



2620 Grand Island Blvd. Grand Island, New York 14072

ph (716) 773-6872 /fax (716) 773-6873

www.daiglerengineering.com

December 28, 2017

Mr. Greg MacLean, P.E.  
**New York State Department of Environmental Conservation**  
6274 E. Avon-Lima Road  
Avon, New York 14414-9519

Re: Lockwood Hills LLC  
Lockwood Ash Disposal Site  
**2017 Third Quarter Environmental Monitoring Report**

Dear Mr. MacLean:

On behalf of Lockwood Hills LLC, please find enclosed the 2017 Third Quarter Environmental Monitoring Report for the Lockwood Ash Disposal Site in the Town of Torrey, Yates County, New York. The third quarter 2017 sampling event of routine water quality parameters in groundwater, surface water, and leachate was completed between September 20<sup>th</sup> and 21<sup>st</sup>, 2017. The analytical data and a brief assessment are provided in the enclosed report.

We trust this report satisfies your requirements for quarterly reporting for the Lockwood Ash Disposal Site. Should you have any questions or comments, please do not hesitate to contact us.

Sincerely,

**DAIGLER ENGINEERING, PC**


A handwritten signature in black ink that reads 'Bethany Acquisto'. The signature is written in a cursive style with a large, looped 'B' and 'A'.

Bethany Acquisto, Ph.D.  
[bethany@jadenvgr.com](mailto:bethany@jadenvgr.com)

cc: Mark Domagala, NYSDEC (electronic only)  
David Pratt, NYSDEC (electronic only)  
Kenneth Scott, Lockwood Hills LLC

Enclosure: Environmental Monitoring Report Third Quarter 2017 – Lockwood Ash Disposal Site





# **ENVIRONMENTAL MONITORING REPORT**


## **Third Quarter 2017**

### **LOCKWOOD ASH DISPOSAL SITE**

**Prepared on behalf of:**

**Lockwood Hills LLC**  
590 Plant Road  
P. O. Box 187  
Dresden, New York 14441

**Prepared by:**

 **DAIGLER  
ENGINEERING, P.C.**  
CIVIL & GEO-ENVIRONMENTAL ENGINEERING  
2620 Grand Island Blvd.  
Grand Island, New York 14072-2131

**December 2017**

# **ENVIRONMENTAL MONITORING REPORT**

**Third Quarter 2017**

**LOCKWOOD ASH DISPOSAL SITE**

**Prepared on behalf of:**

**Lockwood Hills LLC**  
590 Plant Road  
P. O. Box 187  
Dresden, New York 14441

**Prepared by:**

 **DAIGLER  
ENGINEERING, P.C.**  
CIVIL & GEO-ENVIRONMENTAL ENGINEERING  
2620 Grand Island Blvd.  
Grand Island, New York 14072-2131

**December 2017**

**ENVIRONMENTAL MONITORING REPORT**  
**Third Quarter 2017**  
Lockwood Hills LLC

**TABLE OF CONTENTS**

---

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1-1</b>
<b>2</b>	<b>INTRODUCTION.....</b>	<b>2-1</b>
<b>3</b>	<b>LEACHATE SAMPLING.....</b>	<b>3-1</b>
<b>4</b>	<b>LEACHATE FLOW METERING.....</b>	<b>4-1</b>
<b>5</b>	<b>GROUNDWATER SAMPLING .....</b>	<b>5-1</b>
5.1	6 NYCRR PART 703 STANDARDS.....	5-1
5.2	TIME-SERIES PLOTS.....	5-3
<b>6</b>	<b>SURFACE WATER SAMPLING .....</b>	<b>6-1</b>
<b>7</b>	<b>STATIC GROUNDWATER LEVEL MEASUREMENTS.....</b>	<b>7-1</b>

---

**List of Tables**

Table 2-1:	Lockwood Ash Disposal Site’s Routine Water Quality Parameters .....	2-1
Table 3-1:	Leachate Quality Summary - 2017 Third Quarter Exceedances of 6 NYCRR Part 703 GA Standards .....	3-2
Table 5-1:	Groundwater Monitoring Wells .....	5-1
Table 5-2:	Groundwater Quality Summary – 2017 Third Quarter Exceedances of 6 NYCRR Part 703 GA Standards .....	5-2
Table 6-1:	Surface Water Summary - 2017 Third Quarter Surface Water Evaluation for the Keuka Outlet .....	6-2

**List of Figures**

Figure 2-1:	Schematic Site Plan.....	2-3
Figure 7-1:	Bedrock Groundwater Potentiometric Surface .....	7-2
Figure 7-2:	Glacial Till Groundwater Potentiometric Surface .....	7-3
Figure 7-3:	Potentiometric Surfaces for the Third Quarter 2017.....	7-4

**List of Attachments**

- Attachment 1 Environmental Monitoring Analytical Results
- Attachment 2 Time-Series Plots - Routine Parameters in the Leachate and Monitoring Wells
- Attachment 3 Flow Metering System - Leachate Flow Rate Time-Series



## 1 EXECUTIVE SUMMARY

Lockwood Ash Disposal Site is owned and operated by Lockwood Hills LLC (Lockwood). The landfill was placed in protective layup in general accordance with the Layup Plan prepared by Daigler Engineering, PC and submitted to the New York State Department of Environmental Conservation (NYSDEC) in May 2011. Routine water quality sampling was performed during the third quarter of 2017. Under Drain 3 was relatively high in several parameters this quarter, namely calcium, chloride, conductivity, hardness, potassium, sodium, and total dissolved solids. The elevated concentrations correspond with previously reported increasing trends. For the third consecutive quarter, chloride concentrations in Under Drain 2 and Under Drain 3 were elevated, thereby carrying forward the previously reported increasing trends at these two locations. Groundwater quality was mostly typical with only two intrawell maximum and one minimum this quarter. The intrawell maximum at MW-8942D in pH is unusually high despite a recent increasing trend. The other incidences are not associated with any trending. Although typical at downgradient wells MW-8910D and MW-8911D, exceedances of the boron standard continued and an increasing trend is observed at MW-8911D. Sulfate and chloride concentrations at MW-8911SH also exhibit slow upward trends. Following unsuccessful repair work performed on MW-7842 in June, Lockwood now has plans to decommission and replace this glacial till (shallow) downgradient well.





## 2 INTRODUCTION

Sampling activities were completed for the third quarter of 2017 between September 20<sup>th</sup> and 21<sup>st</sup> by Adirondack Environmental Services, Inc. (ADK) of Albany, New York. Sampling was performed for the routine water quality parameters this quarter consistent with the operational water quality monitoring program as detailed in the Site’s Environmental Monitoring Plan (EMP). Laboratory analysis of the environmental samples was performed by ADK. The routine parameters established for the Lockwood Ash Disposal Site are summarized in Table 2-1. A full listing of the laboratory analytical results is provided in Attachment 1.

**TABLE 2-1: LOCKWOOD ASH DISPOSAL SITE’S ROUTINE WATER QUALITY PARAMETERS**

Field Parameters	Wet Chemical	Metals	
pH	Alkalinity	Aluminum	Magnesium
Turbidity	Ammonia	Arsenic	Manganese
Static Water Level	Chloride	Boron	Mercury
Specific Conductivity	Hardness	Cadmium	Potassium
Dissolved Oxygen*	Total Dissolved Solids	Calcium	Selenium
	Total Organic Carbon	Copper	Sodium
	Sulfate	Iron	

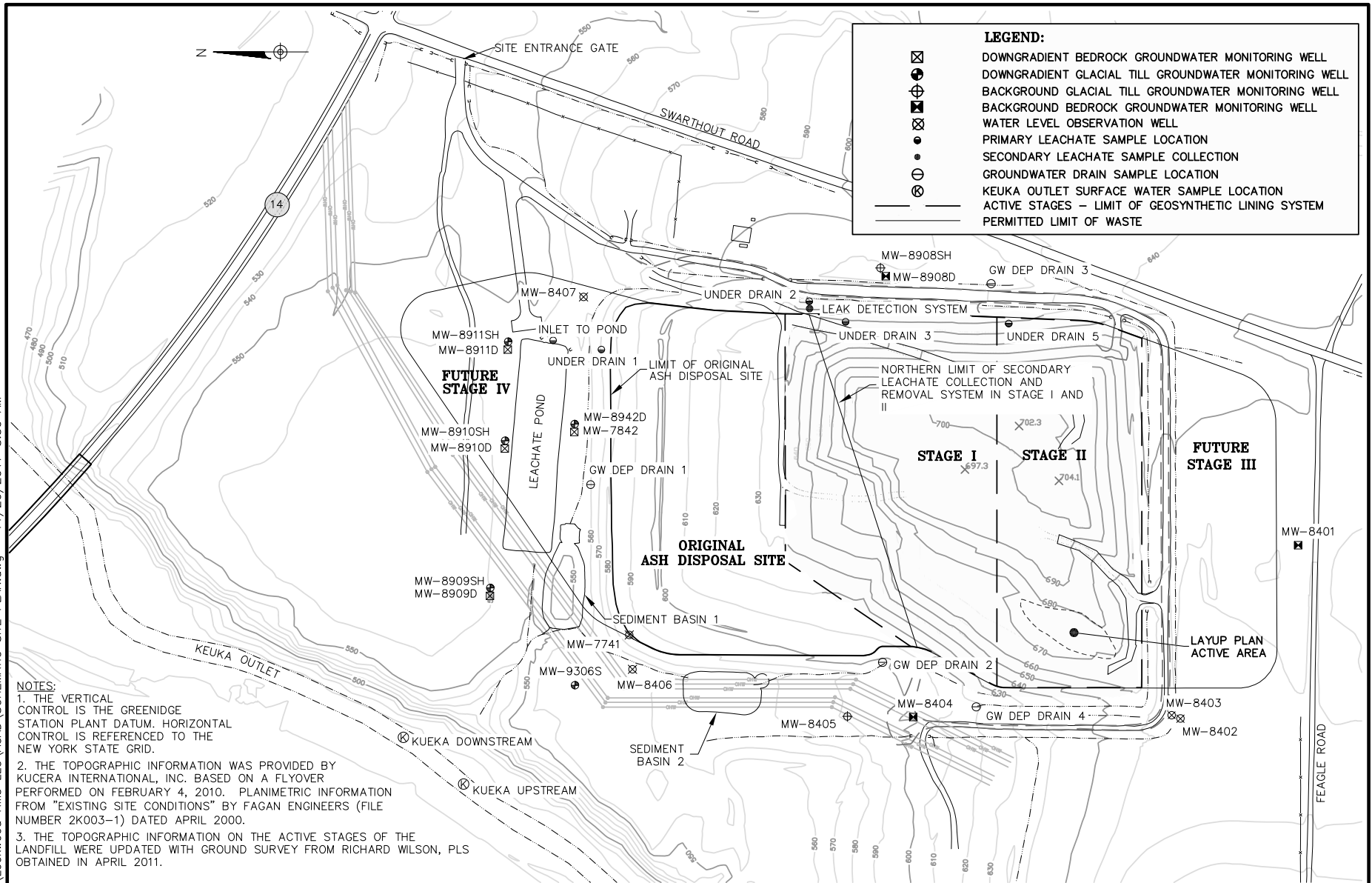
\*For surface water samples only.

The locations of the facility’s sampling points are illustrated on Figure 2-1. The original ash disposal site is closed with final cover. The majority of the landfill Stages I and II shown in Figure 2-1 have been covered with intermediate cover under the *Layup Plan for the Lockwood Ash Disposal Site* prepared by Daigler Engineering, PC, dated May 2011.

Groundwater suppression system monitoring points, Groundwater Depression Drains 2 and 4, and MW-8405 were not sampled during this quarterly event. They were reportedly dry as is typical for these locations. Further, no samples were taken from MW-8910SH and Under Drain 5 due to poor recovery and dry conditions, respectively. MW-7842 was obstructed during this quarter’s sampling event after unsuccessful repair work occurred in June.

As required by the Site's EMP, Section 3.3.8, the data package for this routine sampling event was reviewed internally by the laboratory. The results for alkalinity at several sampling locations (MW-8401, MW-8404, MW-8908 couplet, MW-8911 couplet, MW-9306SH, Keuka Upstream, Keuka Downstream, SW DUP, and Field Blank) exceeded the specified holding time. The recommended holding time for alkalinity is 14 days. These samples were analyzed just one day past the recommended holding time at 15 days after collection. While not a gross exceedance, these 11 data points should be considered usable estimates. The matrix spike was found below acceptable limits for ammonia at GW DUP 8909D and for selenium at Groundwater Depression Drain 3, as such, results for ammonia and selenium have the potential to be biased low. No data appeared unusually low in ammonia or selenium, but ammonia in MW-8909D and selenium in Groundwater Depression Drain 3 are qualified as usable estimates due to this failing quality control result. All remaining data are acceptable without qualification.

Q:\Lockwood Hills LLC\ACAD\SCHEMATIC SITE PLAN.dwg 11/20/2017 8:30 AM



**NOTES:**  
 1. THE VERTICAL CONTROL IS THE GREENIDGE STATION PLANT DATUM. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE GRID.  
 2. THE TOPOGRAPHIC INFORMATION WAS PROVIDED BY KUCERA INTERNATIONAL, INC. BASED ON A FLYOVER PERFORMED ON FEBRUARY 4, 2010. PLANIMETRIC INFORMATION FROM "EXISTING SITE CONDITIONS" BY FAGAN ENGINEERS (FILE NUMBER 2K003-1) DATED APRIL 2000.  
 3. THE TOPOGRAPHIC INFORMATION ON THE ACTIVE STAGES OF THE LANDFILL WERE UPDATED WITH GROUND SURVEY FROM RICHARD WILSON, PLS OBTAINED IN APRIL 2011.

**DAIGLER ENGINEERING, P.C.**  
 CIVIL & GEO-ENVIRONMENTAL ENGINEERING  
 2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072  
 (716) 773-6872 (716) 773-6873 FAX

LOCKWOOD HILLS LLC		SCHEMATIC SITE PLAN LOCKWOOD ASH DISPOSAL SITE			FIGURE 2-1
SCALE: 1"=350'	REVISION # 0				
November 2017		TOWN OF TORREY	YATES COUNTY	NEW YORK	



### 3 LEACHATE SAMPLING

Primary leachate was sampled or observed at five separate locations, as follows:

- Discharge from leachate collection system under the original ash disposal site (Under Drain 1);
- Discharge from the northern overfill liner in Stage I (Under Drain 2);
- Discharge from the at grade liner system in Stage I (Under Drain 3);
- Discharge from Stage II (Under Drain 5); and,
- Leachate Pond influent, combined leachate from all Stages of the Landfill including the original ash disposal site (Inlet to Pond).

The parameters analyzed for in the leachate are the same as those for the groundwater samples, as identified in Table 2-1. A summary of the leachate sample results that exceed the corresponding Part 703 GA groundwater quality standards is included in Table 3-1. The results are consistent with historic data in which the primary leachate exhibits a distinct sodium–sulfate signature, with a correspondingly high total dissolved solids concentration in contrast to groundwater and surface water quality at the site. Boron, iron, magnesium, manganese, selenium, and turbidity concentrations in excess of the Part 703 GA standards are also typical of the leachate. Chloride concentrations in exceedance of the Part 703 GA standard are typical for Under Drain 3, but the exceedances in Under Drain 2 are a more recent observation beginning in the first quarter of 2017. The pH level measured at Under Drain 1 was at the lower limit of the Part 703 GA standard at 6.5. This pH measurement is an intralocation minimum.

Exceedances of the Part 703 GA standard in arsenic were detected for the second consecutive quarter in recent history at Under Drain 1 and Inlet to Pond. In the past, leachate at Under Drain 1 regularly exceeded the standard, but concentrations have been relatively low since around 2014. This is only the second time Inlet to Pond has been greater than the arsenic standard; however, now that the Inlet to Pond location includes Under Drain 1, corresponding arsenic exceedances are expected.

**Table 3-1**  
 LOCKWOOD ASH DISPOSAL SITE  
 LEACHATE QUALITY SUMMARY  
 2017 THIRD QUARTER EXCEEDANCES OF 6 NYCRR PART 703 GA STANDARDS  
 (9/20-21/2017)

Parameter	6 NYCRR Part 703 GA Standard (TOGS 1.1.1 GA Guidance Value)	MONITORING POINT					
		Leak Detection System	Under Drain 1	Under Drain 2	Under Drain 3	Inlet to Pond	Under Drain 5**
Color*	< 15 C.U.						
pH	6.5 < pH < 8.5		6.5				
Turbidity	< 5 NTU	65	200	25	25	75	
Total Dissolved Solids, TDS	500 mg/L	2,620	1,490	3,410	4,290	2,660	
Ammonia, NH <sub>3</sub>	2,000 µg/L						
Antimony*, Sb	3 µg/L						
Arsenic, As	25 µg/L		56.0			30.5	
Barium*, Ba	1,000 µg/L						
Boron, B	1,000 µg/L	2,720	3,930	41,200	25,500	20,400	
Cadmium, Cd	5 µg/L						
Chloride, Cl <sub>2</sub>	250,000 µg/L			307,000	745,000		
Chromium*, Cr	50 µg/L						
Copper, Cu	200 µg/L						
Iron, Fe	300 µg/L		6,640	2,430		3,540	
Magnesium, Mg	(35,000 µg/L)	216,000	80,500	93,900	115,000	88,300	
Manganese, Mn	300 µg/L		815	1,140	317	668	
Fe + Mn	500 µg/L		7,455	3,570		4,208	
Mercury, Hg	0.7 µg/L						
Nickel*, Ni	100 µg/L						
Selenium, Se	10 µg/L			14.0	11.8	22.1	
Sodium, Na	20,000 µg/L	125,000	40,200	227,000	337,000	173,000	
Sulfate, SO <sub>4</sub>	250,000 µg/L	1,440,000	521,000	1,760,000	1,720,000	1,280,000	
Zinc*, Zn	(5,000 µg/L)						

\* Baseline only, routine sample collected this quarter.

\*\* Dry

The Stage I and Stage II bottom liners include a secondary leachate collection and removal system (SLCRS) to monitor the primary geomembrane liner. Water quality in the SLCRS or Leak Detection System is also monitored quarterly. Results from this sample are included in Table 3-1. The instantaneous flow rate measured in the Leak Detection System on the day the leachate samples were taken continued trending downward to a more typical rate of 57 gallons per day compared to the elevated value of 251 gpd observed in first quarter of 2017. The lined area encompasses 15.8 acres, equating to a third quarter leakage rate of 3.6 gallons per acre per day (gpad), which is below the 20 gpad allowed by the regulations. Instantaneous flow measurements are taken by Lockwood personnel during the monthly site inspections as well. These manual measurements during the months of July, August, and September were 76, 44, and 51 gallons per day, respectively. The leakage rate calculated from these monthly flow measurements in the Leak Detection System were 4.8 gpad, 2.8 gpad, and 3.2 gpad for July, August, and September, respectively.

Primary and secondary leachate time-series plots are provided in Attachment 2. Changes in the leachate sewer to accommodate the flow meter in 2016 have replaced the 21" Inlet to Pond sampling point, which used to discharge leachate from only Stages I and II, including the overflow liner, with a single discharge including leachate from all stages of the landfill. Due to the change in composition, the Inlet to Pond data is distinguished from historic 21" Inlet to Pond data by a change in the symbol; however, the Inlet to Pond data will continued to be compared to the historic 21" Inlet to Pond data set.

Under Drain 3 was elevated with respect to several parameters this quarter, namely, calcium (6<sup>th</sup> highest), chloride (4<sup>th</sup> highest), conductivity (3<sup>rd</sup> highest), hardness (5<sup>th</sup> highest), potassium (intralocation maximum), sodium (3<sup>rd</sup> highest), and total dissolved solids (6<sup>th</sup> highest). Corresponding increasing trends are generally observed at this location in these parameters. Magnesium and pH were also elevated at Under Drain 3 with the second highest concentrations on record in both cases; however, these concentrations do not appear to be associated with increasing or decreasing trends.

Increasing trends in chloride at Under Drain 2 and Under Drain 3 continue as concentrations remain elevated this quarter following sequential maxima in the previous two quarters. This trend

appears to have begun around 2009/2010 and is much more prominent in Under Drain 3 than Under Drain 2.

Under Drain 1 was detected with an unusually low intralocation minimum pH this quarter at 6.5. This location averages a pH level of  $7.7 \pm 0.5$ , as is typical for leachate quality site wide. This minimum value does not appear to be associated with any trend. In fact, pH in Under Drain 1 has been quiet variable in recent years, going from an intralocation maximum at the upper pH limit of 8.5 to the lower pH limit this quarter in just 1.5 years.

The Leak Detection System had several observed intralocation maxima in hardness, magnesium, and turbidity which support observed increasing trends. A possible increasing trend in magnesium was reported in the second quarter of 2016 concurrent with the previous intralocation maximum; however, the lower concentration detected the third quarter of 2016 was reported as “not supportive of an increasing trend”. Several more quarters of low concentrations followed, but concentrations of magnesium in the Leak Detection System have rebounded sharply in the last two quarters. The observed increasing trends in hardness and turbidity at this location are reported herein for the first time. As such, the concentrations detected over the next several quarters will be observed for confirmation of trending.



## 4 LEACHATE FLOW METERING

The leachate flow metering system, consisting of an ultrasonic level sensor positioned above a V-shaped flume, became operational during the third quarter of 2016. Greyline Logger Software, V2.68, was used to format the data into 24-hour intervals to obtain daily maximum, minimum, and average leachate flow rates. A time-series plot illustrating daily maximum, minimum, and average flow rates between July 1<sup>st</sup>, 2016, when the system was brought online, through September 30, 2017 is presented in Attachment 3. Maximum flow rates recorded on July 1<sup>st</sup>, 5<sup>th</sup>, and 6<sup>th</sup> of 2016 are likely due to maintenance and calibration efforts carried out during the first week of operation, and are not considered representative. These three points were not used in data evaluations presented in the paragraph below. Rainfall totals gathered from the nearest official National Oceanic and Atmospheric Administration (NOAA) weather station (NOAA 5.1, approximately 7.16 miles northwest of the site near Penn Yan) are also presented on the time-series plot in Attachment 3.

The average daily leachate flow rate for the available time period was 9.6 gallons per minute ( $\pm$  4.6 standard deviation; n = 456) with a maximum and minimum of 42.8 (n = 453) and 2.4 (n = 456) gallons per minute, respectively. No change in the minimum and maximum values are observed with the addition of this quarter's data.

The observed decrease in the average monthly flowrate in June following the peak reported last quarter in May 2017 of 17.5 gallons per minute, continued downward during each month of this quarter. The average flowrates observed in July, August, and September are 12.5, 11.9, and 10.8 gallons per minute, respectively.



## 5 GROUNDWATER SAMPLING

As described in the EMP, two water bearing units identified at the site comprise the critical stratigraphic section, including; a water table in the unconsolidated glacial deposits; and groundwater in the fractures of the underlying bedrock. Bedrock and overburden groundwater quality monitoring is carried out through sampling of five background and nine downgradient monitoring wells, as summarized in Table 5-1. Groundwater samples also are collected from the groundwater drains installed below the liner systems in the original ash disposal site, and the lined Stages I and II.

**TABLE 5-1: GROUNDWATER MONITORING WELLS**

BACKGROUND		DOWNGRAIENT	
Glacial Till	Bedrock	Glacial Till	Bedrock
MW-8908SH	MW-8908D	MW-7842	MW-8909D
MW-8405	MW-8401	MW-8909SH	MW-8910D
	MW-8404	MW-8910SH	MW-8911D
		MW-8911SH	MW-8942
		MW-9306	

### 5.1 6 NYCRR PART 703 STANDARDS

This report includes a comparison of the groundwater data to Class GA groundwater standards contained in 6 NYCRR Part 703 as specified in Section 3.3.7.3 of the EMP. Table 5-2 summarizes the sample results that exceed the corresponding Part 703 GA groundwater quality standards or TOGS 1.1.1 guidance values. Both background and downgradient wells onsite routinely exceed the Part 703 GA standards or guidance values for turbidity, total dissolved solids, iron, magnesium, sodium, and sulfate.

Boron concentrations in downgradient wells MW-8910D and MW-8911D are notable since boron is a leachate indicator. Boron detections at these wells are typical of the groundwater in this area. Manganese was detected at a concentration above the Part 703 GA standard at MW-8942D. No exceedances were detected between 1989 when the well was installed and the first quarter of 2003 with respect to manganese at this well. Between 2003 and 2013, the majority of results for manganese were greater than the standard. Since 2013, however, concentrations have been



sporadic, but generally below the Part 703 GA standard, with this quarter's result being one of the few exceptions. There were no other atypical exceedances of the Part 703 standards for this event.

## **5.2 TIME-SERIES PLOTS**

The time-series plots were updated for the September 2017 sampling event and are presented in Attachment 2. These graphs are used to identify atypical data and possible trending. Overall, groundwater quality across the site was historically consistent.

After atypical water quality at downgradient, glacial till monitoring well MW-7842 was observed during the first half of 2017, it was surmised that this well's surface seal may have been compromised from damage sustained during nearby stormwater construction efforts in 2016. A sample was unable to be collected from MW-7842 this quarter following unsuccessful repair work of the well. As such, Lockwood plans to abandon and replace MW-7842.

An intrawell maximum and intrawell minimum in pH at MW-8942D and MW-8909D, respectively, were detected this quarter. The pH in MW-8942D remained fairly steady, averaging 7.67 S.U. between 1989 and 2003, followed by a slow but steady decline through 2011 that brought the average pH down to 7.26 S.U. Starting in 2012 the pH at MW-8942 began demonstrating an increasing trend that returned the average pH to 7.45 S.U. Despite the recent upward trend, this quarter's pH of 8.4 S.U. is out of character. It is hypothesized that the elevated pH may be due to the temporary leaching from the concrete used to construct the new surface seals at MW-8942D and MW-7842 which were installed on June 19, 2017. The second quarter sample, taken just nine days later, may have been too soon to detect any appreciable leaching. If this hypothesis is correct, the pH should come back down over the next several sampling events.

The 7.9 S.U. pH is reported in MW-8909D is tied with one other occasion in 1996 as an intrawell minimum. This is only the sixth time MW-8909D has been within the pH standard, as this well averages a pH around 9.0. There is no associated trending.

A slow but steady increase in hardness, and its two constituent's calcium and magnesium, has been observed at MW-8911SH since the mid-1990s. The first and third quarters of this year were tied for the highest concentration detected in recent history in magnesium, excluding 1989 through 1996, confirming this observed trend.

Elevated concentrations of chloride and sulfate at MW-8911SH also correspond to a steady upward trend observed in these two parameters. The third quarter sulfate concentration is only the fourth time in the well's history, and the second consecutive occurrence, that the levels have exceeded the Part 703 GA standard. The trend in sulfate has been slow, but consistent since the mid-1990s. Sulfate is a known leachate indicator and chloride levels have been increasing in the leachate as well, as discussed in Section 3. Boron, another leachate indicator, remained elevated at the corresponding bedrock well, MW-8911D, after last quarter's intrawell maximum, continuing the upward trend. Boron concentrations in MW-8910D, while typically three times or more the concentrations detected at MW-8911D, are much more variable making any positive identification trending difficult to ascertain.

Between 1989, when the well was installed, and 2002, the average manganese concentration at MW-8942D was 129 µg/L. With a sharp increase in 2003, the manganese concentration remained consistently elevated until around 2013 with an average more than three times greater than the previous decade. In recent years, average concentrations at this well have been decreasing, averaging around 223 µg/L. This quarter's detection of 426 µg/L is the first exceedance of the Part 703 GA standard in over one year, possibly expelling the theory that levels are returning to pre-2003 concentrations. Trending is difficult to surmise based on the variability of results at this well.

A more isolated observance in groundwater quality was an intrawell maximum in manganese in background well MW-8908D, with no apparent trending.

## 6 SURFACE WATER SAMPLING

The Leachate Pond located to the north of the landfill collects leachate from the lined areas of the landfill. Water discharged from the Leachate Pond is directed through a sluice gate to the Keuka Outlet. Representative surface water samples have been collected from the Outlet at two locations; one upstream of the Pond outfall discharge location (Keuka Upstream), and one downstream of the Pond outfall discharge location (Keuka Downstream).

Surface water samples from the Keuka Outlet were collected on September 21<sup>st</sup>, 2017. A discharge was not ongoing at the time. A comparison of data from the upstream and downstream samples collected for the third quarter of 2017 is presented in Table 6-1. The only notable differences were an increase of 25.0% in alkalinity and a decrease of 13.3% in dissolved oxygen. The remaining differences were all under 8.0%.

**Table 6-1**  
**LOCKWOOD ASH DISPOSAL SITE**  
**SURFACE WATER SUMMARY**  
**2017 THIRD QUARTER SURFACE WATER EVALUATION FOR THE KEUKA OUTLET**  
(9/21/2017)

Parameter	Units	Kueka Upstream	Kueka Downstream	Difference	% Increase
Alkalinity	mg/L	120	150	30	25.0%
Aluminum	µg/L	< 100	< 100		
Ammonia	mg/L	< 0.1	< 0.1		
Antimony*	µg/L				
Arsenic	µg/L	5.13	< 5.0	-0.13	-2.5%
Barium*	µg/L				
Boron	µg/L	< 50.0	< 50.0		
Cadmium	µg/L	< 5.0	< 5.0		
Calcium	µg/L	42,900	43,700	800	1.9%
Chloride	mg/L	44.5	44.7	0.2	0.4%
Chromium*	µg/L				
Color*	C.U.				
Conductivity	µmhos/cm	395	403	8	2.0%
Copper	µg/L	< 5.0	< 5.0		
DO	mg/L	4.44	3.85	-0.59	-13.3%
Hardness	mg/L	156	159	3	1.9%
Iron	µg/L	69.7	64.3	-5.4	-7.7%
Magnesium	µg/L	11,800	12,000	200	1.7%
Manganese	µg/L	< 20.0	< 20.0		
Mercury	µg/L	< 0.2	< 0.2		
Nickel*	µg/L				
pH	SU	7.0	6.5	-0.5	-7.1%
Potassium	µg/L	2,790	2,830	40	1.4%
Selenium	µg/L	< 5.0	< 5.0		
Sodium	µg/L	26,300	27,300	1,000	3.8%
Sulfate	mg/L	26.1	26.0	-0.1	-0.4%
TDS	mg/L	205	220	15	7.3%
TOC*	mg/L				
Turbidity	NTU	< 1	< 1		
Zinc*	µg/L				

\* Baseline only, routine sample collected this quarter.

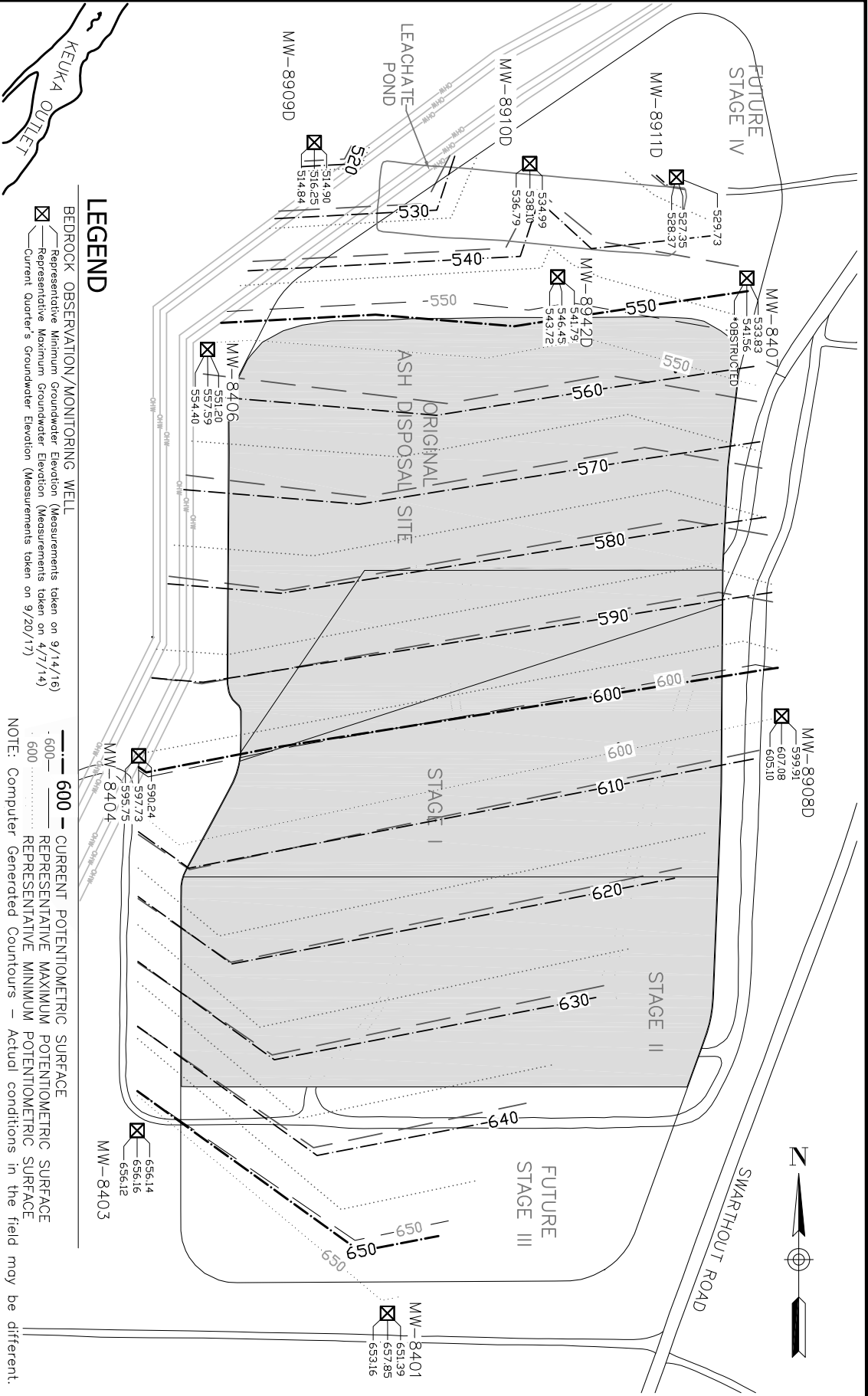


## 7 STATIC GROUNDWATER LEVEL MEASUREMENTS

Static groundwater levels are taken on a quarterly basis as directed by the Site's EMP, Section 3.3.6.1. Water level data has been compiled starting with the first quarter of 2003. Time-series plots of the data are included at the end of Attachment 2. The potentiometric surfaces of representative minimum and maximum groundwater surfaces and the current quarter's measurements are shown on Figure 7-1 and Figure 7-2 for the bedrock and glacial till water bearing units, respectively. Groundwater levels were typical this quarter in both the glacial till and bedrock water bearing zones. All levels were within plus and/or minus one standard deviation of the mean calculated for all data.

As reported in the first quarter EMR, investigation into an obstruction in water level observation well MW-8407 revealed interference from a section of the ¾-inch PVC Geomon riser pipe which had broken off and was left in the well. Water levels remain obstructed this quarter. Water level measurement was also obstructed in MW-7842. The status of this well is discussed in Section 5.

Figure 7-3 is a comparison between current bedrock and glacial till potentiometric surfaces. Groundwater flow appears to be predominately north in the southern half of the site. In the northern half of the site, groundwater flow takes on a stronger downward gradient and shows a distinct angle towards the Keuka Outlet in the northwestern corner. The vertical gradients are provided on Figure 7-3 as well. All vertical gradients were typical this quarter.



