

**2018 ANNUAL ENVIRONMENTAL REPORT**

**VINCENT MULLINS LANDFILL, TUCSON, ARIZONA**

**AQUIFER PROTECTION PERMIT NO. P-100917**

**Prepared for:**

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## List of Acronyms

1,1-dichloroethane	1,1 DCA
Alert Level	AL
Aquifer Protection Permit	APP
Aquifer Quality Limit	AQL
Aquifer Water Quality Standard	AWQS
Arizona Department of Environmental Quality	ADEQ
Below Ground Surface	bgs
cis-1,2 dichloroethene	cis-1,2 DCE
City of Tucson-Environmental & General Services Department	COT-EGSD
Feet	ft
Feet above mean sea level	ft amsl
Groundwater Protection Level	GPL
Non-detect	ND
Non-Point of Compliance	non-POC
Micrograms per liter	µg/l
Point of Compliance	POC
Quality Assurance/Quality Control	QA/QC
Tetrachloroethene	PCE
Trichloroethene	TCE
Vincent Mullins Landfill	VML
Volatile Organic Compounds	VOC
Water Table Elevation	WTE

## 1.0 INTRODUCTION

This report documents landfill gas monitoring, groundwater monitoring and repair and maintenance activities completed at the closed Vincent Mullins Landfill (VML) site from January 2018 to December 2018. These activities were conducted in compliance with the Arizona Department of Environmental Quality (ADEQ), Solid Waste Unit, Aquifer Protection Permit (APP) P-100917. The APP requires documentation of methane gas, groundwater monitoring, and necessary repair and maintenance activities at the Vincent Mullins Landfill site. APP No. P-100917 expires on August 17, 2034.

The VML is located on the eastern bank of the Pantano Wash, north of East Speedway Boulevard in Tucson, Arizona (**Figure 1**). The VML is located adjacent to and west of the Speedway Recycling and Landfill Facility (Speedway Landfill). The privately owned Speedway Landfill is a non-municipal solid waste landfill, which is also located on the north side of East Speedway Boulevard. The VML is owned and maintained by the City of Tucson. The VML was used for the disposal of municipal solid waste by the City of Tucson from 1976 to 1987.

For this reporting period, the City of Tucson-Environmental & General Services Department (COT-EGSD) monitored 48 shallow landfill gas probes, 14 groundwater monitoring wells, and two privately owned irrigation wells around the landfill. In addition, a landfill gas collection and flare system operates to control the migration of landfill gas and other volatile organic compounds (VOCs) originating from the decomposing municipal solid waste.

In 2016, the City of Tucson constructed an extension of Sabino Canyon Road, from Tanque Verde Road on the north, to Kolb Road on the south. The new roadway section was completed in January 2017. A portion of the road was constructed as a bridge over the western portion of the Vincent Mullins Landfill site. The portion of the roadway located over the Vincent Mullins Landfill is supported by a series of metal pilings driven through the refuse mass and into the native soils beneath the landfill.

## 2.0 GROUNDWATER MONITORING

APP P-100917 specifies groundwater monitoring for VOCs at the VML to occur on a semi-annual basis and groundwater monitoring for inorganic compounds to occur annually at monitoring wells WR-115A, WR-116A, WR-117A, WR-118A, and the point of compliance (POC) monitoring well WR-453A. Analysis for VOCs in the groundwater is conducted semi-annually in March and September and analysis for inorganic compounds in the groundwater is conducted annually in March.

In addition to the groundwater monitoring specified in the APP, COT-EGSD voluntarily monitors groundwater monitoring wells VMW-502A, WR-456A, WR-457A, WR-458A, WR-459A, and a private irrigation well located at the El Dorado Country Club on a semi-annual

basis. The well at the El Dorado Country Club is designated as well HSL-97. Due to rebounding regional groundwater levels, COT-EGSD also began collecting groundwater samples from the former irrigation well HSL-96 at the El Dorado Country Club in March 2011 and from the deep soil vapor probe at R-126A, which is screened to a depth of 290 feet below ground surface (ft bgs), in October 2013. COT-EGSD also voluntarily monitors groundwater monitoring wells WR-186A, WR-439A, and WR-600A annually in March. Of the voluntarily monitored wells, only those wells in proximity to the landfill are monitored for inorganic compounds.

Well construction details for the soil vapor and groundwater monitoring wells are provided on **Table 1. Table 2** summarizes the required and voluntary groundwater monitoring completed at the Vincent Mullins Landfill site in 2018.

**Table 2**  
**Summary of Groundwater Monitoring Conducted at the Vincent Mullins Landfill in 2018**

Well Name	Monitored in March for VOCs and Inorganic Compounds	Monitored in September for VOCs only
Wells Required for Groundwater Monitoring by the APP		
WR-115A	•	•
WR-116A	•	•
WR-117A	•	•
WR-118A	•	•
WR-453A (POC)	•	•
Voluntary Groundwater Monitoring Monitoring Not Required by the APP		
Groundwater Monitoring Wells		
HSL-96	• *	•
HSL-97	• *	•
VMW-502A	• *	•
WR-186A	• *	
WR-456A	•	•
WR-439A	• *	
WR-457A	•	•
WR-458A	• *	•
WR-459A	• *	•
WR-600A	• *	
Deep Soil Vapor Probe		
R-126A	• *	•

\*VOC analysis only

## 2.1 Groundwater Level Monitoring

The depth to groundwater was measured in 17 monitoring wells prior to the March and September 2018 sampling events. A summary of the depth to groundwater measurements for this reporting period is provided on **Table 3**. The March and September 2018 water table elevations were similar and therefore only the March 2018 values were contoured and provided on **Figure 2**. This figure indicates the direction of groundwater flow beneath the Vincent Mullins Landfill is from the northeast to the southwest.

In March 2018, the water table elevations ranged from a low of 2,252.53 to a high of 2,273.91 feet above mean sea level. Hydrographs provided in **Figure 3** and **Figure 4** show the water table has been rising in the vicinity of the Vincent Mullins Landfill at an approximate rate of 2.58 feet per year since 2006, but the depth to water stabilized between March and September 2018 in most wells.

## 2.2 Groundwater Sampling Procedures and Results

The March 2018 groundwater monitoring event was conducted from March 6 to March 13, 2018. The March sampling event consisted of the collection of groundwater samples from 16 groundwater wells. The September 2018 groundwater monitoring event was conducted from September 11 to September 27, 2018 and consisted of the collection of groundwater samples from 12 groundwater wells. COT-EGSD also collected a groundwater sample from the deep soil vapor probe at R-126A during the March and September 2018 sampling events. Additional confirmation samples were collected in November 2018 from wells WR-458A and WR-459A.

A multi-parameter YSI water quality meter equipped with a flow-through cell was used to continuously monitor the following water quality parameters at each monitoring well prior to the collection of the groundwater sample: temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential. Turbidity was analyzed at each well using a Hanna Instrument. Groundwater samples were collected after a minimum of three well volumes had been purged from the well and water quality parameters measured with the YSI water quality meter had stabilized. The stabilized water quality parameters are summarized on the field data sheets provided in **Appendix A**. Purge water was directed through a COT-EGSD granular-activated carbon (GAC) vessel if VOCs had been previously detected at that well. No purge water was allowed to enter any jurisdictional waterways of the State of Arizona. All non-dedicated sampling equipment was decontaminated prior to each use.

