005 U	0.0005 U	0.0055 J
	2017	0.001 U	0.0001 U	0.0023 J	1.7	0.002 J	0.0005 U	3.7	0.0005 U	0.0025 U	0.005 U
MW-02A	2013	0.21	0.000087 J	0.021	3.6	0.0015 U	0.00018 U	4.9	0.00036 J	0.00049 U	0.023 J
	2015	0.053	0.0001 U	0.0047 J	1.7	0.0025 U	0.0005 U	1.9	0.0005 U	0.0005 U	0.0018 U
	2016	0.083	0.0001 U	0.0042 J	2.2 J	0.0017 J	0.0005 U	3.4	0.0005 U	0.0005 U	0.013 J
	2017	0.021	0.0001 U	0.0048 J	2.6	0.0021 J	0.0005 U	3.6	0.0005 U	0.0025 U	0.016 J
MW-02A (Filtered)	2013	0.25	0.000064 U	0.033	3.4	0.0023 J	0.00018 U	4.6	0.00016 U	0.00049 U	0.025 J
	2015	0.049	0.0001 U	0.0053 J	1.7	0.0025 U	0.0005 U	1.5	0.0005 U	0.0005 U	0.012 J
	2016	0.089	0.0001 U	0.0045 J	2.2 J	0.0025 U	0.0005 U	3.5	0.0005 U	0.0005 U	0.0099 J
	2017	0.019	0.0001 U	0.0044 J	2.5	0.0025 U	0.0005 U	3.6	0.0005 U	0.0025 U	0.0099 J
MW-03	2014	2	0.0001 U	0.68	1.6	0.0025 U	0.0005 U	7.1	0.0006 J	0.0005 U	2.2
	2015	1.5	0.0001 U	0.49	2.5 U	0.0016 J	0.00018 U	2.7 J	0.00064 J	0.01 U	0.94
	2016	1.3	0.0001 U	0.41	2.5 U	0.005 U	0.0005 U	6.4 J	0.00033 J	0.001 U	0.86
MW-03 (Filtered)	2015	1.7	0.0001 U	0.48	1.3	0.0025 U	0.0005 U	5.3	0.00044 J	0.00052 J	1.1
MW-05	2014	0.6	0.0001 U	0.34	2.2	0.0025 U	0.0005 U	17	0.0005 U	0.0005 U	0.0086 J
	2015	0.012	0.0001 U	0.051	2.1	0.0025 U	0.0005 U	2.3	0.0005 U	0.0005 U	0.0018 U
	2016	0.0061	0.0001 U	0.04	2 J	0.0025 J	0.0005 U	12	0.0005 U	0.0005 U	0.0069 J
	2017	0.0054	0.0001 U	0.043	2.4	0.0025 U	0.0005 U	10	0.0005 U	0.0025 U	0.007 J
MW-05 (Filtered)	2014	0.95	0.0001 U	0.16	2.1	0.0021 J	0.0005 U	17	0.0005 U	0.00064 J	0.011 J
	2015	0.035	0.0001 U	0.045	2.2	0.0019 J	0.0005 U	2.5	0.0005 U	0.00057 J	0.023 J
	2016	0.0075	0.0001 U	0.036	2 J	0.0016 J	0.0005 U	12	0.0005 U	0.0005 U	0.0057 J
	2017	0.0026 J	0.0001 U	0.032	2.4	0.0025 U	0.0005 U	11	0.0005 U	0.0025 U	0.005 U
MW-07	2013	0.46 J	0.000047 J	0.0062 J	2.5	0.0015 U	0.00086 J	5.2 J	0.00025 J	0.00049 U	0.023 J
	2014	0.89	0.0001 U	0.006 J	3.2	0.0023 J	0.0005 U	4.9	0.0005 U	0.0005 U	0.0059 J
	2015	0.25	0.0001 U	0.0022 J	2.1	0.0025 U	0.0005 U	3.3	0.0005 U	0.0005 U	0.0018 U
	2017	0.2	0.0001 U	0.0033 J	2	0.0025 U	0.0005 U	3.6	0.0005 U	0.0025 U	0.01 J
MW-07 (Filtered)	2013	0.39	0.00012 J	0.0049 J	2.1	0.0015 U	0.00018 U	4	0.00016 U	0.00049 U	0.015 J
	2014	0.81	0.0001 U	0.0032 J	2.1	0.0025 U	0.00034 J	4.6	0.0005 U	0.0005 U	0.0023 J
	2015	0.25	0.0001 U	0.0025 J	2.1	0.0025 U	0.0005 U	3.9	0.0005 U	0.00055 J	0.061
	2017	0.23	0.0001 U	0.0036 J	2	0.0025 U	0.0005 U	3.7	0.0005 U	0.0025 U	0.0087 J
MW-08	2013	0.1	0.000095 J	0.0027 J	1.7	0.002 J	0.00018 U	3.8 J	0.0009 J	0.0018 J	0.014 J
	2014	0.12	0.0001 U	0.003 J	1.5	0.0025 U	0.0005 U	3.1	0.0005 U	0.0005 U	0.0019 J
	2015	0.29	0.0001 U	0.0013 J	1	0.0025 U	0.0005 U	2.8	0.0005 U	0.0005 U	0.0025 U
	2016	0.55	0.0001 U	0.002 J	1.4 J	0.0025 U	0.0005 U	3.6	0.0005 U	0.0005 U	0.0088 J
	2017	0.29	0.0001 U	0.0019 J	1.6	0.0025 U	0.0005 U	4	0.0005 U	0.0025 U	0.015 J
MW-08 (Filtered)	2013	0.052	0.000062 U	0.0013 J	1.7	0.0015 U	0.00018 U	3.3	0.00016 U	0.00049 U	0.013 J
	2014	0.051	0.0001 U	0.0023 J	1.5	0.0025 U	0.0005 U	2.9	0.0005 U	0.00062 J	0.0018 J
	2015	0.19	0.0001 U	0.0014 J	1.6	0.0025 U	0.0005 U	3	0.0005 U	0.0005 U	0.0025 U
	2016	0.24	0.000057 J	0.0014 J	1.3 J	0.0025 U	0.0005 U	3.4	0.0005 U	0.0005 U	0.0056 J
	2017	0.2	0.0001 U	0.002 J	1.7	0.0025 U	0.0005 U	3.9	0.0005 U	0.0025 U	0.005 U
MW-09A	2013	0.032	0.000083 J	0.0033 J	6.5	0.0015 U	0.00018 U	8.5	0.00016 U	0.00049 U	0.026 J
	2014	0.021	0.0001 U	0.0014 J	11	0.0025 U	0.0005 U	11	0.0005 U	0.0005 U	0.0019 J
	2015	0.0017 J	0.0001 U	0.00094 J	9.6	0.0025 U	0.0005 U	10	0.00019 J	0.0005 U	0.0025 U
	2016	0.0011 J	0.0001 U	0.001 J	11	0.0025 U	0.0005 U	12	0.0005 U	0.0005 U	0.0054 J
	2017	0.0069	0.0001 U	0.002 J	11	0.0025 U	0.00041 J	14	0.0005 U	0.0025 U	0.0083 J

Well	Year	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM, TOTAL	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-09A (Filtered)	2013	0.059	0.00052 U	0.00061 U	0.41	0.00025 U	0.00027 U	27	0.0036 J	0.00029 J	0.001 J	0.18 J	0.00024 U	5.4
	2014	0.0025 U	0.001 U	0.001 U	0.4	0.0005 U	0.0005 U	25	0.0024 J	0.0005 U	0.00025 J	0.12 U	0.0005 U	5.3
	2015	0.0045 J	0.001 U	0.001 U	0.47	0.0005 U	0.0005 U	29	0.0055 J	0.00023 J	0.0005 U	0.092 J	0.0005 U	5.6
	2016	0.15 J	0.00075 U	0.001 U	0.43	0.0005 U	0.0005 U	24	0.0031 J	0.00016 J	0.071	0.62 U	0.0005 U	5.7
	2017	0.005 U	0.0017 J	0.001 U	0.46	0.0005 U	0.0005 U	25	0.0038 J	0.00018 J	0.0015 U	0.23	0.0005 U	5.6
MW-13	2013	0.01 J	0.00052 U	0.00062 J	0.49		0.00027 U	40	0.0024 J	0.00032 J	0.0012 J	1.1	0.00051 J	8
	2014	0.0017 J	0.001 U	0.001 U	0.47	0.0005 U	0.0005 U	33	0.00038 J	0.0005 U	0.0005 U	0.64	0.0005 U	6.8
	2015	0.05	0.001 U	0.001 U	0.43	0.0005 U	0.0005 U	33	0.00062 J	0.00023 J	0.0005 U	0.79	0.0005 U	6
	2016	0.017 J	0.00075 U	0.001 U	0.44	0.0005 U	0.0005 U	29	0.0005 U	0.00012 J	0.00064 J	0.56 J	0.0005 U	6.8
	2017	0.0067 U	0.00075 U	0.00082 J	0.46	0.0005 U	0.0005 U	30	0.00038 J	0.0005 U	0.00051 J	1.8	0.0005 U	6.8
MW-13 (Filtered)	2013	0.0092 J	0.0015 J	0.00061 U	0.43	0.00025 U	0.00027 U	35	0.00072 J	0.00012 J	0.00086 J	0.68	0.00024 U	6.6
	2014	0.0039 J	0.001 U	0.001 U	0.45	0.0005 U	0.0005 U	33	0.00034 J	0.0005 U	0.0005 U	0.59	0.00048 J	6.5
	2015	0.026 J	0.001 U	0.001 U	0.44	0.0005 U	0.0005 U	33	0.00084 J	0.00036 J	0.0005 U	0.7	0.0005 U	6.2
	2016	1.2	0.00075 U	0.001 U	0.43	0.0005 U	0.0005 U	32	0.0005 U	0.0005 U	0.0027 J	0.53 J	0.0005 U	6.8
	2017	0.005 U	0.00075 U	0.001 U	0.46	0.0005 U	0.0005 U	30	0.0005 U	0.00024 J	0.0015 U	0.65	0.0005 U	6.4
MW-14	2013	0.006 J	0.00052 U	0.0019	0.36		0.00027 U	34	0.00061 J	0.0038 J	0.0027 J	10	0.00038 J	6
	2014	0.0027 J	0.001 U	0.0014 J	0.36	0.00046 J	0.0005 U	29	0.0005 U	0.0042 J	0.0005 U	7.7	0.0005 U	5
	2015	0.13	0.0039 J	0.12	1.6	0.0044	0.0005 U	35	0.0035 J	0.0046 J	0.001 U	190	0.00081 J	3.6
	2016	0.013 J	0.00075 U	0.0036	0.37	0.0025 U	0.0005 U	27	0.0025 U	0.0035 J	0.0059 J	12	0.00032 J	5.4
	2017	0.0072 U	0.00075 U	0.0013 J	0.38	0.0005 U	0.0005 U	30	0.0011 J	0.004 J	0.0015 U	9.1	0.0005 U	6
MW-14 (Filtered)	2013	0.0092 J	0.00081 J	0.00061 U	0.3	0.00025 U	0.00027 U	28	0.00076 J	0.003	0.00076 J	7.5	0.00024 U	4.9
	2014	0.0025 U	0.001 U	0.001 U	0.33	0.0005 U	0.0005 U	28	0.0005 U	0.0039	0.0003 J	6.5	0.0005 U	4.7
	2015	0.0025 U	0.001 U	0.001 J	0.39	0.0005 U	0.0005 U	31	0.00063 J	0.0031	0.0005 U	7.1	0.0005 U	5.2
	2016	0.13 J	0.00075 U	0.0012 J	0.35	0.0005 U	0.0005 U	29	0.0005 U	0.003	0.00074 J	6.7	0.0005 U	5.4
	2017	0.005 U	0.00075 U	0.0011 J	0.39	0.0005 U	0.0005 U	30	0.00072 J	0.0042	0.0015 U	8.4	0.0005 U	5.6
MW-15	2013	0.033 J	0.00052 U	0.00061 U	0.21		0.00027 U	17	0.00059 J	0.0007 J	0.00064 J	17	0.00027 J	4.5
	2014	0.007 J	0.001 U	0.001 U	0.2	0.00034 J	0.0005 U	16	0.0005 U	0.00064 J	0.00029 J	4.7	0.0005 U	4
	2015	0.0058 J	0.001 U	0.00063 J	0.25	0.0005 U	0.0005 U	17	0.0005 U	0.0015 J	0.0005 U	6.2	0.0005 U	4.1
	2016	0.018 J	0.00075 U	0.001 U	0.27	0.0025 U	0.0005 U	22	0.0025 U	0.002 J	0.029	3.8	0.0005 U	5.6
	2017	0.018 U	0.00075 U	0.001 U	0.25	0.0005 U	0.0005 U	18	0.0016 J	0.0016 J	0.0007 J	9.2	0.0005 U	5.1
MW-15 (Filtered)	2013	0.011 J	0.00052 U	0.00061 U	0.19	0.00025 U	0.00027 U	18	0.00078 J	0.00026 J	0.00086 J	0.14 J	0.00024 U	4.4
	2014	0.0025 U	0.001 U	0.001 U	0.2	0.0005 U	0.0005 U	18	0.0005 U	0.00029 J	0.0005 U	0.088 J	0.0005 U	4.2
	2015	0.0025 U	0.0006 J	0.001 U	0.26	0.0005 U	0.0005 U	18	0.0007 J	0.0014 J	0.0005 U	0.43	0.0005 U	4.5
	2016	0.62	0.00075 U	0.001 U	0.27	0.0005 U	0.0005 U	23	0.0005 U	0.00088 J	0.085	0.48 J	0.0005 U	5.4
	2017	0.005 U	0.00075 U	0.001 U	0.27	0.0005 U	0.0005 U	21	0.00067 J	0.0012 J	0.00068 J	0.52	0.0005 U	5.1
MW-20	2015	27	0.00062 J	0.021	0.051	0.014	0.001	430	0.024 J	0.16	0.061	64	0.011	100
MW-20 (Filtered)	2015	17	0.001 U	0.0012 J	0.011 J	0.014	0.00097 J	400	0.015	0.13	0.05	52	0.0047	87
MW-22	2013	0.044 J	0.0014 J	0.02	0.022 J		0.00027 U	210	0.0011 J	0.00072 J	0.0008 J	37	0.00036 J	44
	2014	0.075	0.00056 J	0.014	0.027	0.0005 U	0.0005 U	170	0.0024 J	0.00052 J	0.0031 J	28	0.00042 J	38
	2015	0.0055 J	0.001 U	0.015	0.023 J	0.0005 U	0.0005 U	180	0.0005 U	0.00019 J	0.0005 U	27	0.0005 U	35
	2016	2.1	0.00074 J	0.017	0.036	0.0005 U	0.0005 U	150	0.0075 J	0.0019 J	0.0039 J	32	0.0017	41
	2017	0.99	0.00075 U	0.046	0.11	0.00025 J	0.0005 U	170	0.0069 J	0.0024 J	0.005 J	50	0.003	44
MW-22 (Filtered)	2013	0.0027 J	0.00052 U	0.018	0.018 J	0.00025 U	0.00027 U	190	0.0003 U	0.00034 J	0.0004 J	35	0.00024 U	38
	2014	0.0026 J	0.001 U	0.015	0.023 J	0.00029 J	0.0005 U	170	0.0006 J	0.0005 J	0.0061	30	0.0005 U	37
	2015	0.0025 U	0.001 U	0.019	0.023 J	0.0005 U	0.0005 U	180	0.00078 J	0.00025 J	0.0005 U	31	0.0005 U	37
	2016	2.9	0.00075 U	0.017	0.015 J	0.0005 U	0.0005 U	160	0.00033 J	0.00034 J	0.035	30	0.0005 U	38
	2017	0.0022 J	0.00075 U	0.022	0.016 J	0.0005 U	0.0005 U	170	0.0023 J	0.00052 J	0.0011 J	37	0.0005 U	43
MW-33	2013	0.15	0.00052 U	0.0018	0.81		0.00027 U	36	0.0018 J	0.00057 J	0.0022 J	1	0.00098 J	6.8
	2014	0.038 J	0.001 U	0.001 U	0.64	0.0005 U	0.0005 U	48	0.0014 J	0.00018 J	0.0013 J	0.71	0.00029 J	9.5
	2015	6.5	0.00082 J	0.0034	0.85	0.0005 U	0.00029 J	34	0.015	0.0064	0.012	12	0.0086	8.3
	2016	6.3	0.00075 U	0.0028	0.92	0.0025 U	0.0005 U	27	0.033 J	0.0045 J	0.016 J	7.8	0.0048	7.4
	2017	0.27	0.0021 J	0.001 U	0.26	0.0005 U	0.0005 U	52	0.0047 J	0.00038 J	0.0015 J	0.76	0.00046 J	11
MW-33 (Filtered)	2013	0.0031 J	0.00052 U	0.00061 U	0.67	0.00025 U	0.00027 U	45	0.00048 J	0.00013 J	0.00078 J	0.32	0.00024 U	8.1
	2014	0.0037 J	0.001 U	0.001 U	0.61	0.0004 J	0.0005 U	46	0.0011 J	0.00016 J	0.00066 J	0.35	0.0005 U	8.8
	2015	0.016 J	0.001 U	0.0012 J	0.5	0.0005 U	0.0005 U	40	0.002 J	0.00013 J	0.0005 U	0.27	0.0005 U	8
	2016	0.054 J	0.00068 J	0.0016	0.76	0.0005 U	0.0005 U	29	0.0005 U	0.0005 J	0.0047 J	0.32 J	0.0005 U	6
	2017	0.0014 J	0.00075 U	0.001 U	0.26	0.0005 U	0.0005 U	52	0.0011 J	0.0002 J	0.0015 U	0.49	0.0005 U	10
MW-38	2017	0.11 J	0.001 J	0.0015	0.43	0.00035 J	0.0005 U	45	0.00073 J	0.0002 J	0.00091 J	1.3	0.00048 J	10
MW-38 (Filtered)	2017	0.0022 J	0.00075 U	0.0012 J	0.4	0.0005 U	0.0005 U	44	0.00038 J	0.0005 U	0.0015 U	1.1	0.0005 U	9.3