**LEGEND**

BEDROCK OBSERVATION/MONITORING WELL (Measurements taken on 9/14/16)  
 Representative Minimum Groundwater Elevation (Measurements taken on 4/7/14)  
 Representative Maximum Potentiometric Surface (Measurements taken on 9/20/17)  
 Current Quarter's Groundwater Elevation (Measurements taken on 9/20/17)

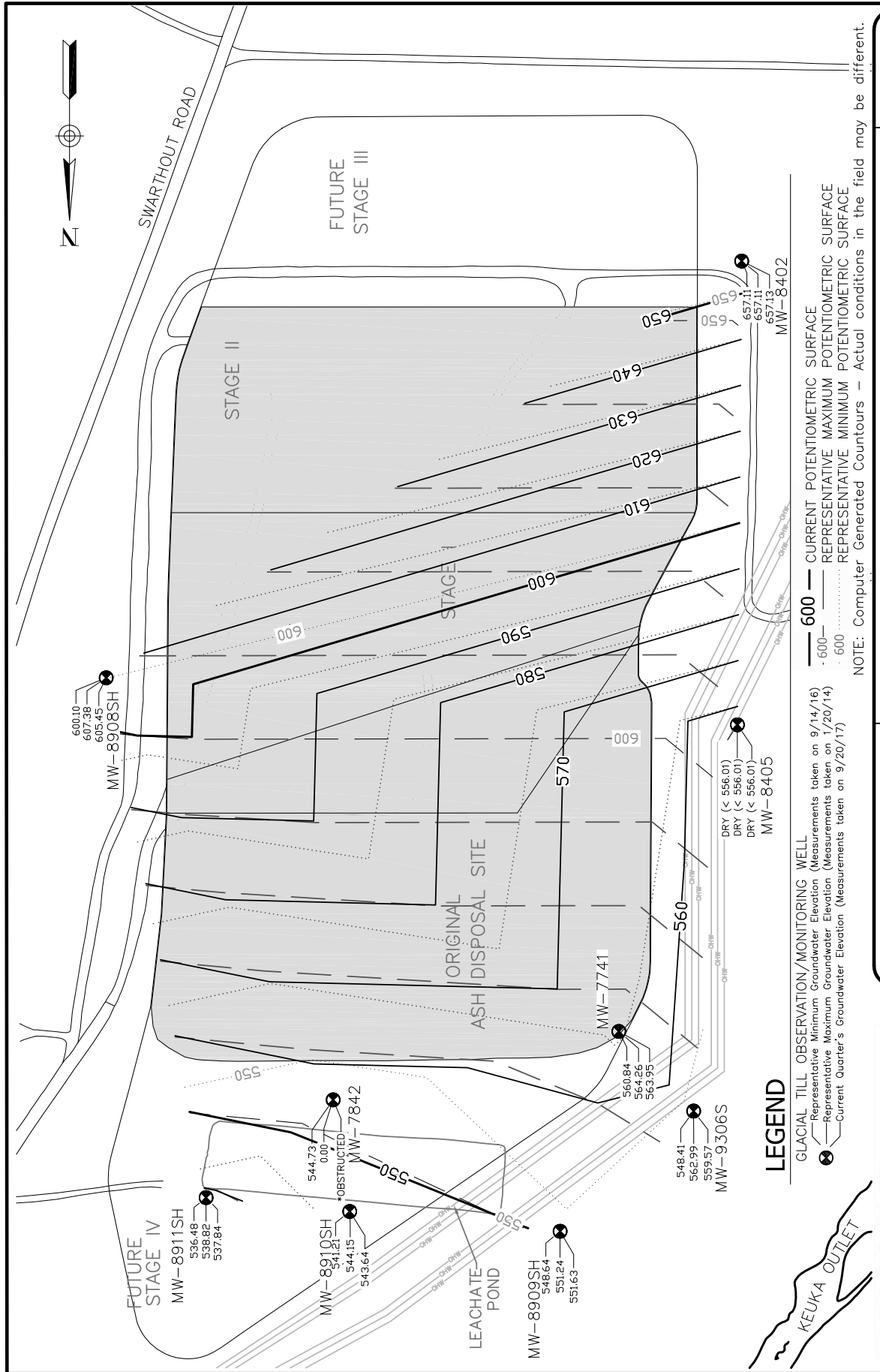
600 - CURRENT POTENTIOMETRIC SURFACE  
 REPRESENTATIVE MAXIMUM POTENTIOMETRIC SURFACE  
 REPRESENTATIVE MINIMUM POTENTIOMETRIC SURFACE  
 NOTE: Computer Generated Contours - Actual conditions in the field may be different.

**DAIGLER ENGINEERING, P.C.**  
 CIVIL & GEO-ENVIRONMENTAL ENGINEERING  
 2620 GRAND ISLAND BLVD.  
 GRAND ISLAND, NEW YORK 14072  
 (716) 773-6872

LOCKWOOD HILLS LLC	
SCALE: 1" = 250'	REVISION # 0
November 2017	

BEDROCK GROUNDWATER POTENTIOMETRIC SURFACE	
LOCKWOOD ASH DISPOSAL SITE	
TOWN OF TORREY	YATES COUNTY
	NEW YORK

**FIGURE 7-1**

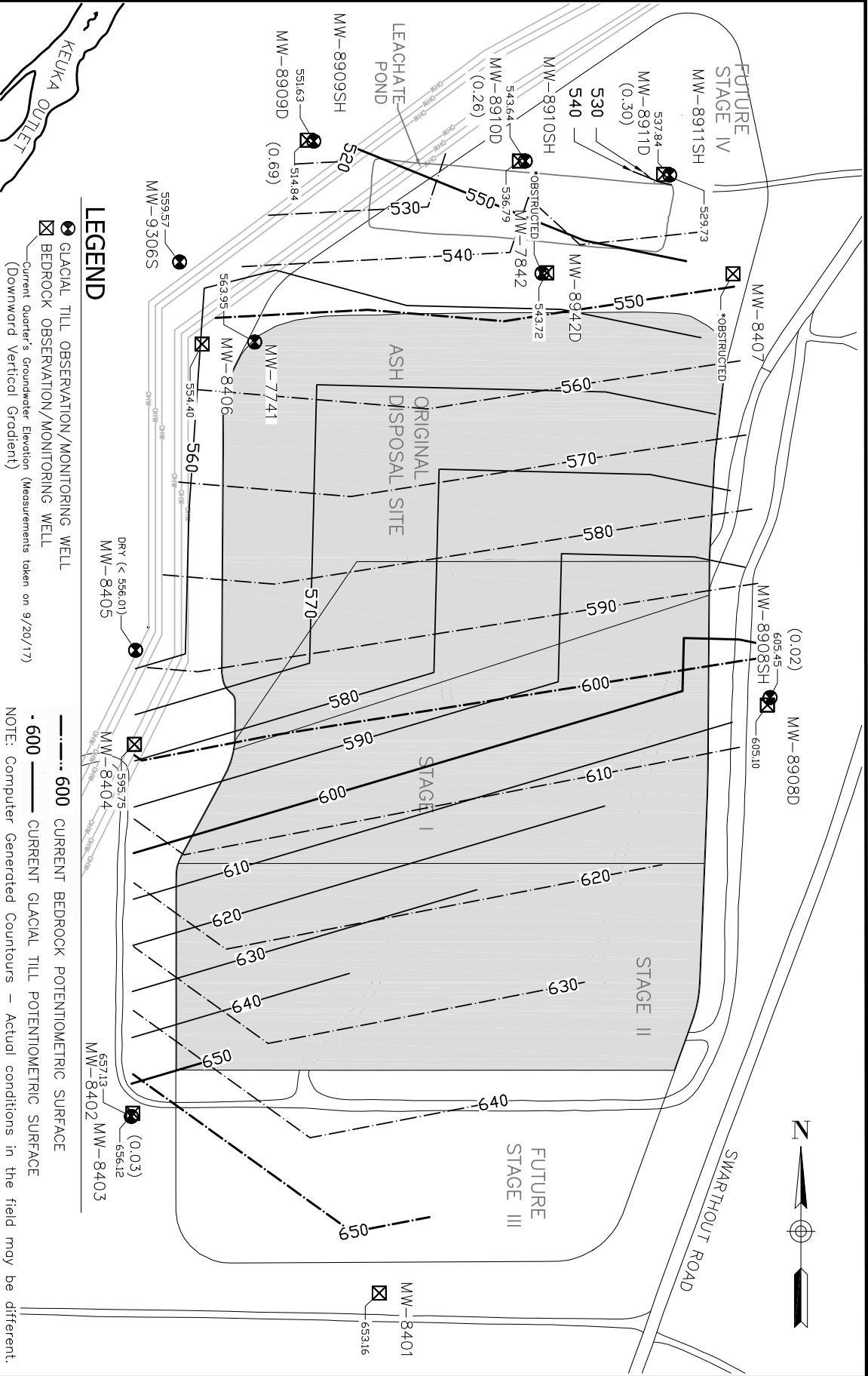


LOCKWOOD HILLS LLC		GLACIAL TILL GROUNDWATER POTENTIOMETRIC SURFACE	
SCALE: 1" = 250'		LOCKWOOD ASH DISPOSAL SITE	
REVISION # 0	November 2017	TOWN OF TORREY	YATES COUNTY
		NEW YORK	

**DAIGLER ENGINEERING, P.C.**  
 CIVIL & GEO-ENVIRONMENTAL ENGINEERING  
 2620 GRAND ISLAND BLVD.  
 GRAND ISLAND, NEW YORK 14072  
 (716) 773-6872 FAX

**FIGURE 7-2**

**DAIGLER ENGINEERING, P.C.**  
 CIVIL & GEO-ENVIRONMENTAL ENGINEERING  
 2620 GRAND ISLAND BLVD.  
 GRAND ISLAND, NEW YORK 14072  
 (716) 773-6872



**LEGEND**

- ☒ GLACIAL TILL OBSERVATION/MONITORING WELL
- ☒ BEDROCK OBSERVATION/MONITORING WELL
- Current Quarter's Groundwater Elevation (Measurements taken on 9/20/17)
- (Downward Vertical Gradient)

— 600 CURRENT BEDROCK POTENTIOMETRIC SURFACE

— 600 CURRENT GLACIAL TILL POTENTIOMETRIC SURFACE

NOTE: Computer Generated Contours – Actual conditions in the field may be different.

LOCKWOOD HILLS LLC		TOWN OF TORREY		YATES COUNTY		NEW YORK	
SCALE: 1" = 250'	REVISION # 0	<b>POTENTIOMETRIC SURFACES FOR THIRD QUARTER 2017</b> LOCKWOOD ASH DISPOSAL SITE				<b>FIGURE 7-3</b>	
November 2017							

# **ATTACHMENT 1**

## **Environmental Monitoring Analytical Results**





**Experience is the solution**

314 North Pearl Street ♦ Albany, New York 12207  
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

October 10, 2017

Dale Irwin  
Lockwood Hills LLC  
590 Plant Road, PO Box 187  
Dresden, NY 14441

Work Order No: 170922003

TEL: (315) 536-2359

FAX:

RE: Lockwood Ash Landfill  
Quarterly

Dear Dale Irwin:

Adirondack Environmental Services, Inc received 31 samples on 9/22/2017 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Krzysztof Trafalski  
Laboratory Manager

ELAP#: 10709

---

**CLIENT:** Lockwood Hills LLC  
**Project:** Lockwood Ash Landfill  
**Lab Order:** 170922003

---

**Date:** 10-Oct-17

The sampling was performed in accordance with the AES field sampling procedures and/or the client specified sampling procedures. Sample containers were supplied by Adirondack Environmental Services.

---

**Qualifiers:** ND - Not Detected at reporting limit  
J - Analyte detected below quantitation limit  
B - Analyte detected in Blank  
X - Exceeds maximum contamination limit  
H - Hold time exceeded  
N - Matrix Spike below acceptable limits  
N+ - Matrix Spike is above acceptable limits  
C - Details are above in Case Narrative  
S - LCS Spike recovery is below acceptable limits  
S+ - LCS Spike recovery is above acceptable limits  
Z - Duplication outside acceptable limits  
T - Tentatively Identified Compound-Estimated  
E -Above quantitation range-Estimated

**Note : All Results are reported as wet weight unless noted**

**The results relate only to the items tested. Information supplied by the client is assumed to be correct.**

---



**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	7842
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-001
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Observation	<b>Obstructed</b>			NA		9/20/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8404
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 11:15:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-002
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE** Analyst: **FLD**

pH (E150.1)	<b>6.8</b>			S.U.		9/21/2017 11:15:00 AM
Temperature (E170.1)	<b>16</b>			deg C		9/21/2017 11:15:00 AM
Turbidity (E180.1)	<b>75</b>	1.0		NTU		9/21/2017 11:15:00 AM

**ICP METALS - EPA 200.7** Analyst: **KH**  
 ( Prep: SW3010A - 9/25/2017 )

Aluminum	<b>ND</b>	100		µg/L	1	10/3/2017 2:27:00 PM
Arsenic	<b>ND</b>	5.00		µg/L	1	10/3/2017 2:27:00 PM
Boron	<b>249</b>	50.0		µg/L	1	10/3/2017 2:27:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/3/2017 2:27:00 PM
Calcium	<b>128000</b>	50.0		µg/L	1	10/3/2017 2:27:00 PM
Copper	<b>9.51</b>	5.00		µg/L	1	10/3/2017 2:27:00 PM
Iron	<b>348</b>	50.0		µg/L	1	10/3/2017 2:27:00 PM
Magnesium	<b>23900</b>	50.0		µg/L	1	10/3/2017 2:27:00 PM
Manganese	<b>84.9</b>	20.0		µg/L	1	10/3/2017 2:27:00 PM
Potassium	<b>1230</b>	50.0		µg/L	1	10/3/2017 2:27:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/3/2017 2:27:00 PM
Sodium	<b>15400</b>	50.0		µg/L	1	10/3/2017 2:27:00 PM

**HARDNESS - EPA 200.7 REV 4.4** Analyst: **KH**

Total Hardness (As CaCO3)	<b>418</b>	5		mg/L CaCO3	1	10/3/2017
---------------------------	------------	---	--	------------	---	-----------

**MERCURY - EPA 245.1 REV 3.0** Analyst: **AVB**  
 ( Prep: E245.1 - 9/26/2017 )

Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:11:56 PM
---------	-----------	--------	--	------	---	----------------------

**ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1** Analyst: **CS**

Chloride	<b>ND</b>	2.00		mg/L	2	10/5/2017 11:58:06 PM
Sulfate	<b>109</b>	4.00		mg/L	2	10/5/2017 11:58:06 PM

**ALKALINITY TO PH 4.5 -SM 2320B-97,-11** Analyst: **CC**

Alkalinity, Total (As CaCO3)	<b>300</b>	10	H	mg/L CaCO3	1	10/6/2017
------------------------------	------------	----	---	------------	---	-----------

**AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0** Analyst: **PL**

Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:15:00 PM
--------------------------	-----------	-----	--	------	---	----------------------

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8404
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 11:15:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-002
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>717</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>535</b>	5		mg/L	1	9/25/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> 8908-D
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/21/2017 12:00:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-003
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE** Analyst: **FLD**

pH (E150.1)	<b>7.3</b>			S.U.		9/21/2017 12:00:00 PM
Temperature (E170.1)	<b>13</b>			deg C		9/21/2017 12:00:00 PM
Turbidity (E180.1)	<b>62</b>	1.0		NTU		9/21/2017 12:00:00 PM

**ICP METALS - EPA 200.7** Analyst: **KH**  
 ( Prep: SW3010A - 9/25/2017 )

Aluminum	<b>ND</b>	100		µg/L	1	10/3/2017 4:01:00 PM
Arsenic	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:01:00 PM
Boron	<b>240</b>	50.0		µg/L	1	10/3/2017 4:01:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:01:00 PM
Calcium	<b>174000</b>	50.0		µg/L	1	10/3/2017 4:01:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:01:00 PM
Iron	<b>1540</b>	50.0		µg/L	1	10/3/2017 4:01:00 PM
Magnesium	<b>67100</b>	50.0		µg/L	1	10/3/2017 4:01:00 PM
Manganese	<b>187</b>	20.0		µg/L	1	10/3/2017 4:01:00 PM
Potassium	<b>2780</b>	50.0		µg/L	1	10/3/2017 4:01:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:01:00 PM
Sodium	<b>33700</b>	50.0		µg/L	1	10/3/2017 4:01:00 PM

**HARDNESS - EPA 200.7 REV 4.4** Analyst: **KH**

Total Hardness (As CaCO3)	<b>710</b>	5		mg/L CaCO3	1	10/3/2017
---------------------------	------------	---	--	------------	---	-----------

**MERCURY - EPA 245.1 REV 3.0** Analyst: **AVB**  
 ( Prep: E245.1 - 9/26/2017 )

Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:13:34 PM
---------	-----------	--------	--	------	---	----------------------

**ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1** Analyst: **CS**

Chloride	<b>17.5</b>	2.00		mg/L	2	10/6/2017 12:46:27 AM
Sulfate	<b>311</b>	20.0		mg/L	10	10/6/2017 12:34:22 AM

**ALKALINITY TO PH 4.5 -SM 2320B-97,-11** Analyst: **CC**

Alkalinity, Total (As CaCO3)	<b>350</b>	10	H	mg/L CaCO3	1	10/6/2017
------------------------------	------------	----	---	------------	---	-----------

**AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0** Analyst: **PL**

Nitrogen, Ammonia (As N)	<b>0.3</b>	0.1		mg/L	1	9/27/2017 6:17:00 PM
--------------------------	------------	-----	--	------	---	----------------------

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8908-D
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 12:00:00 PM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-003
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>1170</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>885</b>	5		mg/L	1	9/25/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> 8908-SH
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/21/2017 1:00:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-004
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>6.8</b>			S.U.		9/21/2017 1:00:00 PM
Temperature (E170.1)	<b>15</b>			deg C		9/21/2017 1:00:00 PM
Turbidity (E180.1)	<b>2</b>	1.0		NTU		9/21/2017 1:00:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/3/2017 4:05:00 PM
Arsenic	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:05:00 PM
Boron	<b>177</b>	50.0		µg/L	1	10/3/2017 4:05:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:05:00 PM
Calcium	<b>190000</b>	50.0		µg/L	1	10/3/2017 4:05:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:05:00 PM
Iron	<b>66.8</b>	50.0		µg/L	1	10/3/2017 4:05:00 PM
Magnesium	<b>64200</b>	50.0		µg/L	1	10/3/2017 4:05:00 PM
Manganese	<b>116</b>	20.0		µg/L	1	10/3/2017 4:05:00 PM
Potassium	<b>2570</b>	50.0		µg/L	1	10/3/2017 4:05:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:05:00 PM
Sodium	<b>29000</b>	50.0		µg/L	1	10/3/2017 4:05:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>738</b>	5		mg/L CaCO3	1	10/3/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:15:12 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>15.3</b>	2.00		mg/L	2	10/6/2017 1:10:38 AM
Sulfate	<b>317</b>	20.0		mg/L	10	10/6/2017 12:58:33 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>380</b>	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:19:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** 8908-SH  
**Collection Date:** 9/21/2017 1:00:00 PM  
**Lab Sample ID:** 170922003-004  
**Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>1190</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>955</b>	5		mg/L	1	9/25/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> 8909-D
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 2:50:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-005
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>7.9</b>			S.U.		9/20/2017 2:50:00 PM
Temperature (E170.1)	<b>19</b>			deg C		9/20/2017 2:50:00 PM
Turbidity (E180.1)	<b>189</b>	1.0		NTU		9/20/2017 2:50:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>427</b>	100		µg/L	1	10/3/2017 4:08:00 PM
Arsenic	<b>10.5</b>	5.00		µg/L	1	10/3/2017 4:08:00 PM
Boron	<b>510</b>	50.0		µg/L	1	10/3/2017 4:08:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:08:00 PM
Calcium	<b>6970</b>	50.0		µg/L	1	10/3/2017 4:08:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:08:00 PM
Iron	<b>962</b>	50.0		µg/L	1	10/3/2017 4:08:00 PM
Magnesium	<b>1850</b>	50.0		µg/L	1	10/3/2017 4:08:00 PM
Manganese	<b>36.2</b>	20.0		µg/L	1	10/3/2017 4:08:00 PM
Potassium	<b>1430</b>	50.0		µg/L	1	10/3/2017 4:08:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/3/2017 4:08:00 PM
Sodium	<b>172000</b>	50000		µg/L	10	10/3/2017 4:30:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>25</b>	5		mg/L CaCO3	1	10/3/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:20:10 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>4.02</b>	2.00		mg/L	2	10/6/2017 1:22:43 AM
Sulfate	<b>63.3</b>	4.00		mg/L	2	10/6/2017 1:22:43 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>310</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>0.4</b>	0.1		mg/L	1	9/27/2017 6:21:00 PM



**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8909-D
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017 2:50:00 PM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-005
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>672</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>460</b>	5		mg/L	1	9/22/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** 8909-SH  
**Collection Date:** 9/20/2017 2:35:00 PM  
**Lab Sample ID:** 170922003-006  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	7.5			S.U.		9/20/2017 2:35:00 PM
Temperature (E170.1)	19			deg C		9/20/2017 2:35:00 PM
Turbidity (E180.1)	< 1	1.0		NTU		9/20/2017 2:35:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/3/2017 4:12:00 PM
Arsenic	7.32	5.00		µg/L	1	10/3/2017 4:12:00 PM
Boron	250	50.0		µg/L	1	10/3/2017 4:12:00 PM
Cadmium	ND	5.00		µg/L	1	10/3/2017 4:12:00 PM
Calcium	29400	50.0		µg/L	1	10/3/2017 4:12:00 PM
Copper	ND	5.00		µg/L	1	10/3/2017 4:12:00 PM
Iron	ND	50.0		µg/L	1	10/3/2017 4:12:00 PM
Magnesium	18000	50.0		µg/L	1	10/3/2017 4:12:00 PM
Manganese	ND	20.0		µg/L	1	10/3/2017 4:12:00 PM
Potassium	1910	50.0		µg/L	1	10/3/2017 4:12:00 PM
Selenium	ND	5.00		µg/L	1	10/3/2017 4:12:00 PM
Sodium	55200	50000		µg/L	10	10/3/2017 4:34:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	148	5		mg/L CaCO3	1	10/3/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:21:42 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	ND	2.00		mg/L	2	10/6/2017 1:34:48 AM
Sulfate	108	4.00		mg/L	2	10/6/2017 1:34:48 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	160	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	1	9/27/2017 6:29:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8909-SH
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017 2:35:00 PM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-006
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>507</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>355</b>	5		mg/L	1	9/22/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> 8910-D
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 3:45:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-007
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>7.8</b>			S.U.		9/20/2017 3:45:00 PM
Temperature (E170.1)	<b>14</b>			deg C		9/20/2017 3:45:00 PM
Turbidity (E180.1)	<b>&lt; 1</b>	1.0		NTU		9/20/2017 3:45:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/4/2017 12:54:00 PM
Arsenic	<b>5.07</b>	5.00		µg/L	1	10/4/2017 12:54:00 PM
Boron	<b>3280</b>	50.0		µg/L	1	10/4/2017 12:54:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/4/2017 12:54:00 PM
Calcium	<b>88100</b>	50.0		µg/L	1	10/4/2017 12:54:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/4/2017 12:54:00 PM
Iron	<b>ND</b>	50.0		µg/L	1	10/4/2017 12:54:00 PM
Magnesium	<b>27200</b>	50.0		µg/L	1	10/4/2017 12:54:00 PM
Manganese	<b>ND</b>	20.0		µg/L	1	10/4/2017 12:54:00 PM
Potassium	<b>3120</b>	50.0		µg/L	1	10/4/2017 12:54:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/4/2017 12:54:00 PM
Sodium	<b>99900</b>	500		µg/L	10	10/4/2017 12:59:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>332</b>	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:23:15 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>26.8</b>	2.00		mg/L	2	10/5/2017 6:14:32 PM
Sulfate	<b>366</b>	20.0		mg/L	10	10/5/2017 6:02:26 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>150</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:30:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8910-D
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017 3:45:00 PM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-007
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>952</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>745</b>	5		mg/L	1	9/22/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8911-D
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 10:40:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-008
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE** Analyst: **FLD**

pH (E150.1)	<b>7.9</b>			S.U.		9/21/2017 10:40:00 AM
Temperature (E170.1)	<b>13</b>			deg C		9/21/2017 10:40:00 AM
Turbidity (E180.1)	<b>27</b>	1.0		NTU		9/21/2017 10:40:00 AM

**ICP METALS - EPA 200.7** Analyst: **KH**  
 ( Prep: SW3010A - 9/25/2017 )

Aluminum	<b>ND</b>	100		µg/L	1	10/4/2017 1:03:00 PM
Arsenic	<b>6.73</b>	5.00		µg/L	1	10/4/2017 1:03:00 PM
Boron	<b>1920</b>	50.0		µg/L	1	10/4/2017 1:03:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:03:00 PM
Calcium	<b>68800</b>	50.0		µg/L	1	10/4/2017 1:03:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:03:00 PM
Iron	<b>326</b>	50.0		µg/L	1	10/4/2017 1:03:00 PM
Magnesium	<b>23100</b>	50.0		µg/L	1	10/4/2017 1:03:00 PM
Manganese	<b>116</b>	20.0		µg/L	1	10/4/2017 1:03:00 PM
Potassium	<b>3090</b>	50.0		µg/L	1	10/4/2017 1:03:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:03:00 PM
Sodium	<b>130000</b>	500		µg/L	10	10/4/2017 1:32:00 PM

**HARDNESS - EPA 200.7 REV 4.4** Analyst: **KH**

Total Hardness (As CaCO3)	<b>267</b>	5		mg/L CaCO3	1	10/4/2017
---------------------------	------------	---	--	------------	---	-----------

**MERCURY - EPA 245.1 REV 3.0** Analyst: **AVB**  
 ( Prep: E245.1 - 9/26/2017 )

Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:27:59 PM
---------	-----------	--------	--	------	---	----------------------

**ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1** Analyst: **CS**

Chloride	<b>15.4</b>	2.00		mg/L	2	10/5/2017 6:38:43 PM
Sulfate	<b>304</b>	20.0		mg/L	10	10/5/2017 6:26:37 PM

**ALKALINITY TO PH 4.5 -SM 2320B-97,-11** Analyst: **CC**

Alkalinity, Total (As CaCO3)	<b>200</b>	10	H	mg/L CaCO3	1	10/6/2017
------------------------------	------------	----	---	------------	---	-----------

**AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0** Analyst: **PL**

Nitrogen, Ammonia (As N)	<b>0.3</b>	0.1		mg/L	1	9/27/2017 6:32:00 PM
--------------------------	------------	-----	--	------	---	----------------------

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8911-D
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 10:40:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-008
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>958</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>610</b>	5		mg/L	1	9/26/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> 8911-SH
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/21/2017 10:25:00 AM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-009
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>8.1</b>			S.U.		9/21/2017 10:25:00 AM
Temperature (E170.1)	<b>13</b>			deg C		9/21/2017 10:25:00 AM
Turbidity (E180.1)	<b>4</b>	1.0		NTU		9/21/2017 10:25:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/4/2017 1:36:00 PM
Arsenic	<b>15.5</b>	5.00		µg/L	1	10/4/2017 1:36:00 PM
Boron	<b>294</b>	50.0		µg/L	1	10/4/2017 1:36:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:36:00 PM
Calcium	<b>49700</b>	50.0		µg/L	1	10/4/2017 1:36:00 PM
Copper	<b>7.19</b>	5.00		µg/L	1	10/4/2017 1:36:00 PM
Iron	<b>258</b>	50.0		µg/L	1	10/4/2017 1:36:00 PM
Magnesium	<b>15100</b>	50.0		µg/L	1	10/4/2017 1:36:00 PM
Manganese	<b>56.6</b>	20.0		µg/L	1	10/4/2017 1:36:00 PM
Potassium	<b>1740</b>	50.0		µg/L	1	10/4/2017 1:36:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:36:00 PM
Sodium	<b>71400</b>	500		µg/L	10	10/4/2017 1:40:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>186</b>	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:29:32 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>9.97</b>	2.00		mg/L	2	10/5/2017 7:02:54 PM
Sulfate	<b>252</b>	20.0		mg/L	10	10/5/2017 6:50:48 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>100</b>	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>0.2</b>	0.1		mg/L	1	9/27/2017 6:34:00 PM



**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** 8911-SH  
**Collection Date:** 9/21/2017 10:25:00 AM  
**Lab Sample ID:** 170922003-009  
**Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>681</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>420</b>	5		mg/L	1	9/26/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> 8942-D
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 5:30:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-010
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>8.4</b>			S.U.		9/20/2017 5:30:00 PM
Temperature (E170.1)	<b>17</b>			deg C		9/20/2017 5:30:00 PM
Turbidity (E180.1)	<b>&lt; 1</b>	1.0		NTU		9/20/2017 5:30:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/4/2017 1:44:00 PM
Arsenic	<b>8.19</b>	5.00		µg/L	1	10/4/2017 1:44:00 PM
Boron	<b>290</b>	50.0		µg/L	1	10/4/2017 1:44:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:44:00 PM
Calcium	<b>80900</b>	50.0		µg/L	1	10/4/2017 1:44:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:44:00 PM
Iron	<b>523</b>	50.0		µg/L	1	10/4/2017 1:44:00 PM
Magnesium	<b>66800</b>	50.0		µg/L	1	10/4/2017 1:44:00 PM
Manganese	<b>426</b>	20.0		µg/L	1	10/4/2017 1:44:00 PM
Potassium	<b>2640</b>	50.0		µg/L	1	10/4/2017 1:44:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:44:00 PM
Sodium	<b>40000</b>	50.0		µg/L	1	10/4/2017 1:44:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>477</b>	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:31:07 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>3.03</b>	2.00		mg/L	2	10/5/2017 7:27:05 PM
Sulfate	<b>261</b>	20.0		mg/L	10	10/5/2017 7:15:00 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>270</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>0.1</b>	0.1		mg/L	1	9/27/2017 6:36:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** 8942-D  
**Collection Date:** 9/20/2017 5:30:00 PM  
**Lab Sample ID:** 170922003-010  
**Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>876</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>670</b>	5		mg/L	1	9/22/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** 9306-SH  
**Collection Date:** 9/21/2017 10:30:00 AM  
**Lab Sample ID:** 170922003-011  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>6.9</b>			S.U.		9/21/2017 10:30:00 AM
Temperature (E170.1)	<b>14</b>			deg C		9/21/2017 10:30:00 AM
Turbidity (E180.1)	<b>500</b>	1.0		NTU		9/21/2017 10:30:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/4/2017 1:57:00 PM
Arsenic	<b>14.3</b>	5.00		µg/L	1	10/4/2017 1:57:00 PM
Boron	<b>97.5</b>	50.0		µg/L	1	10/4/2017 1:57:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:57:00 PM
Calcium	<b>61100</b>	50.0		µg/L	1	10/4/2017 1:57:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:57:00 PM
Iron	<b>463</b>	50.0		µg/L	1	10/4/2017 1:57:00 PM
Magnesium	<b>59700</b>	50.0		µg/L	1	10/4/2017 1:57:00 PM
Manganese	<b>35.7</b>	20.0		µg/L	1	10/4/2017 1:57:00 PM
Potassium	<b>2600</b>	50.0		µg/L	1	10/4/2017 1:57:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/4/2017 1:57:00 PM
Sodium	<b>20800</b>	50.0		µg/L	1	10/4/2017 1:57:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>398</b>	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:32:42 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>ND</b>	2.00		mg/L	2	10/5/2017 8:03:50 PM
Sulfate	<b>74.2</b>	4.00		mg/L	2	10/5/2017 8:03:50 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>310</b>	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:38:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	9306-SH
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 10:30:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-011
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>686</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>390</b>	5		mg/L	1	9/26/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** GW DUP 8909-D  
**Collection Date:** 9/20/2017 2:50:00 PM  
**Lab Sample ID:** 170922003-012  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>7.9</b>			S.U.		9/20/2017 2:50:00 PM
Temperature (E170.1)	<b>19</b>			deg C		9/20/2017 2:50:00 PM
Turbidity (E180.1)	<b>189</b>	1.0		NTU		9/20/2017 2:50:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>454</b>	100		µg/L	1	10/4/2017 2:04:00 PM
Arsenic	<b>9.31</b>	5.00		µg/L	1	10/4/2017 2:04:00 PM
Boron	<b>523</b>	50.0		µg/L	1	10/4/2017 2:04:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/4/2017 2:04:00 PM
Calcium	<b>7430</b>	50.0		µg/L	1	10/4/2017 2:04:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/4/2017 2:04:00 PM
Iron	<b>1010</b>	50.0		µg/L	1	10/4/2017 2:04:00 PM
Magnesium	<b>1980</b>	50.0		µg/L	1	10/4/2017 2:04:00 PM
Manganese	<b>44.5</b>	20.0		µg/L	1	10/4/2017 2:04:00 PM
Potassium	<b>1410</b>	50.0		µg/L	1	10/4/2017 2:04:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/4/2017 2:04:00 PM
Sodium	<b>206000</b>	500		µg/L	10	10/4/2017 2:08:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>27</b>	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:34:18 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>4.20</b>	2.00		mg/L	2	10/5/2017 8:40:13 PM
Sulfate	<b>66.8</b>	4.00		mg/L	2	10/5/2017 8:40:13 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>300</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>0.4</b>	0.1	N	mg/L	1	9/27/2017 6:40:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** GW DUP 8909-D  
**Collection Date:** 9/20/2017 2:50:00 PM  
**Lab Sample ID:** 170922003-012  
**Matrix:** GROUNDWATER

---

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: CA
Specific Conductance	677	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: CS
TDS (Residue, Filterable)	470	5		mg/L	1	9/22/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** GW Dep Drain 1  
**Collection Date:** 9/20/2017 2:00:00 PM  
**Lab Sample ID:** 170922003-013  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	1.03	0.10		mg/L		9/20/2017 2:00:00 PM
Flow, GPD	457			gal/day		9/20/2017 2:00:00 PM
pH (E150.1)	7.8			S.U.		9/20/2017 2:00:00 PM
Temperature (E170.1)	15			deg C		9/20/2017 2:00:00 PM
Turbidity (E180.1)	< 1	1.0		NTU		9/20/2017 2:00:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/4/2017 2:17:00 PM
Arsenic	ND	5.00		µg/L	1	10/4/2017 2:17:00 PM
Boron	3150	50.0		µg/L	1	10/4/2017 2:17:00 PM
Cadmium	ND	5.00		µg/L	1	10/4/2017 2:17:00 PM
Calcium	307000	500		µg/L	10	10/4/2017 2:22:00 PM
Copper	ND	5.00		µg/L	1	10/4/2017 2:17:00 PM
Iron	ND	50.0		µg/L	1	10/4/2017 2:17:00 PM
Magnesium	115000	50.0		µg/L	1	10/4/2017 2:17:00 PM
Manganese	ND	20.0		µg/L	1	10/4/2017 2:17:00 PM
Potassium	6630	50.0		µg/L	1	10/4/2017 2:17:00 PM
Selenium	ND	5.00		µg/L	1	10/4/2017 2:17:00 PM
Sodium	35700	500		µg/L	10	10/4/2017 2:22:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	1240	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:35:53 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	80.6	2.00		mg/L	2	10/5/2017 9:04:24 PM
Sulfate	896	40.0		mg/L	20	10/5/2017 8:52:19 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	340	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>