The groundwater monitoring wells were sampled in order of increasing tetrachloroethene (PCE) concentrations from non-detect to the wells having the highest PCE concentrations, based on concentrations observed during the previous sampling event. Immediately following purging, groundwater samples were collected from the spigot located on the sampling equipment. The flow rate was reduced to minimize volatilization of VOCs during sampling. Groundwater samples were collected and analyzed for VOCs and inorganic compounds as listed on the analyte

lists in **Appendix A**. Laboratory supplied containers were labeled and the groundwater samples were placed in the containers with an internal temperature of  $\pm 2$  degrees Celsius and submitted under chain-of-custody control to the Tucson Water Quality Laboratory (TWQL) for analysis.

Groundwater samples from monitoring well HSL-96 and deep soil vapor probe R-126A (290 ft bgs) were collected using a disposable single check valve bailer. Well purging was not conducted at well HSL-96 and vapor probe R-126A. Field parameters, including temperature, pH, specific conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity were measured and recorded on field sampling sheets after the sample vials were filled.

Field quality assurance protocols during each sampling event consisted of:

- Collection of one trip blank sample for each day of sampling or for each cooler.
- Collection of one duplicate sample for every ten groundwater samples.
- Collection of one equipment blank sample for each day of use of a non-dedicated pump.

The field quality assurance samples were also submitted to the TWQL for analysis.

## **2.2.1 VOC Groundwater Quality Results**

### **Point of Compliance Well WR-453A**

VOC concentrations observed in POC well WR-453A during the 2018 monitoring period were generally consistent with previous results. Groundwater quality alert levels (ALs) have been established at the laboratory practical quantitation limit (PQL), which is also the laboratory detection limit, for the Vincent Mullins Landfill site. PCE was detected in monitoring well WR-453A in concentrations that exceeded the groundwater quality numeric AL. The detected PCE concentrations exceed the AL, however do not exceed the aquifer water quality standard (AWQS) for PCE of 5 $\mu$ g/L.

Chloroform was also detected in well WR-453A. This compound does not have a numeric AL. As explained in a previous annual environmental report, the probable source of chloroform in the groundwater was a leak in a 24-inch diameter reclaimed water line that was identified in the Pantano Wash, located 185 feet upgradient from monitoring well WR-453A.

### **Aquifer Protection Permit Monitoring Wells**

During the March and September 2018 sampling events, concentrations of PCE and TCE were detected in two APP non-POC listed wells, WR-116A and WR-117A. The concentrations of PCE and TCE detected at these two wells during 2018 are presented below:



Well	PCE March 2018 (µg/L)	PCE Sept. 2018 (µg/L)	TCE March 2018 (µg/L)	TCE Sept. 2018 (µg/L)
WR-116A	<b>7.8</b>	<b>6.0</b>	1.8	1.3
WR-117A	1.3	1.7	<0.5	<0.5

A summary of PCE concentration trends is provided on **Figure 5**. Only well WR-116A had PCE concentrations exceeding the groundwater quality AWQS. **Figure 6** shows the extent of the PCE groundwater plume above the AWQS. Individual groundwater well charts for PCE, TCE, and cis-1,2 dichloroethene (cis-1,2 DCE) concentrations are also provided on **Figure 6**. A historic summary of VOCs is provided on **Table 4** and the complete analytical laboratory reports are provided in **Appendix A**.

### Voluntary Monitoring Wells

Laboratory test results for the four voluntarily sampled monitoring wells (VMW-502A, WR-457A, WR-458A, and WR-459A) identified VOC concentrations below the AWQS during the two 2018 sampling events:

Well	PCE March 2018 (µg/L)	PCE Sept. 2018 (µg/L)	TCE March 2018 (µg/L)	TCE Sept. 2018 (µg/L)
VMW-502A	2.5	0.7	0.7	<0.5
WR-457A	2.3	2.8	<0.5	<0.5
WR-458A	0.8	4.0	0.5	1.8
WR-459A	0.8	2.5	<0.5	0.5

The September 2018 VOCs concentrations in wells WR-458A and WR-459A appeared to be anomalously high and COT-EGSD decided to resample these two wells in November 2018. The results of this sampling event are provided in the table below:

Well	PCE Nov. 2018 (µg/L)	TCE Nov 2018 (µg/L)
WR-458A	1.3	0.7
WR-459A	1.1	0.5

As shown above and in **Figures 5** and **6** and on **Table 5**, the November 2018 analytical test results indicated PCE and TCE concentrations decreased from the September 2018 results.

## 2.2.2 Inorganic Groundwater Quality Results

### Point of Compliance Well WR-453A

Inorganic concentrations observed in POC well WR-453A during the March 2018 monitoring event were consistent with previous analytical results. None of the inorganic results exceeded any of the AWQS for the compounds listed in Table 2 in the APP (**Table 5**). There were no exceedances of the groundwater quality ALs for any of the inorganic compounds.

### Aquifer Protection Permit Monitoring Wells

There were no inorganic parameter concentrations measured in the APP monitoring wells during the 2018 monitoring period that exceeded the AWQS for the compounds listed in the APP. Contaminant concentrations were consistent with previous analytical results (**Table 5**). ADEQ concurred with COT-EGSD's request that future analysis of lead in wells WR-115A, WR-116A, WR-117A, and WR-118A shall be the dissolved phase (filtered sample) instead of the total lead concentration<sup>1</sup> (unfiltered sample). Total and dissolved lead samples were collected for these four APP non-POC wells. The dissolved lead concentrations (not total lead) are provided in the historic summary table (**Table 5**) since March 2015 for these four wells. The total and dissolved lead concentrations from the March 2018 event are provided in the table below:

Well	Dissolved Lead (mg/L)	Total Lead (mg/L)
WR-115A	<0.001	0.00659
WR-116A	<0.001	0.00434
WR-117A	<0.001	0.00327
WR-118A	<0.001	0.00387

All analytical test results for groundwater samples had no detections for dissolved lead, indicating the observed total lead concentrations were attributable to the presence of suspended solids in the groundwater. The presence of suspended solids is also supported in the field description of colored purge water and high turbidity values. POC well WR-453A will continue to be analyzed for total lead concentrations, VOCs, and inorganic compounds, as specified in the APP. POC monitor well WR-453A was non-detect for total lead (<0.001 mg/L).

### Voluntary Monitoring Wells

Laboratory analytical test results for the wells monitored on a voluntary basis for inorganic compounds during 2018 (WR-456A and WR-457A) were all below the AWQS values listed in

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<sup>1</sup> ADEQ, *Vincent Mullins Landfill, Tucson, AZ (closed), 2013 Annual Report, Aquifer Protection Permit No. P-100917*, March 27, 2014

the APP. As approved by ADEQ in April 2013<sup>2</sup>, COT-EGSD is not required to analyze for inorganic compounds in the following voluntary monitoring wells: HSL-96, VMW-502A, WR-186A, WR-439A, WR-458A, WR-459A, and WR-600A. Private irrigation well HSL-97, which is also monitored voluntarily, was excluded from inorganic analyses beginning in March 2015. Inorganic analysis will be continued for APP listed wells and voluntary wells WR-456A and WR-457A. Should groundwater quality conditions change, COT-EGSD will evaluate any recommended modifications to the monitoring program for this list of wells.