Well	Year	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/Lg/L
MW-09A (Filtered)	2013	0.0039 J	0.00011 J	0.0025 J	6	0.0015 U	0.00079 J	7.7	0.00016 U	0.00049 U	0.016 J
	2014	0.0084	0.0001 U	0.0019 J	11	0.0025 U	0.0005 U	10	0.0005 U	0.0005 J	0.004 J
	2015	0.0005 J	0.0001 U	0.0018 J	10	0.0025 U	0.0005 U	11	0.0005 U	0.0005 U	0.0023 J
	2016	0.00028 J	0.0001 U	0.0039 J	11	0.0025 U	0.0005 U	12	0.0005 U	0.0005 U	0.0033 J
	2017	0.001 U	0.0001 U	0.0015 J	10	0.0025 U	0.0005 U	13	0.0005 U	0.0025 U	0.005 U
MW-13	2013	0.066	0.000076 J	0.0019 J	1.5	0.0015 U	0.00018 U	3.3	0.00024 J	0.00049 U	0.012 J
	2014	0.056	0.0001 U	0.00079 J	1.2	0.0026 J	0.0005 U	2.7	0.0005 U	0.0005 U	0.0025 U
	2015	0.039	0.0001 U	0.0011 J	0.93	0.0025 U	0.0005 U	2	0.0005 U	0.0005 U	0.0018 U
	2016	0.046	0.0001 U	0.00076 J	1 J	0.0025 U	0.0005 U	2.2 J	0.0005 U	0.0005 U	0.0057 J
	2017	0.056	0.0001 U	0.0012 J	1.1	0.0025 U	0.0005 U	2.1	0.0005 U	0.0025 U	0.0029 J
MW-13 (Filtered)	2013	0.052	0.000085 J	0.0016 J	1.2	0.0015 U	0.0012 J	2.5	0.00016 U	0.00049 U	0.014 J
	2014	0.054	0.0001 U	0.00095 J	1.2	0.0025 U	0.0005 U	3.2	0.0005 U	0.00054 J	0.0025 U
	2015	0.045	0.0001 U	0.001 J	0.78	0.0025 U	0.0005 U	2.1	0.0005 U	0.0005 U	0.0047 J
	2016	0.044	0.0001 U	0.0011 J	1.1 J	0.0025 U	0.0005 U	2.3 J	0.0005 U	0.0005 U	0.0092 J
	2017	0.05	0.0001 U	0.0013 J	1.1	0.0025 U	0.0005 U	2.2	0.0005 U	0.0025 U	0.005 U
MW-14	2013	0.41	0.000086 J	0.005 J	0.96	0.0015 U	0.00018 U	3.7	0.00017 J	0.00049 U	0.018 J
	2014	0.43	0.0001 U	0.0063 J	0.78	0.0025 U	0.0005 U	3	0.0005 U	0.0005 U	0.0055 J
	2015	0.48	0.0001 U	0.0071 J	0.55 J	0.0025 U	0.00052 J	1.7	0.0005 U	0.001 U	0.05 J
	2016	0.37	0.0001 U	0.0056 J	0.66 J	0.0025 U	0.0005 U	3.1	0.0005 U	0.0025 U	0.01 J
	2017	0.46	0.0001 U	0.0059 J	0.77	0.0025 U	0.0005 U	3.1	0.0005 U	0.0025 U	0.012 J
MW-14 (Filtered)	2013	0.33	0.00011 J	0.0043 J	0.77	0.0015 U	0.00082 J	3	0.00016 U	0.00049 U	0.017 J
	2014	0.4	0.0001 U	0.0046 J	0.79	0.0025 U	0.0005 U	3	0.0005 U	0.0005 U	0.0051 J
	2015	0.38	0.0001 U	0.0037 J	0.51	0.0025 U	0.0005 U	2.9	0.0005 U	0.0005 U	0.0024 J
	2016	0.36	0.0001 U	0.0049 J	0.7 J	0.0025 U	0.0005 U	3.2	0.0005 U	0.0005 U	0.0058 J
	2017	0.47	0.0001 U	0.0059 J	0.82	0.0025 U	0.0005 U	3.2	0.0005 U	0.0025 U	0.0046 J
MW-15	2013	0.23	0.000091 J	0.00097 J	1	0.0015 U	0.00018 U	4	0.00016 U	0.00049 U	0.016 J
	2014	0.28	0.0001 U	0.0013 J	0.93	0.0025 U	0.0005 U	4.1	0.0005 U	0.0005 U	0.0055 J
	2015	1.4	0.0001 U	0.0022 J	0.71	0.0025 U	0.0005 U	4	0.00018 J	0.0005 U	0.0025 U
	2016	1.3	0.0001 U	0.0028 J	0.9 J	0.0025 U	0.0005 U	4.5	0.0005 U	0.0025 U	0.0056 J
	2017	1.3	0.0001 U	0.003 J	0.96	0.0025 U	0.0005 U	4.3	0.0005 U	0.0025 U	0.0059 J
MW-15 (Filtered)	2013	0.14	0.000093 J	0.0017 J	1.1	0.0015 U	0.0005 J	3.8	0.00016 U	0.00049 U	0.012 J
	2014	0.16	0.0001 U	0.00096 J	0.97	0.0025 U	0.0005 U	4.1	0.0005 U	0.00049 J	0.002 J
	2015	1.4	0.0001 U	0.0024 J	0.72	0.0025 U	0.0005 U	4.5	0.0005 U	0.0005 U	0.0031 J
	2016	1	0.0001 U	0.0022 J	0.87 J	0.0025 U	0.0005 U	4.4	0.0005 U	0.0005 U	0.0079 J
	2017	1.1	0.0001 U	0.0027 J	1	0.0025 U	0.0005 U	4.4	0.0005 U	0.0025 U	0.0028 J
MW-20	2015	4.5	0.0001 U	0.37	4.8 J	0.0028 J	0.00097 J	5.7	0.0014 J	0.005 U	0.65
MW-20 (Filtered)	2015	4.5	0.0001 U	0.29	4.5	0.004 J	0.0005 U	6.6	0.00086 J	0.00055 J	0.63
MW-22	2013	0.59	0.000089 J	0.0075 J	5.1	0.0015 U	0.00018 U	12	0.00018 J	0.00049 U	0.012 J
	2014	0.54	0.0001 U	0.0057 J	4.3	0.0024 J	0.0005 U	10	0.0005 U	0.0005 U	0.006 J
	2015	0.5	0.0001 U	0.0032 J	4.6	0.0025 U	0.0005 U	11	0.0005 U	0.0005 U	0.0018 U
	2016	0.53	0.0001 U	0.0078 J	4.4	0.0025 U	0.0005 U	13	0.0005 U	0.0058	0.023 J
	2017	0.65	0.0001 U	0.012	4.4	0.0025 U	0.0005 U	12	0.0005 U	0.0023 J	0.028 J
MW-22 (Filtered)	2013	0.55	0.000073 J	0.0065 J	4.5	0.002 J	0.0003 J	10	0.00016 U	0.00049 U	0.013 J
	2014	0.55	0.0001 U	0.0042 J	4.3	0.0025 U	0.0005 U	10	0.0005 U	0.0005 U	0.003 J
	2015	0.56	0.0001 U	0.0042 J	4.6	0.0025 U	0.0005 U	11	0.0005 U	0.0005 U	0.0025 U
	2016	0.48	0.0001 U	0.0058 J	4.1	0.0025 U	0.0005 U	12	0.0005 U	0.0005 U	0.026 J
	2017	0.58	0.0001 U	0.0067 J	4.1	0.0025 U	0.0005 U	12	0.0005 U	0.0025 U	0.005 U
MW-33	2013	0.08	0.0001 J	0.003 J	2.4	0.0015 U	0.00018 U	72	0.00025 J	0.0006 J	0.019 J
	2014	0.069	0.0001 U	0.0022 J	2.5	0.0025 U	0.0005 U	38	0.0005 U	0.0005 U	0.0043 J
	2015	0.23	0.0001 U	0.017	3.5	0.0025 U	0.00034 J	60	0.0005 U	0.0097	0.041 J
	2016	0.17	0.0001 U	0.027 J	3.7	0.0025 U	0.0005 U	68	0.0005 U	0.01 J	0.035 J
	2017	0.048	0.0001 U	0.0043 J	2.3	0.0025 U	0.0005 U	21	0.0005 U	0.0025 U	0.017 J
MW-33 (Filtered)	2013	0.067	0.000081 J	0.0022 J	2.4	0.0015 U	0.00018 U	44	0.00016 U	0.00049 U	0.011 J
	2014	0.054	0.0001 U	0.0018 J	2.4	0.0025 U	0.0005 U	34	0.0005 U	0.0005 U	0.0019 J
	2015	0.03	0.0001 U	0.0014 J	2.4	0.0025 U	0.0005 U	47	0.0005 U	0.00062 J	0.0025 U
	2016	0.052	0.0001 U	0.0034 J	2.3 J	0.0025 U	0.0005 U	66	0.0005 U	0.0005 U	0.015 J
	2017	0.027	0.0001 U	0.0034 J	2.2	0.0025 U	0.0005 U	18	0.0005 U	0.0025 U	0.0084 J
MW-38	2017	0.05	0.0001 U	0.0024 J	1.9	0.0025 U	0.00038 J	5.8	0.0005 U	0.0025 U	0.008 J
MW-38 (Filtered)	2017	0.047	0.0001 U	0.0019 J	1.8	0.0025 U	0.0005 U	4.9	0.0005 U	0.0025 U	0.005 U

Well	Year	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM, TOTAL	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-39	2013	5.4	0.00052 U	0.00061 U	0.03		0.00027 U	50	0.002 J	0.036	0.014	22	0.0011	20
	2014	2.3	0.001 U	0.001 U	0.036	0.0021	0.0005 U	37	0.0013 J	0.018	0.0054	12	0.00027 J	17
	2015	2.9	0.001 U	0.002	0.062	0.0009 J	0.0005 U	22	0.0039 J	0.0084	0.0057	15	0.0052	8.6
	2016	19	0.00052 J	0.0024	0.011 J	0.01	0.00038 J	52	0.0022 J	0.055	0.026	89	0.0015	22
	2017	16	0.00075 U	0.0037	0.033	0.0075	0.00034 J	45	0.0076 J	0.042	0.022	51	0.0024	19
MW-39 (Filtered)	2013	5.4	0.00052 U	0.00061 U	0.026	0.0044	0.00027 U	43	0.0012 J	0.031	0.014	14	0.00074 J	17
	2014	2.4	0.001 U	0.001 U	0.034	0.0025	0.0005 U	39	0.00062 J	0.02	0.0085	11	0.00039 J	17
	2015	0.87	0.001 U	0.00083 J	0.032	0.00094 J	0.0005 U	24	0.00079 J	0.008	0.00032 J	14	0.0005 U	9.1
	2016	18	0.00075 U	0.0025	0.011 J	0.0099	0.00032 J	52	0.0025 U	0.049	0.027	82	0.0014	21
	2017	16	0.00075 U	0.0062	0.012 J	0.0085	0.00043 J	49	0.0064 J	0.047	0.029	61	0.0023	21
MW-40	2013	0.017 J	0.00052 U	0.00061 U	0.4		0.00027 U	5.6	0.0011 J	0.00012 U	0.0034 J	0.35	0.00024 U	1.1
	2014	0.0083 J	0.001 U	0.001 U	0.32	0.00042 J	0.0005 U	4.5	0.0052 J	0.0005 U	0.0026 J	0.087 J	0.0005 U	0.8
	2015	0.063	0.001 U	0.001 U	0.32	0.0005 U	0.0005 U	4.7	0.0008 J	0.00038 J	0.00086 J	0.19 J	0.0005 U	0.64
	2016	0.018 J	0.00075 U	0.001 U	0.3	0.0005 U	0.0005 U	3.7 J	0.00086 J	0.0005 U	0.0006 J	0.62 U	0.0005 U	0.77 J
	2017	0.032 J	0.00075 U	0.001 U	0.29	0.0005 U	0.0005 U	3.4	0.0032 J	0.0005 U	0.00085 J	0.16 J	0.0005 U	0.63
MW-40 (Filtered)	2013	0.014 J	0.00052 U	0.00061 U	0.34	0.00025 U	0.00027 U	4.8	0.0004 J	0.00012 U	0.0029 J	0.052 J	0.00024 U	0.88
	2014	0.0047 J	0.001 U	0.001 U	0.31	0.00026 J	0.0005 U	4.4	0.0027 J	0.0005 U	0.0019 J	0.12 U	0.0005 U	0.75
	2015	0.048 J	0.001 U	0.001 U	0.32	0.0005 U	0.0005 U	4.8	0.0031 J	0.0012 J	0.0007 J	0.14 J	0.0005 U	0.59
	2016	0.18 J	0.00075 U	0.001 U	0.29	0.0005 U	0.0005 U	3.6 J	0.0005 U	0.0005 U	0.00062 J	0.62 U	0.0005 U	0.77 J
	2017	0.0071 J	0.00075 U	0.001 U	0.27	0.0005 U	0.0005 U	3.5	0.0014 J	0.00017 J	0.0015 U	0.065 J	0.0005 U	0.65
MW-44	2015	0.21	0.001 U	0.0013 J	0.036	0.0005 U	0.0005 U	37	0.00052 J	0.0012 J	0.0013 J	0.39	0.00032 J	3.4
	2016	0.51	0.00075 U	0.002 U	0.24	0.001 U	0.001 U	52	0.0012 J	0.00043 J	0.0033 J	0.49 J	0.0009 J	9.6
	2017	0.032 J	0.00072 J	0.001 U	0.22	0.0005 U	0.0005 U	45	0.00076 J	0.00022 J	0.00093 J	0.33	0.0005 U	9.2
MW-44 (Filtered)	2015	0.0025 U	0.00056 J	0.001 U	0.1	0.0005 U	0.0005 U	32	0.0017 J	0.0005 U	0.0005 U	0.12 J	0.0005 U	7.1
	2016	0.23 J	0.0005 J	0.001 U	0.25	0.0005 U	0.0005 U	56	0.0005 U	0.00048 J	0.00051 J	0.62 U	0.0005 U	12
	2017	0.0027 U	0.00075 U	0.001 U	0.17	0.0005 U	0.0005 U	38	0.0005 U	0.00015 J	0.00052 J	0.32	0.0005 U	8.8
MW-45 (Filtered)	2015	0.0069 J	0.0015 J	0.001 U	0.47	0.0005 U	0.0005 U	91	0.0025 J	0.0012 J	0.0029 J	0.68	0.0005 U	22
MW-47	2017	5.7	0.00075 U	0.0025	0.097	0.0007 J	0.0005 U	15	0.009 J	0.0036 J	0.019	4.6	0.0042	4.4
MW-47 (Filtered)	2017	0.033 J	0.00075 U	0.001 U	0.052	0.0003 J	0.0005 U	14	0.00096 J	0.0014 J	0.0037 J	0.15 J	0.0005 U	4.1
MW-50	2017	0.014 U	0.00095 J	0.001 U	0.09	0.0005 U	0.0005 U	24	0.00076 J	0.0005 U	0.00054 J	0.16 J	0.00027 J	5.3
MW-50 (Filtered)	2016	0.027 J	0.00021 J	0.001 U	0.048	0.0005 U	0.0005 U	130	0.0005 U	0.00072 J	0.003 J	0.62 U	0.0005 U	34
	2017	0.0014 U	0.00075 U	0.001 U	0.09	0.0005 U	0.0005 U	22	0.00044 J	0.0005 U	0.0015 U	0.17 J	0.0005 U	5.5
MW-51	2014	0.087	0.001 U	0.001 U	0.29	0.00044 J	0.0005 U	57	0.0013 J	0.00053 J	0.0032 J	1.1	0.00059 J	12
	2015	0.0057 J	0.00052 U	0.001 U	0.24	0.0005 U	0.0005 U	60	0.0017 J	0.0005 U	0.0005 U	0.28	0.0005 U	12
	2016	0.018 J	0.00024 J	0.002 U	0.28	0.001 U	0.001 U	50	0.0015 J	0.001 U	0.003 J	0.44 J	0.00053 J	10
	2017	0.036 J	0.00075 U	0.001 U	0.29	0.0005 U	0.0005 U	53	0.0006 J	0.00025 J	0.00076 J	0.83	0.0005 U	12
MW-51 (Filtered)	2014	0.0016 J	0.0012 J	0.001 U	0.27	0.00036 J	0.0005 U	54	0.00082 J	0.00034 J	0.00048 J	0.28	0.0005 U	11
	2015	0.0099 J	0.001 U	0.001 U	0.25	0.0005 U	0.0005 U	60	0.0025 J	0.00017 J	0.0005 U	0.28	0.0005 U	14
	2016	0.036 J	0.00075 U	0.001 U	0.31	0.0005 U	0.0005 U	50	0.0005 U	0.00025 J	0.00093 J	0.39 J	0.0005 U	11
	2017	0.005 U	0.00075 U	0.001 U	0.29	0.0005 U	0.0005 U	52	0.0005 U	0.00022 J	0.0015 U	0.76	0.0005 U	12
MW-52	2013	0.028 J	0.00052 U	0.00061 U	0.3		0.00027 U	94	0.0039 J	0.00052 J	0.003 J	1.4	0.00036 J	15
	2014	0.016 J	0.001 U	0.001 U	0.26	0.0005 U	0.0005 U	86	0.00074 J	0.00029 J	0.00041 J	1.1	0.0005 U	14
	2015	0.08 J	0.001 U	0.0012 J	0.26	0.00051 J	0.00059 J	77	0.0041 J	0.00087 J	0.00062 J	1.1	0.00061 J	12
MW-52 (Filtered)	2013	0.011 J	0.00052 U	0.00061 U	0.24	0.00025 U	0.00027 U	84	0.0023 J	0.0011 J	0.0015 J	0.95	0.00024 U	13
	2014	0.0025 U	0.001 U	0.001 U	0.25	0.0005 U	0.0005 U	84	0.002 J	0.00031 J	0.0005 U	0.95	0.0005 U	13
	2015	0.0025 U	0.001 J	0.001 U	0.28	0.0005 U	0.0005 U	86	0.0031 J	0.00031 J	0.0005 U	1.1	0.0005 U	13
MW-53	2014	0.27	0.001 U	0.0032	0.17	0.0005 U	0.0005 U	27	0.0047 J	0.0012 J	0.0059	0.99	0.0012	10
	2015	0.21 J	0.0011 J	0.00083 J	0.45	0.0005 U	0.0005 U	83	0.003 J	0.00092 J	0.0038 J	0.7	0.00049 J	28
	2016	0.27	0.00088 J	0.002 U	0.46	0.001 U	0.001 U	97	0.0059 J	0.00087 J	0.0043 J	0.21 J	0.001 U	30
	2017	0.19	0.00076 J	0.001 U	0.38	0.0005 U	0.0005 U	110	0.0014 J	0.0013 J	0.0018 J	1	0.00036 J	34
MW-53 (Filtered)	2014	0.15	0.0012 J	0.0042	0.12	0.0005 U	0.0005 U	12	0.0097 J	0.001 J	0.014	0.17 J	0.00045 J	10
	2015	0.0025 U	0.001 J	0.001 U	0.46	0.0005 U	0.0005 U	95	0.005 J	0.0011 J	0.0015 J	0.24	0.0005 U	29
	2016	0.049 J	0.0012 J	0.001 U	0.41	0.0016	0.0023	91	0.0005 U	0.0029	0.0062	0.62 U	0.0011	31
	2017	0.0064 J	0.0025 J	0.001 U	0.37	0.00052 J	0.0005 U	91	0.0012 J	0.001 J	0.0016 J	0.72 J	0.00047 J	30
MW-59	2013	0.2	0.00058 J	0.00061 U	0.056		0.00038 J	9	0.00098 J	0.018	0.0019 J	1.2	0.00052 J	8
	2014	0.91	0.001 U	0.001 U	0.039	0.00064 J	0.0005 U	12	0.0012 J	0.014	0.0035 J	3.8	0.0005 U	9.4
	2015	0.77	0.001 U	0.001 U	0.047	0.0003 J	0.0005 U	9.3	0.00066 J	0.012	0.00024 U	1.6	0.00032 J	8.6
	2016	0.12 J	0.00084 J	0.0002 U	0.0088	0.0001 J	0.000059 J	6	0.0001 U	0.0018	0.00023 J	0.62 U	0.0001 U	6.2
	2017	0.2	0.0064	0.001 U	0.052	0.00052 J	0.00035 J	7	0.0012 J	0.006	0.0011 J	0.65	0.00036 J	7.9