**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** GW Dep Drain 1  
**Collection Date:** 9/20/2017 2:00:00 PM  
**Lab Sample ID:** 170922003-013  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:50:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>1940</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>1770</b>	5		mg/L	1	9/22/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Leak Detection Syst.  
**Collection Date:** 9/20/2017 12:10:00 PM  
**Lab Sample ID:** 170922003-014  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	1.57	0.10		mg/L		9/20/2017 12:01:00 PM
Flow, GPD	57			gal/day		9/20/2017 12:01:00 PM
pH (E150.1)	7.5			S.U.		9/20/2017 12:01:00 PM
Temperature (E170.1)	16			deg C		9/20/2017 12:01:00 PM
Turbidity (E180.1)	65	1.0		NTU		9/20/2017 12:01:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/4/2017 2:29:00 PM
Arsenic	6.82	5.00		µg/L	1	10/4/2017 2:29:00 PM
Boron	2720	50.0		µg/L	1	10/4/2017 2:29:00 PM
Cadmium	ND	5.00		µg/L	1	10/4/2017 2:29:00 PM
Calcium	482000	500		µg/L	10	10/4/2017 2:54:00 PM
Copper	ND	5.00		µg/L	1	10/4/2017 2:29:00 PM
Iron	144	50.0		µg/L	1	10/4/2017 2:29:00 PM
Magnesium	216000	500		µg/L	10	10/4/2017 2:54:00 PM
Manganese	56.8	20.0		µg/L	1	10/4/2017 2:29:00 PM
Potassium	10700	50.0		µg/L	1	10/4/2017 2:29:00 PM
Selenium	ND	5.00		µg/L	1	10/4/2017 2:29:00 PM
Sodium	125000	500		µg/L	10	10/4/2017 2:54:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	2016	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:37:30 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	34.8	5.00		mg/L	5	10/5/2017 9:28:35 PM
Sulfate	1440	100		mg/L	50	10/5/2017 9:16:30 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	480	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Leak Detection Syst.  
**Collection Date:** 9/20/2017 12:10:00 PM  
**Lab Sample ID:** 170922003-014  
**Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:52:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>2730</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>2620</b>	5		mg/L	1	9/22/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Under Drain 1  
**Collection Date:** 9/20/2017 1:25:00 PM  
**Lab Sample ID:** 170922003-015  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	1.66	0.10		mg/L		9/20/2017 1:25:00 PM
Flow, GPD	6848			gal/day		9/20/2017 1:25:00 PM
pH (E150.1)	6.5			S.U.		9/20/2017 1:25:00 PM
Temperature (E170.1)	16			deg C		9/20/2017 1:25:00 PM
Turbidity (E180.1)	200	1.0		NTU		9/20/2017 1:25:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/4/2017 2:59:00 PM
Arsenic	56.0	5.00		µg/L	1	10/4/2017 2:59:00 PM
Boron	3930	50.0		µg/L	1	10/4/2017 2:59:00 PM
Cadmium	ND	5.00		µg/L	1	10/4/2017 2:59:00 PM
Calcium	352000	500		µg/L	10	10/4/2017 3:05:00 PM
Copper	ND	5.00		µg/L	1	10/4/2017 2:59:00 PM
Iron	6640	50.0		µg/L	1	10/4/2017 2:59:00 PM
Magnesium	80500	50.0		µg/L	1	10/4/2017 2:59:00 PM
Manganese	815	20.0		µg/L	1	10/4/2017 2:59:00 PM
Potassium	16000	50.0		µg/L	1	10/4/2017 2:59:00 PM
Selenium	ND	5.00		µg/L	1	10/4/2017 2:59:00 PM
Sodium	40200	500		µg/L	10	10/4/2017 3:05:00 PM
<b>LOW LEVEL MERCURY - EPA 1631E</b>						Analyst: <b>SM</b>
( Prep: Method - 9/28/2017 )						
Mercury	1.3	0.5		ng/L	1	10/3/2017
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	1211	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:39:07 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	30.3	2.00		mg/L	2	10/5/2017 9:52:46 PM
Sulfate	521	40.0		mg/L	20	10/5/2017 9:40:40 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Under Drain 1
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 1:25:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-015
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>ALKALINITY TO PH 4.5 - SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>570</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:54:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>1750</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>1490</b>	5		mg/L	1	9/22/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Under Drain 2
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 12:35:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-016
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	1.19	0.10		mg/L		9/20/2017 12:35:00 PM
Flow, GPD	4451			gal/day		9/20/2017 12:35:00 PM
pH (E150.1)	7.9			S.U.		9/20/2017 12:35:00 PM
Temperature (E170.1)	16			deg C		9/20/2017 12:35:00 PM
Turbidity (E180.1)	25	1.0		NTU		9/20/2017 12:35:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/4/2017 3:10:00 PM
Arsenic	16.0	5.00		µg/L	1	10/4/2017 3:10:00 PM
Boron	41200	50.0		µg/L	1	10/4/2017 3:10:00 PM
Cadmium	ND	5.00		µg/L	1	10/4/2017 3:10:00 PM
Calcium	579000	500		µg/L	10	10/4/2017 3:14:00 PM
Copper	ND	5.00		µg/L	1	10/4/2017 3:10:00 PM
Iron	2430	50.0		µg/L	1	10/4/2017 3:10:00 PM
Magnesium	93900	50.0		µg/L	1	10/4/2017 3:10:00 PM
Manganese	1140	20.0		µg/L	1	10/4/2017 3:10:00 PM
Potassium	74500	500		µg/L	10	10/4/2017 3:14:00 PM
Selenium	14.0	5.00		µg/L	1	10/4/2017 3:10:00 PM
Sodium	227000	500		µg/L	10	10/4/2017 3:14:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	1833	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:40:44 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	307	5.00		mg/L	5	10/5/2017 10:54:37 PM
Sulfate	1760	100		mg/L	50	10/5/2017 10:42:22 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	300	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Under Drain 2  
**Collection Date:** 9/20/2017 12:35:00 PM  
**Lab Sample ID:** 170922003-016  
**Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>1.4</b>	0.1		mg/L	1	9/27/2017 6:56:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>3710</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>3410</b>	5		mg/L	1	9/22/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Under Drain 3  
**Collection Date:** 9/20/2017 11:40:00 AM  
**Lab Sample ID:** 170922003-017  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	2.46	0.10		mg/L		9/20/2017 11:40:00 AM
Flow, GPD	216			gal/day		9/20/2017 11:40:00 AM
pH (E150.1)	7.9			S.U.		9/20/2017 11:40:00 AM
Temperature (E170.1)	16			deg C		9/20/2017 11:40:00 AM
Turbidity (E180.1)	25	1.0		NTU		9/20/2017 11:40:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/4/2017 3:18:00 PM
Arsenic	5.18	5.00		µg/L	1	10/4/2017 3:18:00 PM
Boron	25500	50.0		µg/L	1	10/4/2017 3:18:00 PM
Cadmium	ND	5.00		µg/L	1	10/4/2017 3:18:00 PM
Calcium	804000	500		µg/L	10	10/4/2017 3:22:00 PM
Copper	ND	5.00		µg/L	1	10/4/2017 3:18:00 PM
Iron	ND	50.0		µg/L	1	10/4/2017 3:18:00 PM
Magnesium	115000	50.0		µg/L	1	10/4/2017 3:18:00 PM
Manganese	317	20.0		µg/L	1	10/4/2017 3:18:00 PM
Potassium	133000	500		µg/L	10	10/4/2017 3:22:00 PM
Selenium	11.8	5.00		µg/L	1	10/4/2017 3:18:00 PM
Sodium	337000	500		µg/L	10	10/4/2017 3:22:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	2478	5		mg/L CaCO3	1	10/4/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:42:22 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	745	50.0		mg/L	50	10/5/2017 11:06:43 PM
Sulfate	1720	100		mg/L	50	10/5/2017 11:06:43 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	340	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>



**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Under Drain 3
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 11:40:00 AM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-017
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 6:58:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>4870</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>4290</b>	5		mg/L	1	9/22/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** ~~21<sup>st</sup> Inlet To Pond~~ Inlet to Pond  
**Collection Date:** 9/20/2017 4:00:00 PM (AZ) 12/18/17  
**Lab Sample ID:** 170922003-018  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	0.95	0.10		mg/L		9/20/2017 4:00:00 PM
Flow, GPD	14,838			gal/day		9/20/2017 4:00:00 PM
pH (E150.1)	8.3			S.U.		9/20/2017 4:00:00 PM
Temperature (E170.1)	14			deg C		9/20/2017 4:00:00 PM
Turbidity (E180.1)	75	1.0		NTU		9/20/2017 4:00:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/5/2017 12:27:00 PM
Arsenic	30.5	5.00		µg/L	1	10/5/2017 12:27:00 PM
Boron	20400	50.0		µg/L	1	10/5/2017 12:27:00 PM
Cadmium	ND	5.00		µg/L	1	10/5/2017 12:27:00 PM
Calcium	448000	500		µg/L	10	10/5/2017 1:28:00 PM
Copper	ND	5.00		µg/L	1	10/5/2017 12:27:00 PM
Iron	3540	50.0		µg/L	1	10/5/2017 12:27:00 PM
Magnesium	88300	50.0		µg/L	1	10/5/2017 12:27:00 PM
Manganese	668	20.0		µg/L	1	10/5/2017 12:27:00 PM
Potassium	75700	50.0		µg/L	1	10/5/2017 12:27:00 PM
Selenium	22.1	5.00		µg/L	1	10/5/2017 12:27:00 PM
Sodium	173000	500		µg/L	10	10/5/2017 1:28:00 PM
<b>LOW LEVEL MERCURY - EPA 1631E</b>						Analyst: <b>SM</b>
( Prep: Method - 9/28/2017 )						
Mercury	ND	0.5		ng/L	1	10/3/2017
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	1481	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:47:13 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	144	5.00		mg/L	5	10/5/2017 11:42:59 PM
Sulfate	1280	100		mg/L	50	10/5/2017 11:30:53 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

CLIENT: Lockwood Hills LLC  
 Work Order: 170922003  
 Reference: Lockwood Ash Landfill / Quarterly  
 PO#:

Client Sample ID: ~~21<sup>st</sup> Inlet To Pond~~ Inlet to Pond  
 Collection Date: 9/20/2017 4:00:00 PM (A2) 12/18/17  
 Lab Sample ID: 170922003-018  
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>ALKALINITY TO PH 4.5 - SM 2320B-97,-11</b>						Analyst: CC
Alkalinity, Total (As CaCO3)	440	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: PL
Nitrogen, Ammonia (As N)	0.2	0.1		mg/L	1	9/27/2017 7:00:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: CA
Specific Conductance	2960	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: CS
TDS (Residue, Filterable)	2660	5		mg/L	1	9/22/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Keuka Upstream  
**Collection Date:** 9/21/2017 9:55:00 AM  
**Lab Sample ID:** 170922003-019  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	4.44	0.10		mg/L		9/21/2017 9:55:00 AM
pH (E150.1)	7.0			S.U.		9/21/2017 9:55:00 AM
Temperature (E170.1)	19			deg C		9/21/2017 9:55:00 AM
Turbidity (E180.1)	< 1	1.0		NTU		9/21/2017 9:55:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/5/2017 1:35:00 PM
Arsenic	5.13	5.00		µg/L	1	10/5/2017 1:35:00 PM
Boron	ND	50.0		µg/L	1	10/5/2017 1:35:00 PM
Cadmium	ND	5.00		µg/L	1	10/5/2017 1:35:00 PM
Calcium	42900	50.0		µg/L	1	10/5/2017 1:35:00 PM
Copper	ND	5.00		µg/L	1	10/5/2017 1:35:00 PM
Iron	69.7	50.0		µg/L	1	10/5/2017 1:35:00 PM
Magnesium	11800	50.0		µg/L	1	10/5/2017 1:35:00 PM
Manganese	ND	20.0		µg/L	1	10/5/2017 1:35:00 PM
Potassium	2790	50.0		µg/L	1	10/5/2017 1:35:00 PM
Selenium	ND	5.00		µg/L	1	10/5/2017 1:35:00 PM
Sodium	26300	50.0		µg/L	1	10/5/2017 1:35:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	156	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:48:51 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	44.5	2.00		mg/L	2	10/5/2017 11:55:04 PM
Sulfate	26.1	4.00		mg/L	2	10/5/2017 11:55:04 PM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	120	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	1	9/27/2017 7:02:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Keuka Upstream  
**Collection Date:** 9/21/2017 9:55:00 AM  
**Lab Sample ID:** 170922003-019  
**Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>395</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>205</b>	5		mg/L	1	9/26/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Keuka Downstream  
**Collection Date:** 9/21/2017 9:30:00 AM  
**Lab Sample ID:** 170922003-020  
**Matrix:** SURFACE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	<b>3.85</b>	0.10		mg/L		9/21/2017 9:30:00 AM
pH (E150.1)	<b>6.5</b>			S.U.		9/21/2017 9:30:00 AM
Temperature (E170.1)	<b>19</b>			deg C		9/21/2017 9:30:00 AM
Turbidity (E180.1)	<b>&lt; 1</b>	1.0		NTU		9/21/2017 9:30:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/5/2017 1:41:00 PM
Arsenic	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:41:00 PM
Boron	<b>ND</b>	50.0		µg/L	1	10/5/2017 1:41:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:41:00 PM
Calcium	<b>43700</b>	50.0		µg/L	1	10/5/2017 1:41:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:41:00 PM
Iron	<b>64.3</b>	50.0		µg/L	1	10/5/2017 1:41:00 PM
Magnesium	<b>12000</b>	50.0		µg/L	1	10/5/2017 1:41:00 PM
Manganese	<b>ND</b>	20.0		µg/L	1	10/5/2017 1:41:00 PM
Potassium	<b>2830</b>	50.0		µg/L	1	10/5/2017 1:41:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:41:00 PM
Sodium	<b>27300</b>	50.0		µg/L	1	10/5/2017 1:41:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	<b>159</b>	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:50:30 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>44.7</b>	2.00		mg/L	2	10/6/2017 12:56:55 AM
Sulfate	<b>26.0</b>	4.00		mg/L	2	10/6/2017 12:56:55 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>150</b>	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 7:04:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Keuka Downstream  
**Collection Date:** 9/21/2017 9:30:00 AM  
**Lab Sample ID:** 170922003-020  
**Matrix:** SURFACE WATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>403</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>220</b>	5		mg/L	1	9/26/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Surface Water DUP
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/21/2017 9:55:00 AM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-021
<b>PO#:</b>	<b>Matrix:</b> SURFACE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	4.44	0.10		mg/L		9/21/2017 9:55:00 AM
pH (E150.1)	7.0			S.U.		9/21/2017 9:55:00 AM
Temperature (E170.1)	19			deg C		9/21/2017 9:55:00 AM
Turbidity (E180.1)	< 1	1.0		NTU		9/21/2017 9:55:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/5/2017 1:48:00 PM
Arsenic	ND	5.00		µg/L	1	10/5/2017 1:48:00 PM
Boron	ND	50.0		µg/L	1	10/5/2017 1:48:00 PM
Cadmium	ND	5.00		µg/L	1	10/5/2017 1:48:00 PM
Calcium	42800	50.0		µg/L	1	10/5/2017 1:48:00 PM
Copper	ND	5.00		µg/L	1	10/5/2017 1:48:00 PM
Iron	67.9	50.0		µg/L	1	10/5/2017 1:48:00 PM
Magnesium	11900	50.0		µg/L	1	10/5/2017 1:48:00 PM
Manganese	ND	20.0		µg/L	1	10/5/2017 1:48:00 PM
Potassium	2740	50.0		µg/L	1	10/5/2017 1:48:00 PM
Selenium	ND	5.00		µg/L	1	10/5/2017 1:48:00 PM
Sodium	26500	50.0		µg/L	1	10/5/2017 1:48:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	156	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:52:10 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	44.1	2.00		mg/L	2	10/6/2017 1:09:16 AM
Sulfate	25.4	4.00		mg/L	2	10/6/2017 1:09:16 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	110	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	1	9/27/2017 7:06:00 PM



**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** Surface Water DUP  
**Collection Date:** 9/21/2017 9:55:00 AM  
**Lab Sample ID:** 170922003-021  
**Matrix:** SURFACE WATER

---

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: CA
Specific Conductance	398	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: CS
TDS (Residue, Filterable)	210	5		mg/L	1	9/26/2017

---

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Pond Grab
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 2:35:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-022
<b>PO#:</b>	<b>Matrix:</b> SURFACE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	<b>1.04</b>	0.10		mg/L		9/20/2017 2:35:00 PM
pH (E150.1)	<b>8.3</b>			S.U.		9/20/2017 2:35:00 PM
Temperature (E170.1)	<b>26</b>			deg C		9/20/2017 2:35:00 PM
Turbidity (E180.1)	<b>&lt; 1</b>	1.0		NTU		9/20/2017 2:35:00 PM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/5/2017 1:57:00 PM
Arsenic	<b>6.81</b>	5.00		µg/L	1	10/5/2017 1:57:00 PM
Boron	<b>17500</b>	50.0		µg/L	1	10/5/2017 1:57:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:57:00 PM
Calcium	<b>270000</b>	500		µg/L	10	10/5/2017 2:03:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:57:00 PM
Iron	<b>75.8</b>	50.0		µg/L	1	10/5/2017 1:57:00 PM
Magnesium	<b>82000</b>	50.0		µg/L	1	10/5/2017 1:57:00 PM
Manganese	<b>ND</b>	20.0		µg/L	1	10/5/2017 1:57:00 PM
Potassium	<b>70500</b>	50.0		µg/L	1	10/5/2017 1:57:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/5/2017 1:57:00 PM
Sodium	<b>140000</b>	50.0		µg/L	1	10/5/2017 1:57:00 PM
Sodium	<b>165000</b>	500		µg/L	10	10/5/2017 2:03:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	<b>1012</b>	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:56:47 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>156</b>	5.00		mg/L	5	10/6/2017 1:33:27 AM
Sulfate	<b>1090</b>	100		mg/L	50	10/6/2017 1:21:22 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>110</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Pond Grab
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/20/2017 2:35:00 PM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-022
<b>PO#:</b>	<b>Matrix:</b> SURFACE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 7:08:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>2310</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>2020</b>	5		mg/L	1	9/22/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b> Lockwood Hills LLC	<b>Client Sample ID:</b> Field Blank
<b>Work Order:</b> 170922003	<b>Collection Date:</b> 9/21/2017 9:55:00 AM
<b>Reference:</b> Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b> 170922003-023
<b>PO#:</b>	<b>Matrix:</b> GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	7.67	0.10		mg/L		9/21/2017 9:55:00 AM
pH (E150.1)	7.0			S.U.		9/21/2017 9:55:00 AM
Temperature (E170.1)	21			deg C		9/21/2017 9:55:00 AM
Turbidity (E180.1)	< 1	1.0		NTU		9/21/2017 9:55:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	ND	100		µg/L	1	10/5/2017 2:09:00 PM
Arsenic	ND	5.00		µg/L	1	10/5/2017 2:09:00 PM
Boron	ND	50.0		µg/L	1	10/5/2017 2:09:00 PM
Cadmium	ND	5.00		µg/L	1	10/5/2017 2:09:00 PM
Calcium	101	50.0		µg/L	1	10/5/2017 2:09:00 PM
Copper	ND	5.00		µg/L	1	10/5/2017 2:09:00 PM
Iron	ND	50.0		µg/L	1	10/5/2017 2:09:00 PM
Magnesium	ND	50.0		µg/L	1	10/5/2017 2:09:00 PM
Manganese	ND	20.0		µg/L	1	10/5/2017 2:09:00 PM
Potassium	ND	50.0		µg/L	1	10/5/2017 2:09:00 PM
Selenium	ND	5.00		µg/L	1	10/5/2017 2:09:00 PM
Sodium	287	50.0		µg/L	1	10/5/2017 2:09:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	ND	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	ND	0.0002		mg/L	1	9/26/2017 2:58:21 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	ND	2.00		mg/L	2	10/6/2017 1:45:32 AM
Sulfate	ND	4.00		mg/L	2	10/6/2017 1:45:32 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	1	1	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	ND	0.1		mg/L	1	9/27/2017 7:15:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	Field Blank
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 9:55:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-023
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>2</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>ND</b>	5		mg/L	1	9/26/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	LLHg Field Blank
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017 1:35:00 PM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-024
<b>PO#:</b>		<b>Matrix:</b>	FIELD BLANK

---

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>LOW LEVEL MERCURY - EPA 1631E</b>						Analyst: <b>SM</b>
( Prep: Method - 9/28/2017 )						
Mercury	<b>ND</b>	0.5		ng/L	1	10/3/2017

# Adirondack Environmental Services, Inc

Date: 10-Oct-17

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8401
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 9:35:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-025
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
pH (E150.1)	<b>7.2</b>			S.U.		9/21/2017 9:35:00 AM
Temperature (E170.1)	<b>13</b>			deg C		9/21/2017 9:35:00 AM
Turbidity (E180.1)	<b>8</b>	1.0		NTU		9/21/2017 9:35:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>WB</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/5/2017 2:14:00 PM
Arsenic	<b>5.34</b>	5.00		µg/L	1	10/5/2017 2:14:00 PM
Boron	<b>820</b>	50.0		µg/L	1	10/5/2017 2:14:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/5/2017 2:14:00 PM
Calcium	<b>92900</b>	50.0		µg/L	1	10/5/2017 2:14:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/5/2017 2:14:00 PM
Iron	<b>251</b>	50.0		µg/L	1	10/5/2017 2:14:00 PM
Magnesium	<b>23900</b>	50.0		µg/L	1	10/5/2017 2:14:00 PM
Manganese	<b>70.3</b>	20.0		µg/L	1	10/5/2017 2:14:00 PM
Potassium	<b>2300</b>	50.0		µg/L	1	10/5/2017 2:14:00 PM
Selenium	<b>ND</b>	5.00		µg/L	1	10/5/2017 2:14:00 PM
Sodium	<b>70100</b>	500		µg/L	10	10/5/2017 2:19:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>WB</b>
Total Hardness (As CaCO3)	<b>330</b>	5		mg/L CaCO3	1	10/5/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 2:59:56 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>47.7</b>	2.00		mg/L	2	10/6/2017 1:57:37 AM
Sulfate	<b>86.9</b>	4.00		mg/L	2	10/6/2017 1:57:37 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>350</b>	10	H	mg/L CaCO3	1	10/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>0.6</b>	0.1		mg/L	1	9/27/2017 7:17:00 PM

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	8401
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/21/2017 9:35:00 AM
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-025
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>883</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>520</b>	5		mg/L	1	9/26/2017



# Adirondack Environmental Services, Inc

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** GW Dep Drain 3  
**Collection Date:** 9/20/2017 11:10:00 AM  
**Lab Sample ID:** 170922003-026  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Dissolved Oxygen (E360.1)	<b>4.83</b>	0.10		mg/L		9/20/2017 11:10:00 AM
Flow, GPD	<b>105</b>			gal/day		9/20/2017 11:10:00 AM
pH (E150.1)	<b>7.6</b>			S.U.		9/20/2017 11:10:00 AM
Temperature (E170.1)	<b>19</b>			deg C		9/20/2017 11:10:00 AM
Turbidity (E180.1)	<b>20</b>	1.0		NTU		9/20/2017 11:10:00 AM
<b>ICP METALS - EPA 200.7</b>						Analyst: <b>KH</b>
( Prep: SW3010A - 9/25/2017 )						
Aluminum	<b>ND</b>	100		µg/L	1	10/6/2017 12:49:00 PM
Arsenic	<b>5.63</b>	5.00		µg/L	1	10/6/2017 12:49:00 PM
Boron	<b>236</b>	50.0		µg/L	1	10/6/2017 12:49:00 PM
Cadmium	<b>ND</b>	5.00		µg/L	1	10/6/2017 12:49:00 PM
Calcium	<b>276000</b>	500		µg/L	10	10/6/2017 12:54:00 PM
Copper	<b>ND</b>	5.00		µg/L	1	10/6/2017 12:49:00 PM
Iron	<b>ND</b>	50.0		µg/L	1	10/6/2017 12:49:00 PM
Magnesium	<b>51300</b>	50.0		µg/L	1	10/6/2017 12:49:00 PM
Manganese	<b>ND</b>	20.0		µg/L	1	10/6/2017 12:49:00 PM
Potassium	<b>3620</b>	50.0		µg/L	1	10/6/2017 12:49:00 PM
Selenium	<b>ND</b>	5.00	N	µg/L	1	10/6/2017 12:49:00 PM
Sodium	<b>25900</b>	50.0		µg/L	1	10/6/2017 12:49:00 PM
<b>HARDNESS - EPA 200.7 REV 4.4</b>						Analyst: <b>KH</b>
Total Hardness (As CaCO3)	<b>900</b>	5		mg/L CaCO3	1	10/6/2017
<b>MERCURY - EPA 245.1 REV 3.0</b>						Analyst: <b>AVB</b>
( Prep: E245.1 - 9/26/2017 )						
Mercury	<b>ND</b>	0.0002		mg/L	1	9/26/2017 3:01:30 PM
<b>ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1</b>						Analyst: <b>CS</b>
Chloride	<b>8.88</b>	5.00		mg/L	5	10/6/2017 2:21:48 AM
Sulfate	<b>420</b>	100		mg/L	50	10/6/2017 2:09:43 AM
<b>ALKALINITY TO PH 4.5 -SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>430</b>	10		mg/L CaCO3	1	10/3/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC  
**Work Order:** 170922003  
**Reference:** Lockwood Ash Landfill / Quarterly  
**PO#:**

**Client Sample ID:** GW Dep Drain 3  
**Collection Date:** 9/20/2017 11:10:00 AM  
**Lab Sample ID:** 170922003-026  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>PL</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	9/27/2017 7:19:00 PM
<b>CONDUCTANCE AT 25C - SM 2510B-97,-11</b>						Analyst: <b>CA</b>
Specific Conductance	<b>1320</b>	1		µmhos/cm	1	9/27/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>1080</b>	5		mg/L	1	9/22/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	GW Dep Drain 2
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-027
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Observation	<b>Dry</b>			NA		9/20/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	GW Dep Drain 4
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-028
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Observation	<b>Dry</b>			NA		9/20/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

---

<b>CLIENT:</b>	Lockwood Hills LLC	<b>Client Sample ID:</b>	Under Drain 5
<b>Work Order:</b>	<b>170922003</b>	<b>Collection Date:</b>	9/20/2017
<b>Reference:</b>	Lockwood Ash Landfill / Quarterly	<b>Lab Sample ID:</b>	170922003-029
<b>PO#:</b>		<b>Matrix:</b>	GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE</b>						Analyst: <b>FLD</b>
Observation	<b>Dry</b>			NA		9/20/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC**Client Sample ID:** 8910-SH**Work Order:** 170922003**Collection Date:** 9/20/2017**Reference:** Lockwood Ash Landfill / Quarterly**Lab Sample ID:** 170922003-030**PO#:****Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
-----------------	---------------	------------	-------------	--------------	-----------	----------------------

---

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Observation

**Poor Recovery**

NA

9/20/2017

**Adirondack Environmental Services, Inc**

Date: 10-Oct-17

**CLIENT:** Lockwood Hills LLC**Client Sample ID:** 8405**Work Order:** 170922003**Collection Date:** 9/20/2017**Reference:** Lockwood Ash Landfill / Quarterly**Lab Sample ID:** 170922003-031**PO#:****Matrix:** GROUNDWATER

---

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
-----------------	---------------	------------	-------------	--------------	-----------	----------------------

---

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Observation

Dry

NA

9/20/2017



314 North Pearl Street  
 Albany, New York 12207  
 518-434-4546 ♦ Fax: 518-434-0891

**CHAIN OF CUSTODY RECORD**

AES Work Order#:

170922003

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Lockwood Hills LLC		Address:						
Send Report to: Dale Irwin		Project Name (Location): Lockwood Ash LF Quarterly			Samplers Name: Paul Buist			
Client Phone No:		PO #:			Samplers Signature: Paul Buist			
Client Fax No:								
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis
				Matrix	C	G		
001	7842	9/20/17	—	A P	GW		G	40 Observation Only Lockwood Ash LF Quarterly
002	8404	9/21/17	11:15	A P	GW		G	4 Field pH, Temp, Turbidity
003	8908-D	9/21/17	12:00	A P	GW		G	4
004	8908-SH	9/21/17	1:00	A P	GW		G	4
005	8909-D	9/20/17	2:50	A P	GW		G	4
006	8909-SH	9/20/17	2:35	A P	GW		G	4
007	8910-D	9/20/17	3:45	A P	GW		G	4
008	8911-D	9/21/17	10:40	A P	GW		G	4
009	8911-SH	9/21/17	10:25	A P	GW		G	4
010	8942-D	9/20/17	5:30	A P	GW		G	4
011	9306-SH	9/21/17	10:30	A P	GW		G	4
012	GW Dup 8909-D	9/20/17	2:50	A P	GW		G	4
Shipment Arrived Via: FedEx UPS Client <u>AES</u> Other: _____				Special Instructions/Remarks: Page 1 of 3				
Turnaround Time Requested: 1 Day 3 Day Normal 2 -Day 5 Day								
Relinquished by: (Signature) Paul Buist		Received by: (Signature)			Date 9/22/17	Time 9:30		
Relinquished by: (Signature)		Received by: (Signature)			Date	Time		
Relinquished by: (Signature)		Received for Laboratory by: J. [Signature]			Date 9/22/17	Time 9:30 AM		
Sample Temperature Ambient <u>Chilled</u> Chilling Process begun 4°C Notes: _____		Properly Preserved <u>Y</u> N Notes: _____			Received Within Holding Times <u>Y</u> N Notes: _____			



170922003





314 North Pearl Street  
 Albany, New York 12207  
 518-434-4546 ♦ Fax: 518-434-0891

**CHAIN OF CUSTODY RECORD**

AES Work Order#:

170922003

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Lockwood Hills LLC		Address:							
Send Report to: Dale Irwin		Project Name (Location): Lockwood Ash LF Quarterly			Samplers Name: Paul Buist				
Client Phone No:		PO #:			Samplers Signature: Paul Buist				
Client Fax No:									
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis	
				Matrix	C	G			
013	GW Dep Drain 1	9/20/17	2:00	A Ⓟ	GW		G	4	Lockwood Q Field pH, Temp, Turb, Field Flow Reading, DO
014	Leak Detection Syst.	9/20/17	12:10	A Ⓟ	GW		G	4	"
015	Under Drain 1	9/20/17	1:25	A Ⓟ	GW		G	5	"
016	Under Drain 2	9/20/17	12:35	A Ⓟ	GW		G	4	"
017	Under Drain 3	9/20/17	11:40	A Ⓟ	GW		G	4	"
018 J.M. 9/20/17	21" Inlet to Pond	9/20/17	4:00	A Ⓟ	GW		G	5	"
019	Keuka Upstream	9/21/17	9:55	A Ⓟ	GW		G	4	Lockwood Quarterly +DO
020	Keuka Downstream	9/21/17	9:30	A Ⓟ	SF		G	4	Lockwood Quarterly +DO
021	Surface Water Dup	9/21/17	9:55	A Ⓟ	SF		G	4	Lockwood Quarterly +DO
022	Pond Grab	9/20/17	2:35	A Ⓟ	SF		G	4	Lockwood Quarterly +DO
023	Field Blank	9/21/17	9:55	A Ⓟ	GW		G	4	Lockwood Quarterly +DO
024	LLHg Field Blank	9/20/17	1:35	A Ⓟ	GW		G	1	EPA 1631
Shipment Arrived Via: FedEx UPS Client <input checked="" type="radio"/> AES Other: _____				Special Instructions/Remarks: Page 2 of 3					
Turnaround Time Requested: 1 Day 3 Day Normal 2 -Day 5 Day									
Relinquished by: (Signature) Paul Buist		Received by: (Signature)			Date	Time			
					9/22/17	9:30			
Relinquished by: (Signature)		Received by: (Signature)			Date	Time			
Relinquished by: (Signature)		Received for Laboratory by:			Date	Time			
		J. M.			9/22/17	9:30 AM			
Sample Temperature Ambient <input checked="" type="radio"/> Chilled Chilling Process begun Notes: 4°C		Properly Preserved <input checked="" type="radio"/> Y <input type="radio"/> N Notes:			Received Within Holding Times <input checked="" type="radio"/> Y <input type="radio"/> N Notes:				



314 North Pearl Street  
 Albany, New York 12207  
 518-434-4546 ♦ Fax: 518-434-0891

**CHAIN OF CUSTODY RECORD**

AES Work Order#:

170922003

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Lockwood Hills LLC		Address:						
Send Report to: Dale Irwin		Project Name (Location): Lockwood Ash LF Quarterly			Samplers Name: Paul Buist			
Client Phone No:		PO #:			Samplers Signature: <i>Paul Buist</i>			
Client Fax No:								
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis
				Matrix	C	G		
025	8401	9/21/17	9:35	<input checked="" type="checkbox"/>	GW		4	Lockwood Ash LF Quarterly Field pH, Temp, Turbidity
026	GW Dep Drain 3	9/20/17	11:10	<input checked="" type="checkbox"/>	GW		4	+ Field Flow Reading, DO
027	GW Dep Drain 2	9/20/17	/	<input type="checkbox"/>	GW		0	Observation Only
028	GW Dep Drain 4	9/20/17	/	<input type="checkbox"/>	GW		0	Observation Only
029	Under Drain 5	9/20/17	/	<input type="checkbox"/>	GW		0	Observation Only
030	8910-SH	9/20/17	/	<input type="checkbox"/>	GW		0	Observation Only
031	8405	9/20/17	/	<input type="checkbox"/>	GW		0	Observation Only
				<input type="checkbox"/>				
				<input type="checkbox"/>				
				<input type="checkbox"/>				
				<input type="checkbox"/>				
				<input type="checkbox"/>				
				<input type="checkbox"/>				
				<input type="checkbox"/>				
				<input type="checkbox"/>				
<b>Shipment Arrived Via:</b> FedEx UPS Client <input checked="" type="checkbox"/> AES Other: _____				Special Instructions/Remarks: Page 3 of 3				
<b>Turnaround Time Requested:</b> 1 Day 3 Day Normal 2 -Day 5 Day								
Relinquished by: (Signature) <i>Paul Buist</i>		Received by: (Signature)		Date	Time			
				9/22/17	9:30			
Relinquished by: (Signature)		Received by: (Signature)		Date	Time			
Relinquished by: (Signature)		Received for Laboratory by:		Date	Time			
		<i>J. M.</i>		9/22/17	9:30 AM			
Sample Temperature Ambient <input checked="" type="checkbox"/> Chilled Chilling Process begun Notes: 4°C		Properly Preserved <input checked="" type="checkbox"/> Y N			Received Within Holding Times <input checked="" type="checkbox"/> Y N			
Notes: _____		Notes: _____			Notes: _____			



**Experience is the solution**

314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

## TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither **Adirondack Environmental Services, Inc.**, nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.**'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.
- (c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.
- (d) In no event shall **Adirondack Environmental Services, Inc.**, its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
- (e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**
- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.
- (g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