### **2.2.3 Quality Assurance/Quality Control**

Quality assurance/quality control (QA/QC) analyses for the 2018 sampling events included one equipment blank sample, 11 trip blank samples, and five duplicate samples. Laboratory analytical test results for the QA/QC samples are presented in the laboratory reports located in **Appendix A**. TWQL work orders L180348 and L180323 matrix spike duplicate recoveries were outside the QC limits of 70% - 130% for site constituents of concern, PCE and TCE. The matrix spike duplicate is used to evaluate relative percent difference to the original matrix spike and was within the QC limit of 20%.

#### **Trip Blank and Equipment Blank Sample Analysis**

There were no analytes detected in any of the trip blank or equipment blank samples. The laboratory percent recoveries were within laboratory quality assurance objectives for accuracy. All of the data qualifiers listed in the case narratives presented in **Appendix A** were within acceptable quality and would not affect data results.

#### **Duplicate Sample Analysis**

The five duplicate sample analyses were compared with the original sample analyses to evaluate the degree of laboratory precision in the sample analytical process. The industry standard for quality control evaluation criteria is 30% relative percent difference (RPD) between the original and the duplicate sample results. If the RPD between the original and duplicate samples is greater than 30%, laboratory precision and sampling protocols or sample crew field methodologies shall be evaluated. The RPD between all five of the original samples and duplicate samples was less than 30% for all detected analytes. Comparisons of the duplicate samples are provided on the tables in **Appendix B**.

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<sup>2</sup> ADEQ, RE: Vincent Mullins Landfill, 2012 Annual Monitoring Report Aquifer Protection Permit (APP) No. P-100917, April 12, 2013

### 3.0 DEEP SOIL VAPOR MONITORING

COT-EGSD had been monitoring VOCs on a voluntarily basis in the soil vapor at deep nested soil vapor probe locations R-103A, R-104A and R-126A. The purpose of this analysis was to assess possible impacts to the groundwater from vapor phase VOCs potentially migrating from the waste mass at the Vincent Mullins Landfill site to the underlying groundwater. There are no regulatory standards for this monitoring data and analysis of the soil vapor for VOCs is not a requirement of the APP. HARGIS + Associates developed Groundwater Protection Limits (GPLs) for VOCs for the Vincent Mullins Landfill site in 2008<sup>3</sup>. The GPLs established the minimum soil vapor concentrations that would not cause an exceedance of the AWQS in the groundwater at the site due to vapor migration. At the Vincent Mullins Landfill, the GPL for PCE is 19 µg/l.

Historical VOC data obtained from soil vapor sampling was statistically evaluated to detect changes or trends over time<sup>4</sup>. Results of the statistical evaluation showed all of the deep nested probes had decreasing concentrations or showed no trend, indicating stable or declining PCE concentrations in the soil vapor. Therefore, COT-EGSD decided to discontinue the voluntary soil vapor monitoring at deep nested soil vapor probe locations R-103A, R-104A, and R-126A. In February 2017, ADEQ acknowledged COT-EGSD's request to discontinue this sampling program<sup>5</sup>.

### 4.0 LANDFILL GAS MONITORING RESULTS

An important element of the Corrective Action Plan at the Vincent Mullins Landfill was the expansion of the landfill gas extraction system, which was completed in 2004. The locations of the current gas extraction system wells, lateral piping, and header pipes are shown on **Figure 7**. The expanded landfill gas extraction system has been in operation since January 2005. Operation of the landfill gas extraction system has been effective in reducing VOC vapors in the vadose zone beneath the landfill to concentrations less than the GPLs established for the VML site.

The landfill gas probes were monitored quarterly in 2018 by COT-EGSD. The dates of the landfill gas monitoring events were January 4, April 4, July 2 and 3, November 28, and December 4, 2018. The gas probes include: MUN-3, MUN-7, MUN-28, MUN-29, MUN-30, MUN-31, MUN-32, MUN-33, MUN-34, MUN-35, MUN-36, MUN-37, MUN-38, MUN-39,

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<sup>3</sup> EEC and Hargis + Associates, Inc., *Soil Vapor Assessment at Los Reales, Prudence, Vincent Mullins, Irvington, Cottonwood, and Ryan Landfills*, April 10, 2008

<sup>4</sup> COT, *Vincent Mullins Landfill, Tucson, Arizona, Methane Gas, Soil Vapor, and Groundwater Monitoring Report, Reporting Period: January 1, 2016 through December 31, 2016*, January 29, 2017

<sup>5</sup> ADEQ, *Vincent Mullins Landfill, Tucson, Arizona, 2016 Annual Methane Gas, Soil Vapor, and Groundwater Monitoring Report, Aquifer Protection Permit No. P-100917*, February 9, 2017

MUN-40, and MUN-41. Each probe contains three lengths of PVC pipe allowing the collection of soil vapor samples from 10-, 25-, and 50-feet below ground surface.

Methane concentrations observed in all of the gas probes were less than the equipment detection limit for each of the quarterly sampling events in 2018. The measurement range for each methane measurement is 0% to 100% and the accuracy for each measurement is  $\pm 0.3\%$ . **Appendix C** contains the quarterly landfill gas field monitoring summary sheets for the 2018 sampling events.

## 5.0 SITE INSPECTIONS

### 5.1 Annual Site Inspections

Quarterly site inspections of the Vincent Mullins Landfill are required under a condition specified in the APP. During 2018, site inspections were conducted on behalf of COT-EGSD by GeoTek Contracting and Remediation, LLC (GeoTek, formerly Allwyn Consultants) from Tucson, Arizona in March, June, September, and December. Copies of the inspection reports are provided in **Appendix D**.

The inspections identified settlement cracks and erosional rills on the landfill final cover at several locations throughout the landfill. Excessive sediment, silt, rocks, and vegetation has accumulated within the western end of the northern drainage channel. Slope erosion was identified near a landfill gas probe.

Corrective actions implemented during 2018 at the Vincent Mullins Landfill included:

- Vegetation, debris, and other obstructions located at the southwest corner of the landfill were identified as contributing to the ponding of stormwater and were removed. The area was regraded with a backhoe to prevent the accumulation of stormwater and to redirect precipitation runoff to the southwest concrete drainage channel (located south of the inspection road).
- Silt and sediment was removed from the 150 by 3 foot section of the county pedestrian path. The areas of the landfill that were suspected of being the source of the deposits were re-compacted and will be monitored during the next storm event to ensure no further migration of the surface soil occurs.
- Approximately 1,250 feet of surface fissures were repaired. The fissure repairs required they be widened to approximately 18 inches (the width of a backhoe bucket), then processed backfilled material was introduced into the excavation and compacted by wheel rolling with a backhoe until the repair area was restored to the existing grade of the surrounding soil surface.

- A heavily eroded area located at the northeast corner of the landfill was repaired. The construction of the new roadway adjacent to the landfill inadvertently caused this area to become a discharge point for stormwater surface flow from the northwest section of the landfill. The immediate area was slightly regraded using a backhoe with two tons of 8 to 10 inch rip-rap being installed to alleviate the erosion damage.
- Approximately 310 feet of drainage channel was cleared of thick layers of soil and sediment using a backhoe. The remaining soil, including the debris that had accumulated under the Sabino Canyon Road bridge, was removed by hand shoveling and broom sweeping.
- A section of fencing that had been detached from the support post was reattached using aluminum fence wire ties.