Well	Year	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/Lg/L
MW-39	2013	0.23	0.000088 J	0.1	4.1	0.0022 J	0.00018 U	13	0.00024 J	0.00049 U	0.16
	2014	0.12	0.0001 U	0.05	2.6	0.0016 U	0.0005 U	14	0.0005 U	0.0005 U	0.096
	2015	0.059	0.0001 U	0.022	2.2	0.0025 U	0.0005 U	7.1	0.0005 U	0.0019 J	0.054 J
	2016	0.27	0.0001 U	0.14	3.2	0.0025 U	0.00026 J	9.7	0.00018 J	0.0025 U	0.32
	2017	0.23	0.0001 U	0.1	2.9	0.0025 U	0.0005 U	8.1	0.00018 J	0.0027 J	0.26
MW-39 (Filtered)	2013	0.2	0.00012 J	0.086	3.5	0.0015 U	0.00022 J	12	0.00016 U	0.00049 U	0.17
	2014	0.13	0.0001 U	0.055	2.5	0.0019 J	0.0005 U	14	0.0005 U	0.0005 U	0.11
	2015	0.062	0.0001 U	0.02	1.8	0.0017 J	0.0005 U	7.7	0.0005 U	0.0005 U	0.045 J
	2016	0.25	0.0001 U	0.13	3.2	0.0022 J	0.0005 U	9.7	0.0005 U	0.0025 U	0.31
	2017	0.24	0.0001 U	0.12	3	0.0025 U	0.0005 U	7.9	0.00016 J	0.0016 J	0.3
MW-40	2013	0.0098	0.000069 J	0.00022 J	1.8	0.0015 U	0.00018 U	240	0.00016 U	0.00049 U	0.0018 U
	2014	0.0093	0.0001 U	0.007 J	1.3	0.003 J	0.0005 U	210	0.0005 U	0.0005 U	0.0018 J
	2015	0.016	0.0001 U	0.00082 J	1.2	0.0025 U	0.00042 J	190	0.0005 U	0.0005 U	0.0025 U
	2016	0.0048 J	0.0001 U	0.0005 U	1.2 J	0.0025 U	0.0005 U	190	0.0005 U	0.0005 U	0.0049 J
	2017	0.0059	0.0001 U	0.0008 J	1.2	0.0025 U	0.0005 U	200	0.0005 U	0.0025 U	0.013 J
MW-40 (Filtered)	2013	0.0082	0.000084 J	0.00058 J	1.5	0.0015 U	0.00037 J	230	0.00016 U	0.00049 U	0.0021 J
	2014	0.0084	0.0001 U	0.0032 J	1.3	0.0025 U	0.0005 U	160	0.0005 U	0.0013 J	0.0025 U
	2015	0.017	0.0001 U	0.00072 J	1.3	0.0025 U	0.0005 U	190	0.0005 U	0.0008 J	0.0027 J
	2016	0.0047 J	0.0001 U	0.0005 U	1.2 J	0.0025 U	0.0005 U	190	0.0005 U	0.0005 U	0.0025 U
	2017	0.0046 J	0.0001 U	0.0005 U	1.3	0.0025 U	0.0005 U	0.25 U	0.0005 U	0.0025 U	0.005 U
MW-44	2015	0.98	0.0001 U	0.0018 J	3	0.0025 U	0.0005 U	2.3	0.0005 U	0.0008 J	0.0031 J
	2016	0.19	0.0001 U	0.0034 J	2.2	0.005 U	0.0005 U	10	0.001 U	0.001 U	0.013 J
	2017	0.019	0.0001 U	0.0026 J	2	0.0025 U	0.0005 U	6.5	0.0005 U	0.0025 U	0.0095 J
MW-44 (Filtered)	2015	0.018	0.0001 U	0.00069 J	1.6	0.0025 U	0.0005 U	4.7	0.0005 U	0.0005 U	0.0029 J
	2016	0.2	0.0001 U	0.0031 J	2.5 J	0.0025 U	0.0005 U	13	0.0005 U	0.0005 U	0.013 J
	2017	0.011	0.0001 U	0.0022 J	1.7	0.0025 U	0.0005 U	5.6	0.0005 U	0.0025 U	0.0096 J
MW-45 (Filtered)	2015	0.11	0.0001 U	0.0091 J	9.3	0.0042 J	0.0005 U	120	0.0005 U	0.00072 J	0.0046 J
MW-47	2017	0.29	0.0001 U	0.029	3.9	0.0025 U	0.0005 U	8.3	0.0005 U	0.0096	0.029 J
MW-47 (Filtered)	2017	0.24	0.0001 U	0.024	2.2	0.0025 U	0.0005 U	7.9	0.0005 U	0.0025 U	0.012 J
MW-50	2017	0.024	0.0001 U	0.0023 J	0.91	0.0025 U	0.00026 J	4.1	0.0005 U	0.0025 U	0.005 J
MW-50 (Filtered)	2016	0.058	0.0001 U	0.0074 J	5.7	0.0044 J	0.0005 U	13	0.0005 U	0.0005 U	0.026 J
	2017	0.022	0.0001 U	0.0023 J	0.86	0.0025 U	0.0005 U	3.9	0.0005 U	0.0025 U	0.005 U
MW-51	2014	0.13	0.0001 U	0.0028 J	2.2	0.0019 J	0.0005 U	7.8	0.00018 J	0.00078 J	0.0076 J
	2015	0.062	0.0001 U	0.0014 J	2.6	0.0025 U	0.00054 J	7.9	0.0005 U	0.0005 U	0.0018 U
	2016	0.096	0.0001 U	0.003 J	1.8	0.005 U	0.0005 U	6.8	0.001 U	0.001 U	0.0074 J
	2017	0.13	0.0001 U	0.0029 J	2.1	0.0025 U	0.0005 U	9	0.0005 U	0.0025 U	0.0078 J
MW-51 (Filtered)	2014	0.11	0.0001 U	0.002 J	2.2	0.0025 U	0.00055 J	7.5	0.0002 J	0.00074 J	0.0025 U
	2015	0.066	0.0001 U	0.0018 J	2.6	0.0025 U	0.0005 U	8.9	0.0005 U	0.0007 J	0.0025 U
	2016	0.094	0.0001 U	0.0027 J	2 J	0.0025 U	0.0005 U	7.1	0.0005 U	0.0005 U	0.019 J
	2017	0.13	0.0001 U	0.0026 J	2	0.0025 U	0.0005 U	8.9	0.0005 U	0.0025 U	0.005 U
MW-52	2013	0.25	0.000077 J	0.0067 J	2.2	0.0015 U	0.00018 U	3.9	0.00016 U	0.00049 U	0.0035 J
	2014	0.23	0.0001 U	0.0027 J	2	0.0025 U	0.0005 U	3.4	0.0005 U	0.0005 U	0.0087 J
	2015	0.2	0.0001 U	0.0025 J	2	0.0025 U	0.0005 U	3	0.00054 J	0.00099 J	0.0018 U
MW-52 (Filtered)	2013	0.18	0.00012 J	0.0053 J	2.1	0.0017 J	0.00056 J	3.3	0.00016 U	0.00049 U	0.004 J
	2014	0.22	0.0001 U	0.0022 J	2	0.0025 U	0.0005 U	3.4	0.0005 U	0.00085 J	0.0025 U
	2015	0.23	0.0001 U	0.0021 J	2.2	0.0025 U	0.0005 U	3.4	0.0005 U	0.00077 J	0.0025 U
MW-53	2014	0.037	0.0001 U	0.011	51	0.0025 U	0.0005 U	110	0.0005 U	0.0015 J	0.025 J
	2015	0.072	0.0001 U	0.0058 J	26	0.014	0.00018 U	80	0.0003 J	0.0011 J	0.023 J
	2016	0.1	0.0001 U	0.0078 J	21	0.008 J	0.0005 U	77	0.001 U	0.001 U	0.015 J
	2017	0.23	0.0001 U	0.0084 J	21	0.0054	0.0005 U	81	0.0005 U	0.0025 U	0.013 J
MW-53 (Filtered)	2014	0.012	0.0001 U	0.014	80	0.0025 U	0.00021 J	120	0.0005 U	0.0055	0.0077 J
	2015	0.056	0.0001 U	0.0052 J	30	0.012	0.0005 U	86	0.0005 U	0.0014 J	0.021 J
	2016	0.047	0.0001 U	0.016	25	0.012	0.0005 U	71	0.0017 J	0.0005 U	0.042 J
	2017	0.18	0.0001 U	0.0067 J	13 J	0.0028 J	0.0005 U	91	0.0005 U	0.0025 U	0.029 J
MW-59	2013	0.73	0.0001 J	0.032	1.2	0.0015 U	0.00018 U	7.1	0.0002 J	0.00049 U	0.044 J
	2014	0.57	0.0001 U	0.033	0.94	0.002 J	0.0005 U	6.1	0.0005 U	0.0005 U	0.056
	2015	0.6	0.0001 U	0.022	0.93	0.0025 U	0.00018 U	4.8	0.00021 J	0.00098 J	0.027 J
	2016	0.1	0.0001 U	0.0054	0.85 J	0.0005 U	0.0005 U	8.3	0.0001 U	0.0001 U	0.0092 J
	2017	0.38	0.0001 U	0.03	0.92	0.0025 U	0.00071 J	6.4	0.0005 U	0.0025 U	0.045 J

Well	Year	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM, TOTAL	COBALT	COPPER	IRON	LEAD	MAGNESIUM
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-59 (Filtered)	2013	0.066	0.00064 J	0.00061 U	0.053	0.00025 U	0.00027 U	9.3	0.0003 U	0.016	0.0013 J	0.84	0.00024 U	7.2
	2014	0.1	0.001 J	0.001 U	0.038	0.00048 J	0.0005 U	8.9	0.00041 J	0.011	0.00074 J	2.1	0.0005 U	7.7
	2015	0.04 J	0.0006 J	0.001 U	0.043	0.00032 J	0.0005 U	9.4	0.00089 J	0.012	0.00027 J	1.7	0.0005 U	8.7
	2016	0.13 J	0.00075 U	0.001 U	0.046	0.00056 J	0.00032 J	6.4	0.0005 U	0.0097	0.0015 J	0.62 U	0.0005 U	6.2
	2017	0.056	0.00075 U	0.001 U	0.052	0.00034 J	0.0005 U	7.2	0.00068 J	0.0047	0.00088 J	0.066 J	0.0005 U	7.5
MW-81	2013	0.0097 J	0.00052 U	0.00061 U	0.098		0.00027 U	30	0.00076 J	0.00025 J	0.00069 J	0.17 J	0.0003 J	6
MW-81 (Filtered)	2013	0.0029 J	0.00052 U	0.00061 U	0.085	0.00025 U	0.00027 U	28	0.00032 J	0.00012 U	0.00054 J	0.048 U	0.00024 U	5.3
PZ-01	2015	0.022 J	0.001 U	0.001 U	0.11	0.0005 U	0.0005 U	24	0.00032 J	0.0004 J	0.0005 U	0.17 J	0.0005 U	7.7
	2016	0.017 J	0.00075 U	0.001 U	0.091	0.0025 U	0.0005 U	20	0.0025 U	0.0025 U	0.004 J	0.62 U	0.0005 U	6.8
	2017	0.01 U	0.00075 U	0.001 U	0.11	0.0005 U	0.0005 U	22	0.00044 J	0.0005 U	0.0015 U	0.3	0.0005 U	7.3
PZ-01 (Filtered)	2015	0.0033 J	0.00059 J	0.001 U	0.11	0.0005 U	0.0005 U	24	0.0014 J	0.00034 J	0.0005 U	0.073 J	0.0005 U	7.5
	2016	0.069 J	0.00075 U	0.001 U	0.092	0.0005 U	0.0005 U	20	0.0005 U	0.0005 U	0.0092	0.62 U	0.0005 U	6.5
	2017	0.005 U	0.00075 U	0.001 U	0.11	0.0005 U	0.0005 U	21	0.0005 U	0.0005 U	0.0015 U	0.19 J	0.0005 U	6.5
PZ-08	2017	5.3	0.00075 U	0.00092 J	0.12	0.0004 J	0.0005 U	4.5	0.0089 J	0.0017 J	0.0062	5.9	0.0049	2.4
PZ-08 (Filtered)	2017	0.029 J	0.00091 J	0.001 U	0.05	0.00025 J	0.0005 U	3.8	0.00063 J	0.0004 J	0.00062 J	0.19 J	0.0005 U	1.9
PZ-09	2013	0.038 J	0.00052 U	0.00061 U	0.19		0.00027 U	13	0.0013 J	0.0005 J	0.00097 J	0.1 J	0.0004 J	7.2
	2014	0.53	0.001 U	0.001 U	0.25	0.00083 J	0.0005 U	15	0.004 J	0.0012 J	0.0015 J	1.5	0.0017	9
	2015	0.027 J	0.001 U	0.001 U	0.16	0.0005 U	0.0005 U	9.5	0.0012 J	0.00028 J	0.0005 U	0.12 U	0.0005 U	5.7
	2016	0.035 J	0.00075 U	0.001 U	0.13	0.0005 U	0.0005 U	8.1	0.00086 J	0.00024 J	0.0006 J	0.62 U	0.0005 U	5.7
	2017	0.82	0.00075 U	0.001 U	0.14	0.0005 U	0.0005 U	7.5	0.003 J	0.00064 J	0.0012 J	1.3	0.00068 J	5.3
PZ-09 (Filtered)	2013	0.028 J	0.00052 U	0.00061 U	0.17	0.00025 U	0.00027 U	12	0.00088 J	0.00028 J	0.00054 J	0.048 U	0.00024 U	6.4
	2014	0.035 J	0.001 U	0.001 U	0.21	0.00027 J	0.0005 U	14	0.0013 J	0.00036 J	0.0017 J	0.12 U	0.0005 U	8.3
	2015	0.026 J	0.00062 J	0.001 U	0.17	0.00033 J	0.0005 U	12	0.0021 J	0.00035 J	0.00034 J	0.059 J	0.0005 U	6.3
	2016	0.15 J	0.00075 U	0.001 U	0.13	0.0005 U	0.0005 U	8.4	0.00097 J	0.0002 J	0.0015 U	0.62 U	0.0005 U	5.5
	2017	0.02 J	0.00075 U	0.001 U	0.13	0.0005 U	0.0005 U	7.5	0.0014 J	0.00021 J	0.0015 U	0.06 J	0.0005 U	4.9