**Lockwood Ash Disposal Site Third Quarter 2017**

<b>Collection Date</b>	<b>Sample ID</b>	<b>Depth</b>	<b>Elevation</b>	<b>Units</b>
9/20/2017	8908-D	7.87	605.10	feet
9/20/2017	8909-D	47.06	514.84	feet
9/20/2017	8910-D	21.55	536.79	feet
9/20/2017	8911-D	28.54	528.37	feet
9/20/2017	8942-D	15.23	543.72	feet
9/20/2017	8908-SH	7.32	605.45	feet
9/20/2017	8909-SH	10.00	551.63	feet
9/20/2017	8910-SH	14.91	543.64	feet
9/20/2017	8911-SH	19.08	537.84	feet
9/20/2017	9306-SH	6.65	559.57	feet
9/20/2017	7741	24.10	563.95	feet
9/20/2017	7842	Obstructed	Obstructed	feet
9/20/2017	8406	15.15	554.40	feet
9/20/2017	8407	Obstructed	Obstructed	feet
9/20/2017	8401	7.13	653.16	feet
9/20/2017	8402	6.96	657.13	feet
9/20/2017	8403	7.95	656.12	feet
9/20/2017	8404	6.98	595.75	feet
9/20/2017	8405	dry	dry	feet

# **ATTACHMENT 2**

## **Time-Series Plots**

### **Routine Parameters in the Leachate and Monitoring Wells**

**Updated Through 3<sup>rd</sup> Quarter 2017**

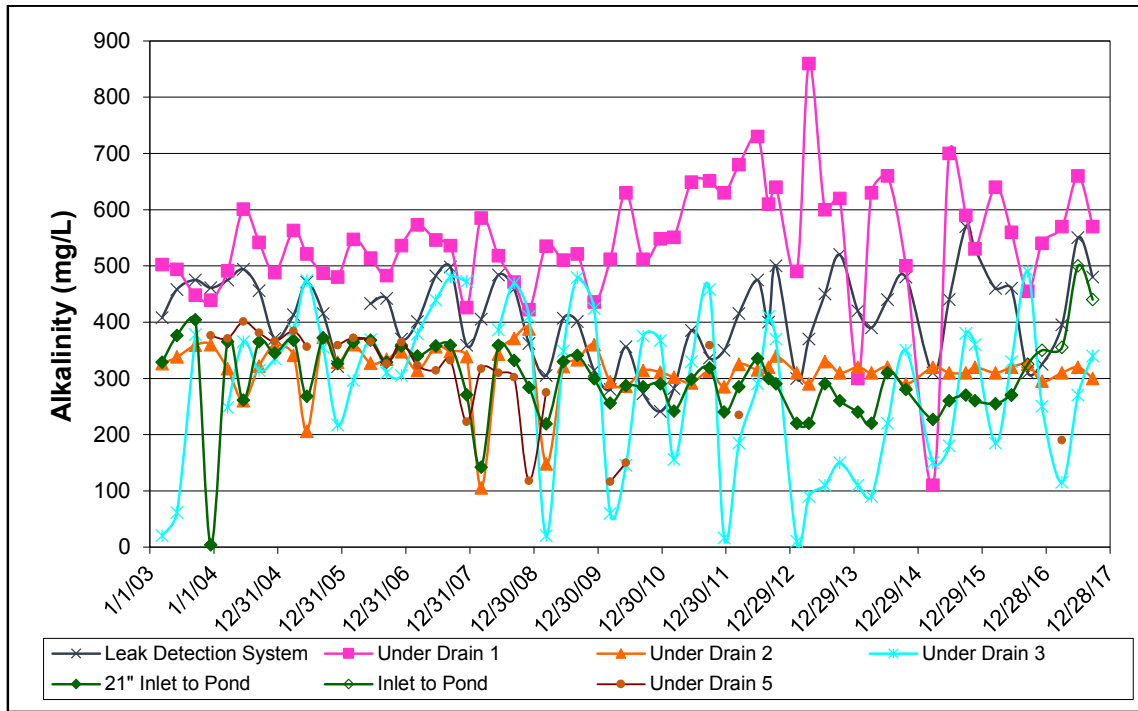
Table of Contents:

Leachate Time-Series Plots (alphabetical order) .....	A2-2 thru A2-13
Monitoring Well Time-Series Plots (alphabetical order) .....	A2-14 thru A2-35
Static Groundwater Level Time-Series Plots.....	A2-36 thru A2-37

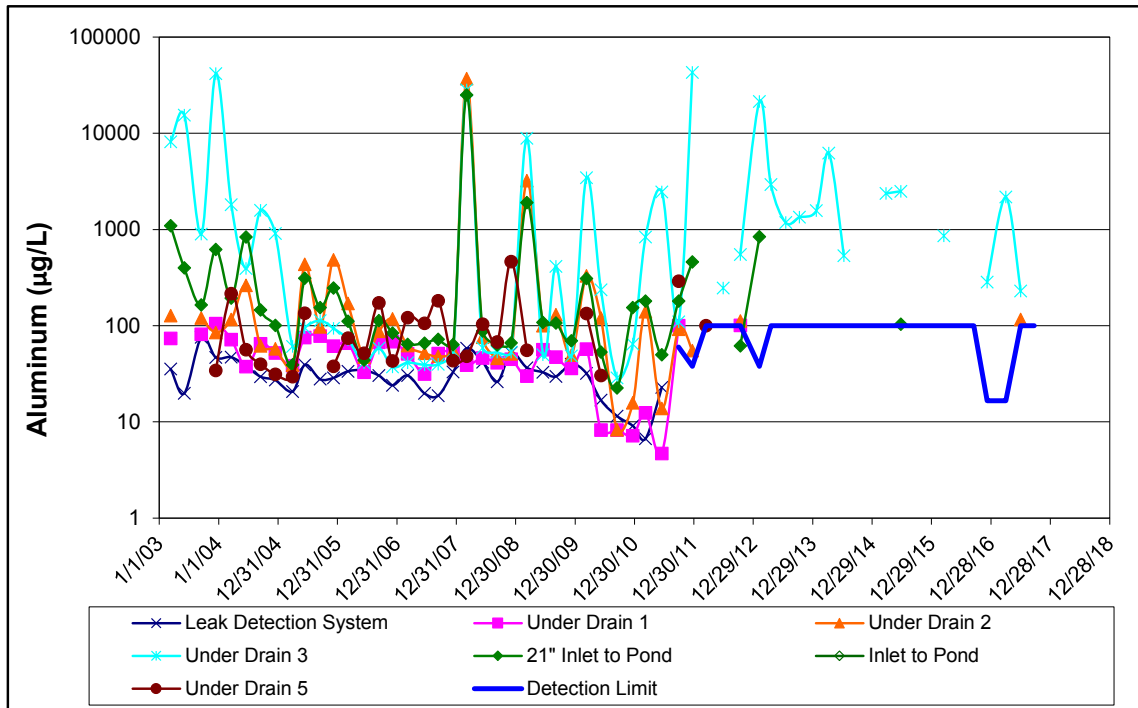


# LEACHATE TIME-SERIES PLOTS

## ALKALINITY

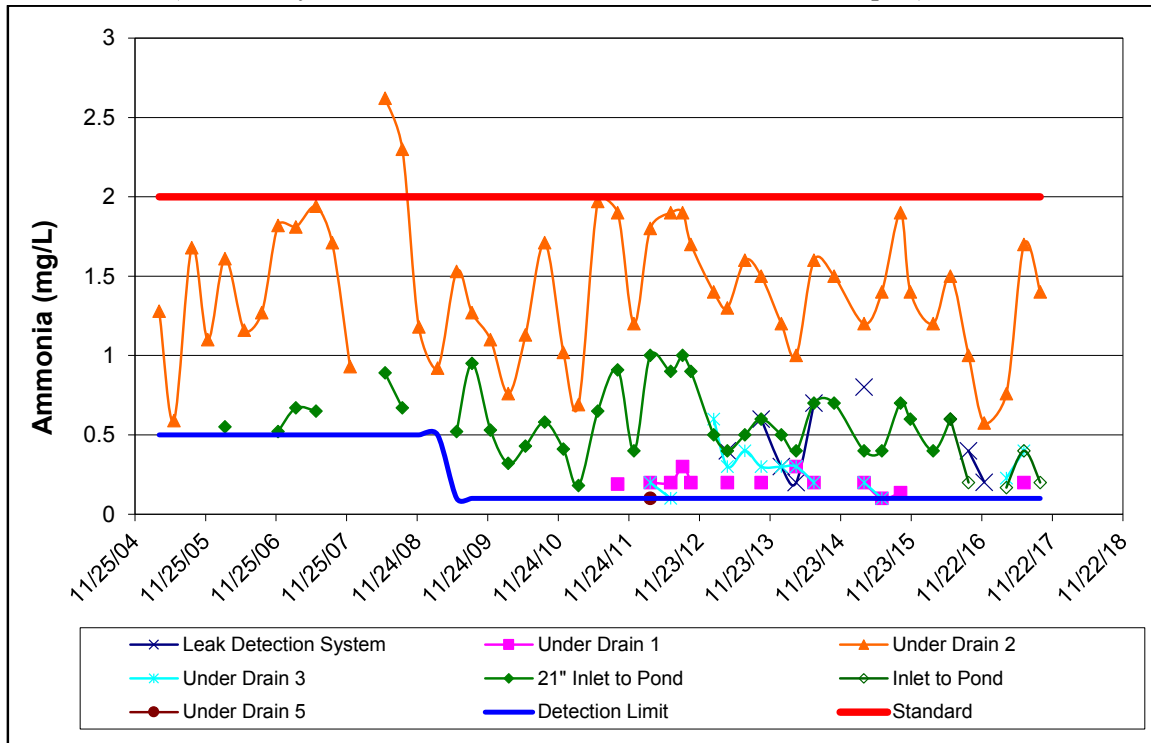


## ALUMINUM

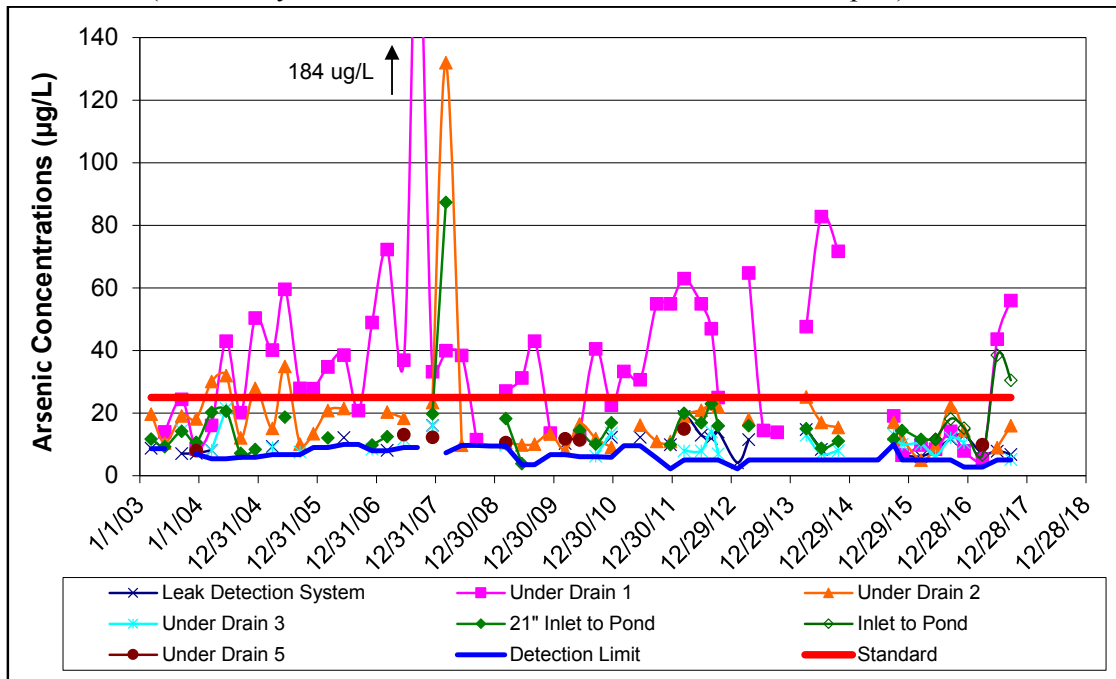


## LEACHATE TIME-SERIES PLOTS, CONT.

AMMONIA (Note: Only data above detection has been included in this plot)



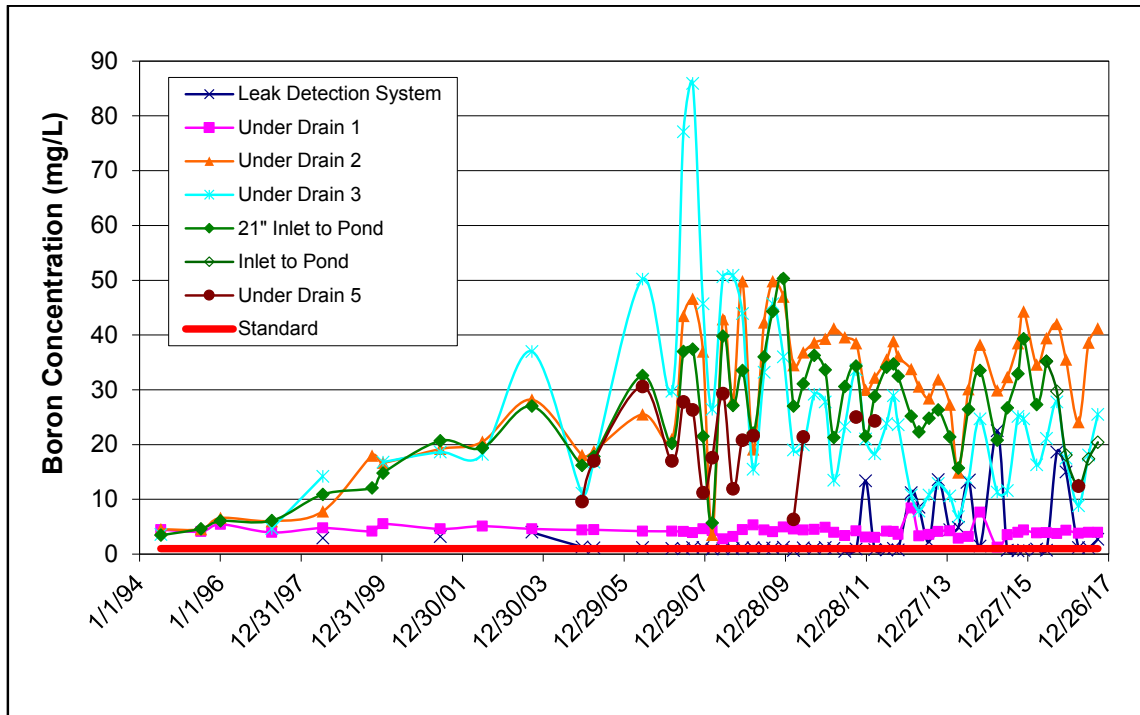
ARSENIC (Note: Only data above detection has been included in this plot)