## 5.2 Weather Event Site Inspections

Several weather-event related site inspections required by the APP were conducted in 2018 at the Vincent Mullins Landfill by GeoTek.

Information concerning the weather event site inspections is provided below in **Table 6**.

**Table 6**  
**2018 Weather Event Log**  
**Vincent Mullins Landfill**

<b>Date of Weather Inspection</b>	<b>Description of Weather Event</b>
January 24, 2018	Wind speeds were recorded at sustained speed of 25 to 28 mph.
January 29, 2018	Wind speeds were recorded at sustained speed of 25 to 30 mph.
February 15, 2018	1.48 inches of precipitation.
February 19, 2018	Wind speeds were recorded at sustained speed of 25 to 28 mph.
February 27, 2018	Wind speeds were recorded at sustained speed of 25 to 28 mph.
June 16, 2018	1.28 inches of precipitation.
August 16, 2016	0.63 inches of precipitation.
September 19, 2018	0.51 inches of precipitation.
October 7, 2018	0.98 inches of precipitation.
October 13, 2018	0.75 inches of precipitation.

Copies of the weather event inspection logs are included in the site inspection reports in **Appendix D**. COT-EGSD will continue quarterly and weather-qualifying inspections in 2019, and apply corrective actions when necessary.

## 6.0 FINDINGS AND CONCLUSIONS

- The VML was in compliance with all conditions specified in APP P-100917 during 2018.
- The groundwater flow direction continues to be northeast to southwest.
- PCE was detected in POC monitoring well WR-453A at concentrations exceeding numeric groundwater quality ALs. The PCE concentrations did not exceed the AWQS.
- Two APP listed wells had PCE detections, with only one exceeding the groundwater quality AWQS for PCE. Final observed PCE concentrations for the year were 6.0 µg/L in well WR-116A and 1.7 µg/L in well WR-117A. TCE was detected in well WR-116A at 1.3 µg/L.
- PCE was detected in four of the voluntary monitoring wells: VMW-502A, WR-457A, WR-458A, and WR-459A. All concentrations were less than the AWQS in the voluntary monitor wells. TCE was detected in wells VMW-502A, WR-458A, and WR-459A and all concentrations were less than the AWQS.
- All inorganic analyte concentrations complied with the APP requirements in the 2018 sampling events.
- Methane gas was not detected in any of the perimeter landfill gas probes during quarterly monitoring conducted in 2018.
- Operation of the landfill gas extraction system has been effective in lowering concentrations of VOCs in the soil vapor.
- Settlement cracks and erosion rills on the landfill final cover were identified during the 2018 site inspections. Recommendations provided in the 2018 site inspection reports for repairs or maintenance will be evaluated for implementation in 2019.

# **FIGURES**



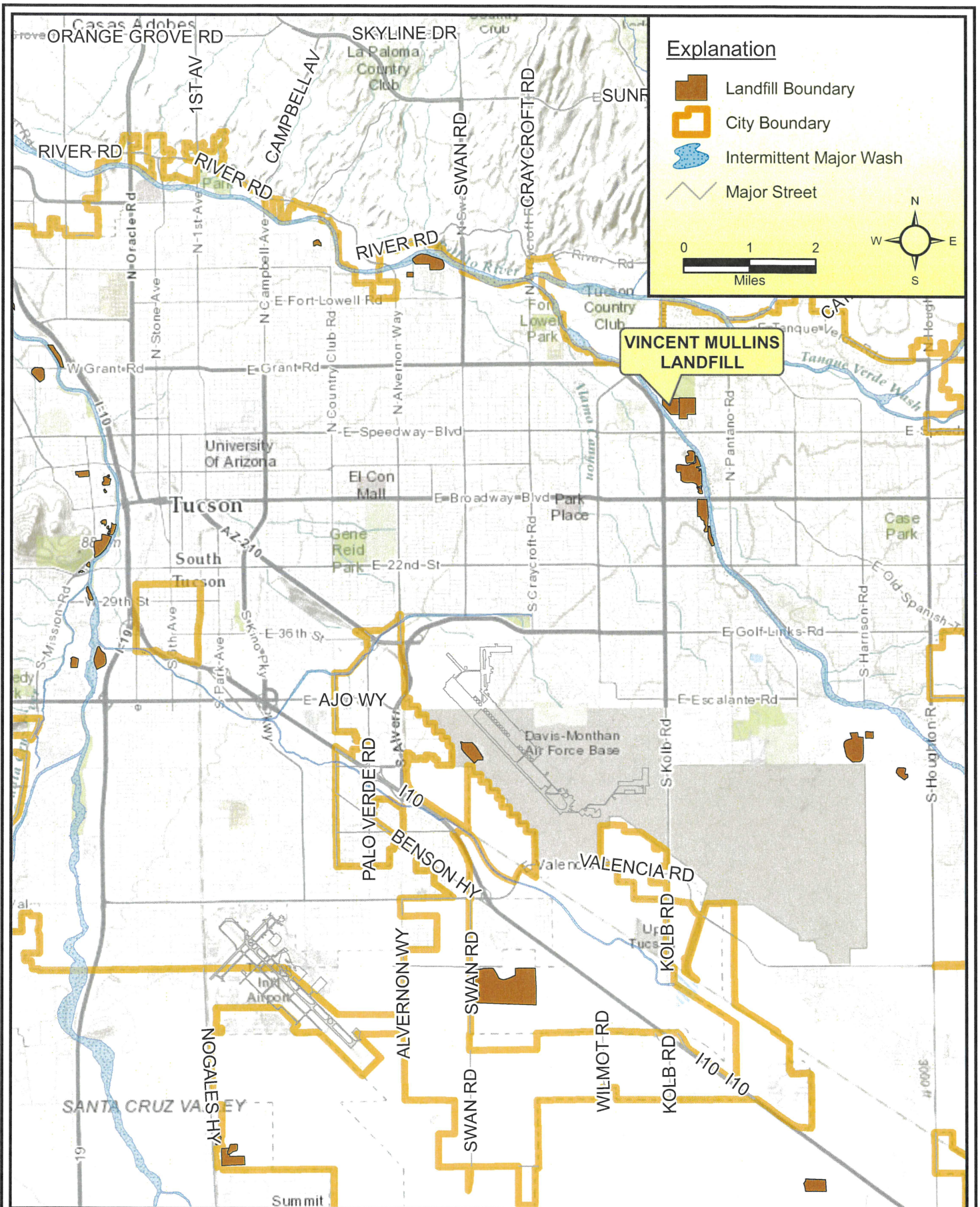
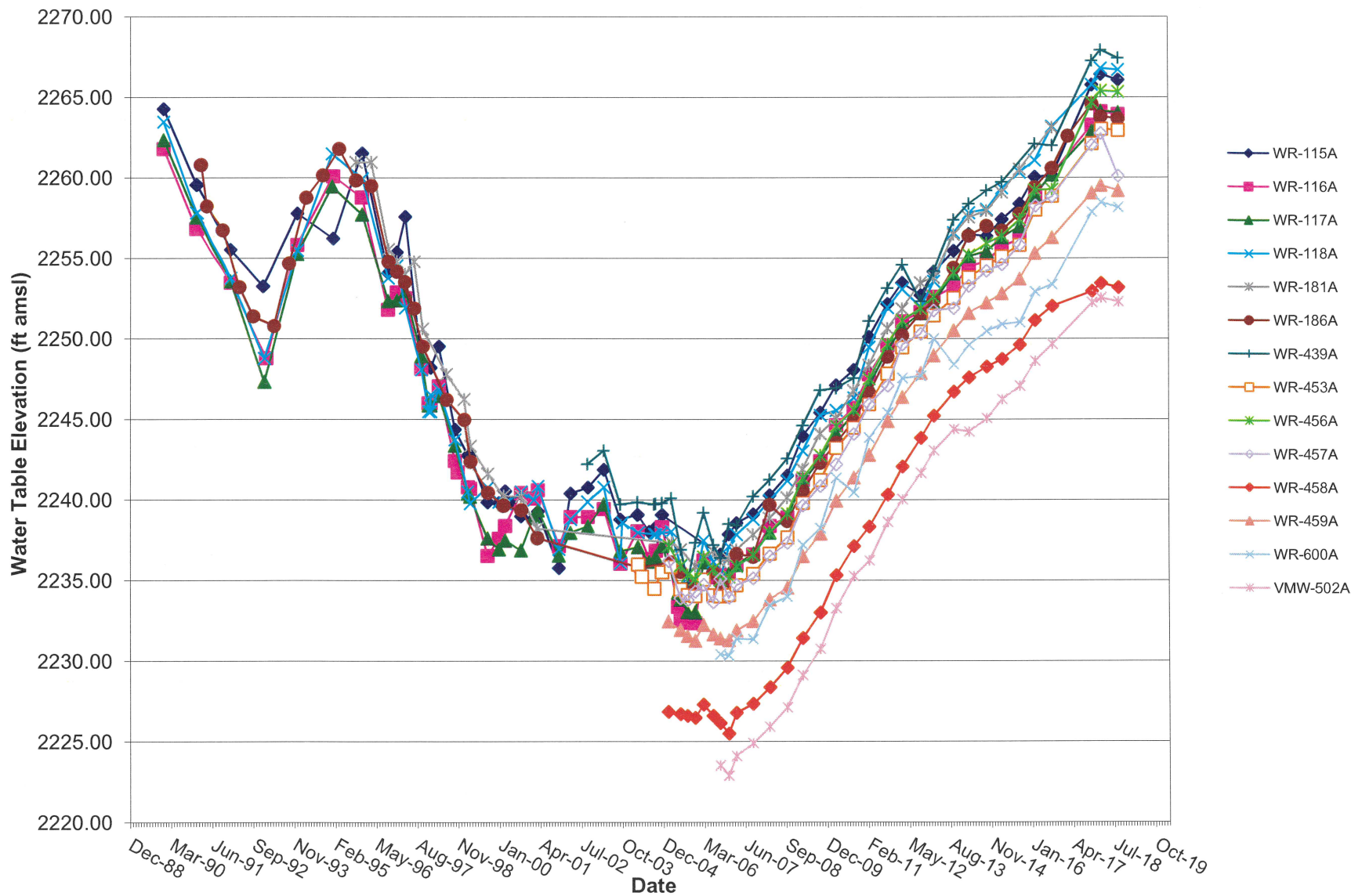