Well	Year	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/Lg/L
MW-59 (Filtered)	2013	0.61	0.00015 J	0.028	1.1	0.0015 U	0.00018 U	5.9	0.00016 U	0.00049 U	0.049 J
	2014	0.51	0.0001 U	0.02	0.88	0.0025 U	0.0005 U	5.4	0.0005 U	0.0005 U	0.024 J
	2015	0.62	0.0001 U	0.022	0.68	0.0025 U	0.0005 U	4.8	0.0005 U	0.0005 U	0.028 J
	2016	0.54	0.0001 U	0.028	1 J	0.0025 U	0.0005 U	7.5	0.0005 U	0.0005 U	0.054
	2017	0.33	0.0001 U	0.028	0.87	0.0025 U	0.0005 U	5.7	0.0005 U	0.0025 U	0.037 J
MW-81	2013	0.014	0.0001 J	0.0017 J	1.1	0.0015 U	0.00018 U	4.8	0.00022 J	0.00049 U	0.011 J
MW-81 (Filtered)	2013	0.011	0.00009 J	0.0016 J	0.99	0.0015 U	0.00018 U	4	0.00016 U	0.00049 U	0.019 J
PZ-01	2015	0.12	0.0001 U	0.0013 J	0.52	0.0025 U	0.0005 U	7.1	0.0005 U	0.0005 U	0.0025 U
	2016	0.0072 J	0.0001 U	0.0022 J	0.63 J	0.0025 U	0.0005 U	5	0.0005 U	0.0025 U	0.0054 J
	2017	0.015	0.0001 U	0.0016 J	0.64	0.0025 U	0.0005 U	6.5	0.0005 U	0.0025 U	0.0046 J
PZ-01 (Filtered)	2015	0.12	0.0001 U	0.0011 J	0.52	0.0025 U	0.0005 U	6.7	0.0005 U	0.0005 U	0.0025 U
	2016	0.0039 J	0.0001 U	0.0014 J	0.64 J	0.0025 U	0.0005 U	5.1	0.0005 U	0.0005 U	0.014 J
	2017	0.021	0.0001 U	0.0016 J	0.66	0.0025 U	0.0005 U	5.8	0.0005 U	0.0025 U	0.005 U
PZ-08	2017	0.1	0.0001 U	0.011	2.2	0.0025 U	0.0005 U	4.1	0.0005 U	0.011	0.041 J
PZ-08 (Filtered)	2017	0.056	0.0001 U	0.0047 J	0.73	0.0025 U	0.0005 U	4.3	0.0005 U	0.0025 U	0.02 J
PZ-09	2013	0.017	0.00008 J	0.021	1.3	0.0015 U	0.00018 U	4.5	0.00032 J	0.00049 U	0.01 J
	2014	0.036	0.0001 U	0.026	1.2	0.0033 J	0.0005 U	6	0.0005 U	0.00074 J	0.017 J
	2015	0.013	0.0001 U	0.015	0.79	0.0025 U	0.0005 U	6.3	0.0005 U	0.0005 U	0.0018 U
	2016	0.012	0.0001 U	0.015	1 J	0.0025 U	0.0005 U	7.2	0.0005 U	0.0005 U	0.012 J
	2017	0.018	0.0001 U	0.015	1.2	0.0025 U	0.0005 U	7.3	0.0005 U	0.0016 J	0.098
PZ-09 (Filtered)	2013	0.014	0.000066 U	0.019	1.2	0.0015 U	0.00018 U	3.9	0.00016 U	0.00049 U	0.009 J
	2014	0.018	0.0001 U	0.025	1.1	0.0025 U	0.0005 U	5.7	0.0005 U	0.00076 J	0.011 J
	2015	0.021	0.0001 U	0.017	0.81	0.0016 J	0.0005 U	7	0.0005 U	0.0005 U	0.0084 J
	2016	0.011	0.0001 U	0.014	1 J	0.0025 U	0.0005 U	7	0.0005 U	0.0005 U	0.0082 J
	2017	0.011	0.0001 U	0.014	1	0.0025 U	0.0005 U	6.6	0.0005 U	0.0025 U	0.0047 J

Table 6. Comprehensive Radionuclide Sampling Results at SLDA

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
10L31	2013	0.109 J	0.168	0.066 U	-1.23 U	0.524 U	-0.059 U	-0.007 U	1.39	0.035 U	0.185	0.431
	2014	0.05 U	0.057 U	0.021 U	-0.637 U	0.026 U	-0.024 U	0 U	1.23	0.092 J	0.091 J	0.312 J
	2015	0.005 U	0.15 J	0.046 J	-1.28 U	0.054 U	-0.031 U	-0.041 U	1.8	0.077 J	0.024 U	0.362
	2016	0.093	0.093 U	-0.063 U	-9.35 U	0.513 J	-0.014 U	0 U	0.844	0.045 U	0.193	0.374
	2017	0.002 U	0.089 U	0.029 U	3.28 U	0.374 J	-0.005 U	-0.003 U	0.905	0.069 J	0.15 J	0.416
10L31 (Filtered)	2013	0.099 J	0.159 J	0.006 U	-1.74 U	0.576 U	-0.065 U	-0.03 U	1.22	0.134 J	0.003 U	0.402
	2014	0.053 J	0.08 U	0.027 U	-0.29 U	0.005 U	0.009 U	0 U	0.907	0 U	0.096 J	0.31 J
	2015	0.03 U	0.089 J	-0.01 U	-0.739 U	-0.027 U	0.011 U	0 U	2.24	0.17	0.126 J	0.407
	2016	-0.034 U	0.07 U	-0.023 U	-6.5 U	0.372 U	-0.079 U	-0.001 U	0.567	0.143 J	0.193	0.392
	2017	0.037 U	0.141 U	0.06 U	4.73 U	0.346 J	-0.015 U	0 U	0.649	0.061 J	0 U	0.345 J
MW-01	2004	0.834 U		0.683 U	13.5 U			0.379 J	0.379 U	0.204 U	0.282 U	
	2013	0.027 U	0.204 J	0.019 U	3.62 U	0.442 U	-0.04 U	-0.216 U	-0.044 U	-0.059 U	-0.082 U	0.162 J
	2014	0.089 J	0.05 U	0.025 U	1.66 U	-0.151 U	-0.006 U	-0.027 U	0.045 U	0 U	-0.028 U	0.065 J
	2015	0.026 U	0.203	0.056 U	0.78 U	-0.035 U	-0.009 U	-0.009 U	0.071 U	0.021 U	0.043 U	0.07 U
	2016	0 U	0.097 U	0.065 J	-4.3 U	0.618 J	0.027 U	-0.012 U	0.082 J	0.05 U	0.037 J	0.058 U
	2017	0.013 U	0.11 U	-0.009 U	4.25 U	0.419 J	-0.04 U	-0.004 U	0.16 J	0.015 U	0.142 J	0.075 J
MW-01 (Filtered)	2013	0.066 U	0.186 J	0.022 U	8.18 J	0.422 U	-0.005 U	-0.022 U	0.075 U	0.013 U	0.029 U	0.163 J
	2014	-0.053 U	0.051 U	-0.032 U	1.8 U	0.014 U	-0.006 U	-0.026 U	0.131 J	-0.023 U	0.001 U	0.067 J
	2015	-0.008 U	0.099 J	0.034 U	-3.62 U	-0.048 U	-0.004 U	0 U	0.066 U	0.019 U	0.052	0.076 U
	2016	0.01 U	0.095 U	0.002 U	-3.39 U	0.429 U	-0.071 U	0.021 J	0.09 J	-0.007 U	0.018 U	0.068 J
	2017	0.072 J	0.112 U	0.023 U	2.83 U	0.344 J	-0.03 U	0 U	0.284 J	0.02 U	0.061 J	0.06 U
MW-02	2004	0.503 U		0.529 U	15.7 U			0.429 U	0.348 U	0.535 U	0.458 U	
	2004	R		0.326 U	11.9 U			0.298 J	0.653 U	0.383 U	0.503 U	
MW-02A	2004	1.46 J		R	11.2 U			0.471 J	0.589 U	0.591 U	0.196 U	
	2013	0.047 U	0.221 J	0.091 J	1.04 U	0.571 J	-0.125 U	-0.021 U	0.019 U	-0.02 U	0.018 U	0.102 J
	2015	0.014 U	0.101 J	0.071 J	0.764 U	-0.025 U	0.056 J	-0.036 U	0.056 J	0.079 J	0.025 U	-0.004 U
	2016	0.025 U	0.08 U	0.065	1.14 U	0.275 U	0.013 U	0.022 U	0.036 U	0.015 U	0.039 J	0.067 U
	2017	0.047 U	0.127 U	0.013 U	-2.09 U	0.345 J	-0.05 U	0 U	0.051 J	-0.005 U	0.04 J	0.072 U
MW-02A (Filtered)	2013	-0.048 U	0.049 U	0.038 J	-0.092 U	0.41 U	-0.153 U	-0.048 U	-0.148 U	0.026 U	-0.103 U	0.093 J
	2015	0.032 U	0.144 J	0.057 J	1.22 U	-0.088 U	0.061 J	0.01 U	0.049 J	0.021 U	0.058 J	0.02 U
	2016	-0.006 U	0.138 J	-0.043 U	-1.14 U	0.544 J	-0.121 U	0 U	0.073 U	0.02 U	0.074 J	0.062 U
	2017	0.181 J	0.233 U	0.015 U	2.89 U	0.404 J	0.018 U	-0.004 U	0.062 J	0.031 J	0.047 J	0.067 U
MW-03	2013	0.042 U	0.164 J	0.01 U	-0.122 U	2.42 J	0.056 U	0.369 J	2.91	0.089 J	2.12	3.81
	2014	0.163 J	0.146 U	0 U	10.8 J	1.18	0.054 U	0.181 J	1.15	0.036 U	0.773	1.98
	2015	0.071 J	0 U	0.056 U	5.21 U	0.433	0.138	0.124	1.11	0.022 U	0.656	1.91
	2016	0.06 J	0.09 U	0.045 J	-0.282 U	0.604 J	0.014 U	0.076 J	0.975	0.084	0.497	1.18

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
MW-03 (Filtered)	2015	0.005 U	0.086 U	0.224	2.35 U	0.591	0.138	0.073	0.876	0.104	0.757	1.86
	2016	0.023 U	0.114 U	-0.065 U	3.02 U	0.437 J	-0.014 U	-0.006 U	0.729	0.021 U	0.572	1.29
MW-05	2004	1.19 J		0.191 U	12.2 U			0.592 J	0.231 U	0.314 U	0.289 U	
	2014	0.069 J	0.152 J	0.062 J	-0.781 U	-0.058 U	0.033 U	-0.041 U	0.06 J	-0.017 U	0.047 U	0.127 U
	2015	0.018 U	0.196	0.041 J	3.51 U	-0.121 U	0.088 J	0.044 U	0.185 J	0.022 U	0.13 J	0.161 J
	2016	0.015 U	0.092 U	0.005 U	-4.8 U	0.53 J	-0.03 U	0.019 U	0.151	0.114 J	0.082 J	0.037 U
	2017	-0.005 U	0.084 U	0.028 U	3.41 U	0.565 J	-0.027 U	-0.004 U	0.186 J	0.141 J	0.051 U	0.101 J
MW-05 (Filtered)	2014	0.008 U	0 U	0.04 U	3.04 U	0.012 U	-0.016 U	0.019 U	-0.005 U	0.03 U	0.054 J	0.105 U
	2015	0.012 U	0.057 U	0.029 J	1.1 U	-0.157 U	-0.025 U	0.013 J	0.045 U	-0.009 U	0.04 U	0.153 J
	2016	-0.006 U	0.046 U	-0.013 U	-6.31 U	0.406 U	-0.126 U	-0.016 U	-0.042 U	0.023 U	0.093 J	0.079 J
	2017	0.04 U	0.135 U	0.017 U	3.35 U	0.31 J	-0.029 U	0 U	0.027 U	0.033 U	0.073 J	0.112 J
MW-06	2004	0.822 U		R	8.91 U			0.5 J	0.308 U	0.267 U	0.175 U	
MW-07	2004	0.86 U		0.395 U	11.4 U			0.236 J	0.577 U	0.381 U	0.524 U	
	2013	0.103 J	0.094 J	0.017 U	-4.6 U	0.374 U	-0.008 U	0 U	0.416	-0.001 U	0.099 J	0.241 J
	2014	0.005 U	0.014 U	0.034 U	3.62 U	-0.021 U	-0.022 U	0 U	0.244 J	0.054 U	-0.037 U	0.224 J
	2015	0.053 U	0.117 J	0.002 U	-0.802 U	0.156 J	-0.022 U	0 U	0.191 J	0.016 U	0.116	0.176 J
	2017	0.061 J	0.1 J	-0.013 U	-0.147 U	0.37 U	-0.003 U	0 U	0.158 J	-0.005 U	0.026 J	0.192 J
MW-07 (Filtered)	2013	0.102 J	0.151 J	0.018 U	-2.3 U	0.819 J	-0.039 U	0 U	0.202 J	0.029 U	0.095 J	0.239 J
	2014	0.026 J	0.119 U	0.009 U	7.88 J	-0.012 U	-0.04 U	0 U	0.208 J	-0.012 U	-0.007 U	0.205 J
	2015	-0.02 U	0.104 J	0.051 U	2.89 U	0 U	0.037 U	0.012 U	0.311 J	0.068 J	0.073 J	0.18 J
	2017	0.001 U	0.097 J	-0.006 U	1.87 U	0.411 U	-0.007 U	-0.004 U	0.254	0.062 J	0.033 J	0.172 J
MW-08	2004	0.667 U		0.125 U	11.6 U			0.557 J	0.287 J	0.339 J	0.287 J	
	2013	-0.028 U	0.184 J	-0.009 U	1.28 U	0.67 J	0.011 U	-0.007 U	-0.159 U	-0.021 U	-0.068 U	0.103 J
	2014	-0.007 U	0.058 U	0.048 U	2.71 U	-0.177 U	-0.088 U	-0.07 U	0.009 U	0.083 J	-0.038 U	0.058 J
	2015	0.07 J	0.103 J	0.007 U	-0.21 U	0.012 U	-0.016 U	-0.018 U	0.06 U	0.022 U	-0.012 U	0.078 U
	2016	0.012 U	0.106 J	-0.011 U	1.24 U	0.384 J	-0.129 U	0 U	-0.193 U	-0.007 U	0.006 U	0.06 U
	2017	0.116 J	0.159 U	0.04 U	2.09 U	-0.01 U	0.017 U	0.041 J	0.031 U	0.053 J	0.027 U	0.077 J
MW-08 (Filtered)	2013	-0.003 U	0.043 U	0.026 U	-1.74 U	0.15 U	-0.015 U	-0.008 U	-0.003 U	-0.011 U	0.054 U	0.107 J
	2014	0.003 U	0.068 U	0.059 U	3.81 U	-0.08 U	0.028 U	-0.062 U	-0.163 U	-0.022 U	-0.135 U	0.06 J
	2015	-0.01 U	0.015 U	0.023 U	-0.495 U	0.063 U	-0.029 U	0 U	-0.021 U	0.044 U	-0.026 U	0.098 U
	2016	0.026 J	0.128 J	0.006 U	0.772 U	0.527 J	-0.011 U	0.018 U	0.029 U	0.03 U	0.062 J	0.08 U
	2017	0.071 J	0.053 U	0.004 U	3.05 U	0.387 J	0.008 U	0.02 J	0.104 U	0 U	0.023 U	0.081 J
MW-09A	2004	0.716 U		0.0386 U	9.78 U			0.459 J	0.644 U	0.378 U	0.496 U	
	2013	0.109 U	0.051 U	-0.041 U	5.58 J	0.283 U	-0.027 U	0.037 J	0.023 U	-0.022 U	-0.06 U	0.154 J
	2014	0.017 U	0.01 U	0.079	0.413 U	-0.159 U	-0.177 U	-0.118 U	-0.011 U	0.036 U	0.018 U	0.111 J
	2015	0 U	-0.041 U	0 U	-1.89 U	0.081 U	0.015 U	-0.01 U	0.135	0.016 U	0.105	0.145 J
	2016	0.081 J	0.128 J	0.013 U	-4.11 U	0.475 J	0.054 U	-0.007 U	0.033 U	-0.008 U	0.12	0.129 J
	2017	0.002 U	0.111 U	0.012 U	2.85 U	0.385 J	-0.005 U	-0.003 U	0.282 J	0.044 J	0.105 J	0.43