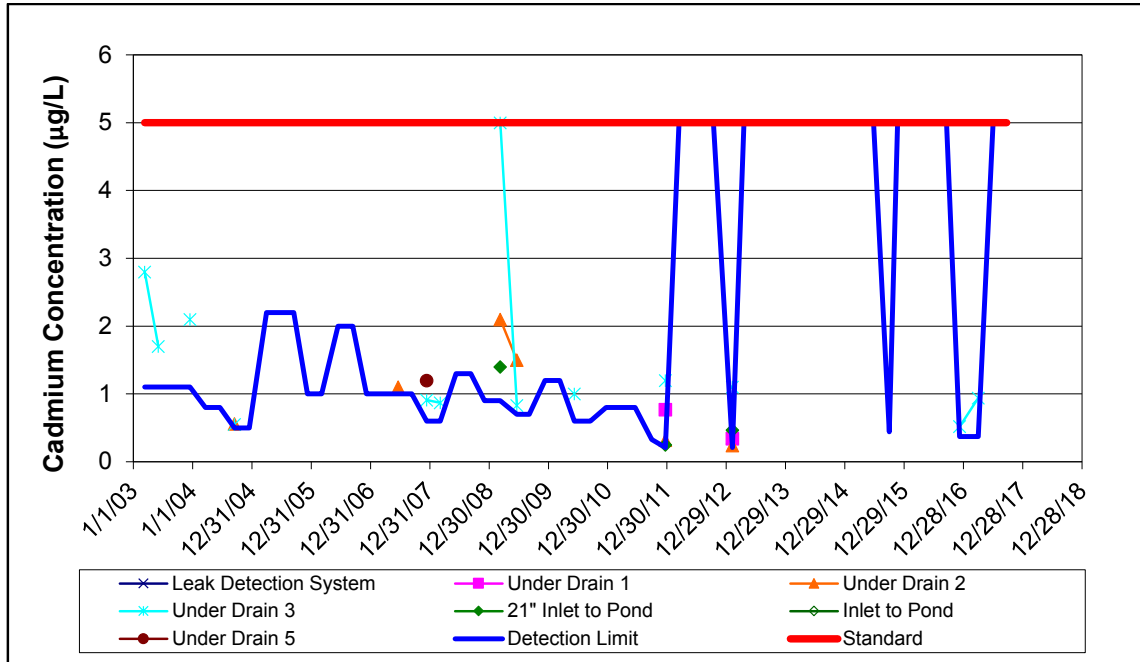


**LEACHATE TIME-SERIES PLOTS, CONT.**

**BORON**

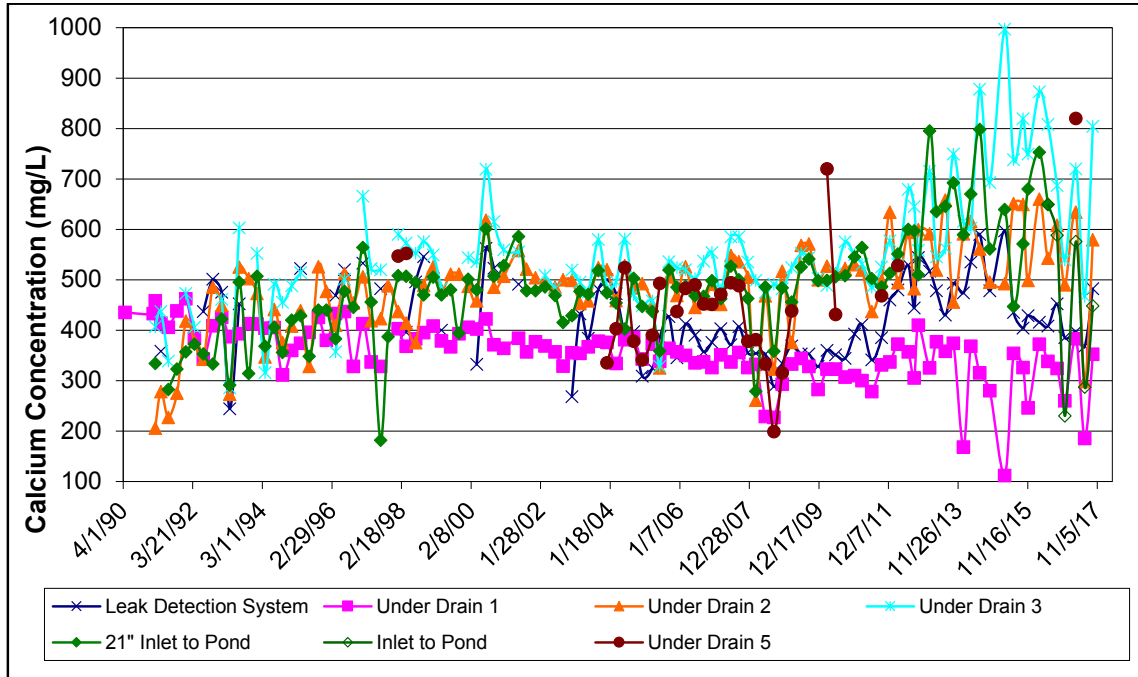


**CADMIUM** (Note: Only data above detection has been included in this plot)

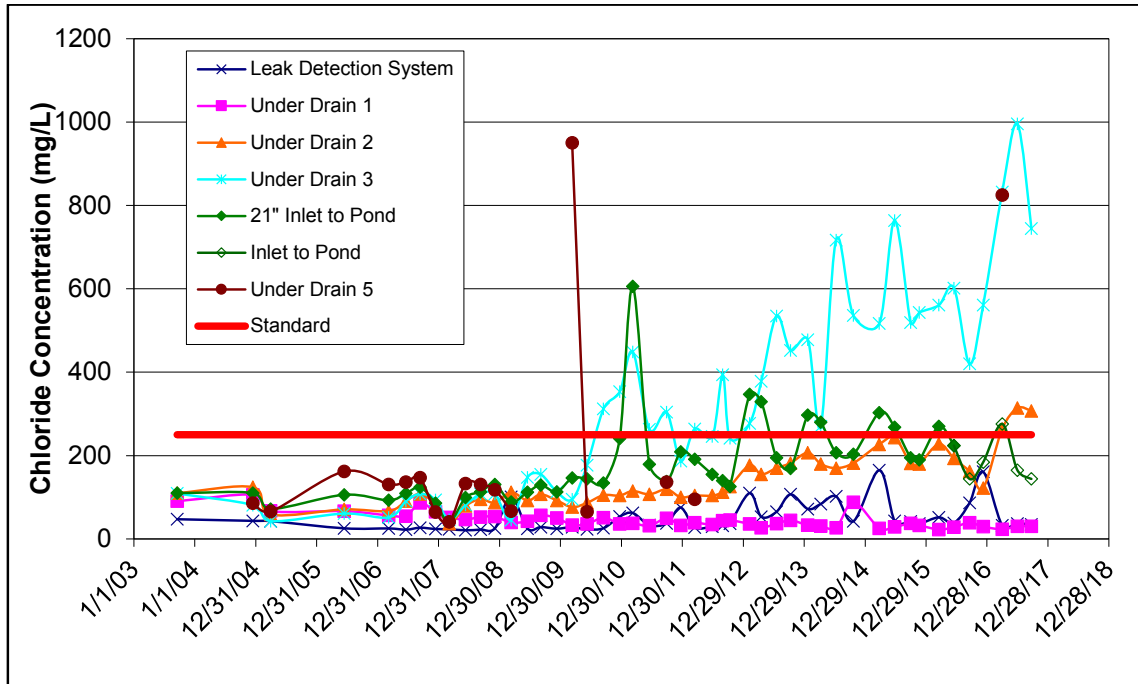


# LEACHATE TIME-SERIES PLOTS, CONT.

## CALCIUM

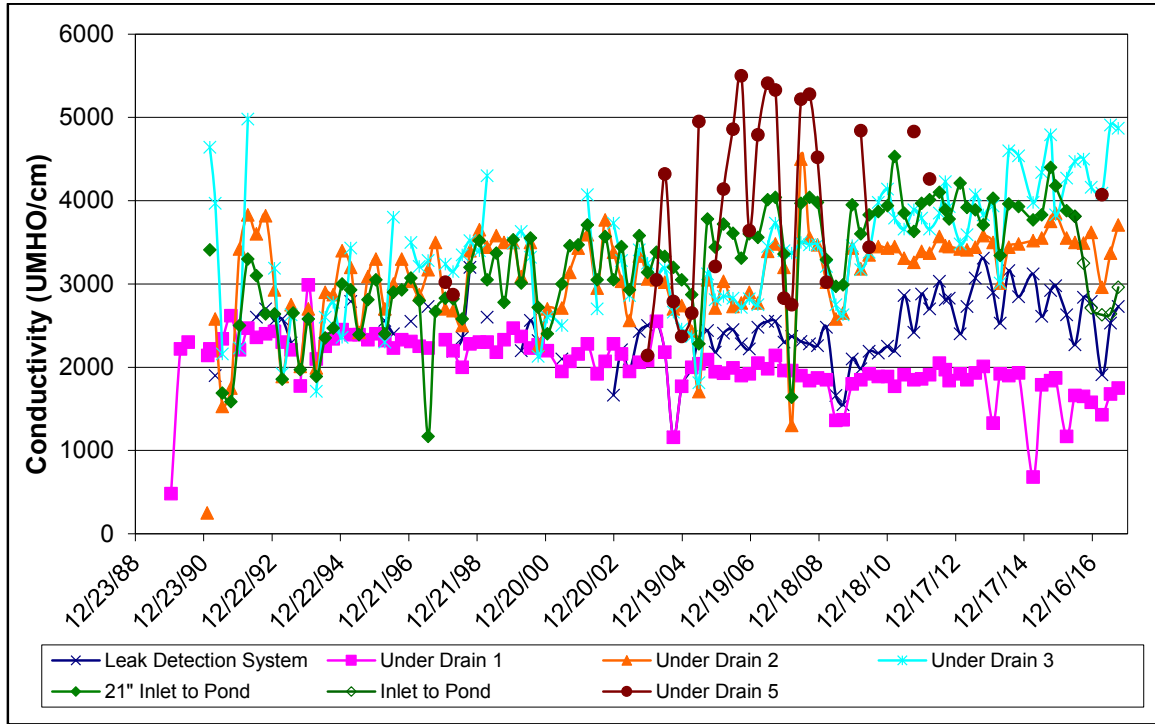


## CHLORIDE

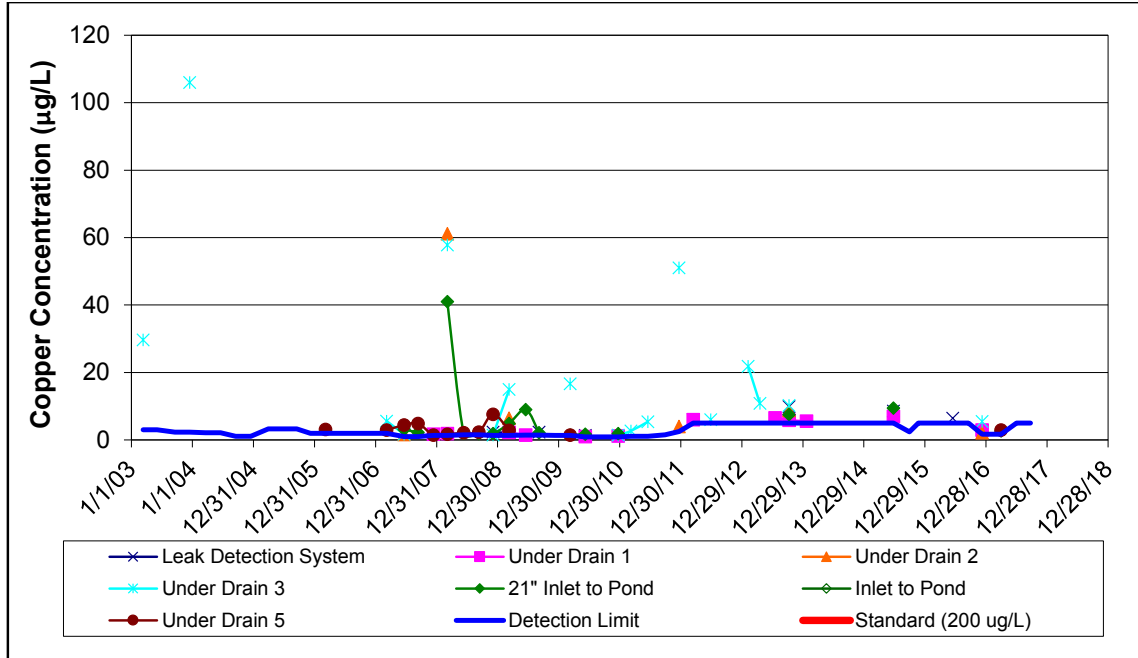


# LEACHATE TIME-SERIES PLOTS, CONT.

## CONDUCTIVITY

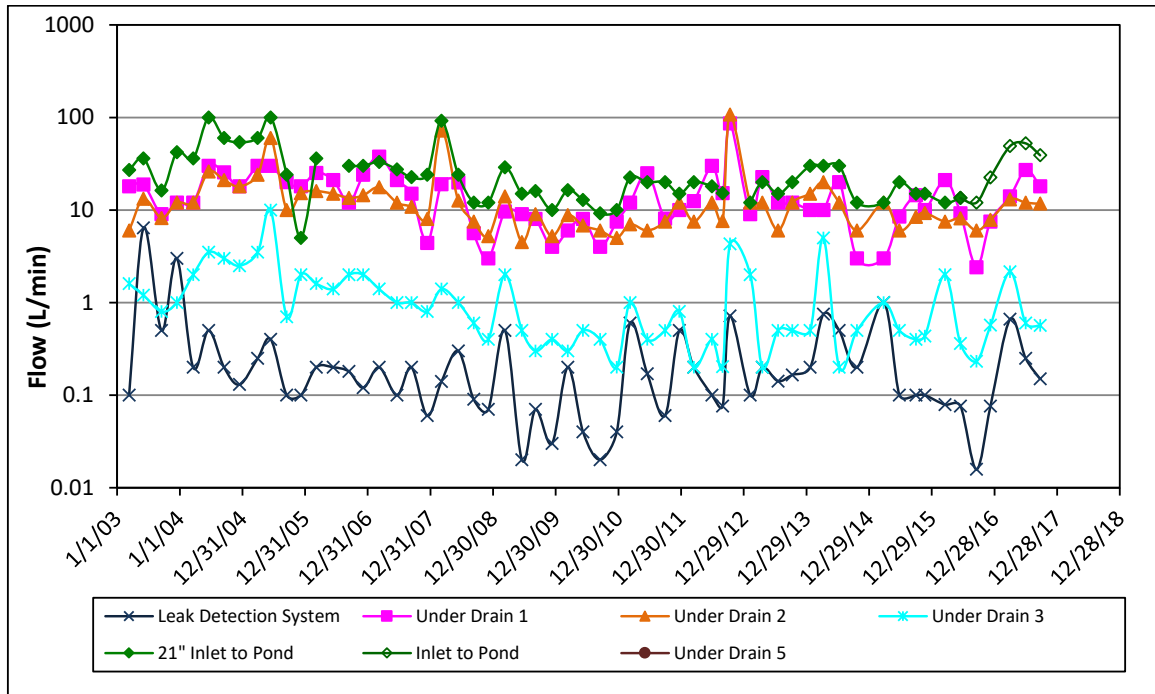


## COPPER (Note: Only data above detection has been included in this plot)

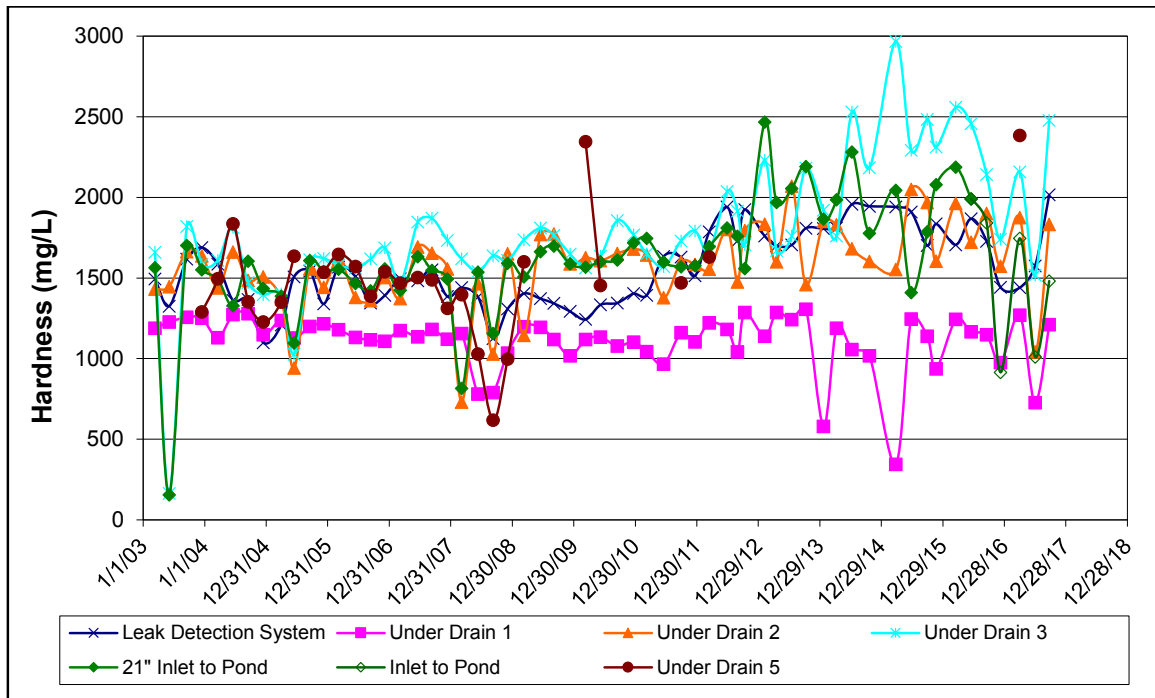


# LEACHATE TIME-SERIES PLOTS, CONT.

## FLOW

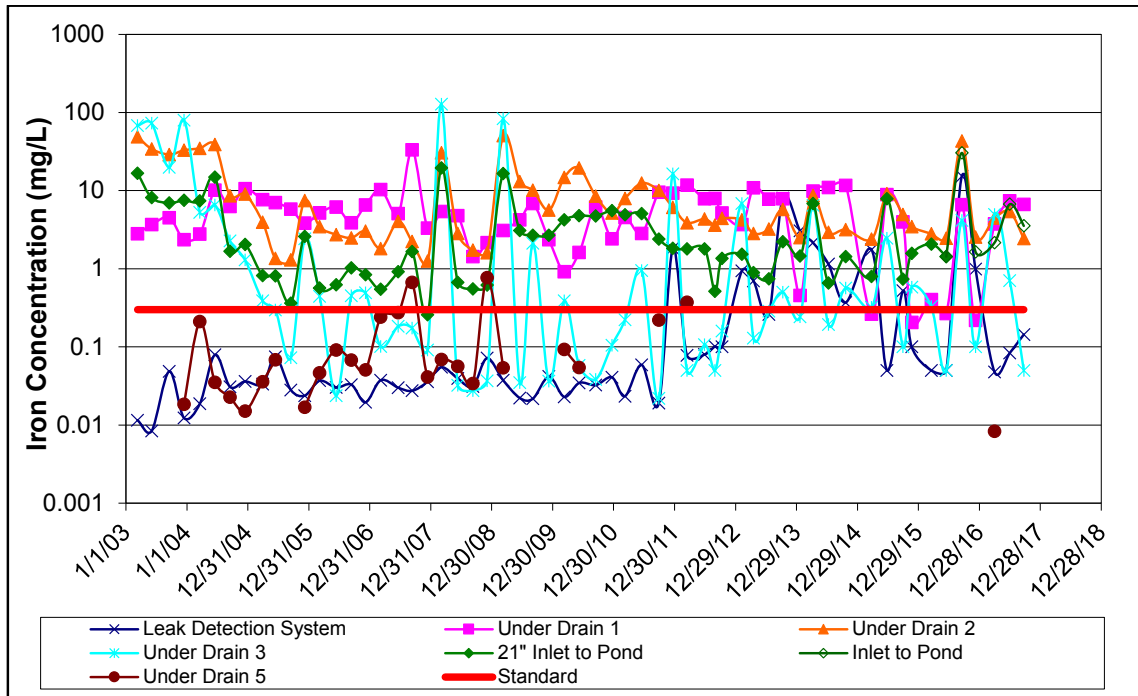


## HARDNESS

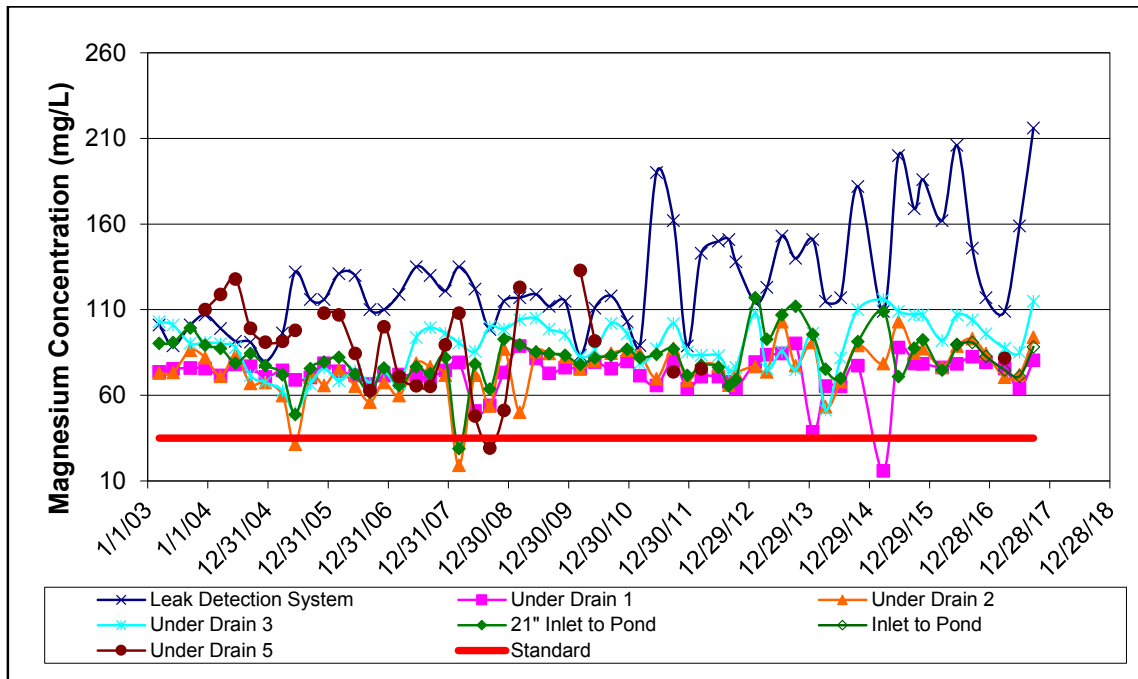


## LEACHATE TIME-SERIES PLOTS, CONT.

### IRON

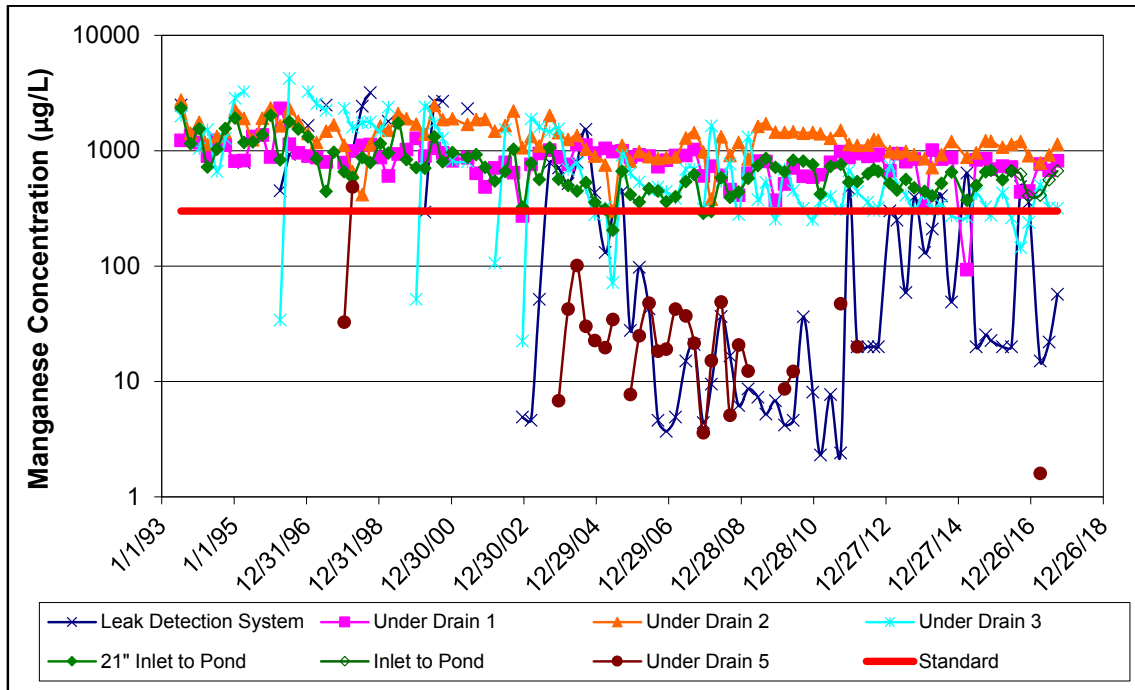


### MAGNESIUM

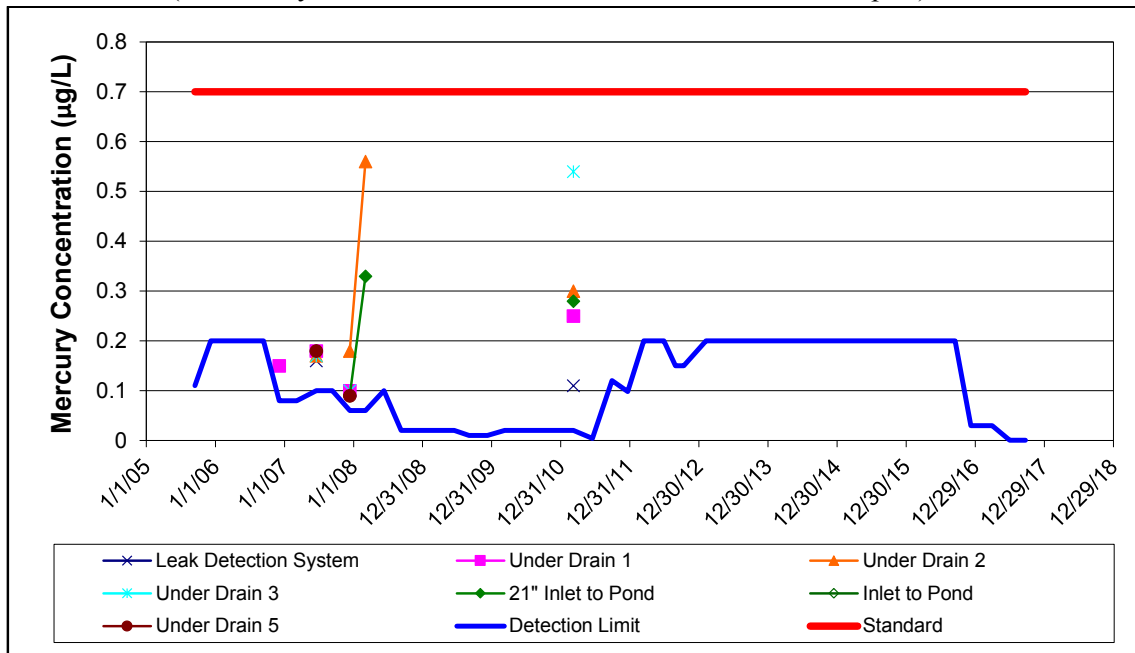


# LEACHATE TIME-SERIES PLOTS, CONT.

## MANGANESE

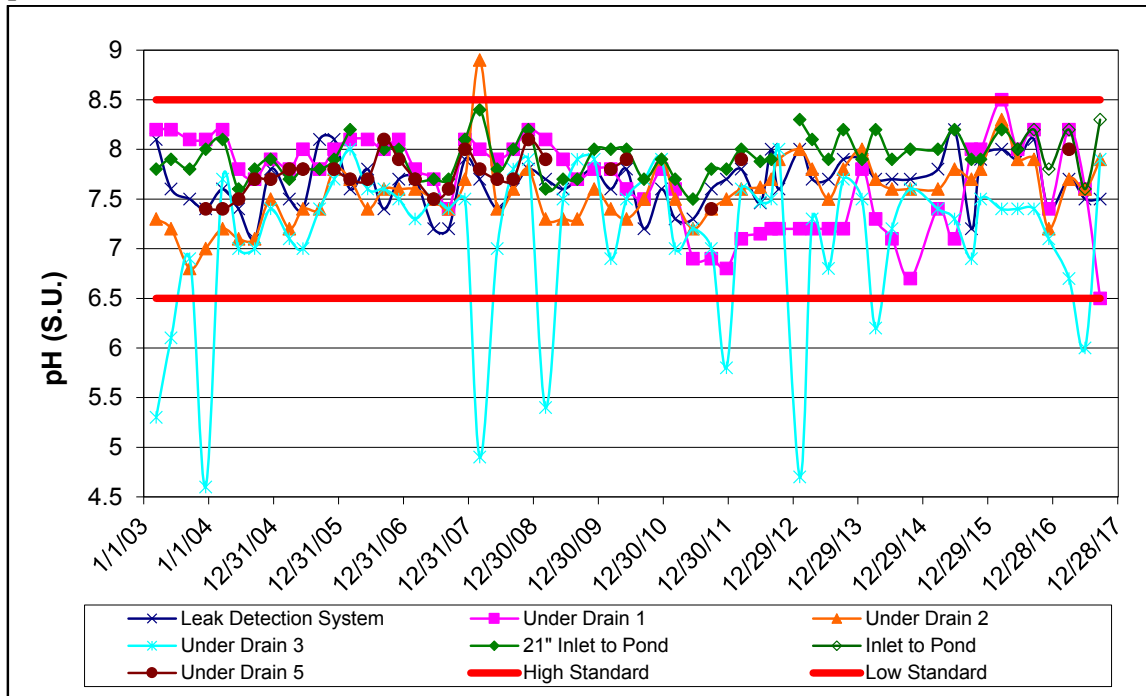


## MERCURY (Note: Only data above detection has been included in this plot)

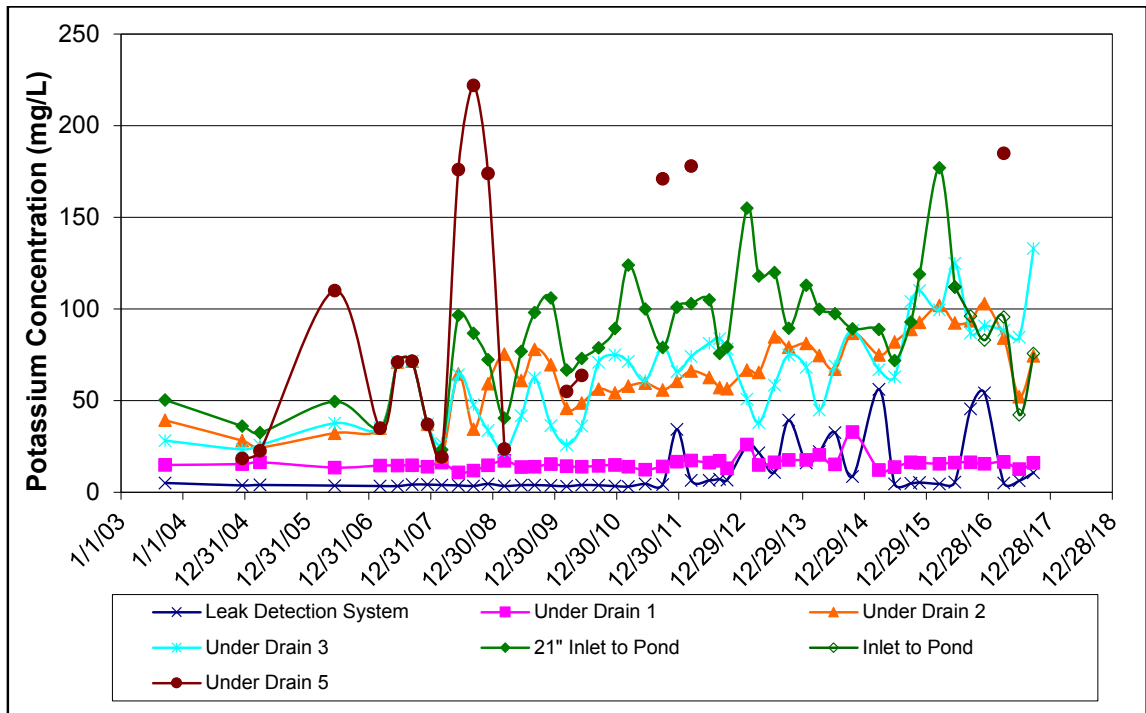


# LEACHATE TIME-SERIES PLOTS, CONT.

pH

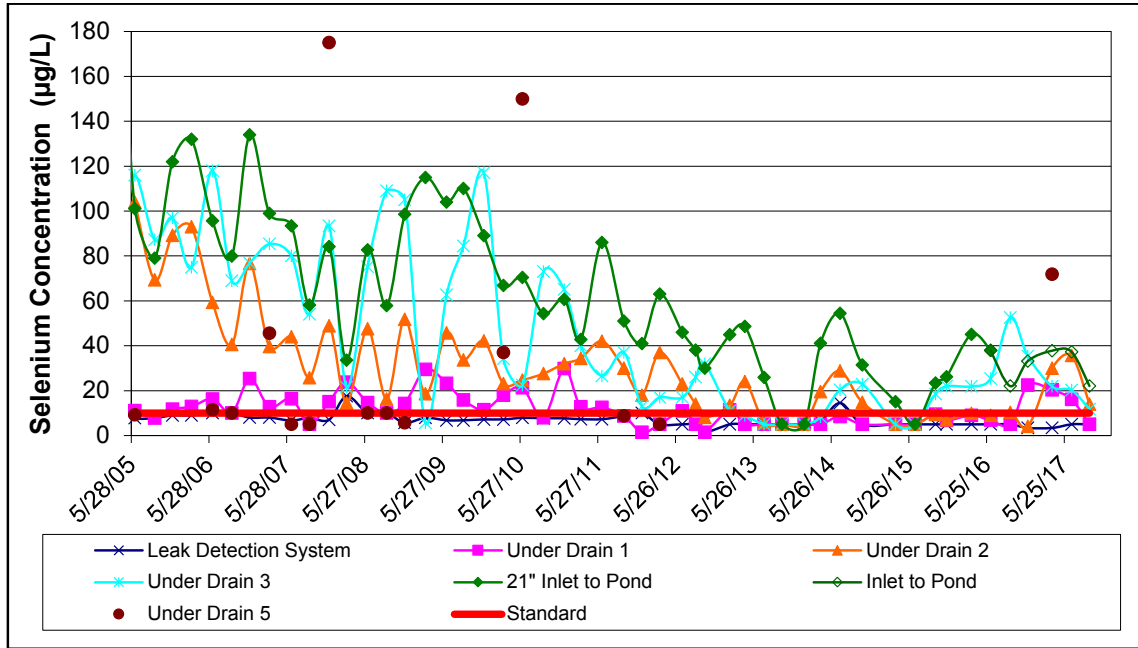


POTASSIUM

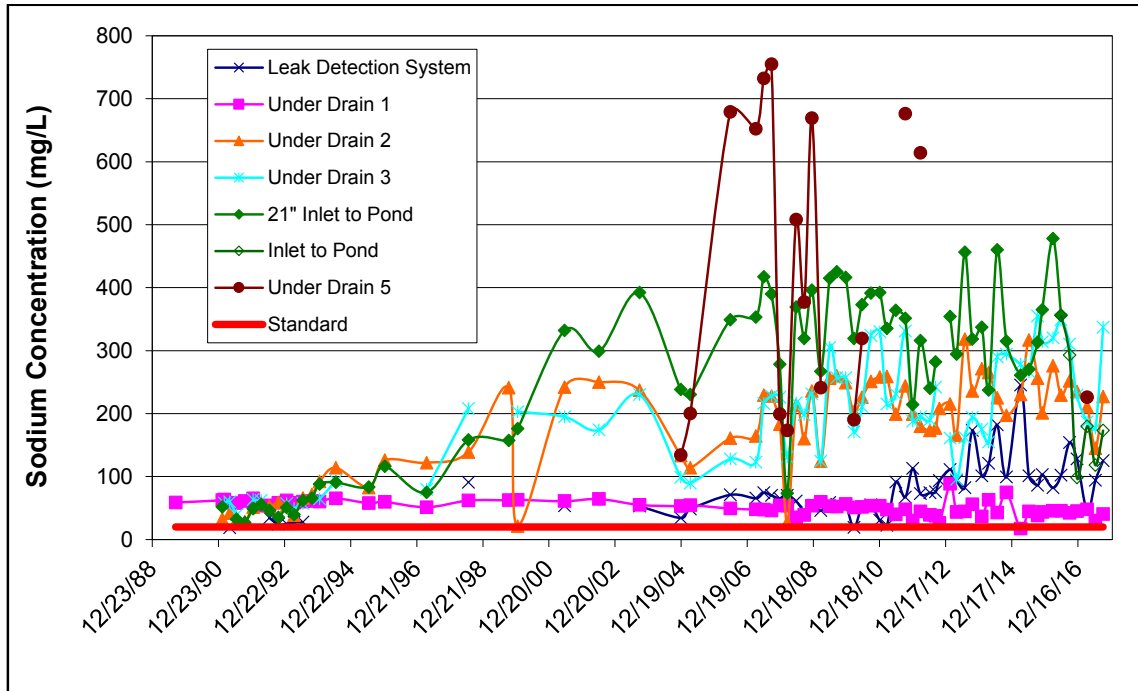


# LEACHATE TIME-SERIES PLOTS, CONT.

## SELENIUM



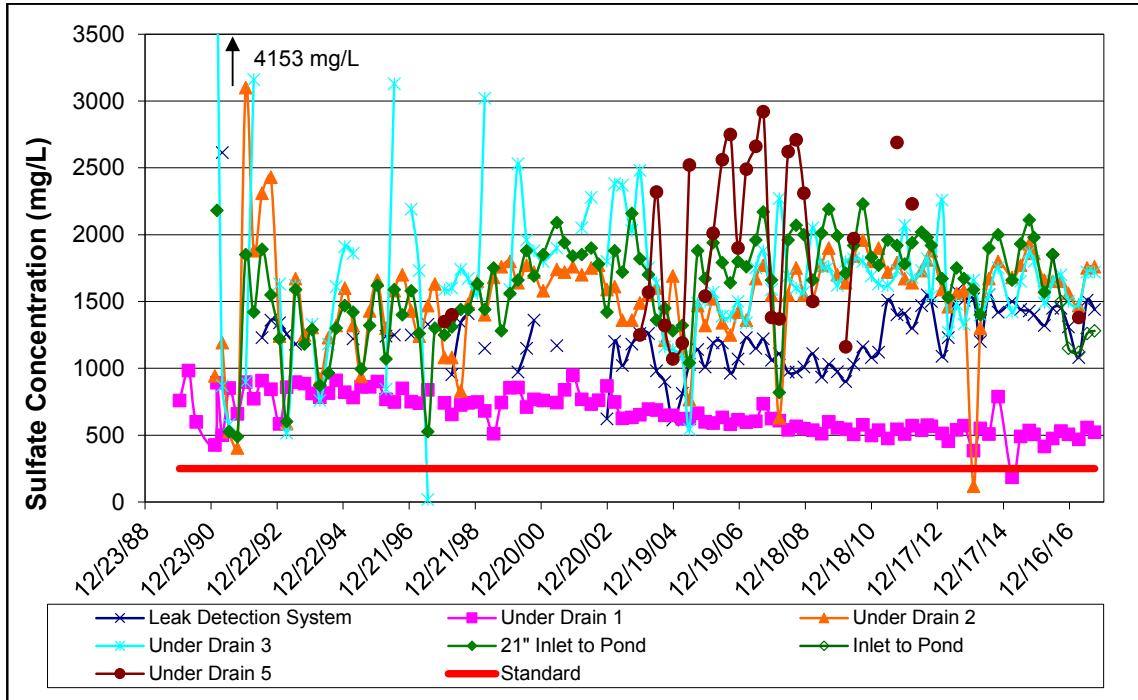
## SODIUM



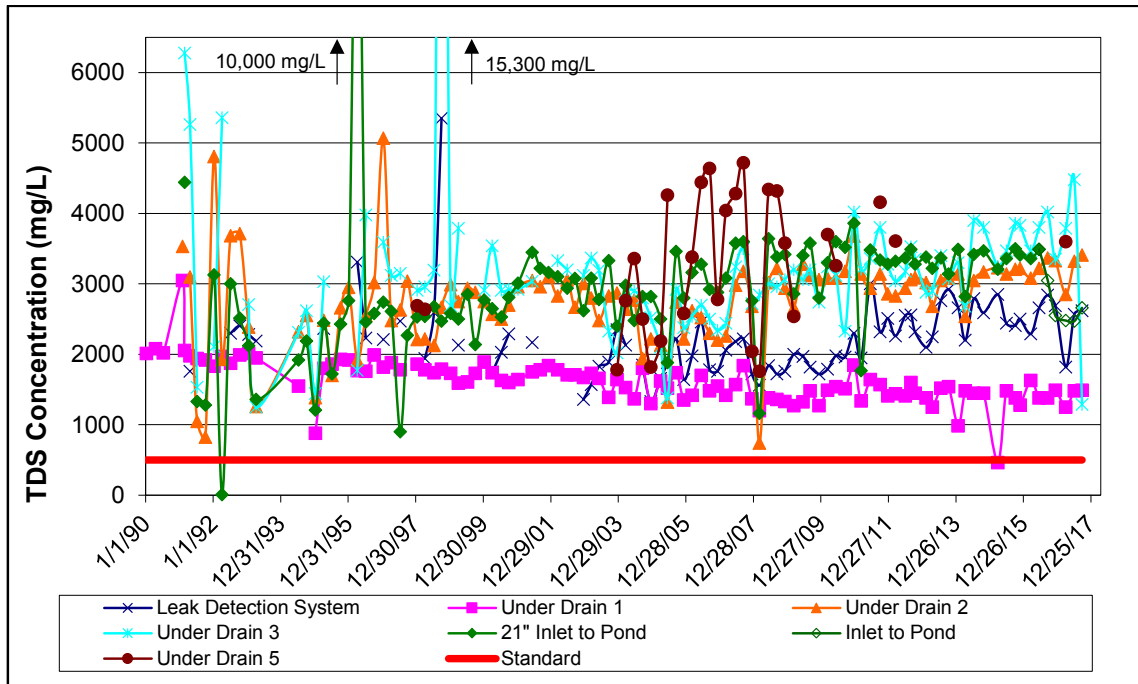


# LEACHATE TIME-SERIES PLOTS, CONT.

## SULFATE

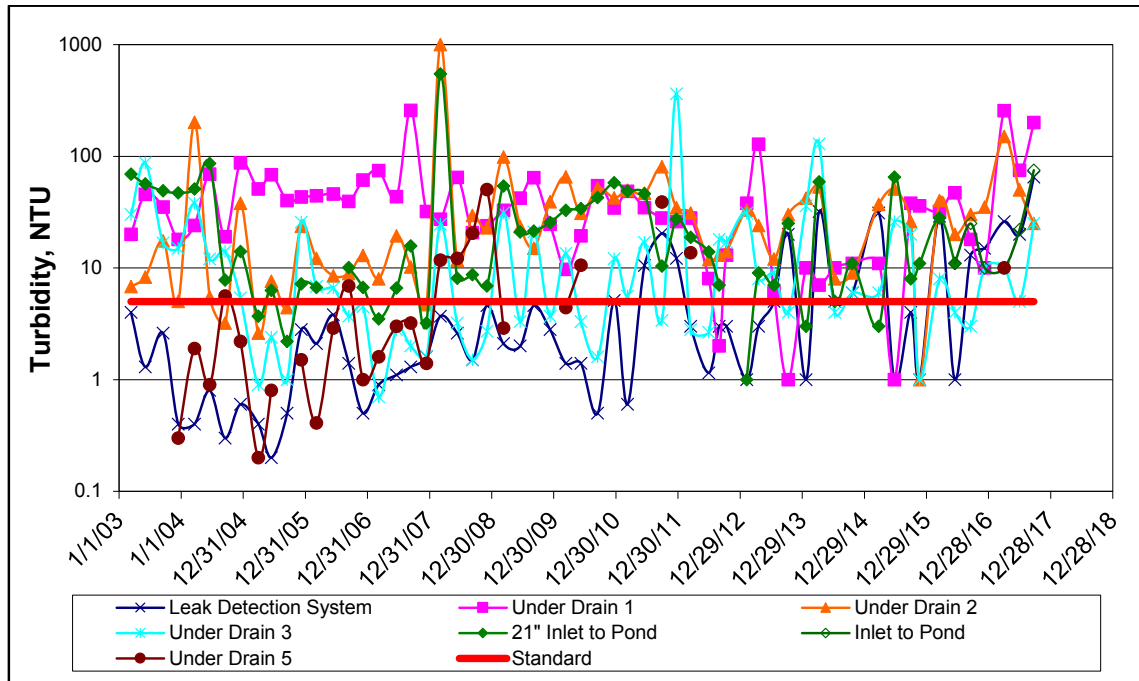


## TOTAL DISSOLVED SOLIDS



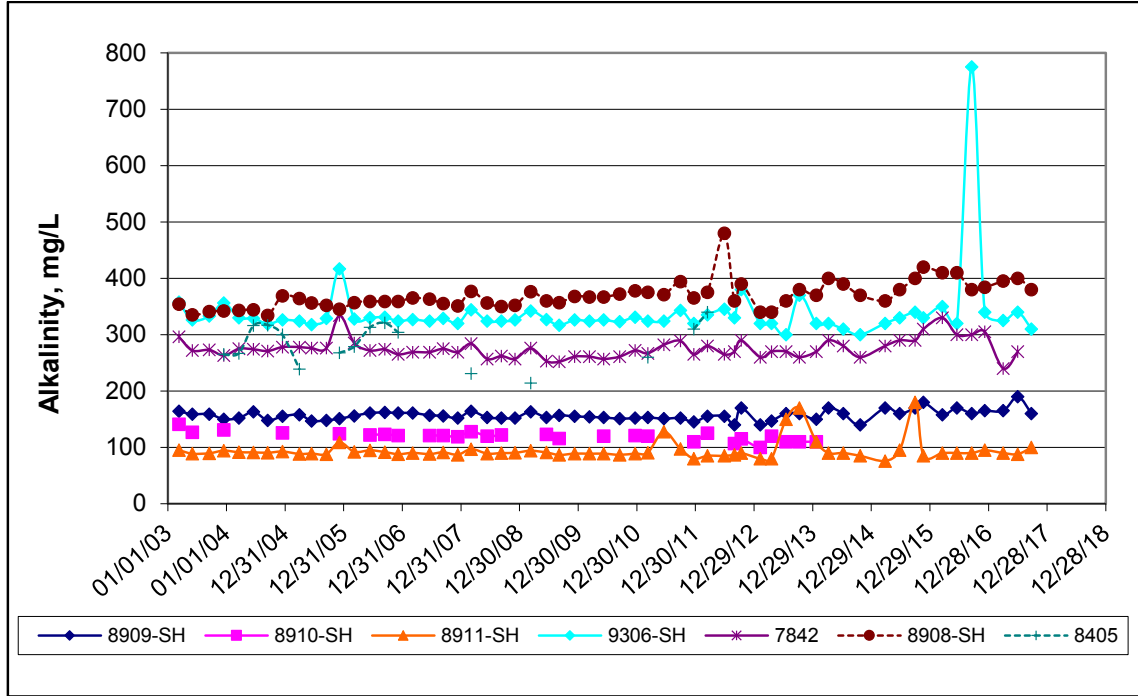
# LEACHATE TIME-SERIES PLOTS, CONT.