Figure 1  
Location Map  
Vincent Mullins Landfill



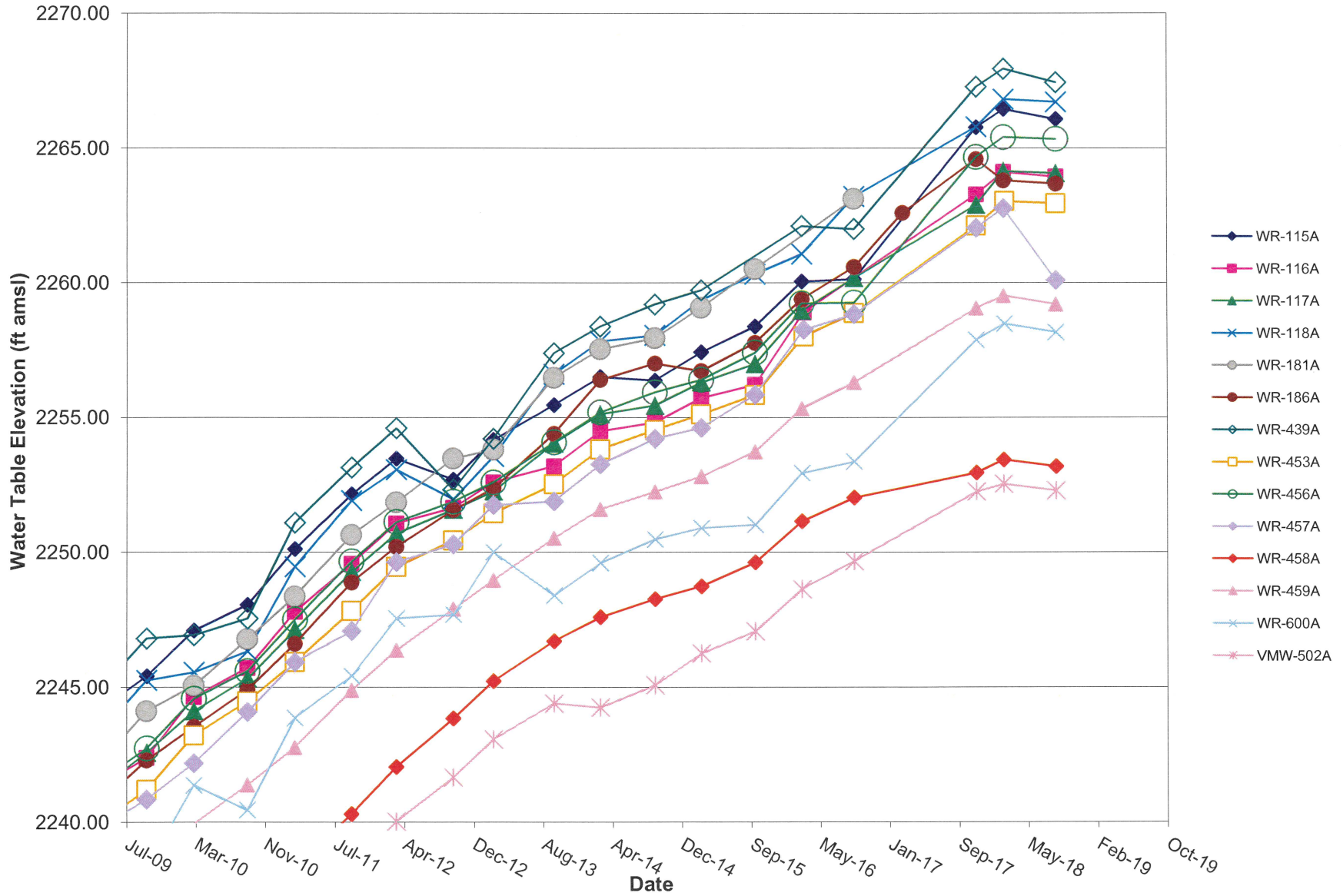
Figure 2  
Groundwater Contour and Flow Direction Map  
Vincent Mullins Landfill