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
MW-09A (Filtered)	2013	0.141 J	0.205 J	-0.028 U	2.99 U	0.505 U	-0.02 U	0 U	0.143 J	0.013 U	-0.007 U	0.174 J
	2014	0.016 U	0.08 J	0.03 U	-0.108 U	-0.004 U	-0.009 U	0.012 U	0.034 U	-0.024 U	0.001 U	0.116 J
	2015	0.061 J	0.108 J	0.049 J	-2.36 U	-0.042 U	-0.023 U	0 U	0.104 J	-0.01 U	-0.003 U	0.168 J
	2016	0.047 J	0.121 U	-0.094 U	-4.74 U	0.323 U	-0.011 U	-0.006 U	0.16 J	0.078 J	0.065 J	0.144 J
	2017	0.072 J	0.106 U	0.045 U	6.4 J	0.445 J	0.006 U	0 U	0.157 J	-0.004 U	0.173 J	0.415
MW-12D	2004	0.593 U		0.595 U	10.2 U			0.774 J	0.664 U	0.297 U	0.349 U	
MW-13	2004	0.612 U		0.715 U	11.7 U			0.328 J	0.514 U	0.482 U	0.335 U	
	2013	0.068 J	0.033 U	0.027 U	-0.274 U	0.252 U	-0.037 U	-0.019 U	0.002 U	-0.014 U	0.001 U	0.137 J
	2014	0.013 U	0.08 U	-0.017 U	-2.35 U	-0.019 U	-0.028 U	0 U	0.106 J	0.022 U	0.034 J	0.123 U
	2015	0.021 U	0.167	0.071 J	4.29 U	0.147 J	0.026 U	-0.013 U	0.065 J	-0.006 U	0.048 U	0.085 J
	2016	0.01 U	0.038 U	-0.039 U	0.492 U	0.591 J	-0.011 U	0 U	0.078 J	0.079 J	0.09 J	0.081 U
	2017	-0.002 U	0.213 J	0.013 U	2.62 U	0.333 J	-0.028 U	0 U	0.166 J	0.019 U	-0.01 U	0.067 U
MW-13 (Filtered)	2013	0.02 U	0.156 J	0.053 U	-4.75 U	0.457 U	0.06 J	-0.005 U	0.119 J	-0.024 U	0.085 J	0.156 J
	2014	-0.012 U	0.153 J	0.03 U	2.33 U	0.017 U	0.008 U	-0.014 U	0.024 U	0.022 U	0.017 U	0.111 U
	2015	0.064 J	0.031 U	0.029 J	3.08 U	-0.039 U	0.012 U	0.062 J	-0.043 U	0.022 U	-0.029 U	0.082 J
	2016	-0.007 U	0.034 U	0.024 U	3.43 U	0.327 U	-0.082 U	-0.001 U	0.055 U	0.047 U	0.137	0.089 U
	2017	0.026 U	0.135 U	0.037 U	5.1 U	0.273 J	-0.004 U	-0.004 U	0.533 J	0.035 J	0.298	0.07 U
MW-14	2004	0.675 U		0.494 U	10.7 U			0.341 J	0.409 U	0.348 U	0.197 U	
	2013	0.057 U	0.1 J	0.1 U	-0.698 U	0.828 J	-0.027 U	0 U	0.02 U	0 U	0.018 U	0.098 J
	2014	0.034 J	-0.011 U	0.043 U	0.602 U	0.128 J	-0.017 U	-0.017 U	-0.077 U	-0.022 U	0.034 U	0.032 U
	2015	-0.099 U	0.388 J	0.053 U	0.847 U	4.15	0.051 U	0.051	-0.131 U	-0.024 U	0.281 J	1.06
	2016	-0.005 U	-0.012 U	-0.058 U	-0.654 U	0.635 J	0.038 J	-0.006 U	0.034 U	0.115 J	0.031 U	0.088 U
	2017	-0.012 U	0.234 J	0.046 U	0.232 U	0.411 U	0.018 J	-0.004 U	0.055 J	0.024 U	-0.01 U	0.029 U
MW-14 (Filtered)	2013	0.108 J	0.035 U	0.124 J	-3.51 U	0.886 J	-0.022 U	0 U	0.094 J	-0.007 U	0.041 J	0.099 J
	2014	-0.031 U	0.103 U	0.056 J	2.05 U	-0.098 U	-0.072 U	-0.045 U	-0.006 U	0.001 U	0.077	0.031 U
	2015	-0.031 U	0.081 J	0.052 U	-0.301 U	-0.018 U	0.034 U	-0.025 U	0.05 U	-0.009 U	0.018 U	0.076 U
	2016	0.007 U	0.091 J	-0.024 U	-3.38 U	0.345 J	0.01 U	-0.006 U	0.069 J	-0.007 U	0.059 J	0.069 U
	2017	0.096 J	0.122 J	0.054 U	-2.68 U	0.339 U	0.014 U	0.015 J	0.053 J	0.035 J	0.023 U	0.028 U
MW-15	2004	0.776 U		0.107 U	12.7 U			0.487 J	0.496 J	0.438 J	0.305 J	
	2013	0.061 U	0.008 U	-0.017 U	4.42 J	0.283 U	0.08 J	-0.035 U	0.078 J	-0.01 U	0.009 U	0.263 J
	2014	0.182 J	0.137 U	-0.107 UJ	-2.97 U	0.17	0.036 J	0 U	0.463	0.142 J	0.179 J	0.064 U
	2015	0.049 J	0.022 U	0.006 U	5.19 J	0.013 U	0.039 U	-0.065 U	0.113 J	0.02 U	0.02 U	0.053 U
	2016	0.02 U	0.045 U	0 U	-5.09 U	0.571 J	-0.078 U	-0.001 U	0.082 J	-0.007 U	0.016 U	0.085 U
	2017	0.042 U	0.162 J	0.035 U	1.86 U	0.008 U	0.015 U	0.04 J	0.188 J	0.015 J	0.078 J	0.086 J
MW-15 (Filtered)	2013	0.05 U	0.023 U	0 U	0.708 U	0.557 J	0.032 U	0.023 U	-0.03 U	0.031 U	0.15 J	0.061 U
	2014	-0.055 U	-0.024 U	0 U	1.82 U	-0.045 U	-0.011 U	0 U	0.007 U	-0.007 U	0.021 J	0.051 U
	2015	0.047 U	0.104	0.02 U	0.37 U	0.095 U	0.026 U	0 U	0.077 J	-0.007 U	0.007 U	0.086 J
	2016	0.04 J	0.042 U	0.012 U	-3.35 U	0.628 J	0.002 U	-0.005 U	0.002 U	0.08 J	0.021 J	0.063 U
	2017	0.073 J	0.381 J	0.084 J	-0.204 U	0.267 U	-0.003 U	0 U	0.01 U	-0.004 U	0.023 J	0.068 U

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
MW-16BC	2004	0.564 U		0.035 J	12 U			0.468 J	0.525 U	0.491 U	0.342 U	
MW-19	2004	R		R	R			0.459 J	0.352 U	0.353 U	0.0899 U	
MW-20	2013	0.026 U	0.16 J	0.006 U	3.32 U	2.41 J	0.413	0.492	2.09	-0.011 U	0.838	2.47
	2014	-0.017 U	0.029 U	0.011 J	-1.93 U	4.23	1.32	0.66	1.8	0.07 J	1.06	1.61
	2015	-0.014 U	0.116 J	0.012 U	0.741 U	1.62	0.334	0.193 J	1.33	0.061 J	0.554	2.35
MW-20 (Filtered)	2015	0.025 U	0.117 J	0.073 J	9.13 J	1.42	0.298	0.184	1.11	0.052 J	0.587	1.49
MW-22	2004	0.458 U		0.532 U	10.6 U			0.478 J	0.479 J	0.423 J	0.295 J	
	2013	0.106 J	0.152 J	0.093	-0.47 U	0.489 J	-0.055 U	0.003 U	0.075 J	0 U	0.023 U	0.282 J
	2014	0.007 U	0.034 U	0.051 J	1.98 U	0.226 J	0.067 J	0.084	0.233	0.035 U	0.094 J	0.292
	2015	0.015 U	0.171	0.043 U	-1.15 U	-0.051 U	-0.012 U	0 U	0.026 U	0.026 J	-0.037 U	0.116 J
	2016	0.011 U	0.016 U	-0.041 U	0.272 U	0.467 J	0.093 J	0.06 J	-0.013 U	0.021 U	0.042 J	0.265 J
	2017	0.046 U	0.037 U	0.054 U	1.1 U	0.364 J	0.029 U	0.018 J	0.053 J	0.023 U	0.07 J	0.459
MW-22 (Filtered)	2013	0.026 U	0.075 U	0.031 U	0.184 U	0.643 J	-0.039 U	0 U	0.107 J	0.084 J	0.054 U	0.157 J
	2014	0.197	0.025 U	0.025 U	0.484 U	-0.037 U	-0.025 U	-0.007 U	-0.036 U	0.025 U	0.009 U	0.059 J
	2015	0.044 U	-0.009 U	0.017 U	8.2 J	0.073 U	-0.035 U	0.012 U	0.019 U	-0.006 U	0.032 U	0.095 J
	2016	0.059 J	0.123 J	0 U	-0.187 U	0.663 J	-0.144 U	0.01 U	-0.02 U	0.056 U	0.001 U	0.034 U
	2017	-0.003 U	0.119 U	0.088 J	-1.33 U	0.348 J	-0.024 U	0 U	0.033 U	-0.008 U	0.052 J	0.103 J
MW-23	2004	0.635 J		0.255 U	R			0.561 J	0.676	0.183 U	0.519	
MW-24	2004	0.632 U		0.496 U	10.6 U			0.555 J	0.459 J	R	0.558 J	
MW-25	2004	1.07 J		0.06 U	11.9 U			R	0.619 U	0.277 U	0.326 U	
MW-26	2004	0.732 U	0.815 U	0.537 U	13 U		0.345 U	0.455 J	0.681 J	0.495 J	0.238 J	
MW-29	2004	0.397 U	0.744 U	0.506 U	11.3 U		0.446 U	0.215 U	0.421 U	0.498 J	0.421 J	
MW-30A	2004	0.912 U		0.383 U	R			0.726 J	0.222 U	0.106 U	0.222 U	
MW-31	2004	0.558 U		0.323 U	12 U			0.502 J	0.393	0.479 U	0.422 U	
MW-32	2004	R		0.084 U	12.3 U			0.207 U	0.606 J	0.589 J	0.502 J	
MW-33	2004	0.488 U	0.619 U	0.448 U	11.8 U		0.323 U	0.323 J	0.963 J	0.565 J	0.741 J	
	2013	-0.012 U	-0.055 U	-0.016 U	1.79 U	0.817 J	-0.028 U	0.024 U	0.122 U	0 U	0.024 U	0.448
	2014	0.064 U	0.119 U	0.03 U	1.69 U	0.022 U	0.077 J	-0.009 U	0.242	-0.008 U	0.108 J	0.213 J
	2015	0.053 U	0.103	0.007 U	-0.646 U	0.084 U	0.081 U	0.271	0.254 J	0.068	0.151	0.513 J
	2016	0.018 U	0.094 U	0.037 J	0.82 U	0.329 J	-0.025 U	0.022 J	0.37	0.026 U	0.173	0.663
	2017	0.017 U	0.077 U	0.041 U	1.27 U	0.33 U	-0.009 U	0 U	0.184 J	0.034 J	0.043 J	0.221 J
MW-33 (Filtered)	2013	0.038 U	0.124 U	0.083 J	0.087 U	0.478 U	0.031 J	0 U	0.186 J	-0.03 U	0.056 J	0.295 J
	2014	0.021 U	0.094 U	0.028 U	3.09 U	-0.011 U	-0.031 U	-0.008 U	0.133 J	-0.015 U	0.06 J	0.2 J
	2015	0.023 U	-0.039 U	0.057 U	-0.468 U	0.06 U	-0.035 U	-0.012 U	0.095 J	-0.018 U	0.09 J	0.259 J
	2016	0.003 U	0.073 U	0.035 J	3.3 U	0.326 J	-0.052 U	-0.005 U	0.235	0.018 U	0.02 U	0.28
	2017	0.013 U	0.152 J	0.092 J	-1.3 U	0.269 U	-0.048 U	0 U	0.052 J	0.101 J	0.139	0.159 J
MW-35	2004	0.882 U		0.101 U	11 U			0.206 J	0.354 U	0.202 U	0.354 U	

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
MW-36	2004	0.59 U		R	R			0.368 J	0.746	0.324 U	0.239 U	
MW-38	2004	R		0.0625 U	12.1 U			0.509 J	0.518 U	0.52 U	0.172	
	2017	0.028 U	0.062 U	0.013 U	0.644 U	0.352 J	0.02 U	-0.004 U	0.126 J	-0.004 U	0.022 J	0.171 J
MW-38 (Filtered)	2017	0.068 J	0.261 U	0.065 U	-2.7 U	0.301 U	-0.024 U	-0.004 U	0.079 J	0.028 U	0.082	0.134 J
MW-39	2004	0.482 U	0.814 U	0.467 U	13.9 U		0.527 J	0.175 U	0.218 U	0.385 U	0.384 U	
	2013	0.003 U	0.074 U	0.012 U	-3.83 U	0.366 U	0.004 U	0 U	0.2	0.056 U	0.214	0.408
	2014	0.02 U	0.069 U	0.026 U	2.28 U	0.039 U	-0.079 U	-0.049 U	0.081 J	-0.01 U	0.057 J	0.143 J
	2015	-0.029 U	0.061 U	0.061	6.9 J	0.415	0.024 U	0.182	0.024 U	0.068 J	0.077 J	0.458
	2016	0.015 U	0.023 U	0.033 J	0 U	0.511 J	-0.248 U	0.011 U	0.377	-0.006 U	0.111	0.504 J
	2017	0.034 U	0.058 U	-0.017 U	1.9 U	0.518 J	0.04 U	0 U	0.239	0.035 J	0.158	0.903
MW-39 (Filtered)	2013	-0.02 U	0.235	0.051 U	-2.47 U	0.309 U	-0.041 U	0 U	0.189 J	0.133 J	0.103 J	0.46
	2014	0.002 U	0.037 U	0.009 U	-1.79 U	0.003 U	0.088 J	0.049 U	0.071 U	-0.014 U	0.073 U	0.181 J
	2015	0.018 U	0 U	0.048 J	5.7 J	-0.092 U	0.011 U	-0.011 U	0.062 J	0 U	0.047 U	0.103 J
	2016	-0.006 U	0.096 J	-0.04 U	-3.5 U	0.542 J	-0.011 U	0.019 U	0.28 J	0.09 J	0.074 J	0.438 J
	2017	-0.014 U	0.051 U	-0.003 U	-2.15 U	0.372 U	0.022 J	-0.005 U	0.395	0.071 J	0.214	0.514 J
MW-40	2004	0.681 U		0.185 U	10.3 U			0.245 J	R	0.587 U	0.448 U	
	2013	0.101 U	-0.016 U	0.107 J	1.18 U	0.791 J	-0.003 U	0.036 J	-0.1 U	-0.132 U	0.005 U	0.11 J
	2014	-0.005 U	0.023 U	0 U	6.82 J	0.094 J	0.021 U	0 U	-0.033 U	-0.01 U	-0.006 U	0.042 U
	2015	0.056 U	0.057 U	0.023 U	-0.234 U	0.048 U	-0.007 U	0 U	0.052 U	-0.009 U	0.071 J	0.096 J
	2016	0.034 U	0.099 U	0.006 U	-6.79 U	0.466 U	-0.061 U	-0.006 U	-0.017 U	0.019 U	0.015 U	0.051 U
	2017	0.041 U	0.137 J	0.016 U	7.35 J	0.322 U	-0.027 U	0 U	0.116 J	0 U	-0.005 U	0.08 J
MW-40 (Filtered)	2013	0.066 U	0.074 U	0.046 U	4.84 J	0.502 U	0.004 U	0 U	0.069 U	-0.027 U	-0.019 U	0.099 J
	2014	0.043 U	0.13 U	0.044 U	7.37 J	-0.085 U	-0.027 U	0 U	-0.002 U	0.002 U	-0.049 U	0.038 U
	2015	-0.034 U	-0.1 U	0.02 U	0.562 U	0.033 U	-0.074 U	0 U	0.063 J	-0.007 U	0.031 U	0.111 J
	2016	0.048 J	0.155 J	-0.057 U	-8.26 U	0.453 U	-0.031 U	-0.006 U	-0.023 U	0 U	0.001 U	0.044 U
	2017	0.045 J	0.187 J	0.011 U	-4.39 U	0.291 U	0.013 U	-0.004 U	0.076 J	-0.01 U	0.077 J	0.052 U
MW-41	2004	0.646 U		0.376 U	11.3 U			0.481 J	0.773	0.41 U	0.347 U	
MW-43	2004	0.691 U		0.0715 U	10.7 U			0.228 J	1.49	0.308 U	0.175 U	
MW-44	2015	-0.042 U	0.183 J	0.043 J	6.32 U	0.027 U	0.039	0 U	0.455	0.053 J	0.117 J	0.375
	2016	0.094 J	0.009 U	0.031 J	4.16 U	0.369 J	-0.049 U	-0.005 U	1.03	0.024 U	0.619	1.06
	2017	0.161 J	0.15 J	0.003 U	2.93 U	0.434 U	-0.005 U	0.01 J	0.369	-0.012 U	0.123	0.567 J
MW-44 (Filtered)	2015	0.096 J	0.148 J	0.053 J	1.44 U	-0.129 U	0.014 U	-0.028 U	0.177 J	-0.009 U	0.083 J	0.369
	2016	0.029 J	0.102 U	0.021 U	-9.23 U	0.465 U	-0.095 U	0 U	0.976	0.054 U	0.435	1.23
	2017	0.025 U	0.169 J	0.001 U	1.2 U	0.381 U	-0.032 U	-0.005 U	0.266	0.006 U	0.211	0.387 J