## TURBIDITY

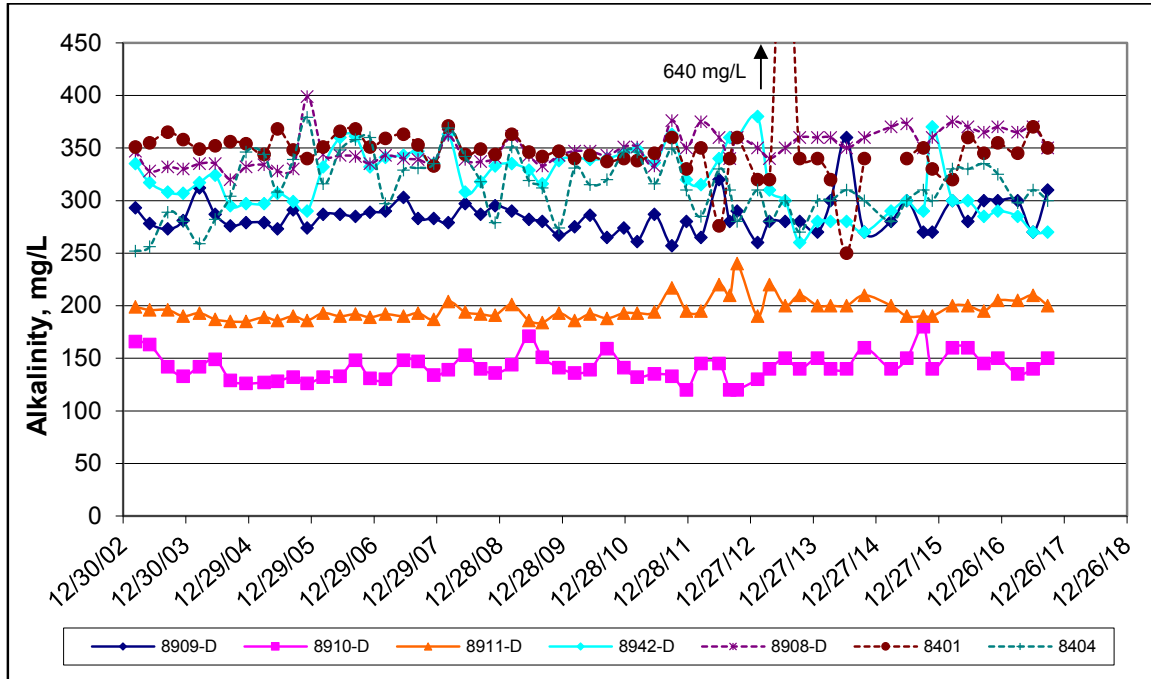


**MONITORING WELL TIME-SERIES PLOTS**  
**ALKALINITY**

**GLACIAL TILL**

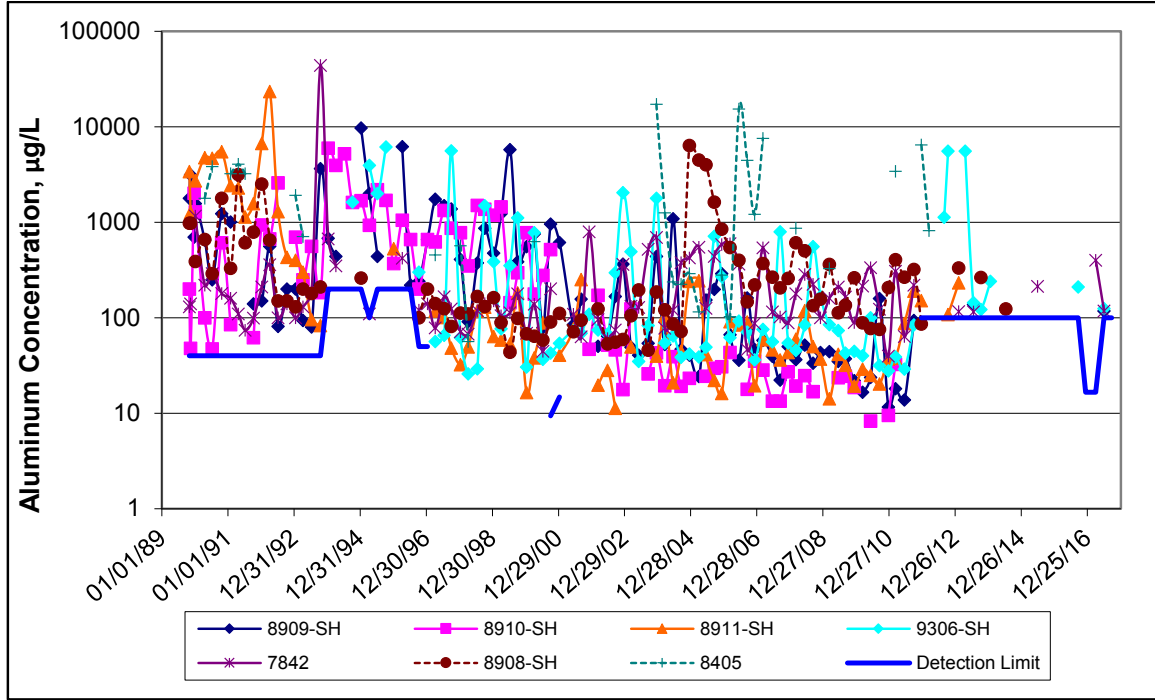


**BEDROCK**

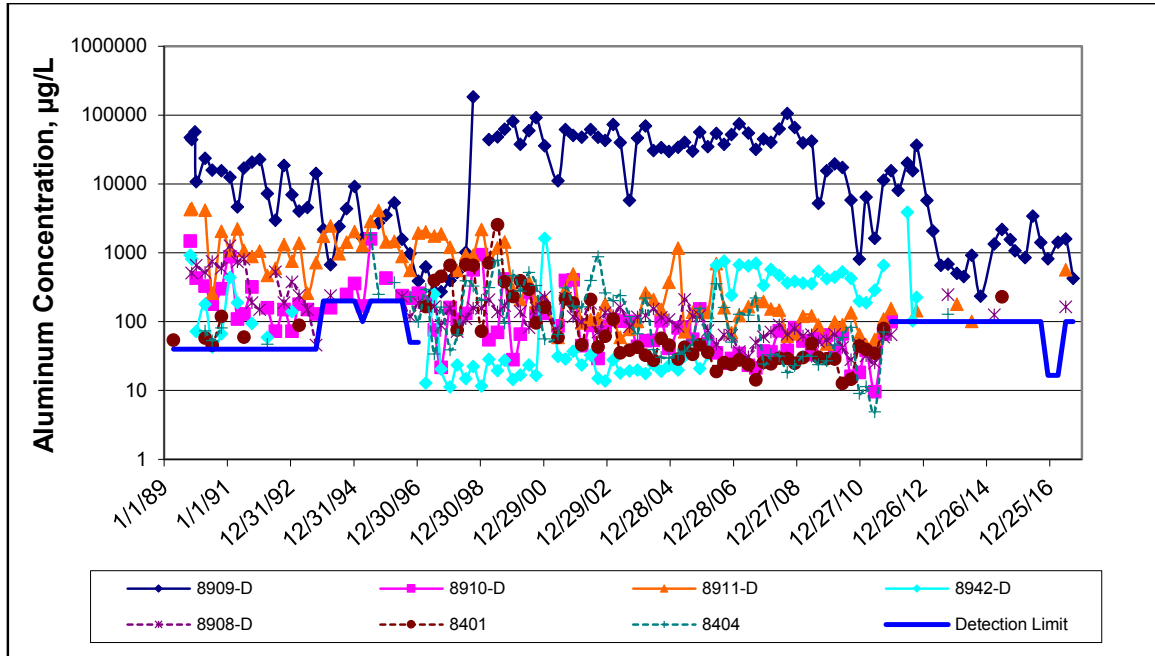


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**ALUMINUM**

**GLACIAL TILL**

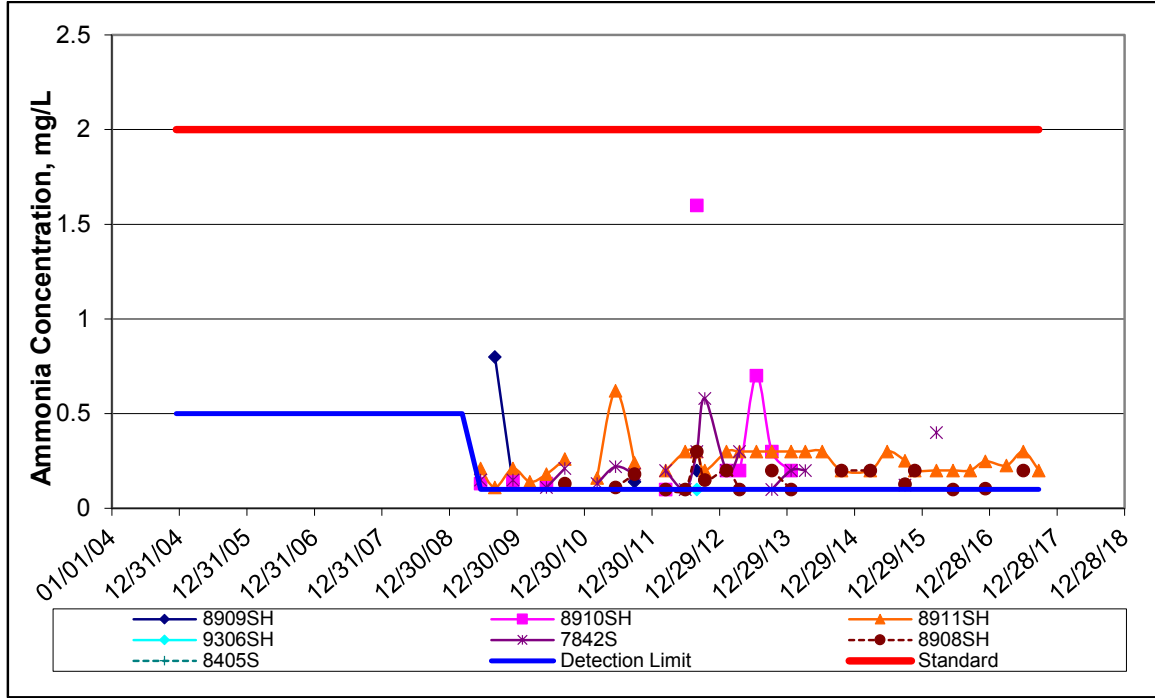


**BEDROCK**

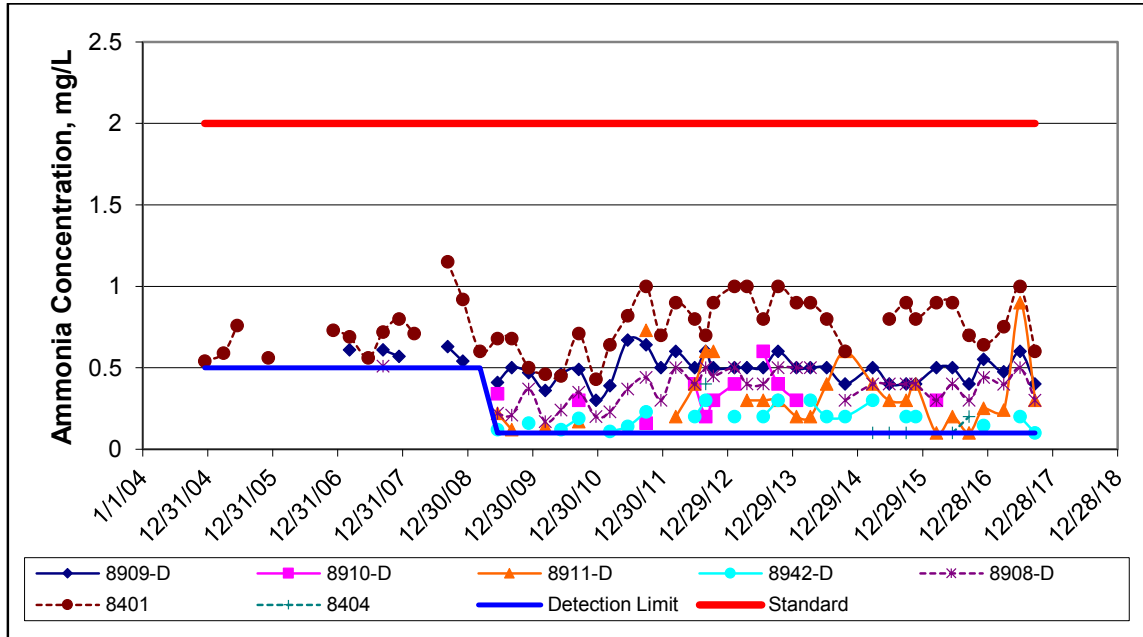


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**AMMONIA**

**GLACIAL TILL** (Note: Only data above detection has been included in this plot)

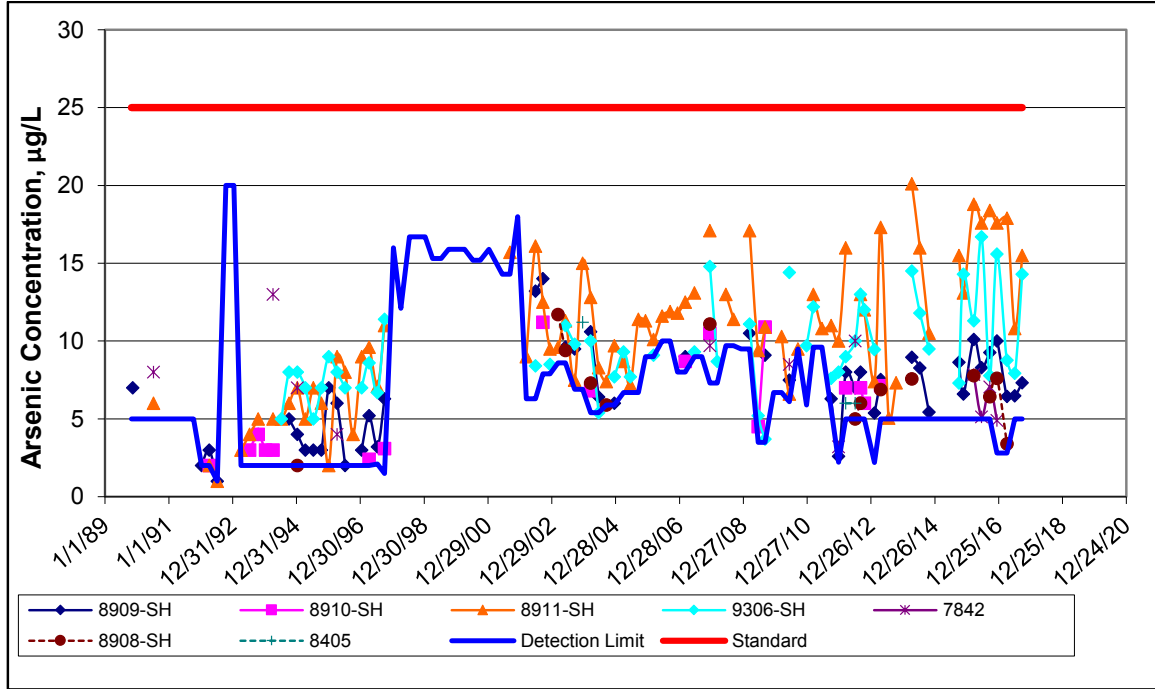


**BEDROCK** (Note: Only data above detection has been included in this plot)

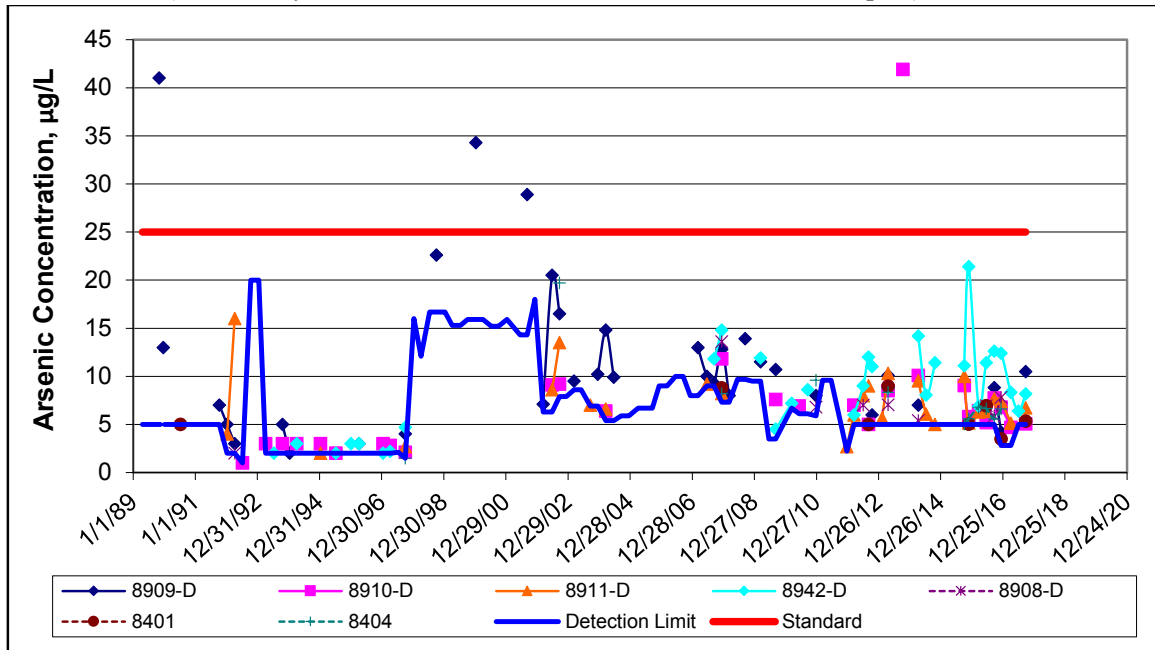


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**ARSENIC**

**GLACIAL TILL** (Note: Only data above detection has been included in this plot)

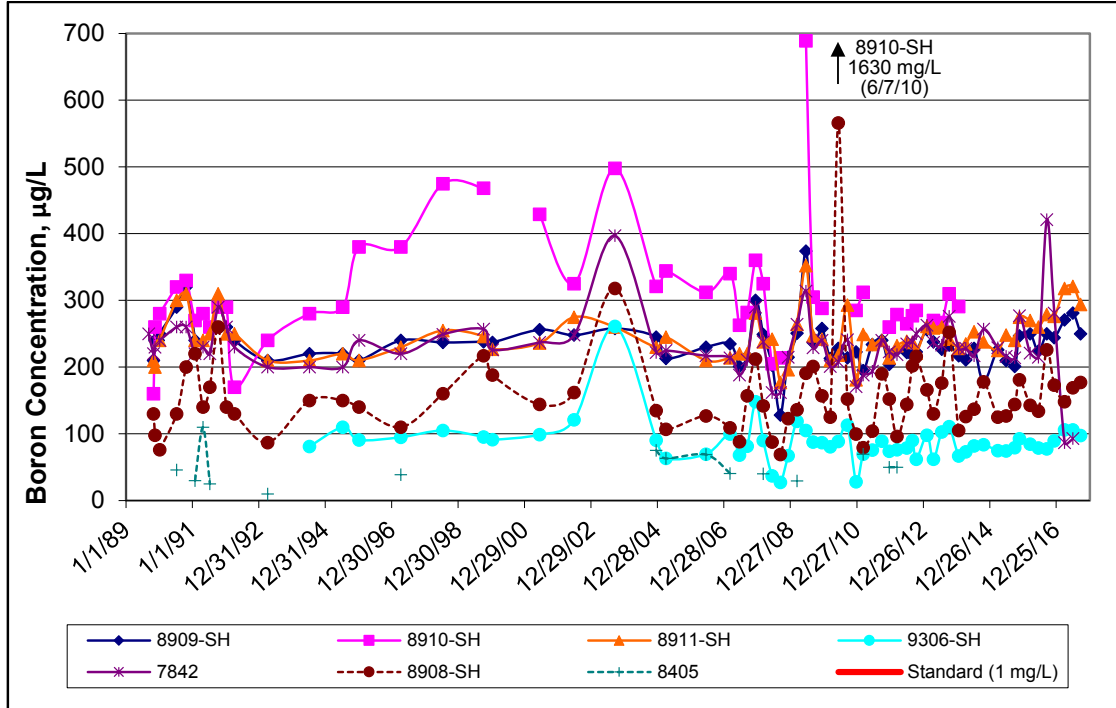


**BEDROCK** (Note: Only data above detection has been included in this plot)

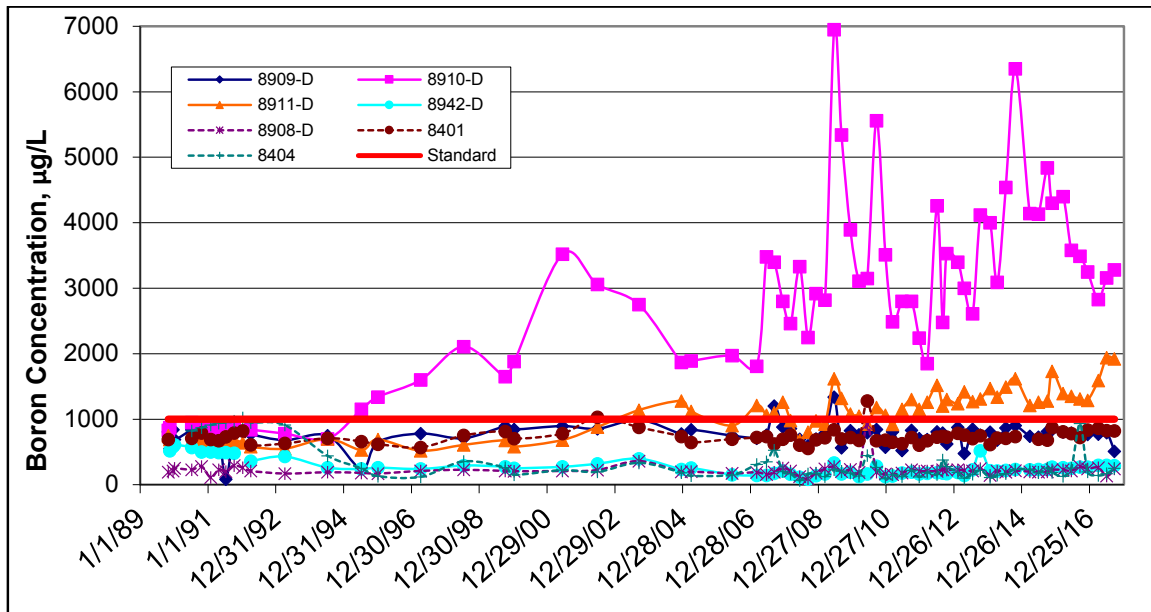


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**BORON**

**GLACIAL TILL**

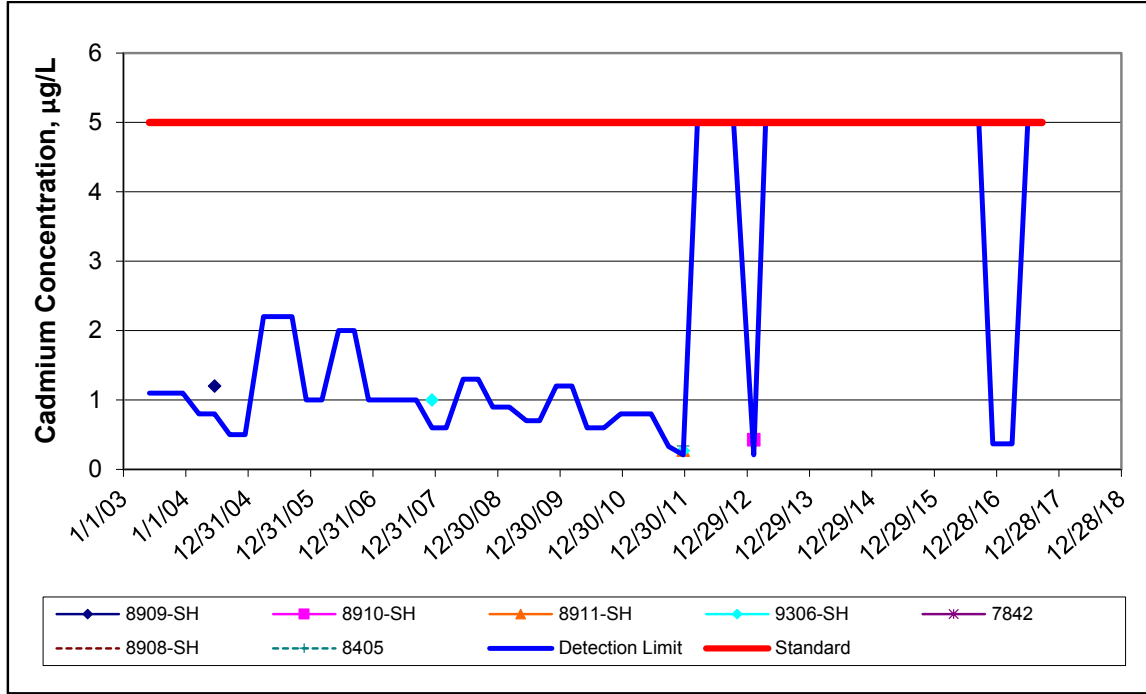


**BEDROCK**

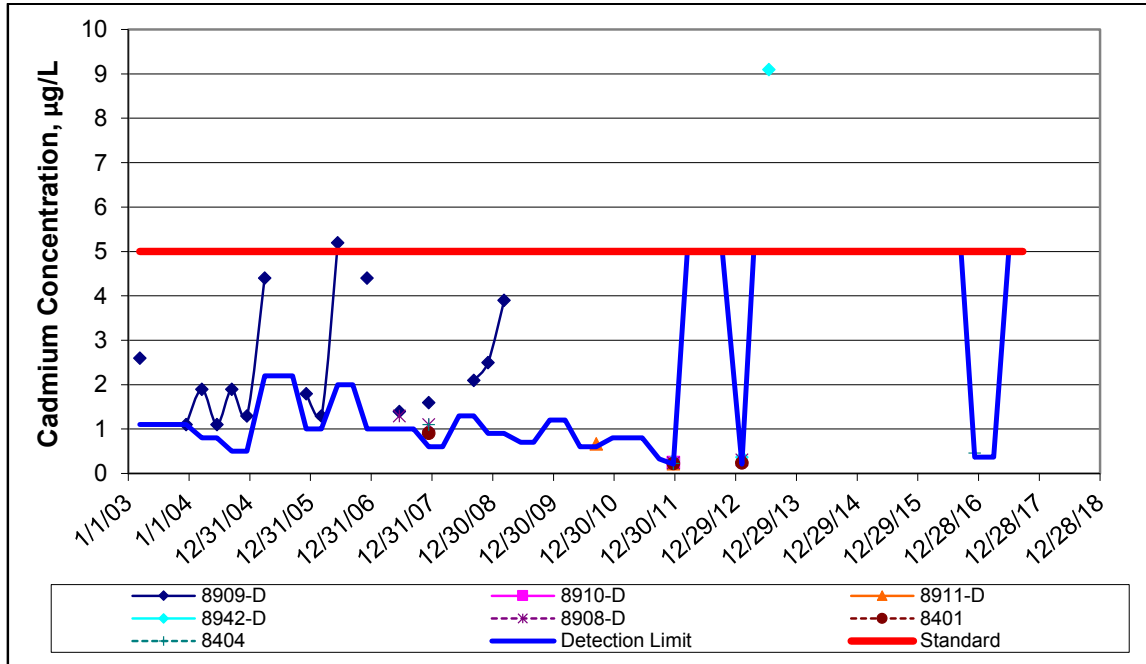


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**CADMIUM**

**GLACIAL TILL** (Note: Only data above detection has been included in this plot)



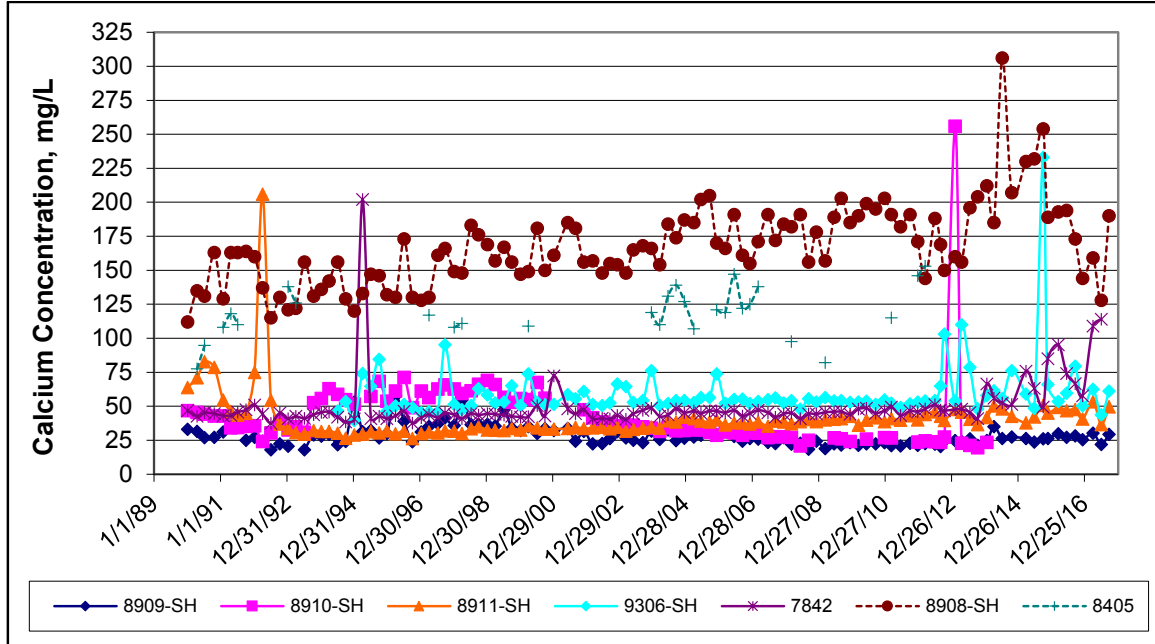
**BEDROCK** (Note: Only data above detection has been included in this plot)