**Figure 3**  
 Groundwater Monitor Wells Hydrographs - 1988 to Present  
 Vincent Mullins Landfill

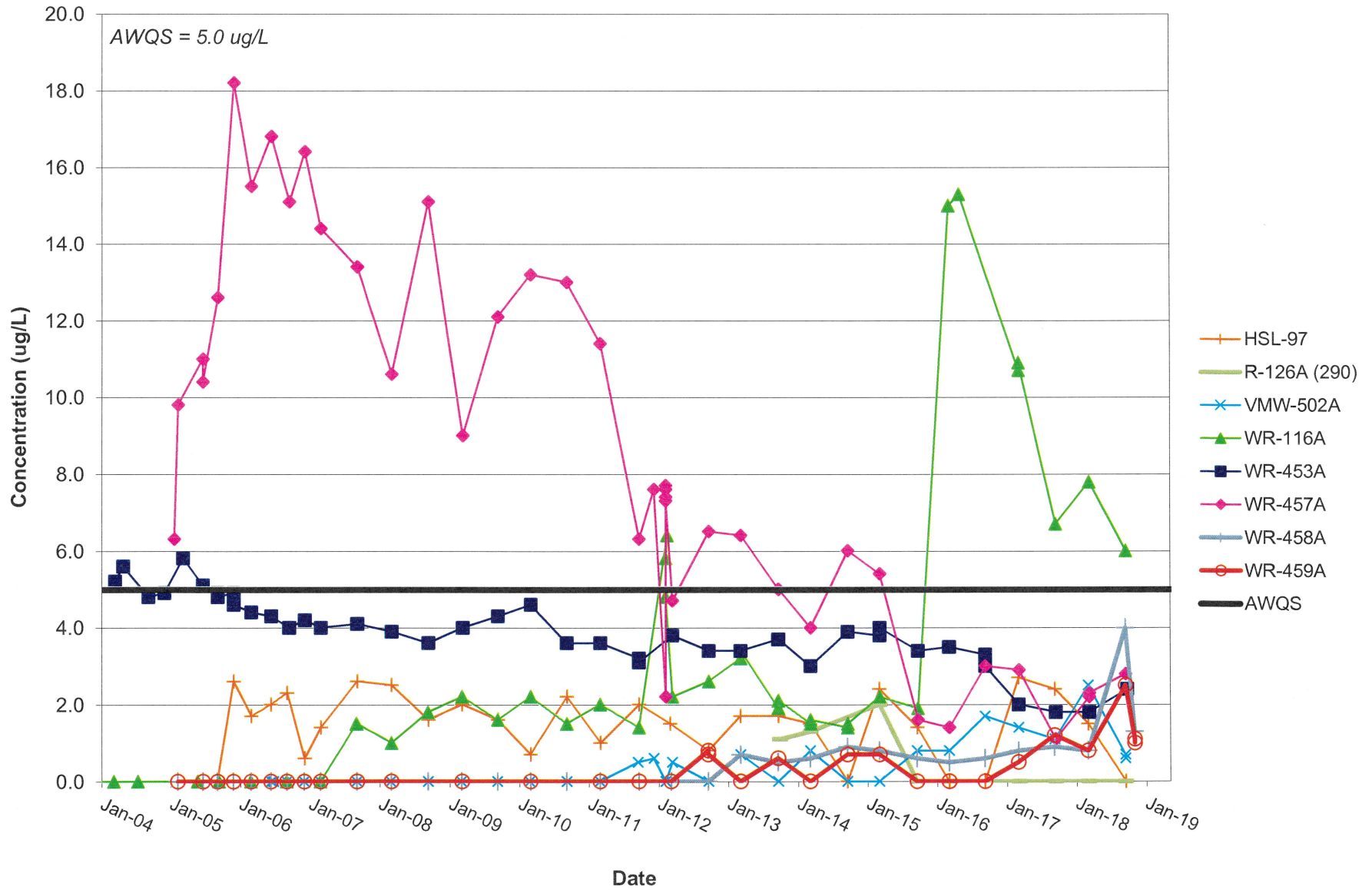


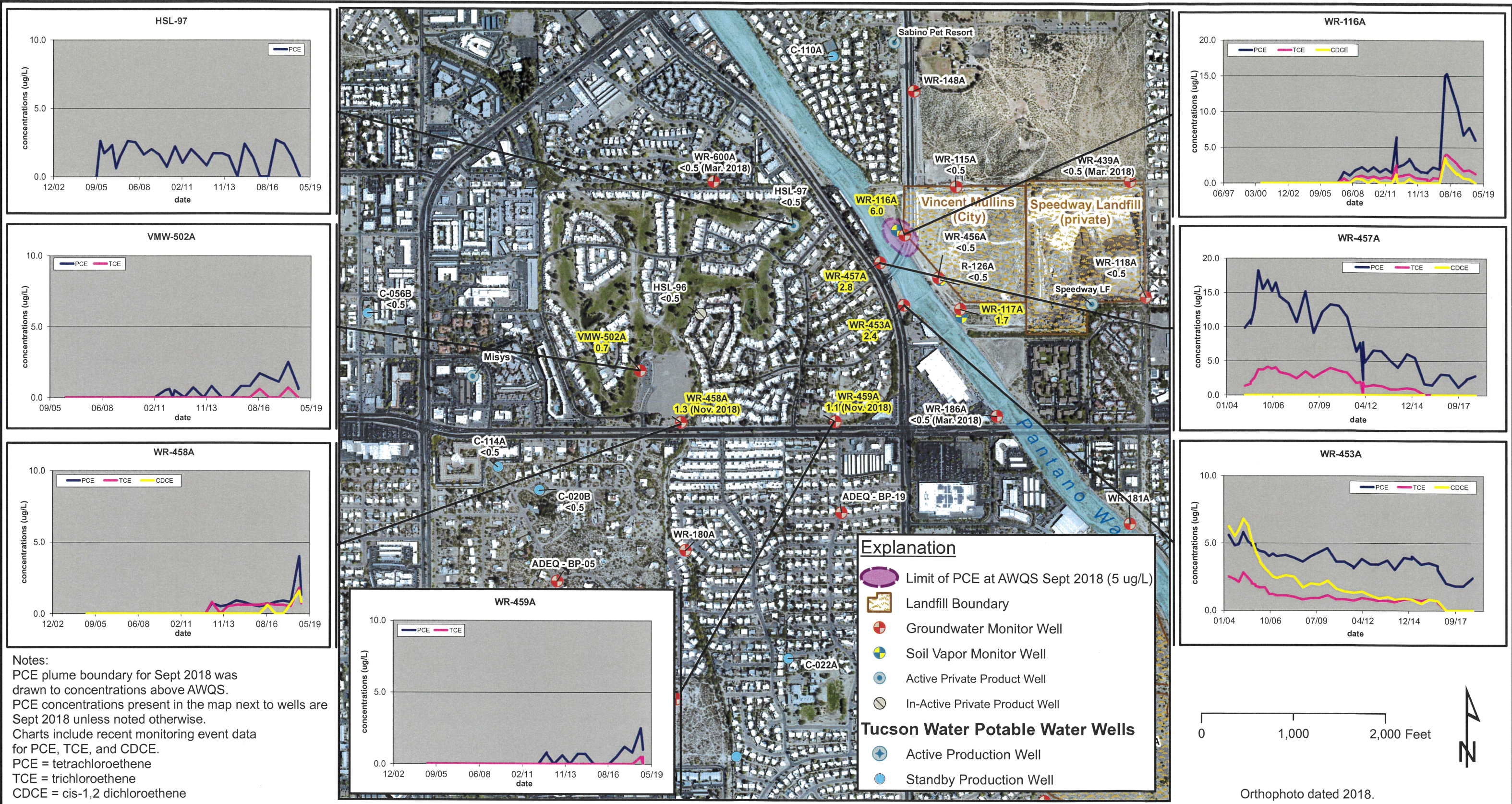
Note: See Figure 4 for a detail of recent water levels (September 2009 to Present).