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
MW-45 (Filtered)	2015	0.008 U	0.149 J	0.054 J	1.4 U	0.03 U	0 U	0.015 U	4.31	0.079 J	1.6	5.91
MW-47	2017	0.007 U	0.088 U	0.05 U	2.29 U	0.531 J	0.084 J	0.058	0.415 J	0.028 U	0.217 J	1.05
MW-47 (Filtered)	2017	0.021 U	0.093 U	0.027 U	4.58 U	0.379 J	-0.004 U	-0.004 U	0.176 J	0 U	0.126 J	0.249 J
MW-50	2016	0.088	0.1 U	0.024 J	2.44 U	0.392 J	0.007 U	0 U	0.544	0.096	0.591	1.46
	2017	0.033 U	0.085 J	0.004 U	3.73 U	0.281 U	0.03 U	0.024 J	2.03	0.052 J	0.121	0.393 J
MW-50 (Filtered)	2016	0.051 J	0.031 U	0.003 U	1.31 U	0.352 J	-0.081 U	-0.001 U	0.414	0.084 J	0.443	0.811
	2017	0.057 U	0.133 J	0.041 J	2.57 U	0.75 J	-0.004 U	0 U	2.19	0.078 J	0.184	0.547 J
MW-51	2004	1.01 J		0.0843 U	10.7 U			0.335 J	0.349 U	0.297 J	0.296 J	
	2014	0.03 U	0.104 U	0.016 U	9.72 J	-0.055 U	-0.047 U	0.022 U	-0.114 U	-0.023 U	0.013 U	0.247 J
	2015	0.046 U	0.077 U	0.029 J	-5.33 U	-0.071 U	0.055 U	0.014 U	0.134 J	-0.017 U	0.064 J	0.356
	2016	-0.007 U	0.056 U	0.019 U	0.205 U	0.091 U	-0.143 U	-0.015 U	-0.086 U	0.029 J	0.027 U	0.231
	2017	0.022 U	0.177 U	0.03 U	0.881 U	-0.013 U	0.029 U	0.017 J	0.264	0.032 J	0.165	0.305 J
MW-51 (Filtered)	2014	0.032 U	0.153 U	0.029 U	3.89 U	-0.051 U	-0.075 U	0 U	0.087 U	0.074 J	0.096 J	0.234 J
	2015	0.076	0.145 J	0.022 U	-0.83 U	-0.015 U	-0.015 U	-0.015 U	0.112 J	0.059 J	0.063 J	0.362
	2016	-0.034 U	0.001 U	0.012 U	2.71 U	0.49 J	-0.285 U	-0.012 U	0.001 U	0.05 J	0.136 J	0.239
	2017	0.036 U	0.297 J	0.101 J	-1.54 U	0.167 U	-0.003 U	0 U	0.183	0.035 J	0.157	0.294 J
MW-52	2004	0.901 U		0.2 U	11 U			0.487 J	0.52 U	0.553 U	0.339 U	
	2013	0.041 U	0.155 J	0.026 U	-0.098 U	0.437 U	-0.027 U	-0.007 U	0.191	-0.004 U	0.124 J	0.233 J
	2014	0.088 J	0.028 U	0.033 U	2.3 U	0.033 U	-0.011 U	0.027 J	0.154 J	0.084 J	0.033 U	0.216 J
	2015	0.075 J	0.115	-0.042 U	3.45 U	-0.069 U	-0.027 U	0.04 J	0.004 U	-0.031 U	0.115 J	0.506 J
MW-52 (Filtered)	2013	0.088 J	0.136 J	0.035 U	-2.56 U	0.314 U	-0.015 U	-0.007 U	0.205	0.058 U	0.039 J	0.258 J
	2014	0.189 J	0.085 U	-0.003 U	4.09 U	-0.066 U	-0.072 U	0.007 U	0.151 J	0.05 J	0.116 J	0.191 J
	2015	0.077 J	-0.018 U	0.065 U	-6.87 U	0.176 J	0.073 U	0.012 U	0.024 U	0.053 J	0.06 J	0.426 J

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
MW-53	2014	-0.031 U	0.152	-0.012 U	-0.76 U	0.178 J	-0.039 U	0.052 J	3.1	0.064 U	1.92	7.24
	2015	0.043 J	0.174 J	0.084 J	3.13 U	0.081 U	0.087 J	0 U	2.36	0.22	1.3	3.58
	2016	-0.015 U	0.033 U	0.031 U	5.43 U	0.338 J	0.001 U	-0.006 U	1.53	0.086	1.03	3.29
	2017	-0.041 U	0.079 U	0.007 U	0 U	0.372 J	-0.026 U	-0.004 U	1.34	0.028 U	0.948	2.84
MW-53 (Filtered)	2014	0.041 U	0.084 J	0.017 U	0 U	0.047 U	-0.024 U	0 U	2.81	0.126 J	2	6.63
	2015	0.09 J	0.174	0.02 U	-2.62 U	-0.112 U	0.015 U	0.092 J	1.94	0.095 J	1.12	3.99
	2016	0.021 U	0.003 U	-0.051 U	3.18 U	0.351 J	-0.117 U	0 U	1.98	0.029 J	1.26	3.37
	2017	0.042 U	0.099 U	0.035 U	-1.24 U	0.368 J	-0.014 U	0 U	1.02	0.103	0.652	2.42
MW-56	2004	0.742 U		0.418 U	R			0.411 J	0.194 U	0.237 U	0.194 U	
MW-58	2004	0.498 J	0.634 DL	0.193 U	13.8 DL		0.352 U	0.2 J	0.366 U	0.368 U	0.311 U	
MW-59	2004	0.485 U		0.351 U	10.4 U			0.391 J	0.659 U	0.576 U	0.465 U	
	2013	0.097 U	0.26 J	0.097	4.07 U	0.714 J	-0.004 U	-0.02 U	0.133 J	-0.018 U	0.023 U	0.199 J
	2014	-0.012 U	0.091 U	0.038 U	6.26 J	-0.003 U	-0.046 U	0 U	-0.064 U	0.03 U	-0.029 U	0.176 J
	2015	0.045 U	0.086 J	0.058	4.73 U	-0.051 U	-0.037 U	0 U	0.07 J	-0.009 U	0.089 J	0.168 J
	2016	-0.013 U	0.044 U	-0.05 U	2.59 U	0.256 U	-0.005 U	-0.006 U	0.079 J	0.026 J	0.119 J	0.044 U
	2017	0.064 J	0.055 U	0.001 U	-1.46 U	0.398 U	-0.003 U	-0.004 U	0.357	0.05 J	0.077 J	0.108 J
MW-59 (Filtered)	2013	0.037 U	0.17 J	0.069 J	2.63 U	0.46 U	0.067 U	-0.028 U	0.138 U	-0.019 U	0.068 U	0.191 J
	2014	0.03 U	0.018 U	0.007 U	4.57 J	-0.034 U	-0.023 U	-0.006 U	-0.073 U	0 U	0.145 J	0.057 J
	2015	0.028 U	0.071 U	0.041 J	0.193 U	-0.081 U	-0.039 U	0.013 U	0.07 U	0.07 J	-0.002 U	0.164 J
	2016	0.012 U	0.089 U	-0.031 U	2.96 U	0.388 J	-0.005 U	-0.006 U	0.073 J	0.022 U	0.062 J	0.042 U
	2017	-0.025 U	0.144 J	0.045 U	-2.07 U	0.312 U	0.028 U	0.018 J	0.066 J	0.017 J	0.053 J	0.089 J
MW-64	2004	0.61 U		0.22 U	11.1 U			R	0.329 U	0.435 U	0.187 U	
MW-69	2004	R		0.39 U	11.5 U			0.552 J	0.377 U	0.378 U	0.41 U	
MW-81	2013	0.182 J	0.13 U	0.036 J	-4.34 U	0.053 U	-0.043 U	-0.115 U	3.41	0.191 J	0.23 J	0.645
MW-81 (Filtered)	2013	0.072 J	0.014 U	0.041 J	-2.73 U	0.554 J	-0.054 U	-0.017 U	2.6	0.199	0.269 J	0.67
NWS-01A-02	2004	0.362 U		0.123 U	12.7 U			0.215 J	0.33 J	0.331 J	0.359 J	
NWS-01A-03	2004	0.745 U		0.14 U	12.4 U			0.462 J	0.287 U	0.378 U	0.163 U	
NWS-01A-04	2004	0.826 J		0.11 U	11.7 U			0.161 U	0.405 U	0.635 J	0.566 J	
NWS-03-03	2004	0.623 U		0.0745 U	10.8 U			0.313 J	0.323 U	0.421 J	0.392 J	
NWS-05-04	2004	0.763 U		R	12.4 U			0.483 J	0.487 U	0.461 U	0.353 U	

Well	Year	AMERICIUM-241	PLUTONIUM-238	PLUTONIUM-239/240	PLUTONIUM-241	THORIUM-228	THORIUM-230	THORIUM-232	URANIUM-234	URANIUM-235	URANIUM-238	TOTAL URANIUM (UG/L)
Units		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L
PZ-01	2015	0.046 J	0.181	0.052 J	-0.699 U	0.027 U	-0.053 U	-0.026 U	0.867	0.174 J	0.457	0.326 J
	2016	0.102 J	0.118 U	-0.043 U	-0.359 U	0.353 J	-0.046 U	0.023 U	0.532	0.062 J	-0.005 U	0.112 J
	2017	0.054 J	0.226 J	0.046 U	4.39 J	0.334 U	-0.014 U	0.02 J	0.339	0.037 U	0.069 J	0.081 J
PZ-01 (Filtered)	2015	-0.036 U	0.016 U	0.049 J	3.28 U	-0.052 U	0 U	0.013 J	0.862	-0.009 U	0.019 U	0.291 J
	2016	0.017 U	0.062 U	-0.083 U	-2.91 U	0.108 U	-0.037 U	0.017 U	0.618	0.161	0.001 U	0.098 J
	2017	0.012 U	0.046 U	0.042 U	2.88 U	-0.005 U	0.035 U	0.016 J	0.284	0 U	-0.003 U	0.077 J
PZ-08	2017	0.027 U	0.024 U	0.051 U	1.56 U	0.343 J	0.036 U	0.08	0.455	0.143 J	0.157 J	0.497
PZ-08 (Filtered)	2017	0.109 J	-0.005 U	0.102 J	5.78 U	0.37 J	0.014 U	0.016 U	0.25	-0.004 U	0.101 J	0.184 J
PZ-09	2013	0.104 U	0.123 U	0.088 J	2.9 U	0.54 J	-0.015 U	-0.006 U	0.05 U	0.064 J	-0.006 U	0.126 J
	2014	0.178 J	0.144 U	0.082 U	5.46 U	0.014 U	0.026 U	0.025 J	0.092 J	-0.01 U	0.025 U	0.167 J
	2015	0.025 U	0.167 J	0.047 U	1.6 U	0.041 U	0.006 U	0 U	0.09 U	0.02 U	0.02 U	0.099 U
	2016	0.017 U	0.003 U	0.053 J	-10.9 U	0.542 J	-0.074 U	-0.001 U	-0.161 U	0.023 U	0.04 J	0.036 U
	2017	-0.015 U	0.041 U	0.019 U	1.68 U	0.246 U	0.02 J	-0.004 U	0.098 J	0.072 J	0.021 U	0.06 U
PZ-09 (Filtered)	2013	0.017 U	0.135 U	0.063 J	0.974 U	0.515 U	0 U	0 U	-0.023 U	0.053 U	0.002 U	0.127 J
	2014	0.166	0.053 U	0.004 U	3.03 U	0.034 U	-0.005 U	-0.007 U	0.104 J	-0.02 U	0.057 U	0.035 U
	2015	0.014 U	0.07 J	0.056 U	1.16 U	-0.012 U	0.022 U	-0.01 U	-0.038 U	-0.009 U	0.069 J	0.087 U
	2016	0.039 J	0.175 J	-0.012 U	-3.51 U	0.517 J	-0.024 U	-0.005 U	-0.001 U	0.025 U	0.011 U	0.032 U
	2017	-0.005 U	0.069 U	0.062 U	1.74 U	0.331 U	-0.023 U	-0.004 U	0.143 J	0.088 J	0.068 J	0.052 U

Table 7. Groundwater Sampling Summary of Detections (2003-2017)

Metal	Number of Samples	Number of Detections	Minimum	Maximum	Average	USEPA or PADEP Primary or Secondary Drinking Water Standard (1)
	n	n	UG/L	UG/L	UG/L	UG/L
ALUMINUM	238	206	1.4	55000	1896.81	200.0
ANTIMONY	238	56	0.2	6.4	1.13	6.0
ARSENIC	238	57	0.62	120	8.46	10.0
BARIUM	238	238	3.5	1600	216.81	2000.0
BERYLLIUM	218	53	0.1	33	4.29	4.0
CADMIUM	238	20	0.059	4.4	0.87	5.0
CALCIUM	238	238	3400	430000	49576.89	NA
CHROMIUM, TOTAL	238	196	0.31	250	5.89	100.0
COBALT	238	192	0.12	180	8.30	NA
COPPER	238	185	0.23	150	8.31	1000.0
IRON	238	201	52	190000	8964.37	300.0
LEAD	238	69	0.26	11	1.42	15.0
MAGNESIUM	238	238	590	100000	14155.08	NA
MANGANESE	238	233	0.28	4500	271.62	50.0
MERCURY	238	37	0.047	0.15	0.09	2.0
NICKEL	238	235	0.22	680	25.32	100.0
POTASSIUM	238	236	500	80000	3328.01	NA
SELENIUM	238	55	1.5	14	2.96	50.0
SILVER	238	29	0.18	1.2	0.48	100.0
SODIUM	238	237	1500	240000	19897.89	NA
THALLIUM	238	34	0.16	1.7	0.37	2.0
VANADIUM	238	51	0.49	11	1.92	NA
ZINC	238	189	1.8	2400	72.69	5000.0
TOTAL URANIUM	243	202	0.036	7.24	0.52	30
Radionuclide	n	n	pCi/L	pCi/L	pCi/L	pCi/L
AMERICIUM-241	361	68	0.026	0.197	0.09	15
PLUTONIUM-238	263	111	0.056	0.585	0.15	15
PLUTONIUM-239/240	347	61	0.011	0.224	0.06	300 (2)
PLUTONIUM-241	349	22	4.39	10.8	6.73	15
THORIUM-228	243	108	0.094	4.23	0.58	15
THORIUM-230	257	30	0.018	1.32	0.21	15
THORIUM-232	347	48	0.01	10.7	0.61	15
URANIUM-234	347	180	0.049	7.75	0.71	16.4 (3)
URANIUM-235	361	94	0.015	0.953	0.09	0.2 (3)
URANIUM-238	347	155	0.02	7.55	0.35	10 (3)

NOTES:

(1) - USEPA Maximum Contaminant Levels (MCLs), Secondary MCLs, or Pennsylvania DEP MCLs

(2) - USEPA, Directive #9283.1-14, Use of Uranium Drinking Water Standards under 40 CFR 141 and 40 CFR 192.

(3) - Based on 40 CFR 9, 141, 142, Federal Register, 7 Dec. 2000, Assumes a U234:U238 ratio of 1.6:1.

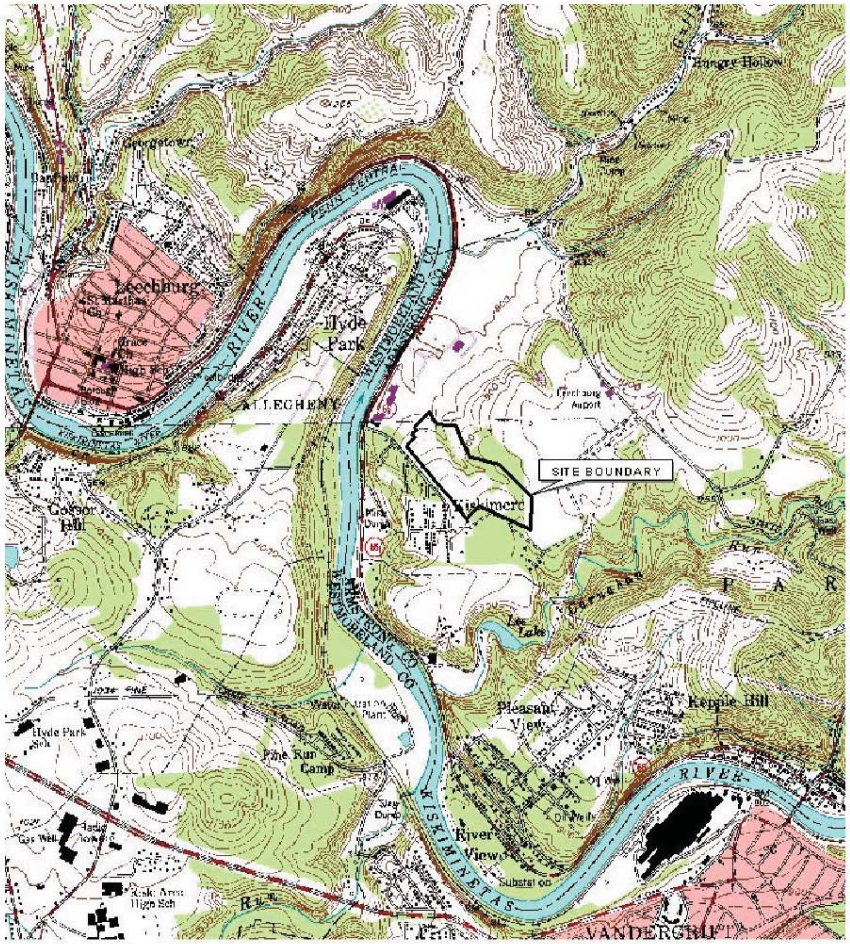
NA - No Standard Available

Average exceeds water quality standard.