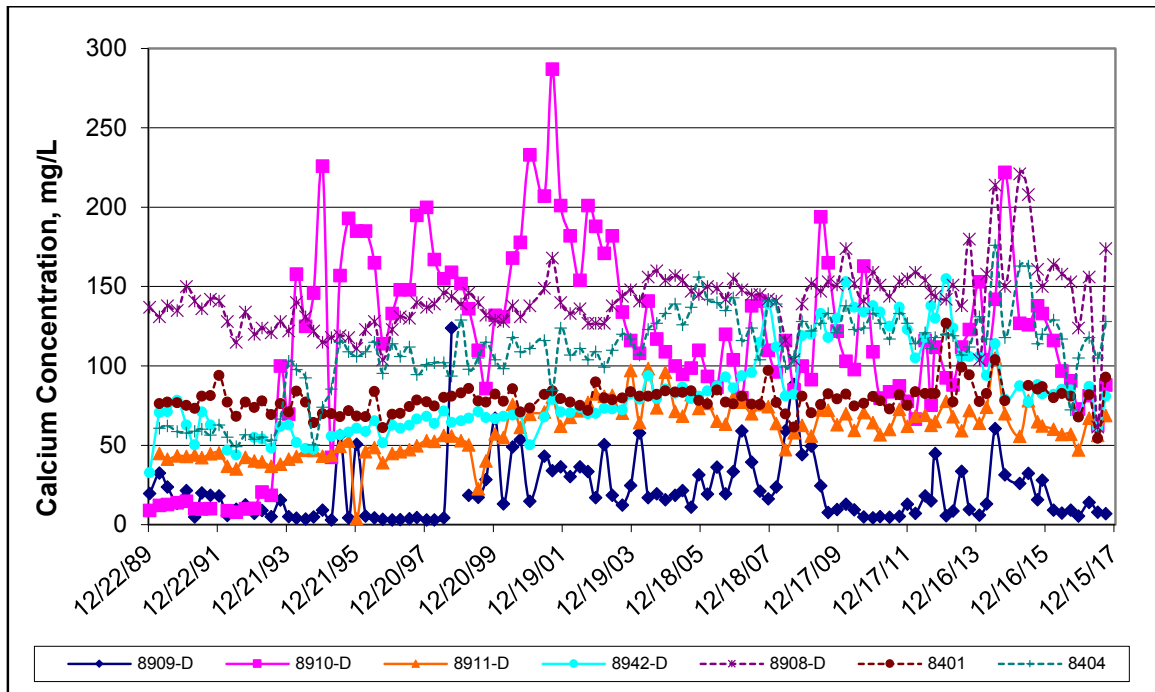


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**CALCIUM**

**GLACIAL TILL**

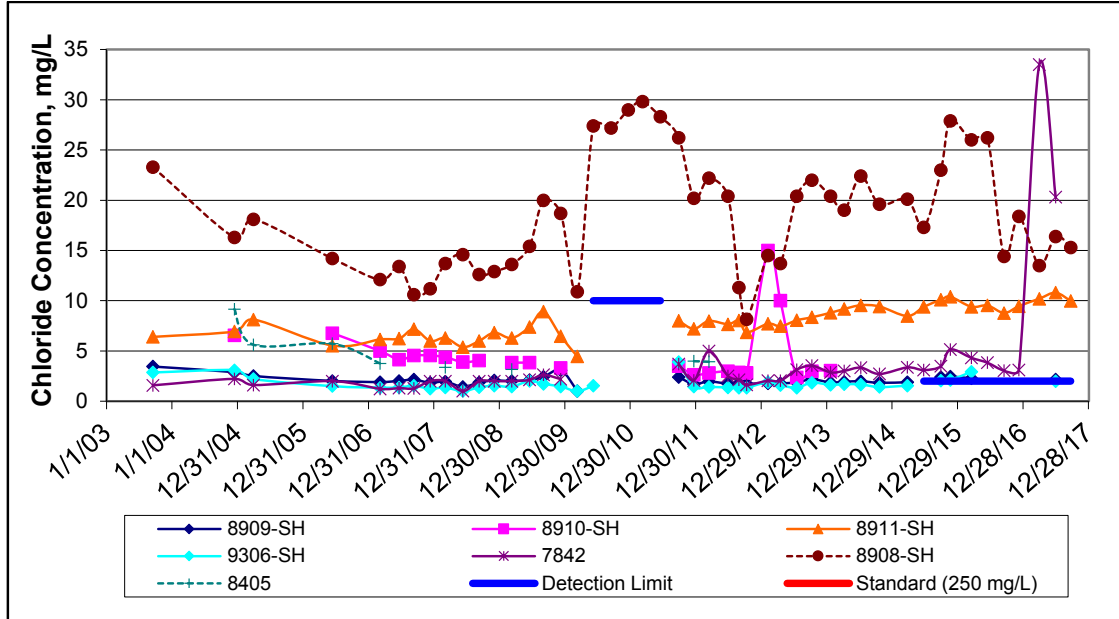


**BEDROCK**

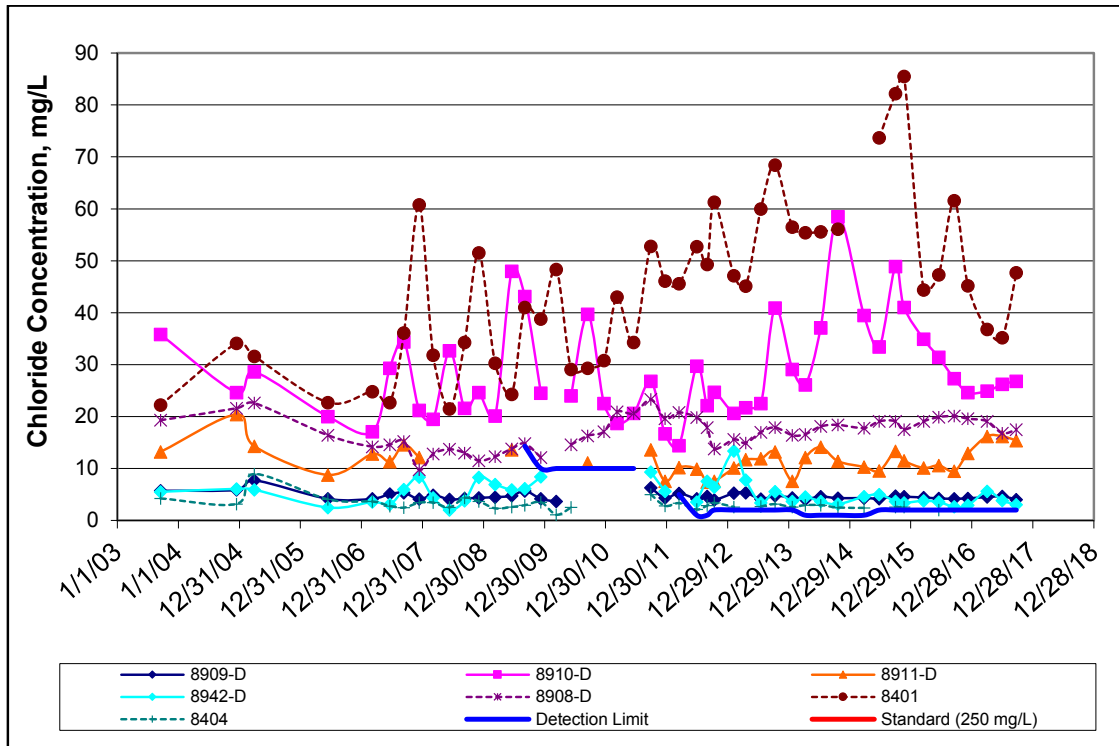


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**CHLORIDE**

**GLACIAL TILL**

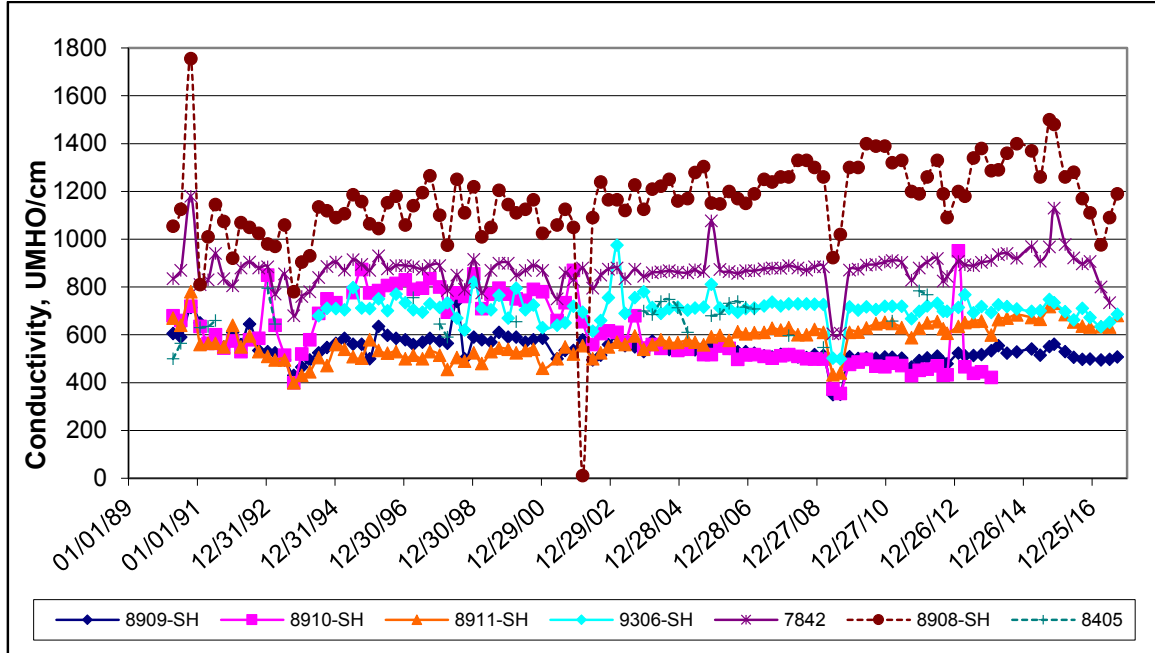


**BEDROCK**

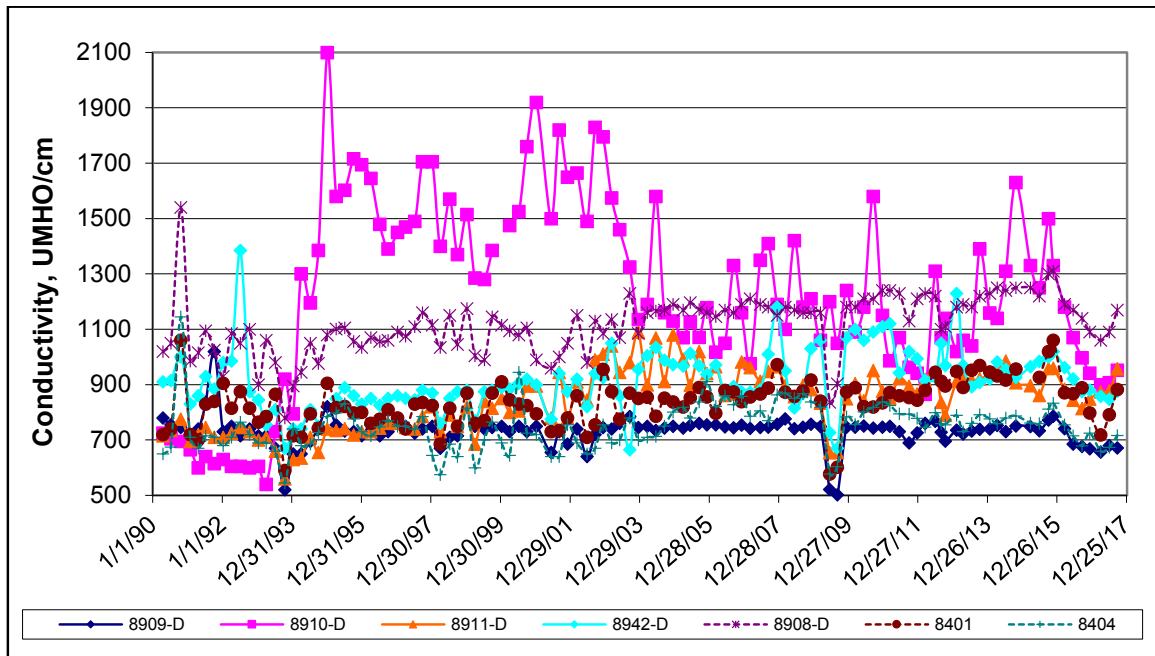


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**CONDUCTIVITY**

**GLACIAL TILL**

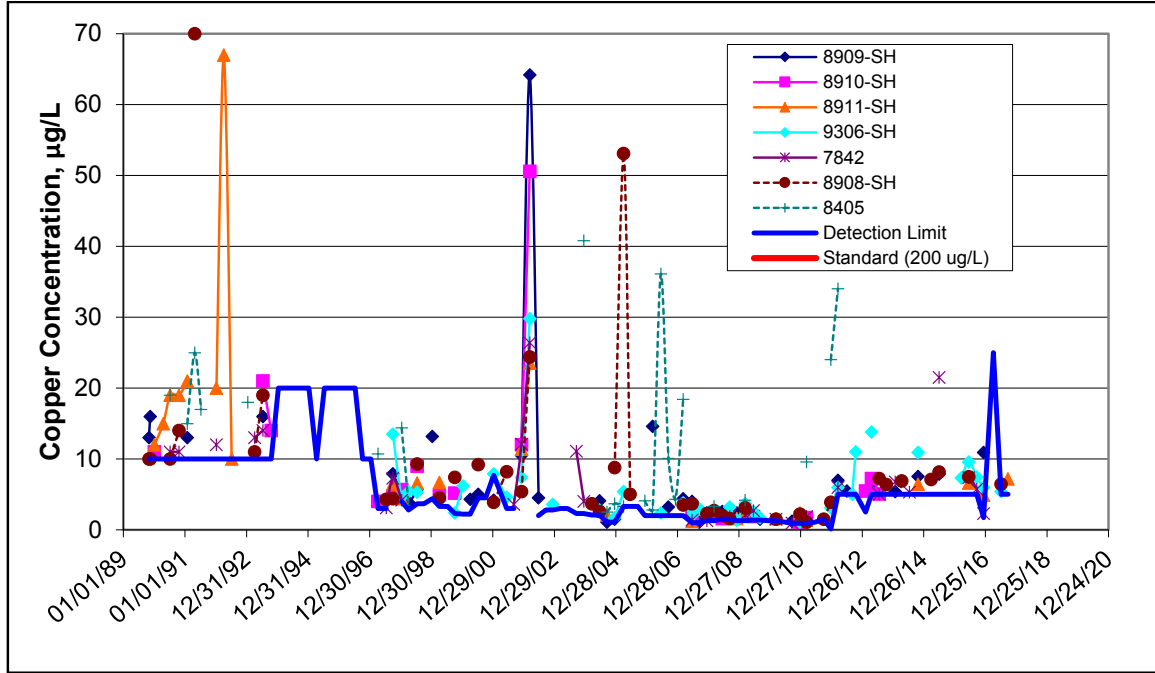


**BEDROCK**

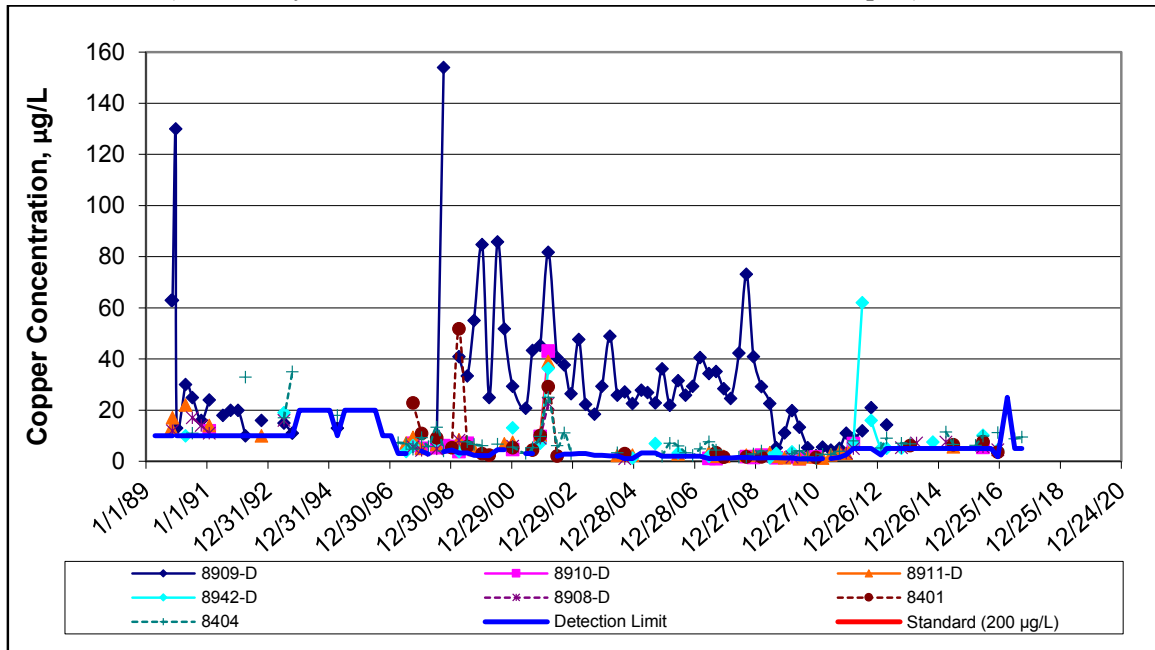


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**COPPER**

**GLACIAL TILL** (Note: Only data above detection has been included in this plot)

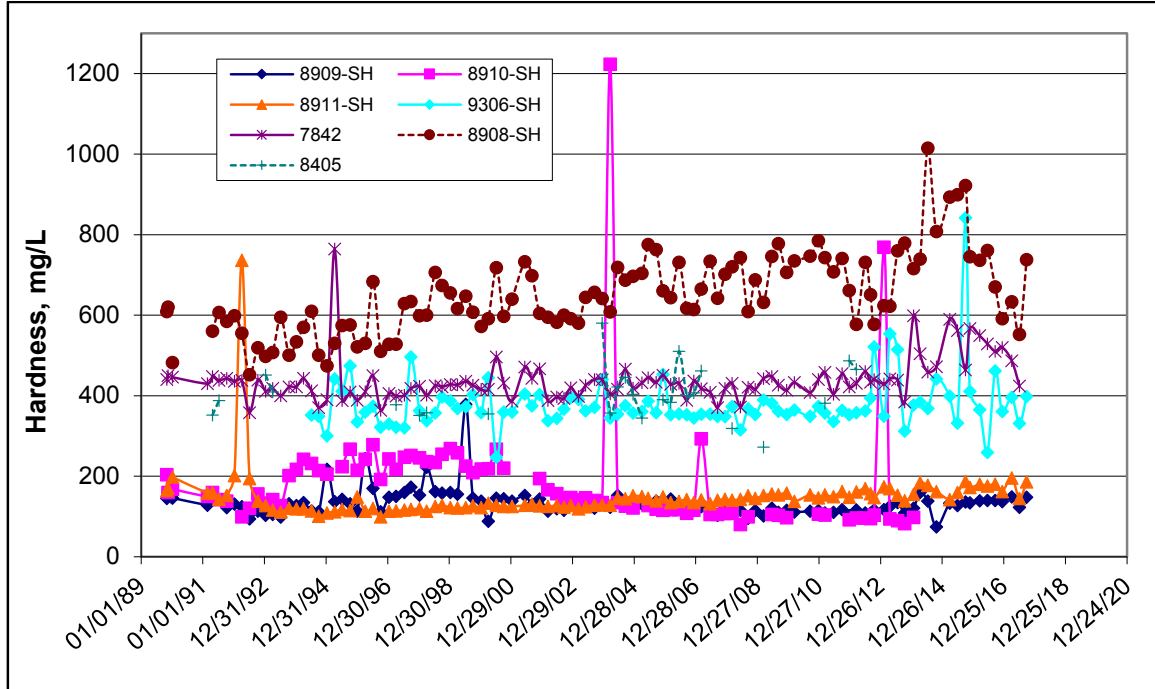


**BEDROCK** (Note: Only data above detection has been included in this plot)

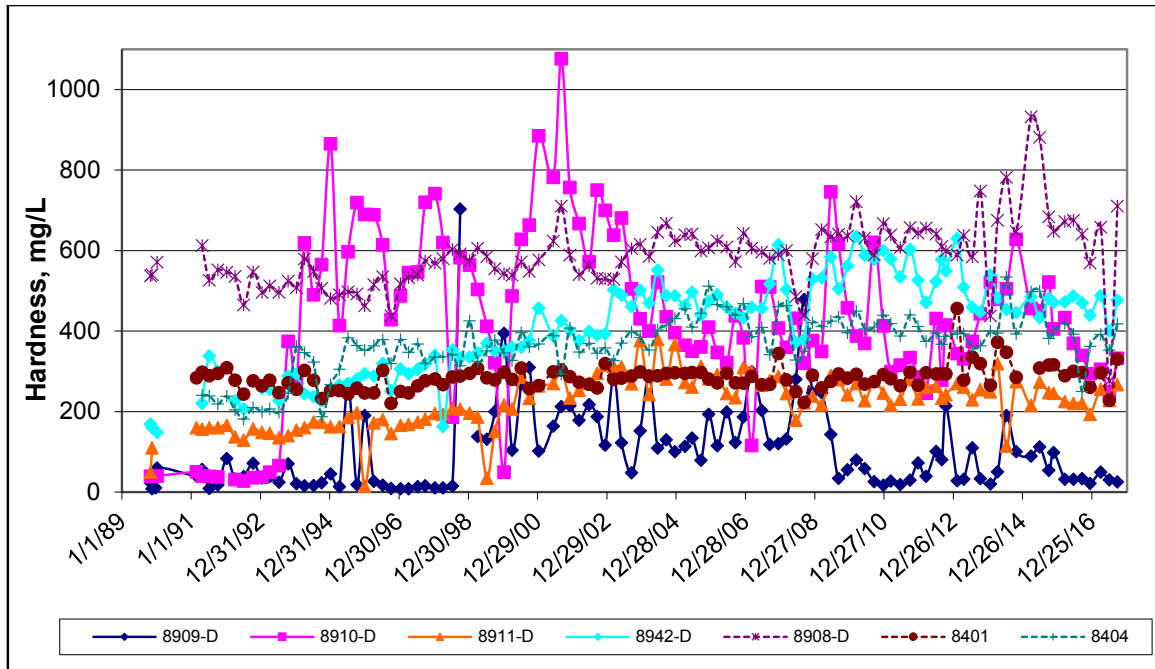


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**HARDNESS**

**GLACIAL TILL**

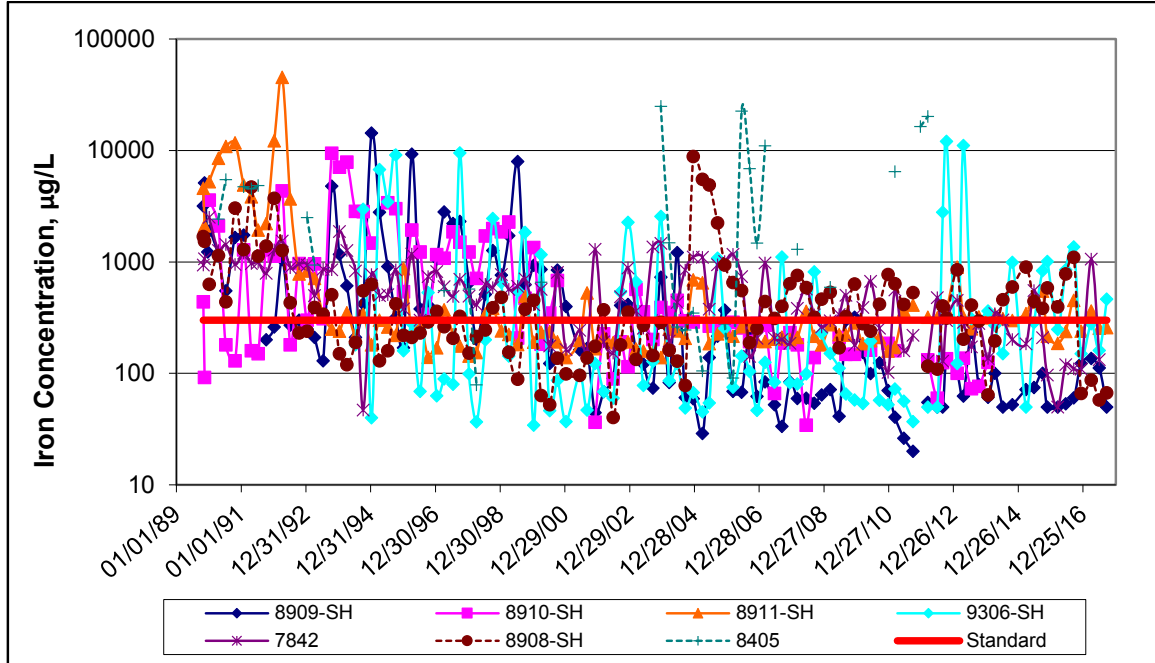


**BEDROCK**

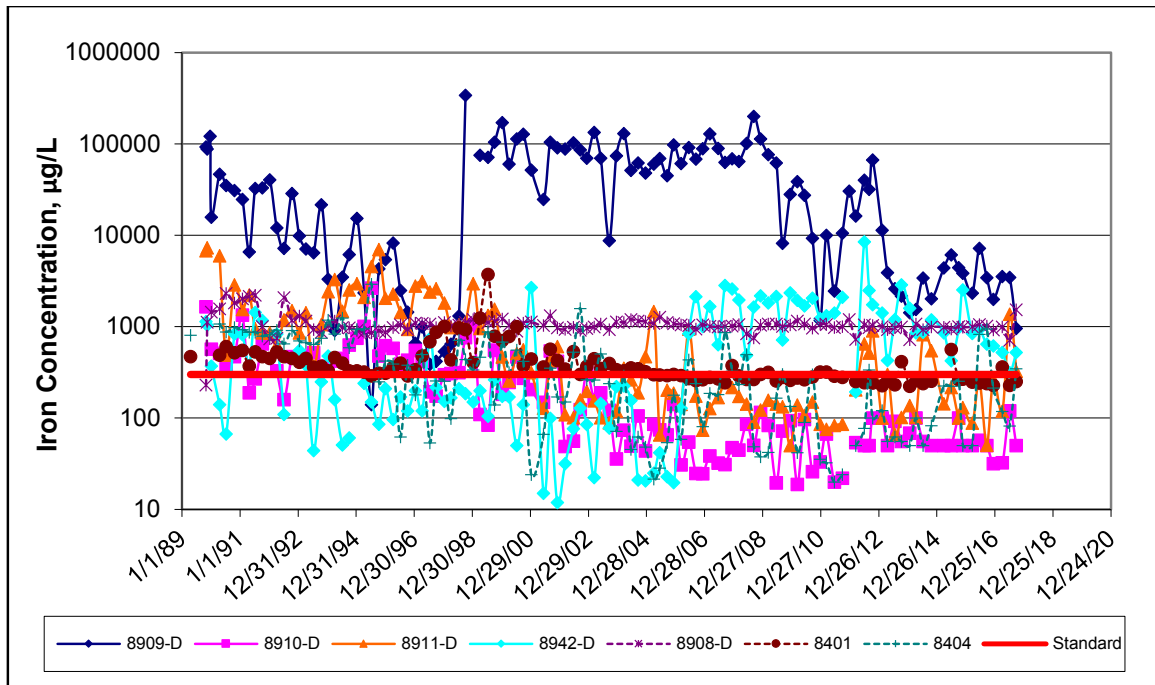


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**IRON**

**GLACIAL TILL**

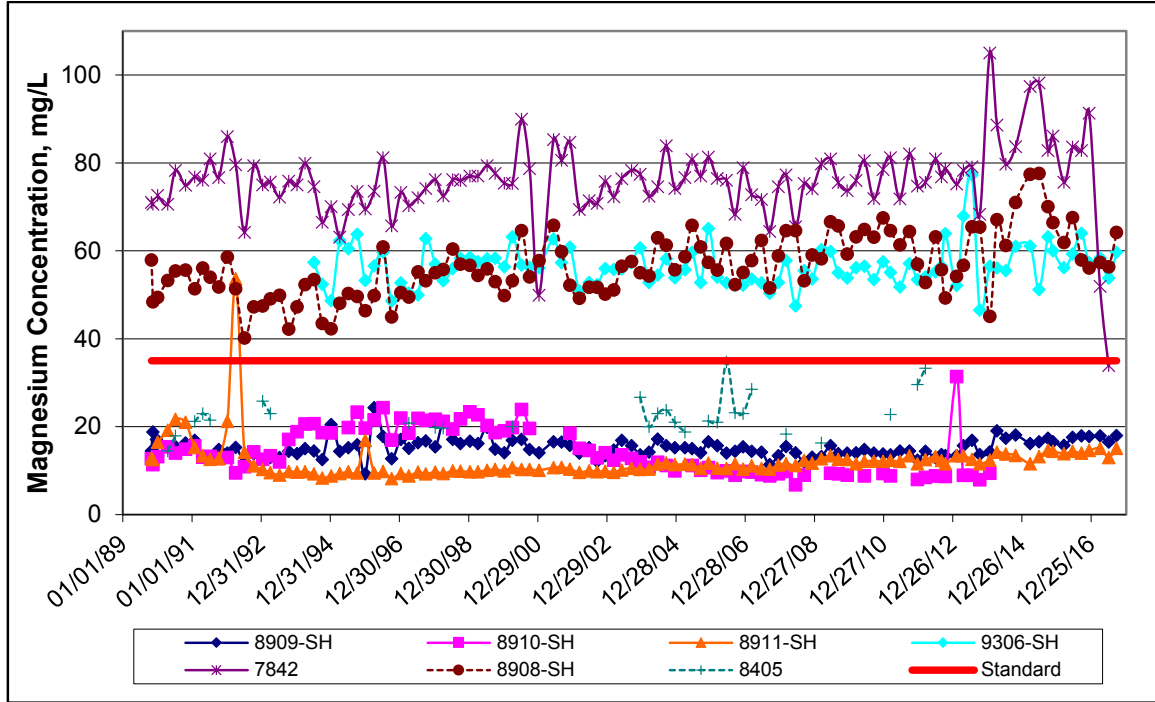


**BEDROCK**

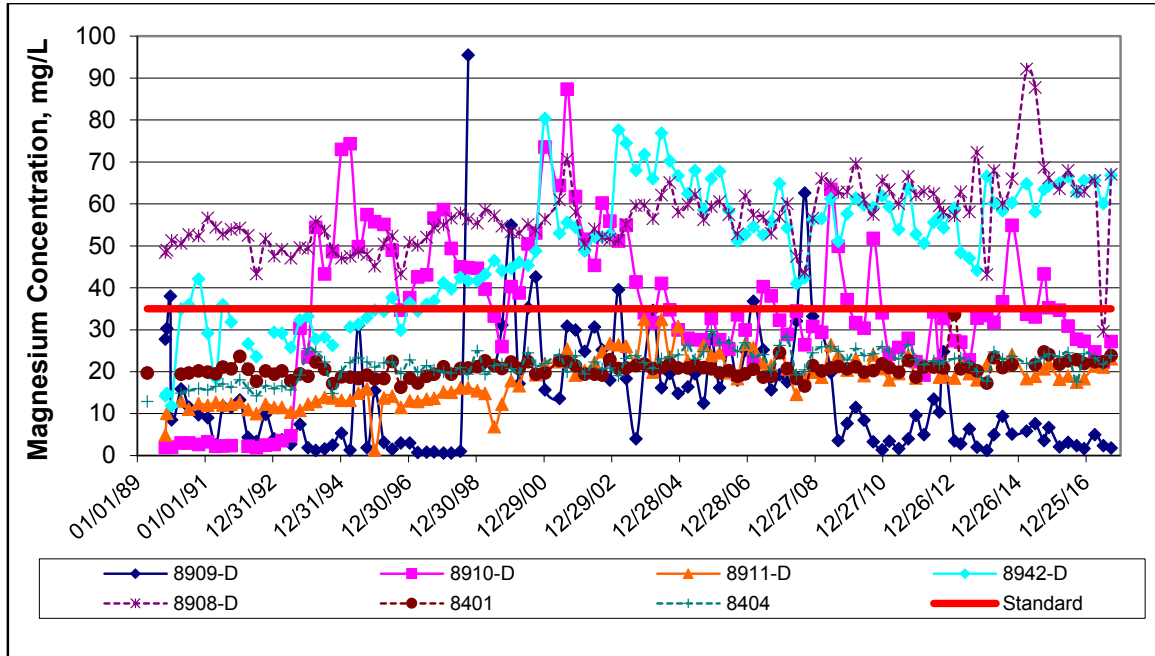


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**MAGNESIUM**

**GLACIAL TILL**

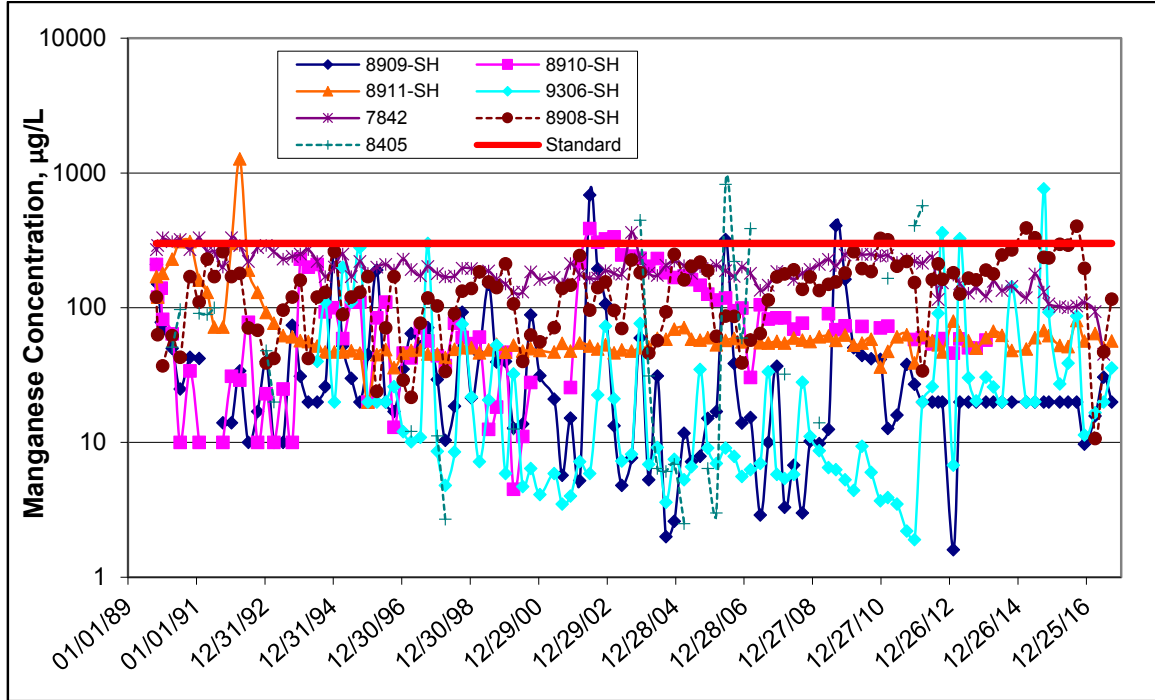


**BEDROCK**

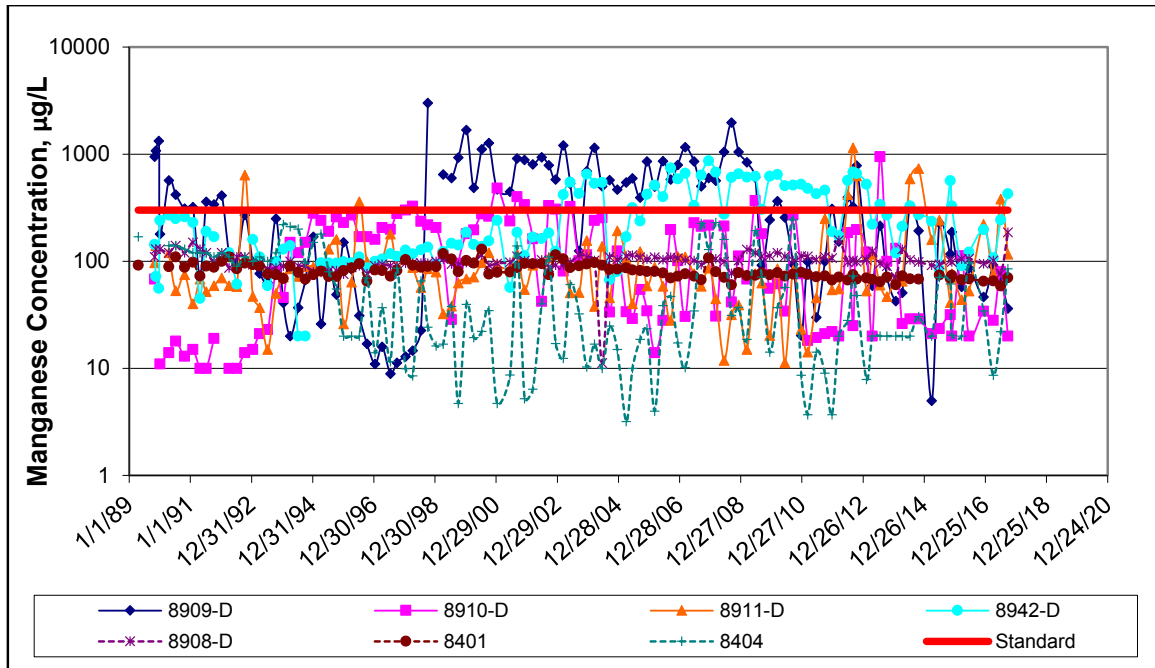


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**MANGANESE**

**GLACIAL TILL**



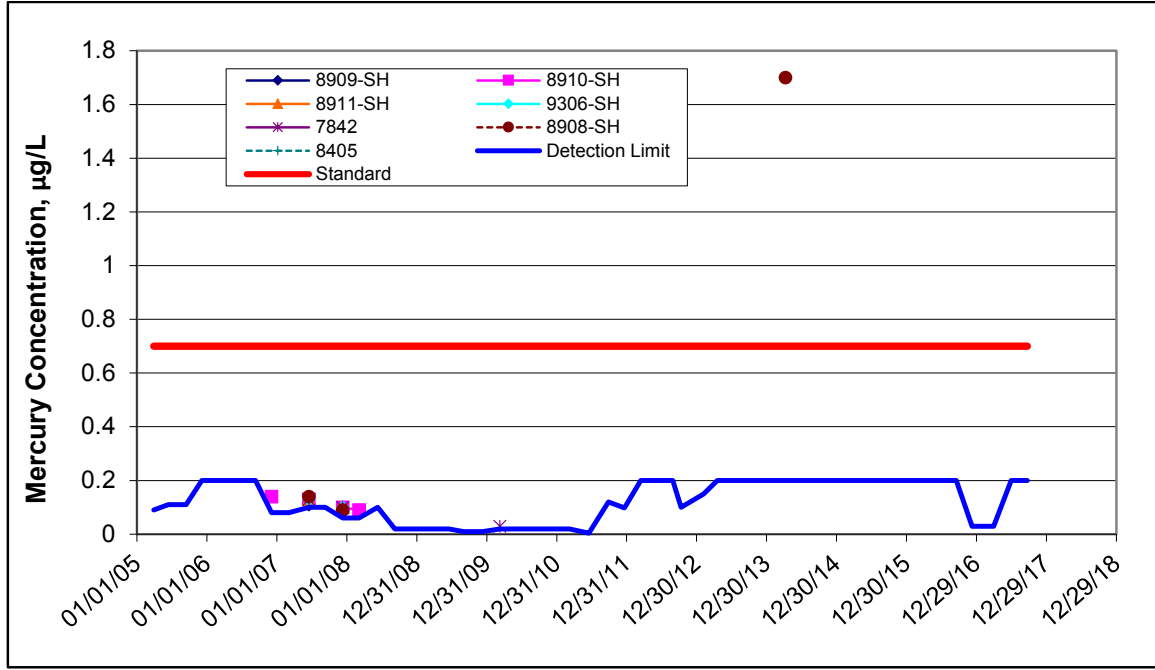
**BEDROCK**



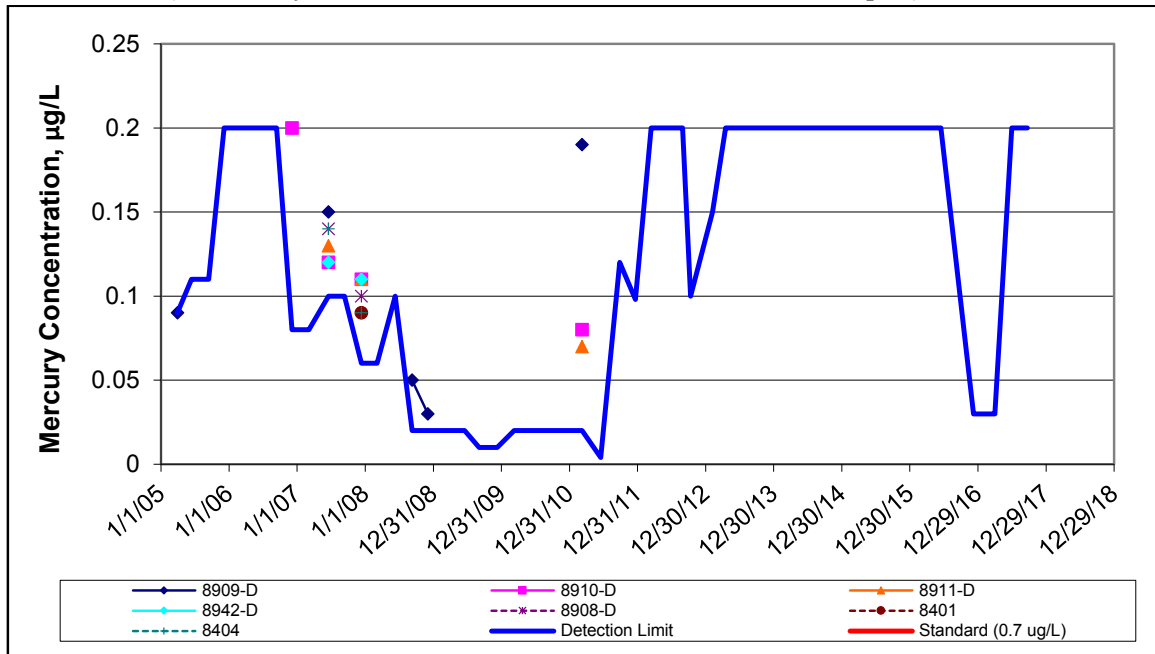


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**MERCURY**

**GLACIAL TILL** (Note: Only data above detection has been included in this plot)



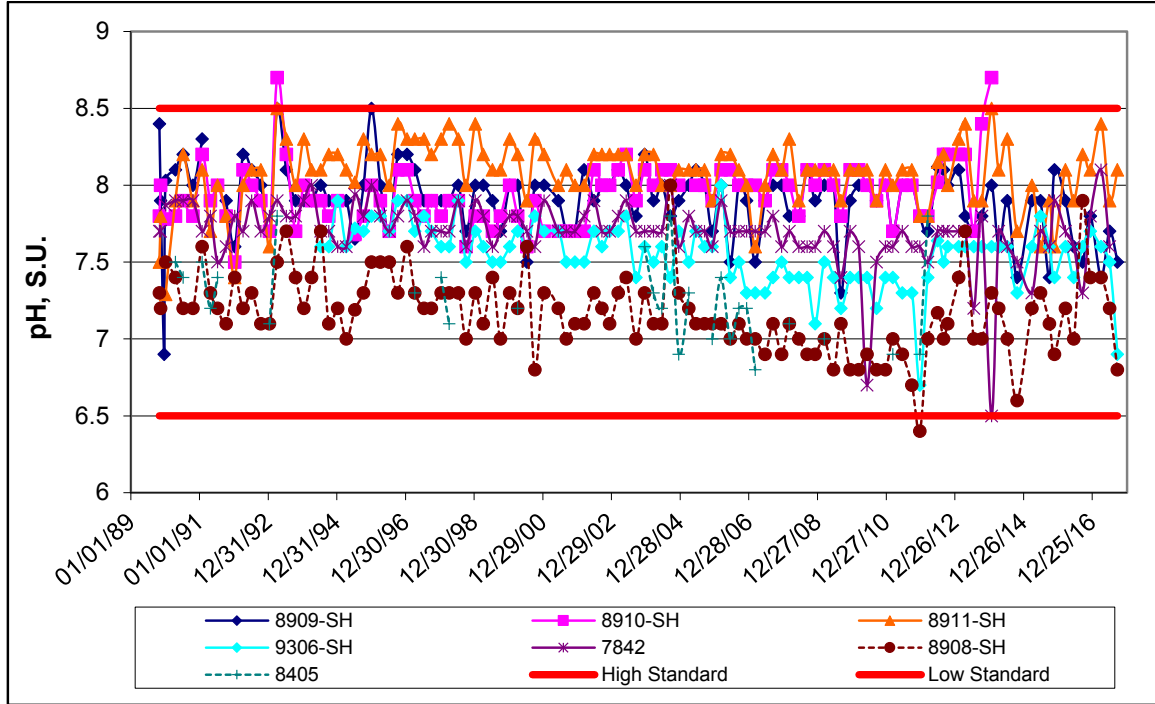
**BEDROCK** (Note: Only data above detection has been included in this plot)



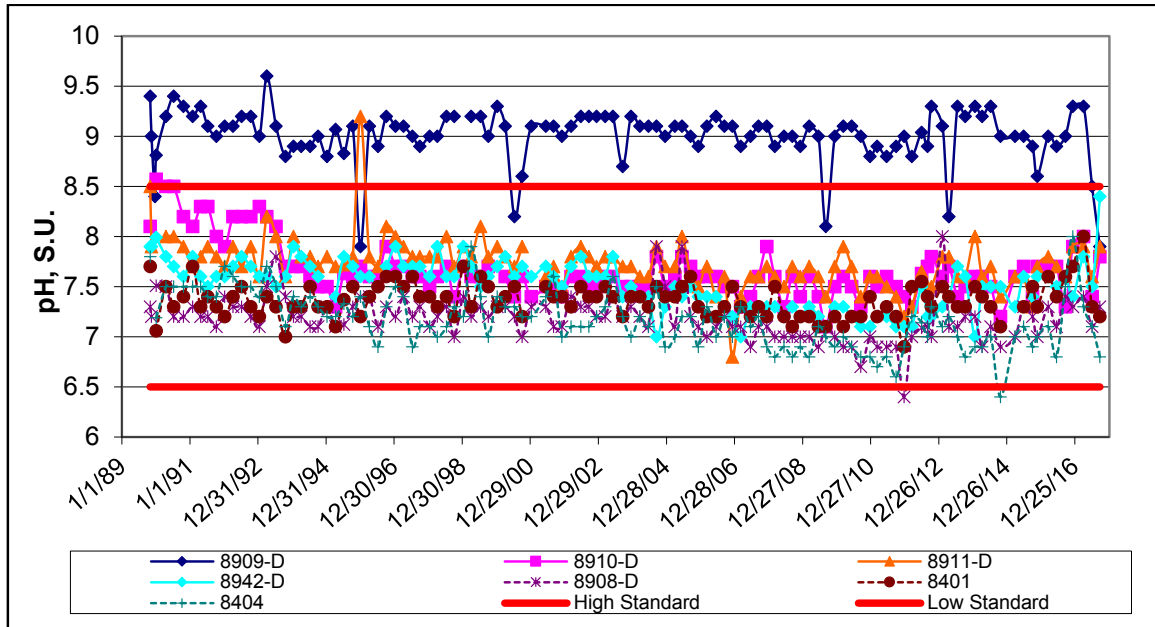
# MONITORING WELL TIME-SERIES PLOTS, CONT.