**Figure 4**  
 Groundwater Monitor Wells Hydrographs - July 2009 to Present  
 Vincent Mullins Landfill

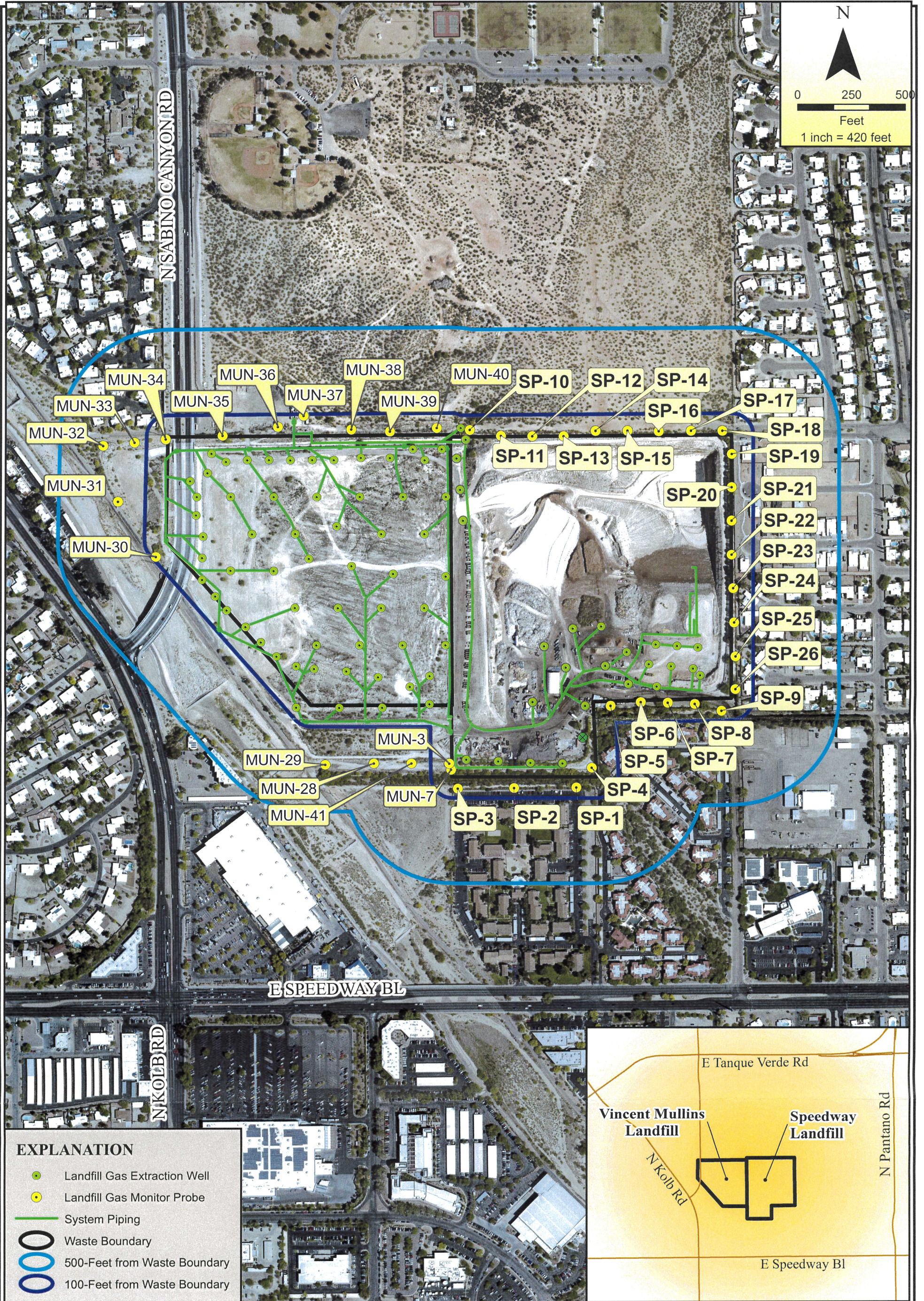


**Figure 5**  
PCE Concentration in Groundwater Monitor Wells  
Vincent Mullins Landfill





**FIGURE 6**  
Approximate Extent of Tetrachloroethene (PCE)  
Groundwater Exceedance 2018  
Vincent Mullins Landfill



**EXPLANATION**

- Landfill Gas Extraction Well
- Landfill Gas Monitor Probe
- System Piping
- Waste Boundary
- 500-Foot from Waste Boundary
- 100-Foot from Waste Boundary

Figure 7  
Landfill Gas Extraction System and Perimeter Probe Map  
Vincent Mullins and Speedway Landfills

Drawn By:	LE
Checked:	RB
Approved:	TR
Date:	2/27/2019
File:	See Below

GIS\VincentMullins\2018\VMLgasmapfig7.mxd

# **TABLES**



**Table 1  
Well Information  
Vincent Mullins Landfill**

<i>Well Name</i>	<i>ADWR # (55-xxxxxx)</i>	<i>Well Type</i>	<i>Diameter (inches)</i>	<i>Material</i>	<i>Total Depth (ft bgs)</i>	<i>Well Depth (ft bgs)</i>	<i>Screen Interval (ft bgs)</i>	<i>Slot Size (inches)</i>	<i>Pump Info</i>	<i>Easting</i>	<i>Northing</i>	<i>X- Concrete Elevation</i>	<i>Sounding Tube Elevation</i>	<i>Date of Survey</i>
<b>R-103A*</b>	590006	Soil Vapor Well	0.5, 0.5, 3.0, 0.5	Sch 80 PVC	285	75, 145, 235, 280	70-75, 140-145, 180-235, 275-280	0.02	Not Equipped	1032506	453264	NA	NA	estimated
<b>R-104A*</b>	590004	Soil Vapor Well	0.5, 0.5, 0.5, 3	Sch 80 PVC	319	75, 142, 215, 309	70-75, 137-142, 210-215, 304-309	0.02	Not Equipped	1033210	452326	NA	NA	estimated
<b>R-126A*</b>	205401	Soil Vapor Well	0.5, 0.5, 0.5, 3.0	Sch 80 PVC	310	75, 135, 205, 290	70-75, 130-135, 200-205, 285-290	0.02	Not Equipped	1032983	452731	NA	NA	estimated
<b>VMW-502A</b>	212345	Monitor Well-GW	5	Sch 80 PVC	420.33	420.33	280-420	0.02	3 Hp, 3 Ph, 230 V, 25 gpm, intake ~381.8'	1029703.36	451737.74	2539.26	2540.11	9/1/06
<b>WR-115A</b>	514277	Monitor Well-GW	6	Steel	340	335	235-335	0.125	5 Hp, 3 Ph, 230 V, intake ~317.8'	1033168.64	453740.58	2533.29	NA	9/1/06
<b>WR-116A</b>	514278	Monitor Well-GW	6	Steel	350	340	240-340	0.125	3 Hp, 3 Ph, 230 V, intake ~337.5'	1032594.69	453215.43	2535.69	2536.67	9/20/06
<b>WR-117A</b>	514279	Monitor Well-GW	6	Steel	350	345	245-345	0.125	5 Hp, 3 Ph, 230 V, intake ~317'	1033202.99	452413.67	2536.40	2537.64	9/20/06
<b>WR-118A</b>	514280	Monitor Well-GW	6	Steel	366	360	260-360	0.125	5 Hp, 3 Ph, 230 V, intake ~339'	1035215.83	452545.41	2555.03	2555.99	9/20/06
<b>WR-147A*</b>	520953	Monitor Well-GW	6	Steel	350	350	250-350	0.125	5HP, intake ~337'	1032673.5	455778.1	2529.09	NA	2/1/98
<b>WR-148A*</b>	520954	Monitor Well-GW	6	Steel	340	340	240-340	0.125	5Hp, intake ~328'	1032686.9	454770.7	2538.78	NA	2/1/98
<b>WR-181A</b>	527406	Monitor Well-GW	6	Steel	445	438	287-438	2	Not Equipped	1035034.29	450093.41	NA	2548.82	11/19/01
<b>WR-186A</b>	527407	Monitor Well-GW	6	Steel	415	410	260-410	2	Not Equipped	1033592.95	451256.01	NA	2545.49	11/19/01
<b>WR-439A</b>	590008	Monitor Well-GW	5	Sch 80 PVC	410	395	280-400	0.02	3 Hp, 3 Ph, 230 V, 25 gpm, intake ~380'	1035034.60	453800.99	2560.27	2560.53	7/8/02