NC - Not Calculated for non-FUSRAP consituents of concern

ND - Not Detected

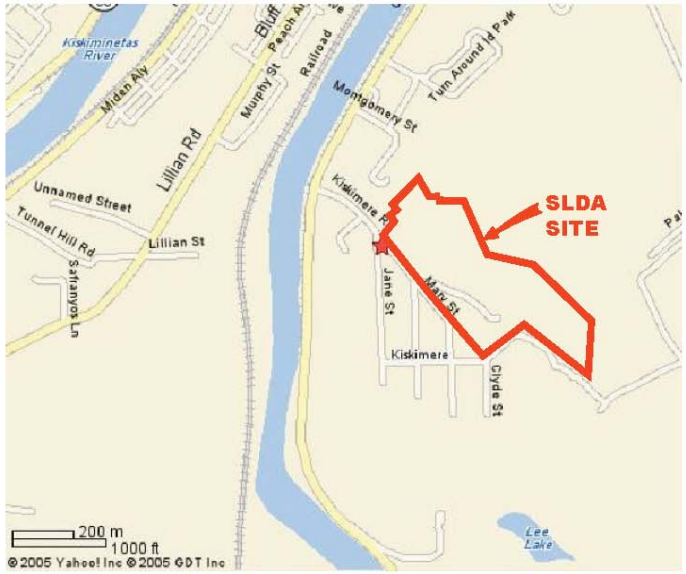
FIGURES



Source: USGS 7.5' Topographic Quadrangles
Vandergrift, PA, 1953 (revised 1979)
Leechburg, PA, 1954 (revised 1969)

SITE LOCATION MAP

STATE KEY MAP



SITE ADDRESS:
1105 MARY STREET
VANDERGRIFT, PA 15690

VICINITY MAP

SHALLOW LAND DISPOSAL AREA
SITE LOCATION MAP

Figure 1

N:\11173327.00000\CAD\DRAFT\ 1=1 /6/12/05-2 RAL

FIGURE 1-1.dwg

Figure 1. Shallow Land Disposal Area (SLDA) Site Location

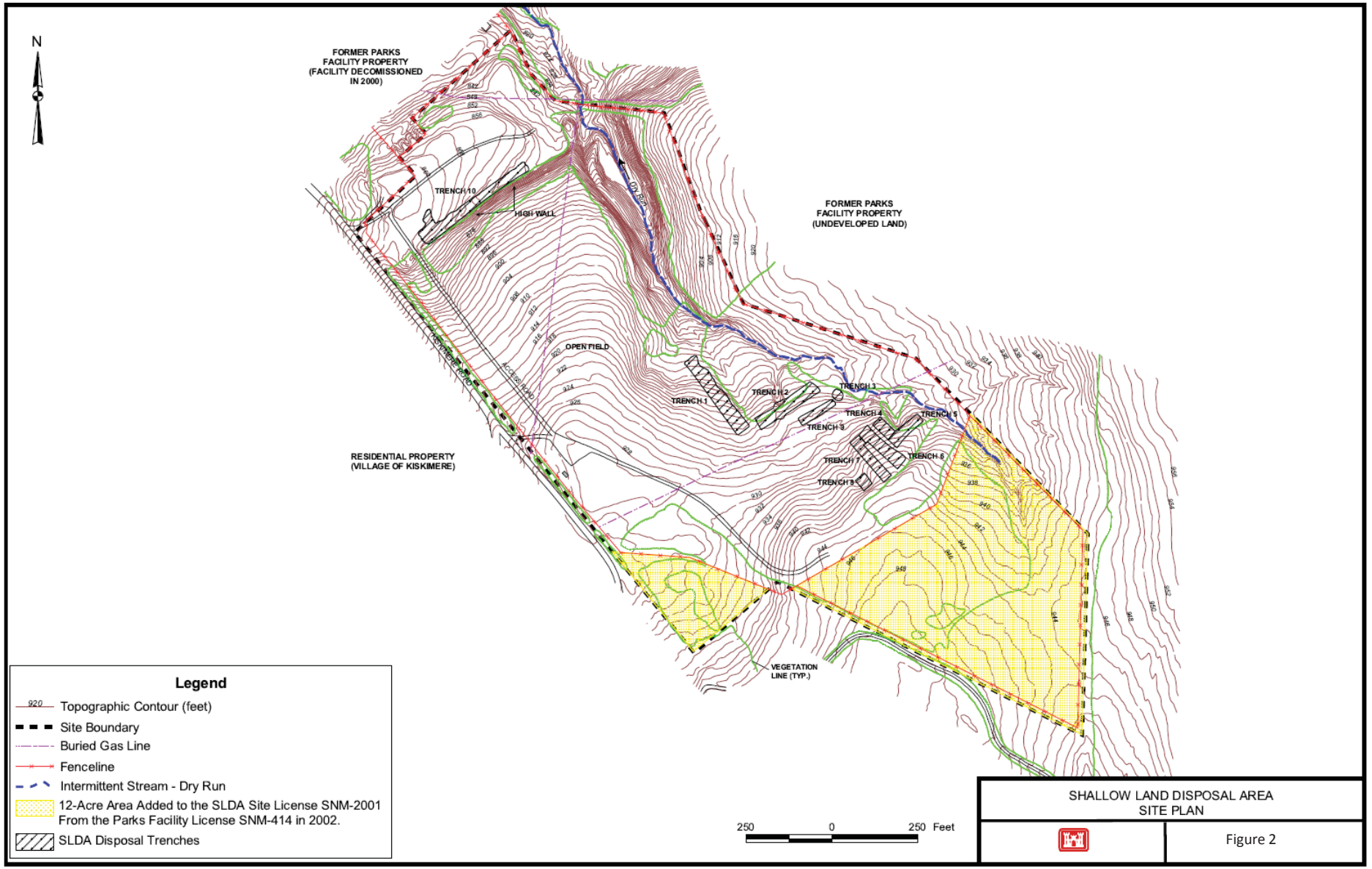


Figure 2. Shallow Land Disposal Area Site Plan

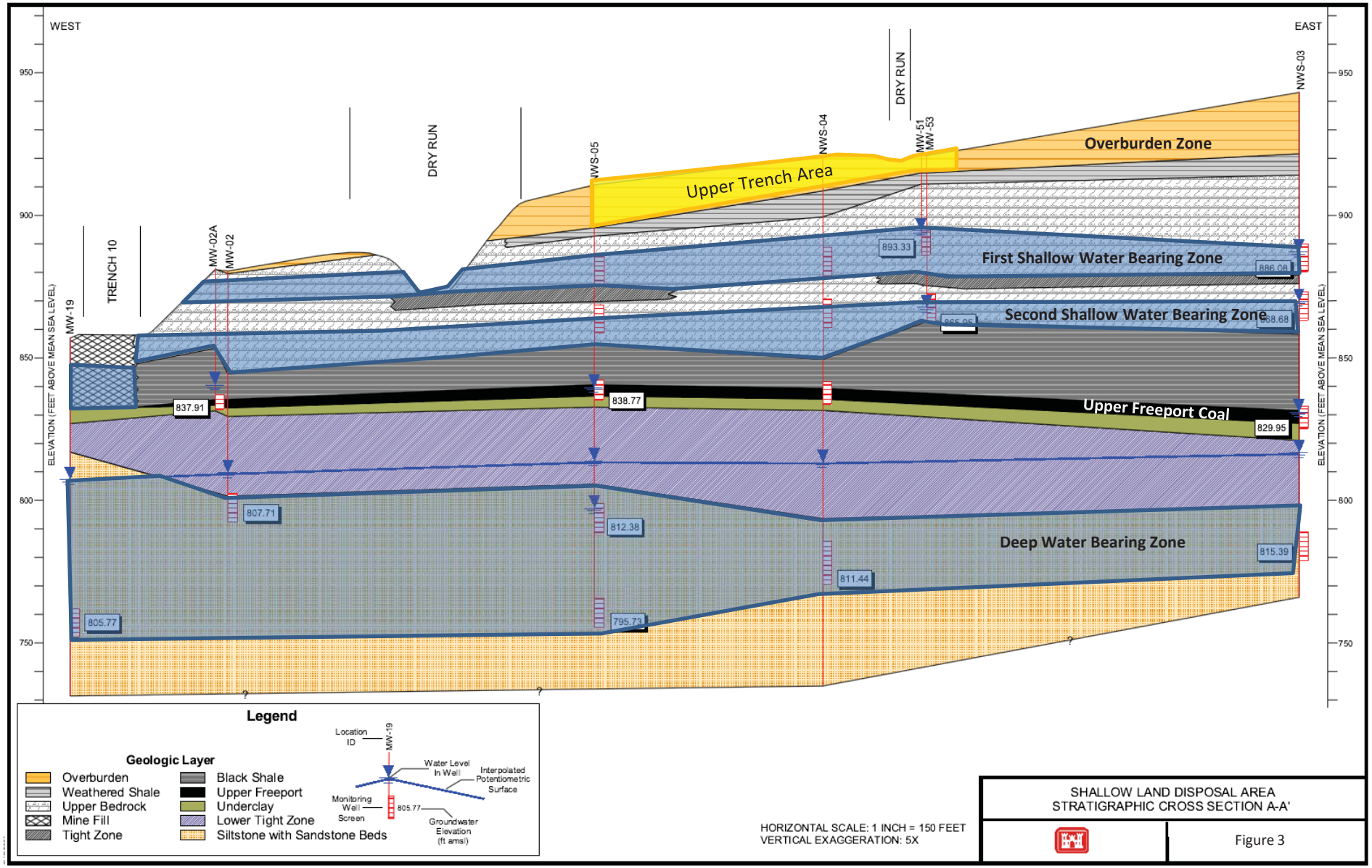
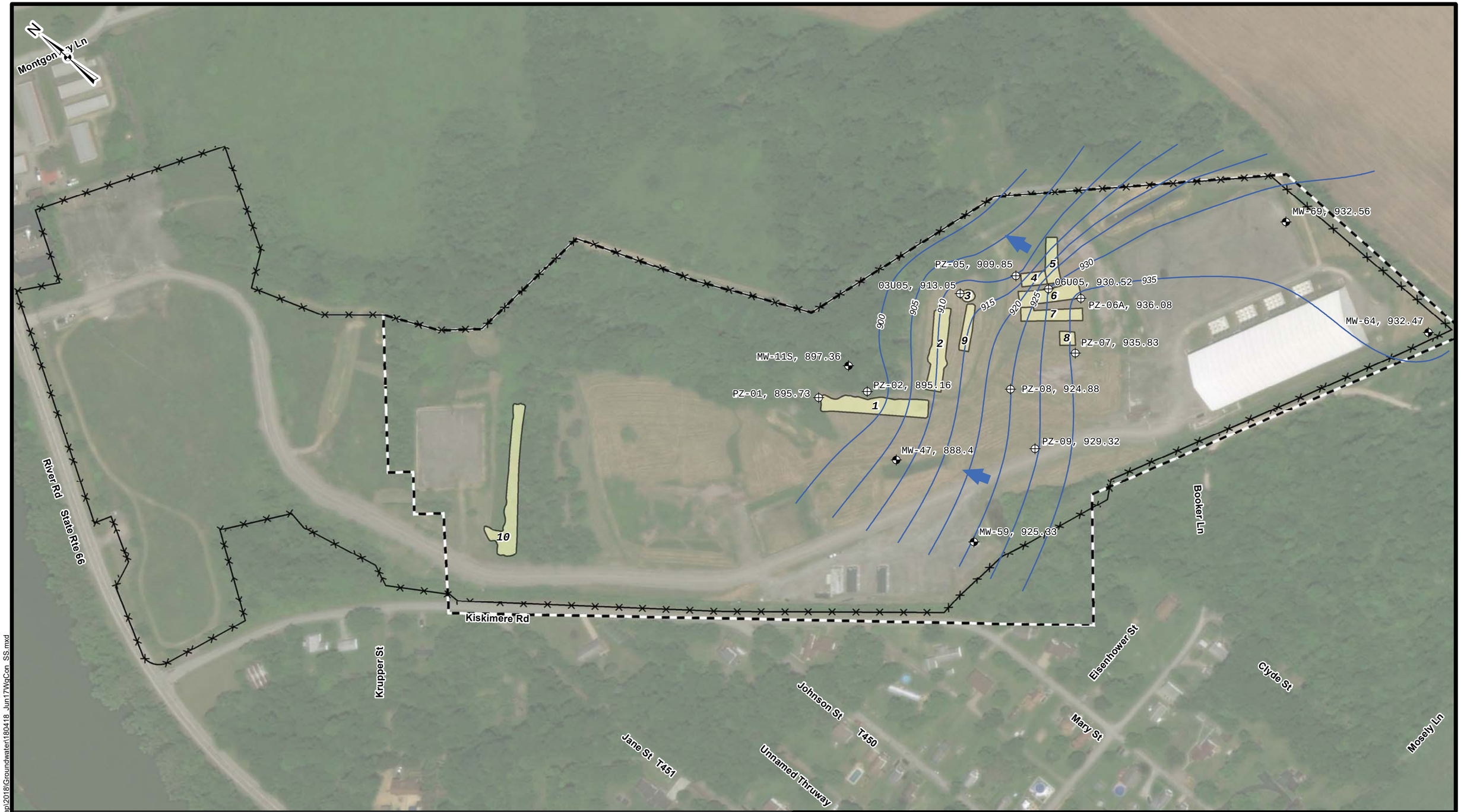


Figure 3. Northwest to Southeast Geologic Cross Section Through SLDA



Legend

- Monitoring Well
- Piezometer
- Temporary Piezometer
- Groundwater Elevation Contour (ft amsl)
- Groundwater Flow Direction
- Trench
- Fenceline
- Site Boundary

35

0 110 220 440 Feet

US Army Corps of Engineers, Buffalo District

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BUFFALO, NY

GROUNDWATER ELEVATION CONTOUR MAP
OVERBURDEN - JUNE 2017

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SHALLOW LAND DISPOSAL AREA
PARKS TOWNSHIP, PENNSYLVANIA

FIGURE 4

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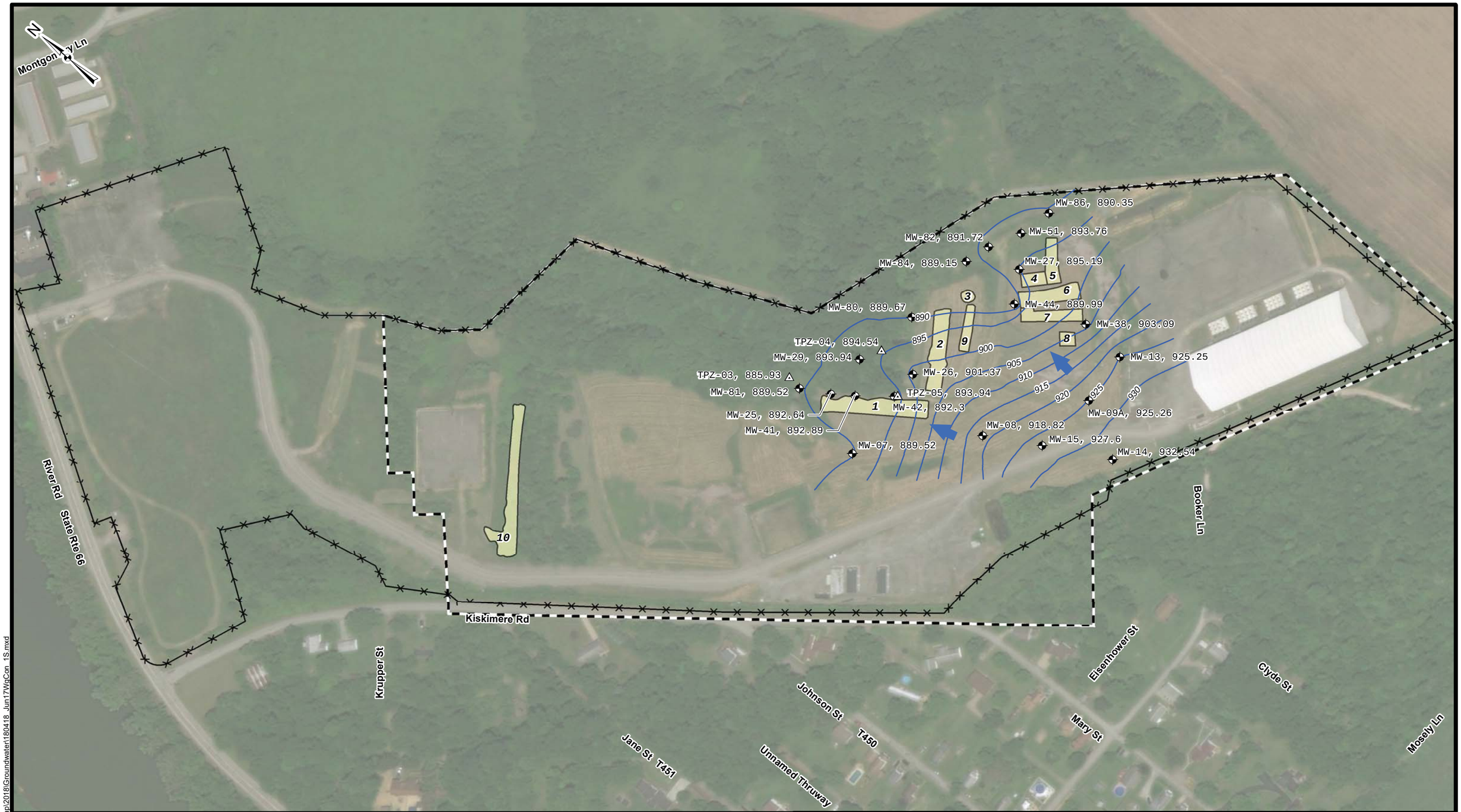

Legend

- Monitoring Well
- Piezometer
- Temporary Piezometer
- Groundwater Elevation Contour (ft amsl)
- Groundwater Flow Direction
- Trench
- Fenceline
- Site Boundary

36

0 110 220 440 Feet

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GROUNDWATER ELEVATION CONTOUR MAP
FIRST SHALLOW BEDROCK ZONE - JUNE 2017