## pH

### GLACIAL TILL

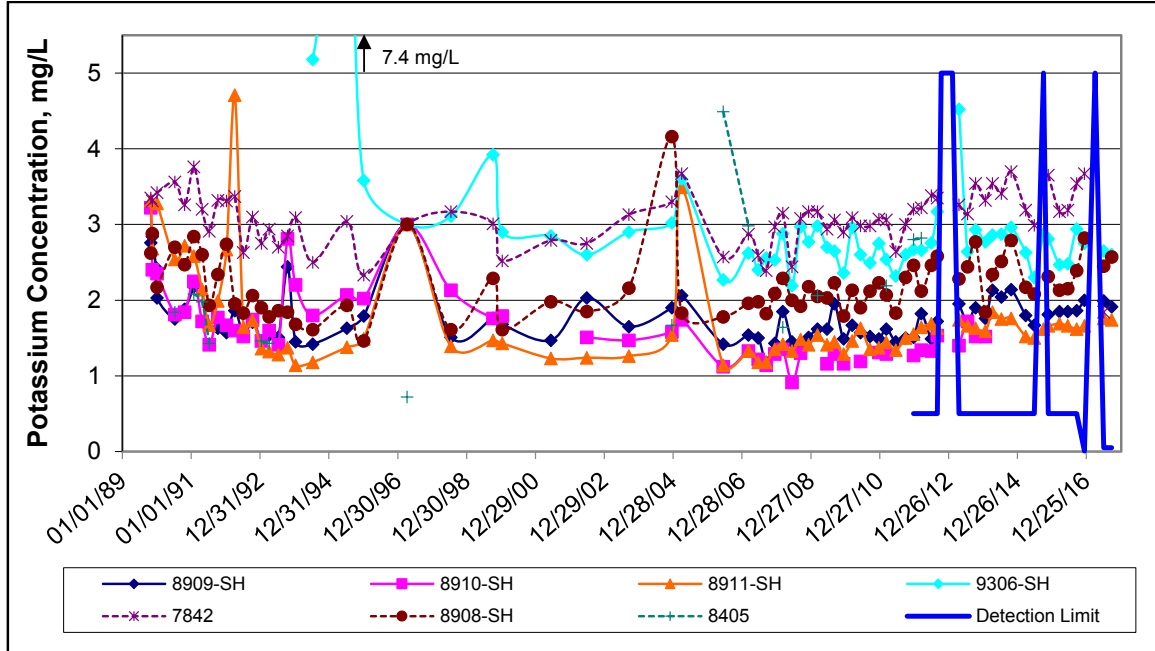


### BEDROCK

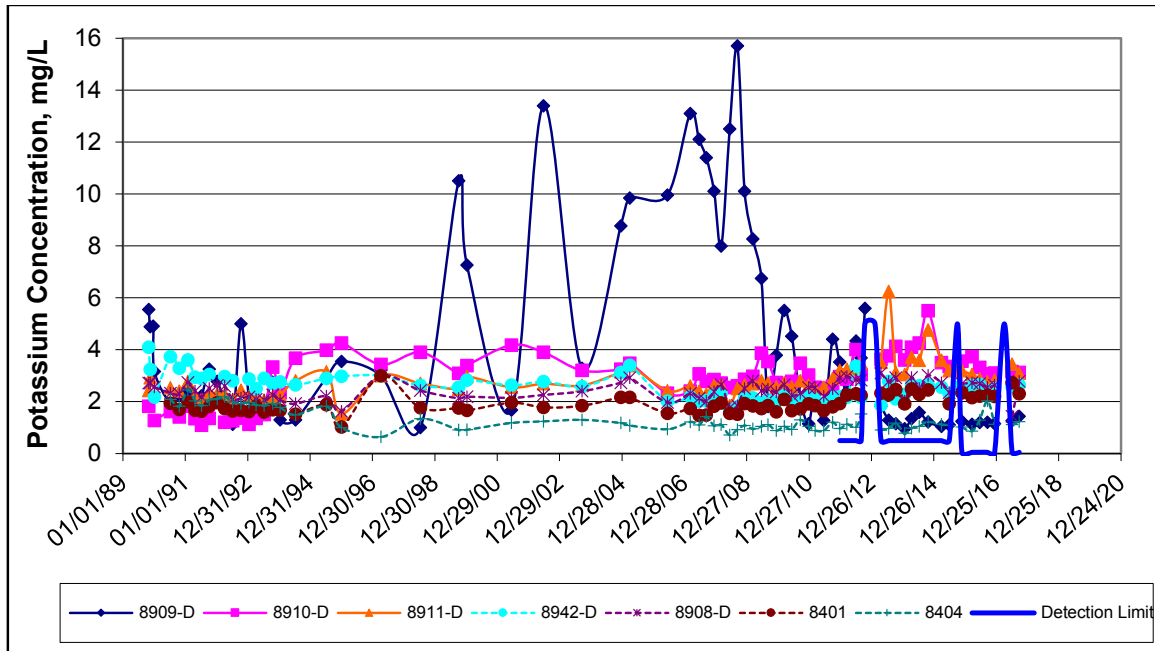


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**POTASSIUM**

**GLACIAL TILL**

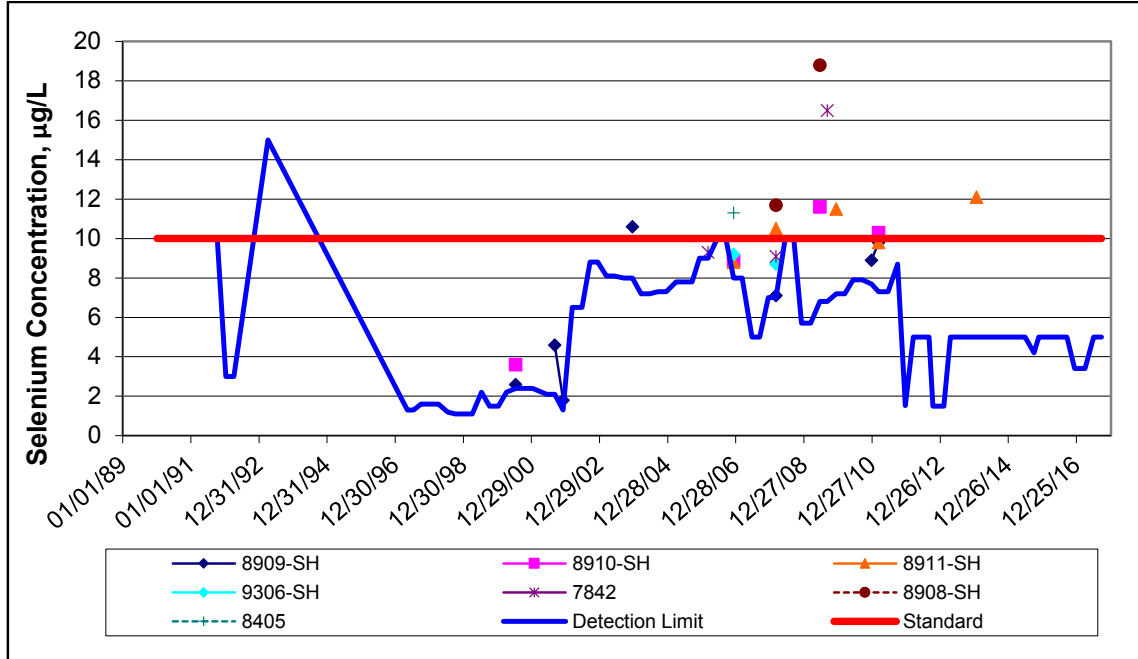


**BEDROCK**

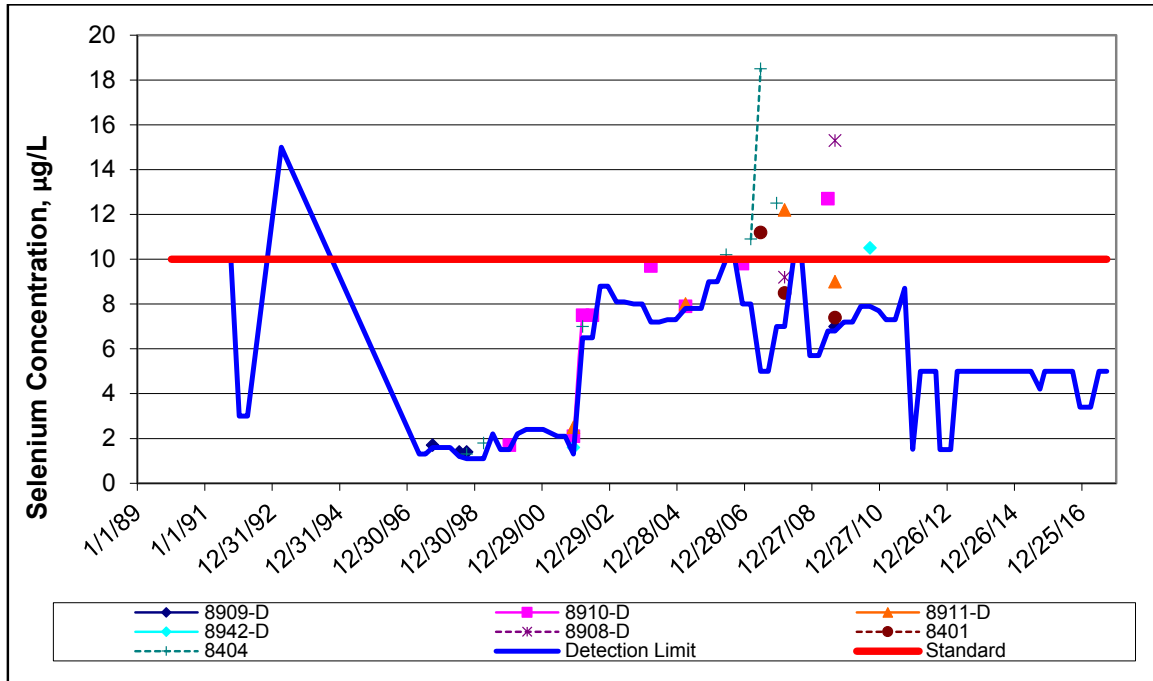


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**SELENIUM**

**GLACIAL TILL** (Note: Only data above detection has been included in this plot)

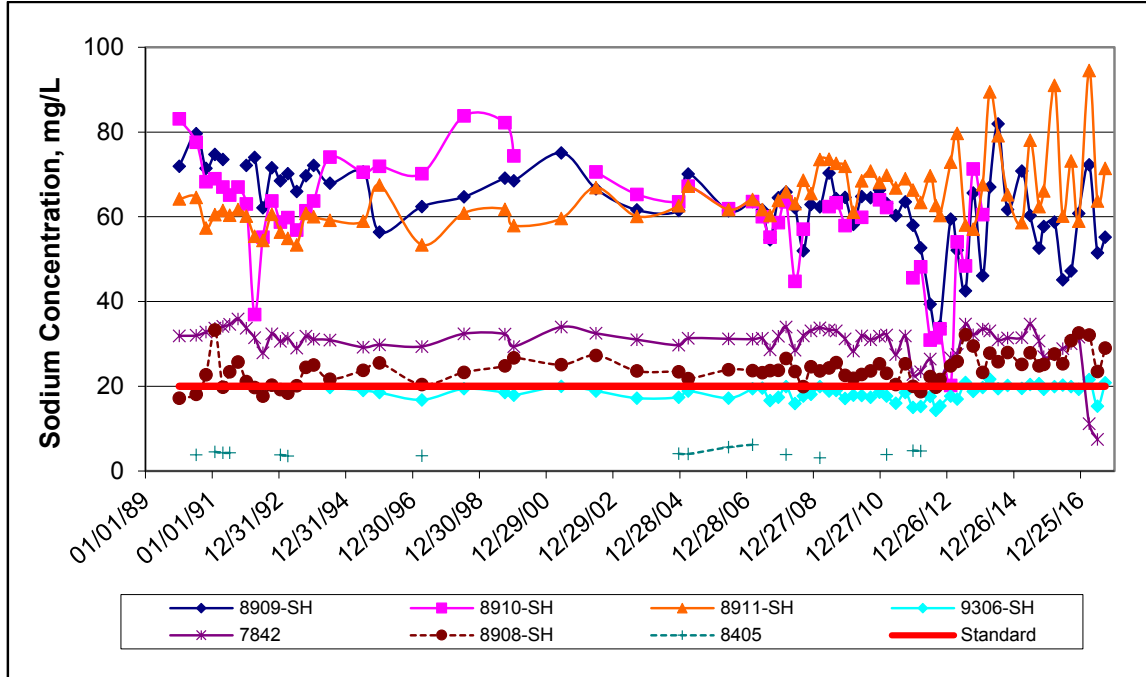


**BEDROCK** (Note: Only data above detection has been included in this plot)

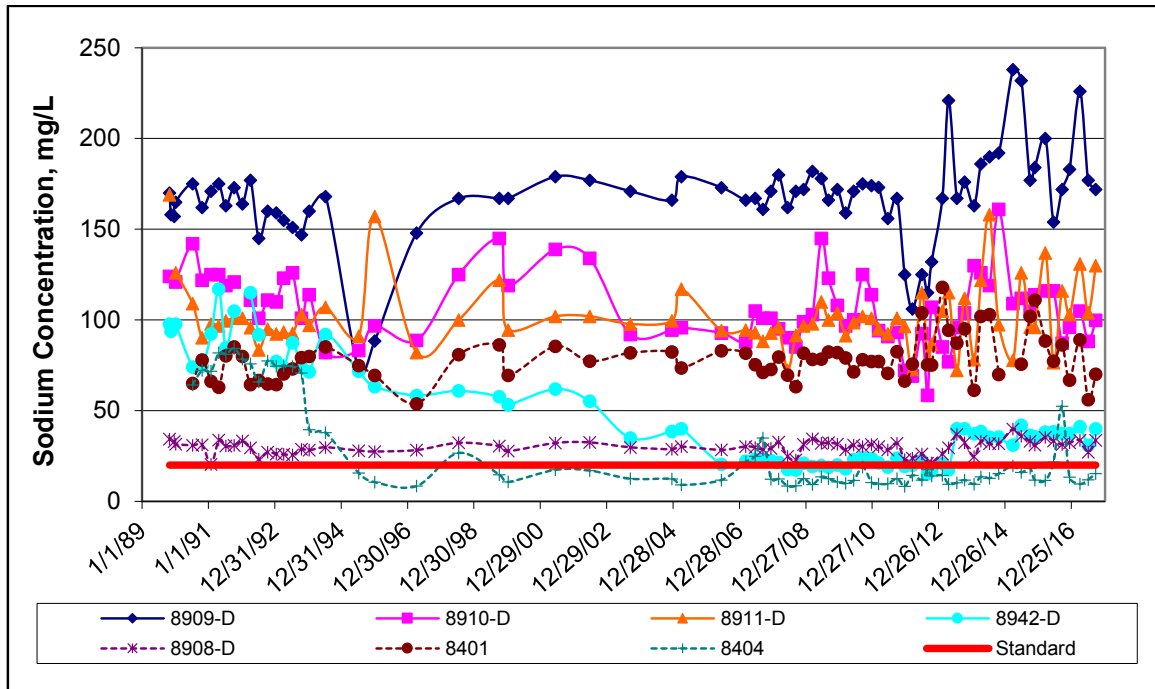


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**SODIUM**

**GLACIAL TILL**

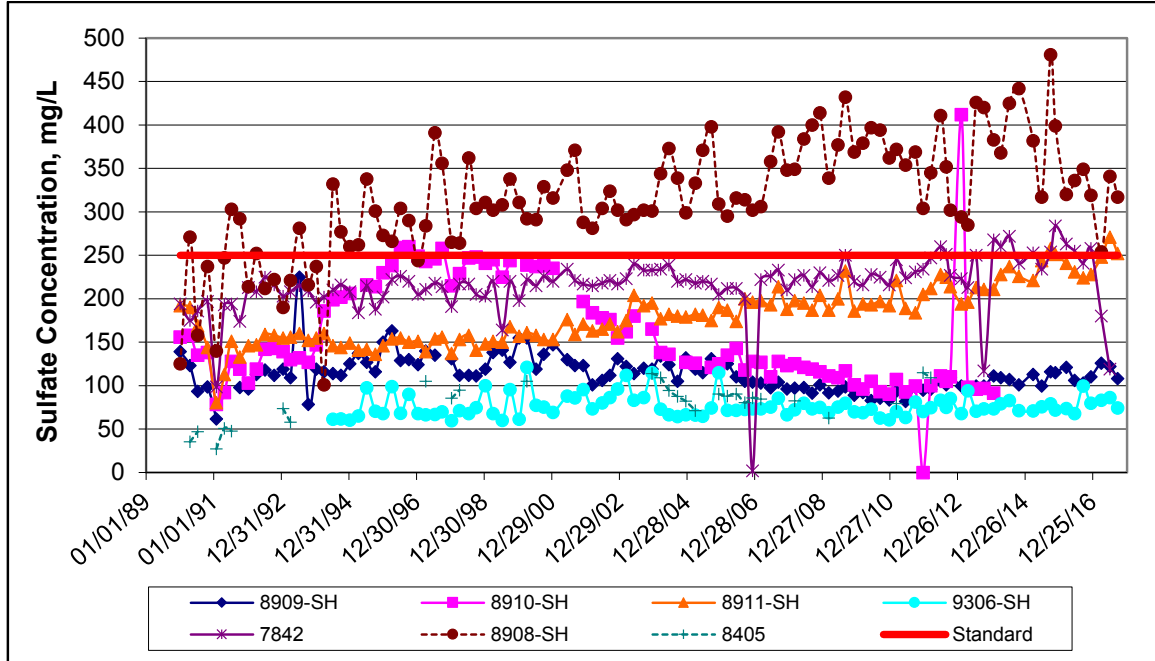


**BEDROCK**

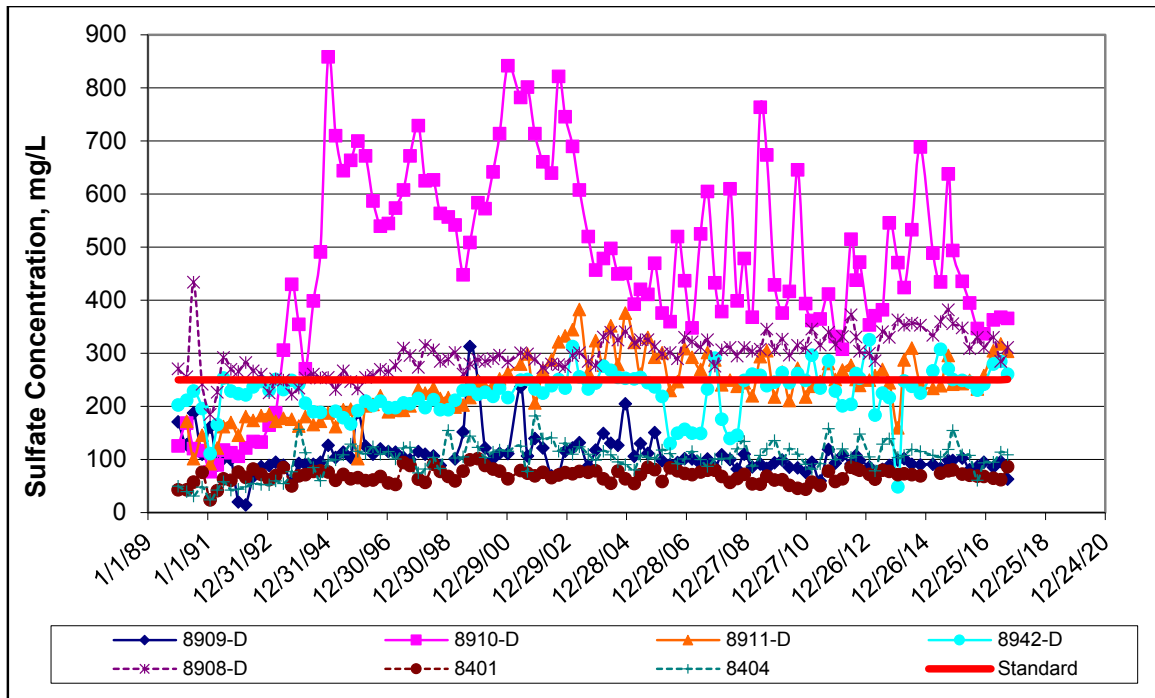


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**SULFATE**

**GLACIAL TILL**

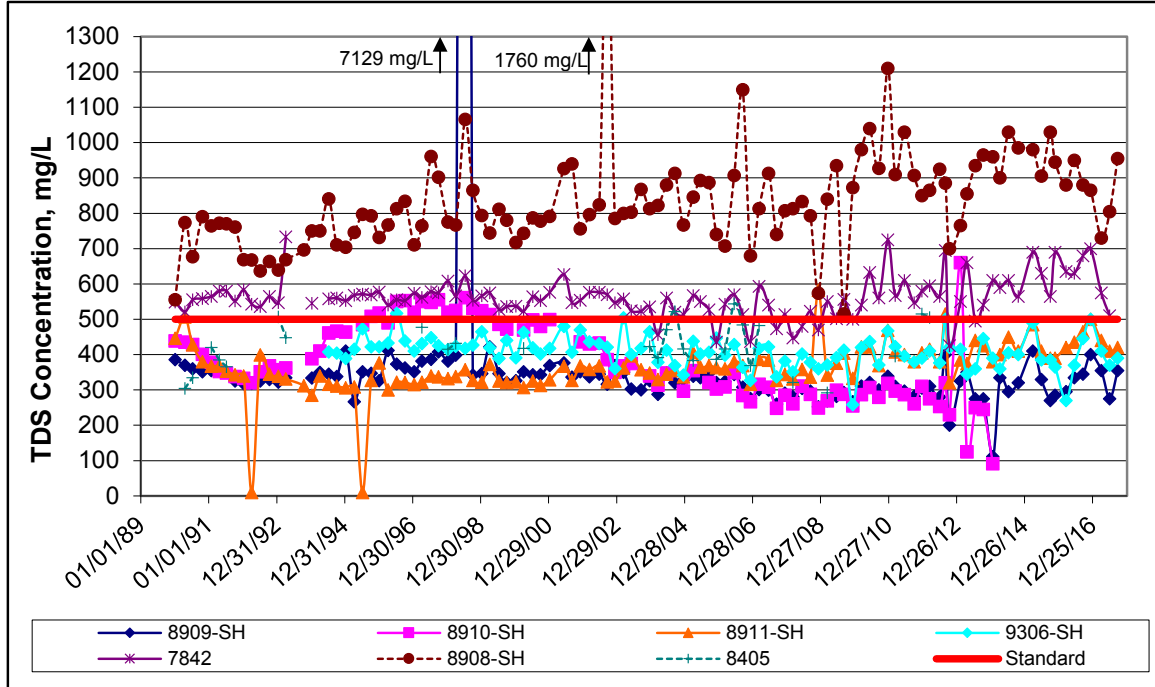


**BEDROCK**

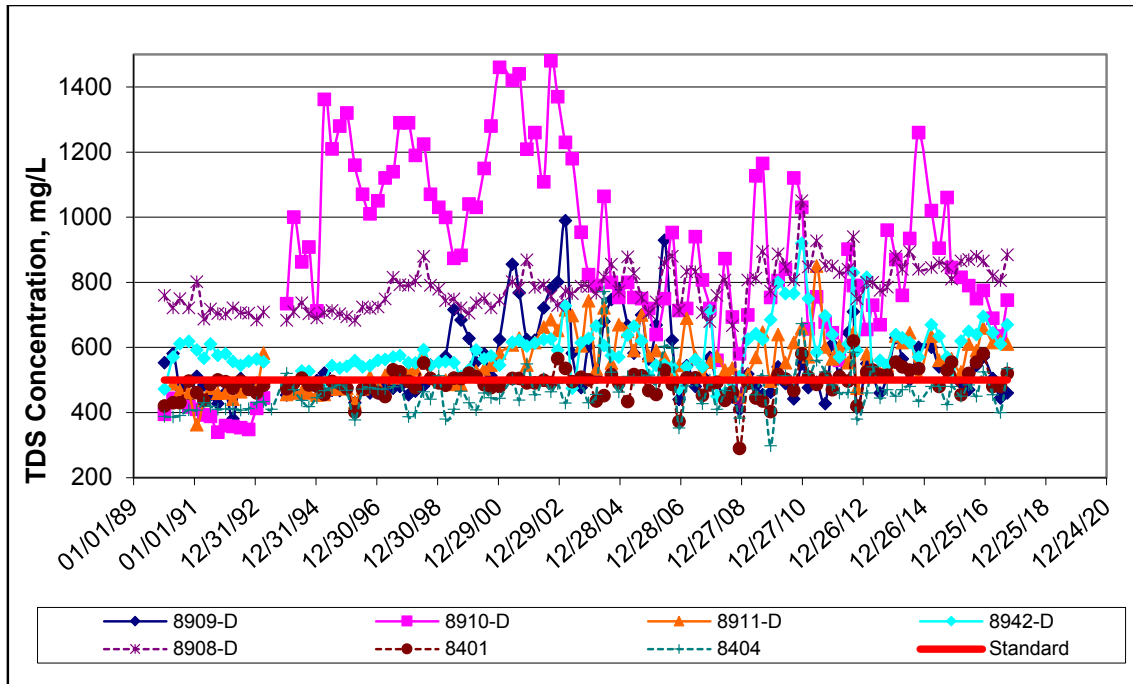


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**TOTAL DISSOLVED SOLIDS**

**GLACIAL TILL**

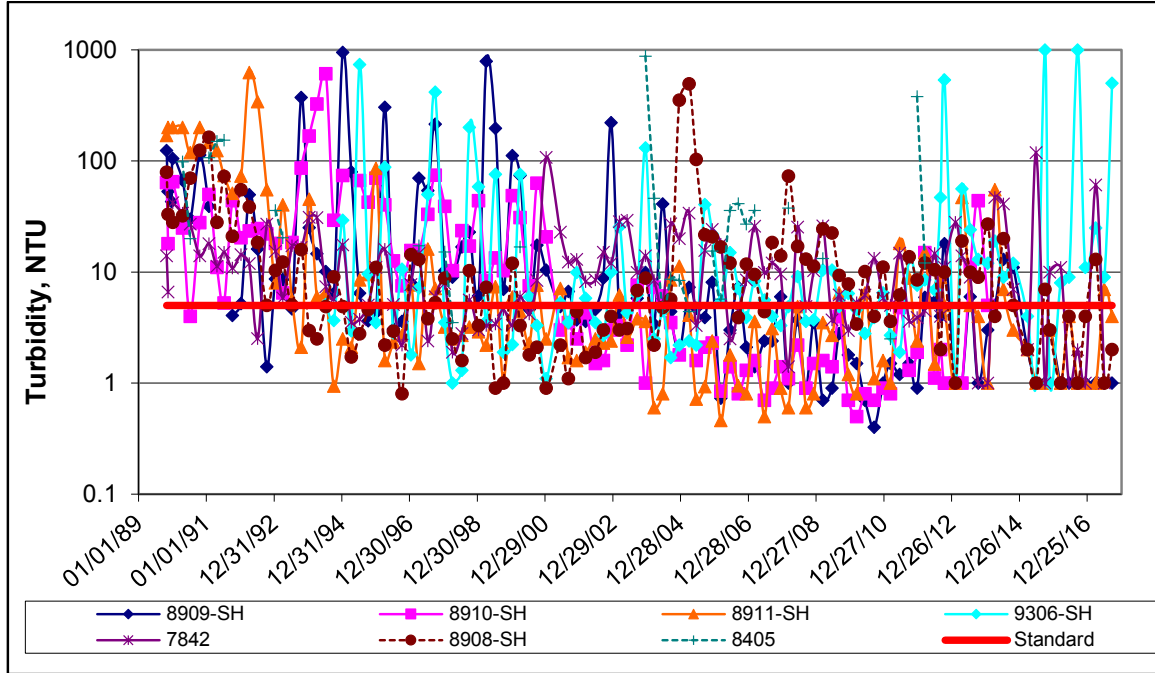


**BEDROCK**

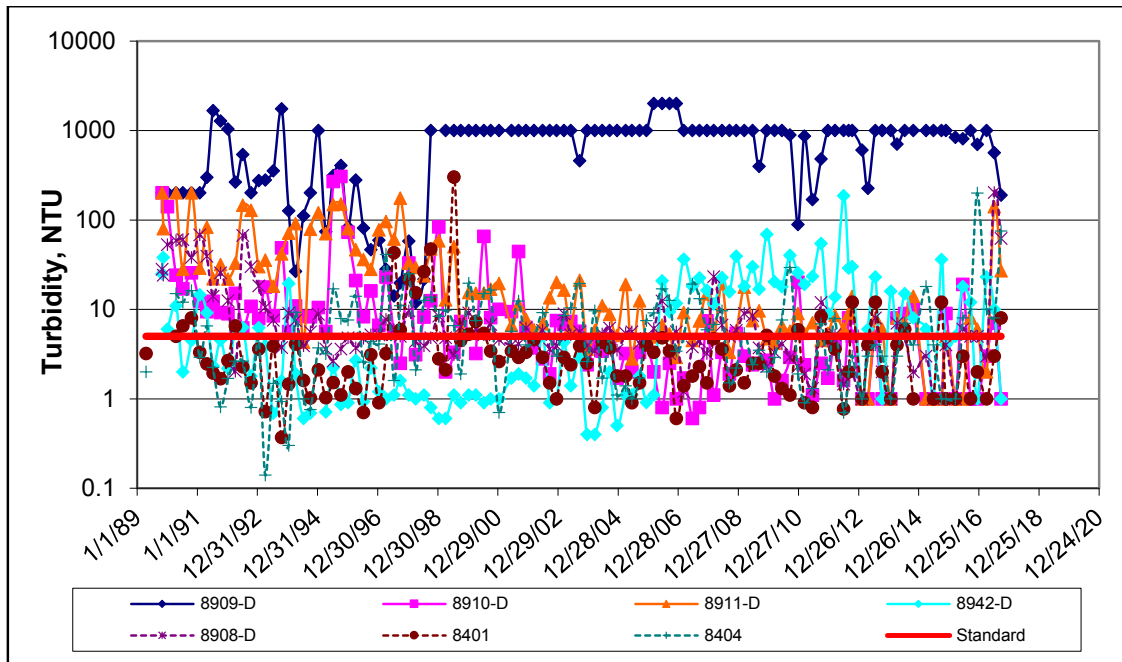


**MONITORING WELL TIME-SERIES PLOTS, CONT.**  
**TURBIDITY**

**GLACIAL TILL**



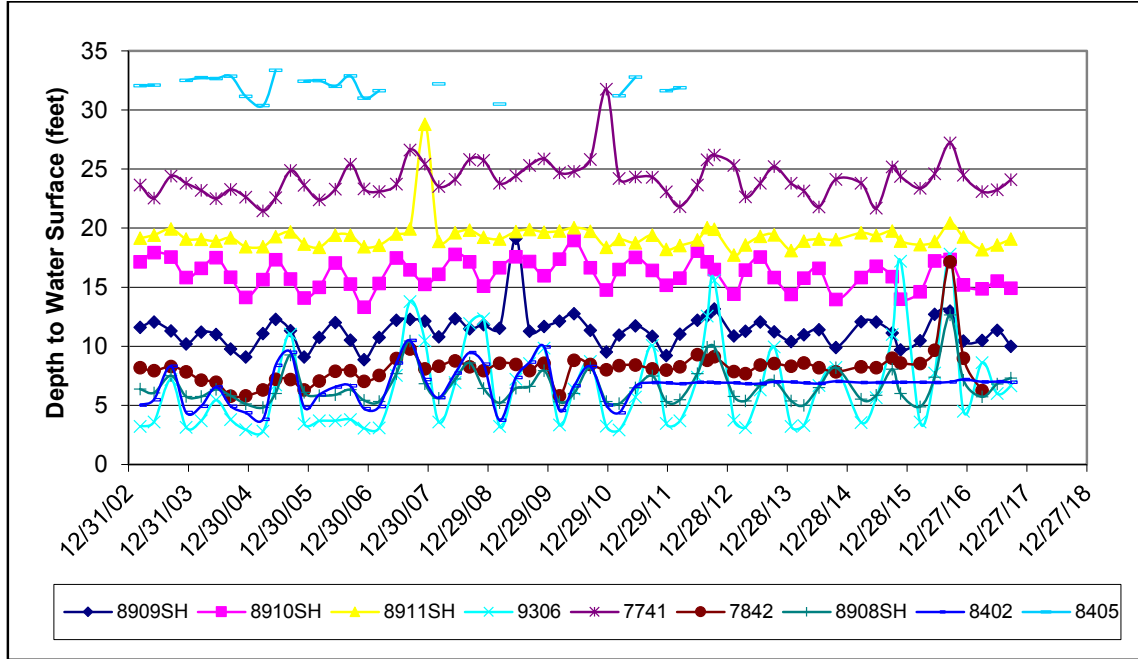
**BEDROCK**



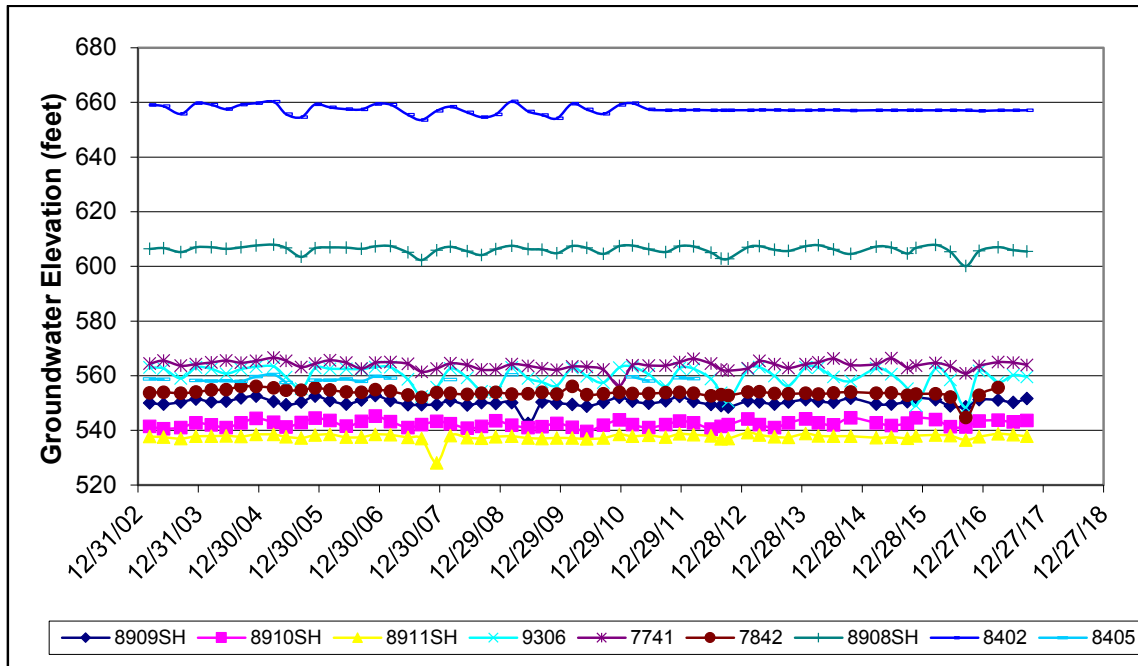


**STATIC GROUNDWATER LEVEL TIME-SERIES PLOTS**  
**GLACIAL TILL**

**DEPTH TO WATER SURFACE**



**GROUNDWATER ELEVATION**





# **ATTACHMENT 3**

## **Flow Metering System Leachate Flow Rate Time-Series**



Leachate Flowrates from OCF Flow Monitor and Precipitation from Penn Yan