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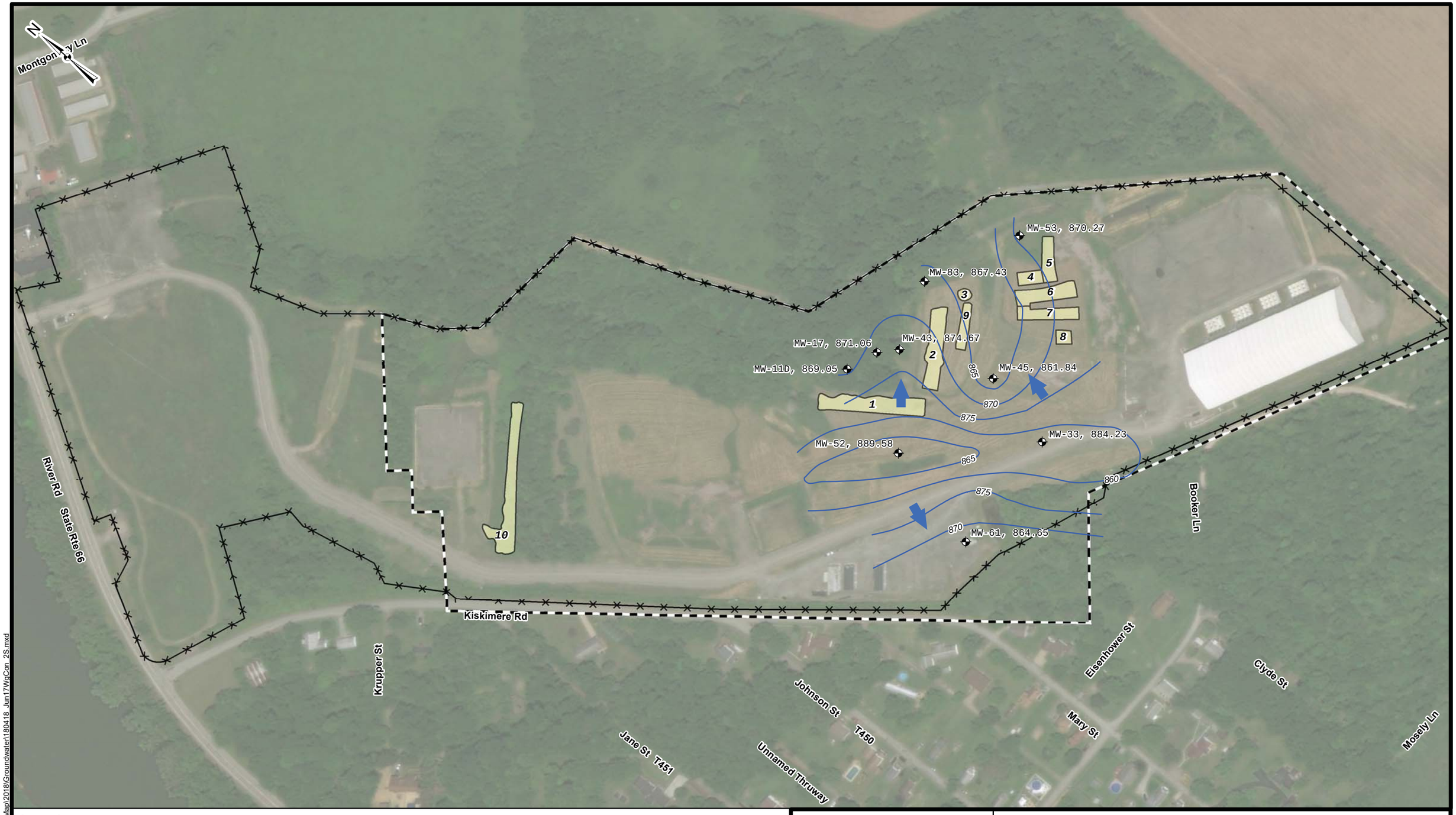
SHALLOW LAND DISPOSAL AREA
PARKS TOWNSHIP, PENNSYLVANIA

FIGURE 5



Legend

- Monitoring Well
- Piezometer
- Temporary Piezometer
- Groundwater Elevation Contour (ft amsl)
- Groundwater Flow Direction
- Trench
- Fenceline
- Site Boundary

37

0 110 220 440 Feet

US Army Corps of Engineers Buffalo District

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BUFFALO, NY

GROUNDWATER ELEVATION CONTOUR MAP
SECOND SHALLOW BEDROCK ZONE - JUNE 2017

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SHALLOW LAND DISPOSAL AREA
PARKS TOWNSHIP, PENNSYLVANIA

FIGURE 6

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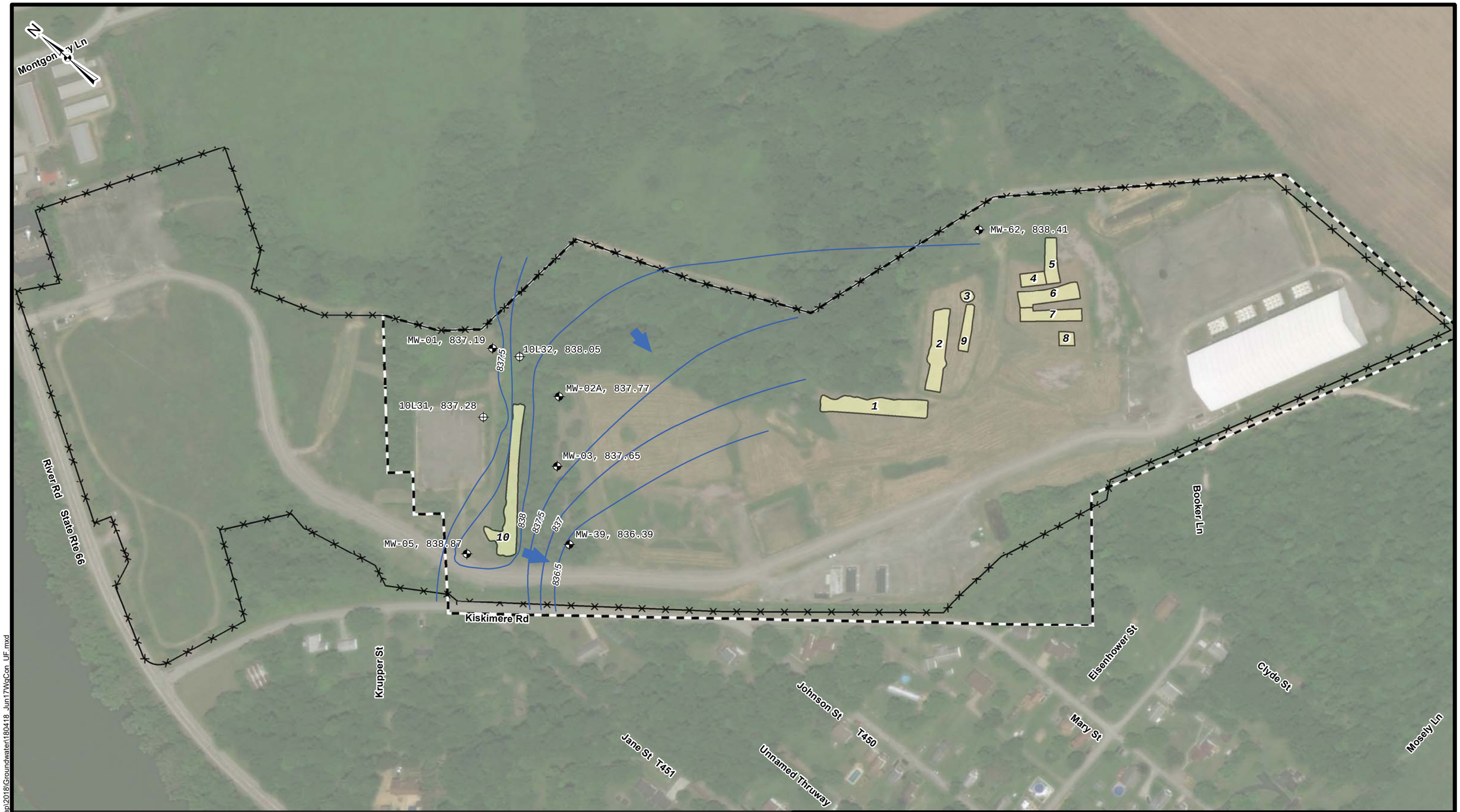

Legend

- Monitoring Well
- Piezometer
- Temporary Piezometer
- Groundwater Elevation Contour (ft amsl)
- Groundwater Flow Direction
- Trench
- Fenceline
- Site Boundary

38

0 110 220 440 Feet

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GROUNDWATER ELEVATION CONTOUR MAP
UPPER FREEPORT COAL ZONE - JULY 2017

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SHALLOW LAND DISPOSAL AREA
PARKS TOWNSHIP, PENNSYLVANIA

FIGURE 7

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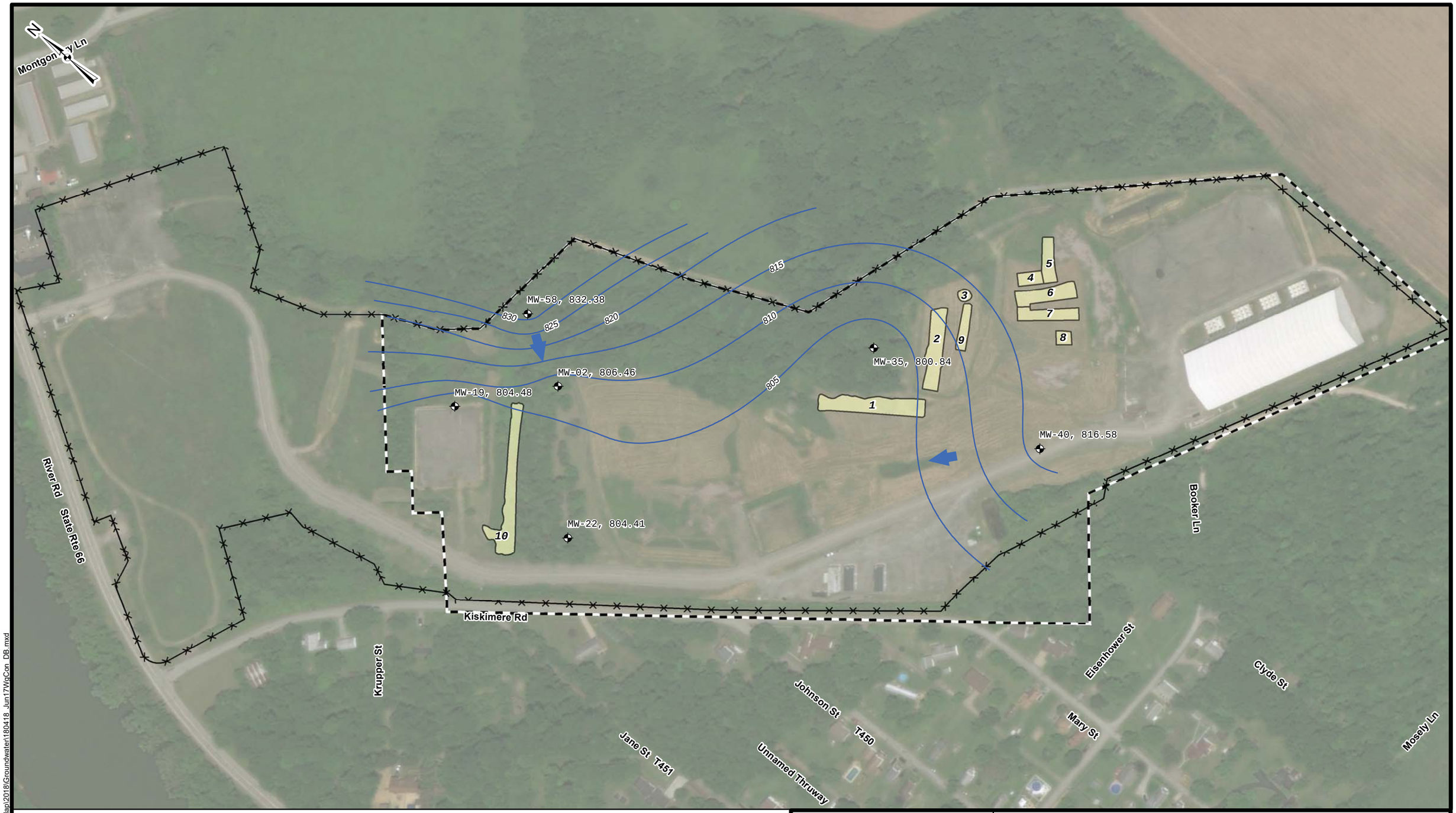

Legend

- Monitoring Well
- Piezometer
- Temporary Piezometer
- Groundwater Elevation Contour (ft amsl)
- Groundwater Flow Direction
- Trench
- Fenceline
- Site Boundary

39

0 110 220 440 Feet

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NY

US Army Corps of Engineers. Buffalo District

GROUNDWATER ELEVATION CONTOUR MAP
DEEP BEDROCK ZONE - JUNE 2017

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SHALLOW LAND DISPOSAL AREA
PARKS TOWNSHIP, PENNSYLVANIA

FIGURE 8

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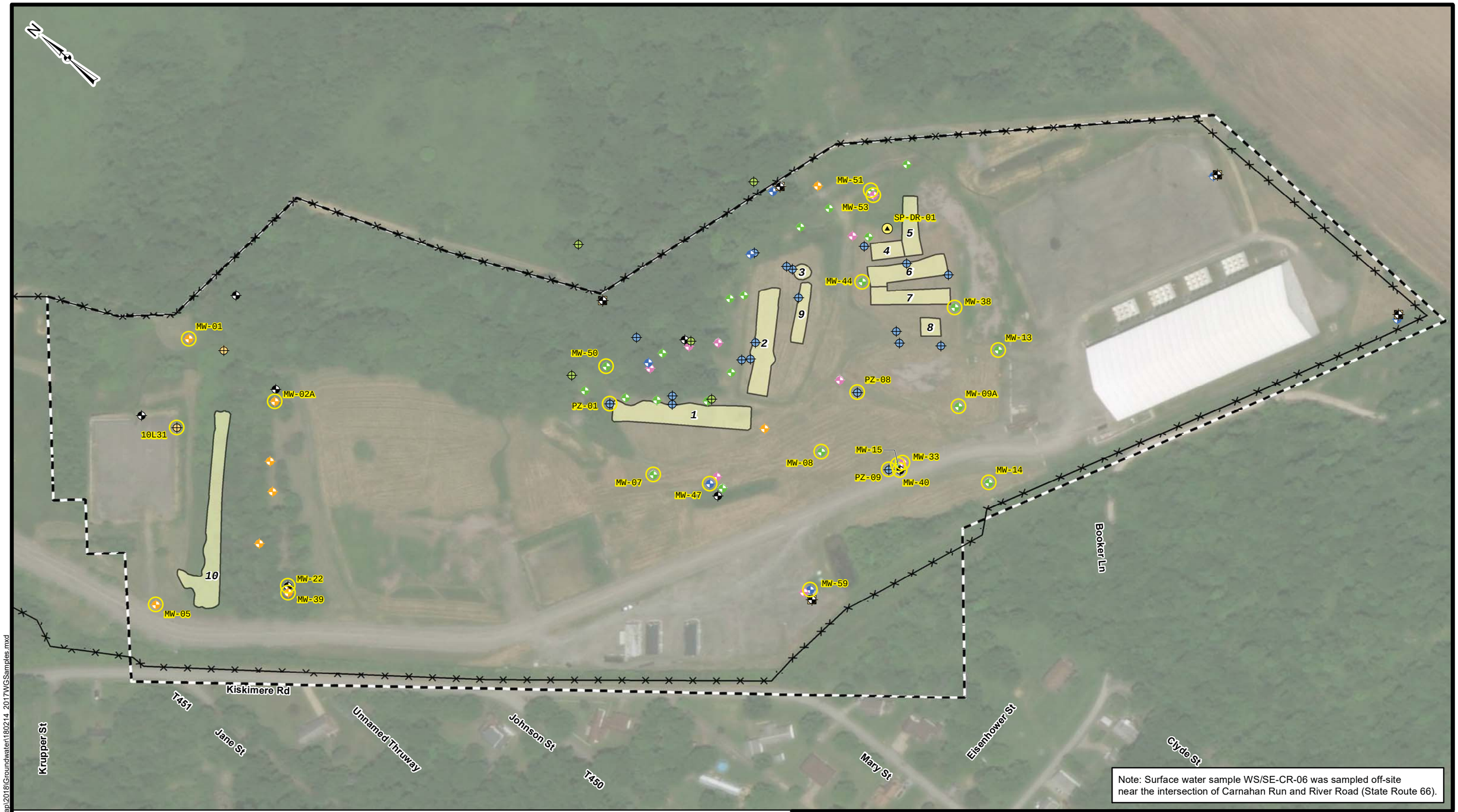

Note: Surface water sample WS/SE-CR-06 was sampled off-site near the intersection of Carnahan Run and River Road (State Route 66).

Legend

- Monitoring Well/Piezometer (Sampled 2017)
- Surface Water Location (Sampled 2017)
- Monitoring Well (Overburden)
- Monitoring Well (First Shallow Bedrock)
- Monitoring Well (Second Shallow Bedrock)
- Monitoring Well (Upper Freeport Zone)
- Monitoring Well (Deep Bedrock)
- Nested Monitoring Well
- Piezometer (Overburden)
- Piezometer (First Shallow Bedrock)
- Piezometer (Upper Freeport Zone)
- Trench
- Fenceline
- Boundary

0 85 170 340 Feet

US Army Corps of Engineers Buffalo District

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GROUNDWATER SAMPLING LOCATIONS
(JUNE 2017)

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SHALLOW LAND DISPOSAL AREA
PARKS TOWNSHIP, PENNSYLVANIA

FIGURE 9

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Figure 10: Total Uranium Concentrations in Filtered Groundwater Samples (June 2017)