**Table 1  
Well Information  
Vincent Mullins Landfill**

<i>Well Name</i>	<i>ADWR # (55-xxxxxx)</i>	<i>Well Type</i>	<i>Diameter (inches)</i>	<i>Material</i>	<i>Total Depth (ft bgs)</i>	<i>Well Depth (ft bgs)</i>	<i>Screen Interval (ft bgs)</i>	<i>Slot Size (inches)</i>	<i>Pump Info</i>	<i>Easting</i>	<i>Northing</i>	<i>X- Concrete Elevation</i>	<i>Sounding Tube Elevation</i>	<i>Date of Survey</i>
WR-453A	201627	Monitor Well-GW	5	Sch 80 PVC	410	405	250-400	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~362'	1032582.83	452455.66	2532.87	2533.93	8/31/06
WR-456A	205402	Monitor Well-GW	5	Sch 80 PVC	410	356	316-356	0.02	5 Hp, 3 Ph, 230 V, intake ~362'	1032960.40	452754.72	2541.08	2542.08	8/31/06
WR-457A	205403	Monitor Well-GW	5	Sch 80 PVC	410	401.7	248-396.6	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~359.2'	1032323.79	452913.09	2528.95	2529.76	8/31/06
WR-458A	205404	Monitor Well-GW	5	Sch 80 PVC	430	425	252-420	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~360'	1030144.03	451181.01	2541.58	2542.49	8/31/06
WR-459A	205405	Monitor Well-GW	5	Sch 80 PVC	410	406	254-400	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~360'	1031837.11	451193.73	2535.86	2536.51	8/31/06
WR-600A	904442	Monitor Well-GW	5	Sch 80 PVC	408	401.35	251.35-401	0.02	3 Hp, 230 V, 25 gpm, intake ~380'	1030495.50	453785.81	2514.43	2513.33	9/1/06
HSL-96	612396	private-not used	12	Steel	299	299	127-299	mills knife	Not Equipped					
HSL-97	612397	private-irrigation	16	Steel	475	475			Equipped - no info					
Misys	602755	private-irrigation	8	Steel	358	358			Equipped - no info					

Notes: Northing & Easting is State Plane, Arizona Central, NAD 83, International Feet  
Elevation is in NAVD 88, feet above mean sea level  
ft bgs = feet below ground surface  
NA = not available  
\* Northing and Easting are estimated from orthophoto.

**Table 2**

**Summary of Groundwater Monitoring at the Vincent Mullins  
Landfill for 2018**

**(Embedded on Page 3 of the Report)**

**Table 3**  
**Groundwater Elevation Table for 2018**  
**Vincent Mullins Landfill APP No. P-100917**

Well ID	Date	Time	Depth To Water (ft)	Correction Factor (ft)	Corrected DTW (ft)	Benchmark Elevation (ft. a.m.s.l.)	Water Table Elevation (ft)	Sounder ID	Collected by
WR-115A	3/2/2018	9:10	268.13	-1.28	266.85	2533.29	2266.44	Her 2	LC/JM
WR-116A	3/2/2018	9:55	272.82	-1.23	271.59	2535.69	2264.10	Her 2	LC/JM
WR-117A	3/2/2018	12:30	273.39	-1.13	272.26	2536.40	2264.14	Her 2	LC/JM
WR-118A	3/2/2018	12:44	289.12	-0.90	288.22	2555.03	2266.81	Her 2	LC/JM
WR-147A	3/2/2018	9:23	255.76	-0.58	255.18	2529.09	2273.91	Her 2	LC/JM
WR-186A	3/2/2018	11:53	281.70	0.00	281.70	2545.49	2263.79	Her 2	LC/JM
WR-439A	3/2/2018	9:38	293.16	-0.83	292.33	2560.27	2267.94	Her 2	LC/JM
WR-453A	3/6/2018	12:20	270.89	-1.04	269.85	2532.87	2263.02	Her 2	LC/JM
WR-456A	3/2/2018	12:20	276.81	-1.13	275.68	2541.08	2265.40	Her 2	LC/JM
WR-457A	3/2/2018	10:12	267.22	-1.03	266.19	2528.95	2262.76	Her 2	LC/JM
WR-458A	3/2/2018	11:20	287.38	0.77	288.15	2541.58	2253.43	Her 2	LC/JM
WR-459A	3/2/2018	10:42	276.90	-0.56	276.34	2535.86	2259.52	Her 2	LC/JM
WR-600A	3/5/2018	10:19	254.89	1.06	255.95	2514.43	2258.48	Her 2	LC/JM
VMW-502A	3/2/2018	11:30	287.41	-0.68	286.73	2539.26	2252.53	Her 2	LC/JM
HSL-96	3/2/2018	11:01	274.46	Do Not Have Benchmark Elevation				Her 2	LC/JM
R-103A-280'	3/2/2018	10:02	238.15	Do Not Have Benchmark Elevation				Her 2	LC/JM
R-126A-290'	3/2/2018	12:15	277.27	Do Not Have Benchmark Elevation				Her 2	LC/JM

Well ID	Date	Time	Depth To Water (ft)	Correction Factor (ft)	Corrected DTW (ft)	Benchmark Elevation (ft. a.m.s.l.)	Water Table Elevation (ft)	Sounder ID	Collected by
WR-115A	9/6/2018	8:10	268.50	-1.28	267.22	2533.29	2266.07	Her 2	LC/JM
WR-116A	9/6/2018	8:50	272.99	-1.23	271.76	2535.69	2263.93	Her 2	LC/JM
WR-117A	9/6/2018	7:45	273.47	-1.13	272.34	2536.40	2264.06	Her 2	LC/JM
WR-118A	9/6/2018	7:35	289.22	-0.90	288.32	2555.03	2266.71	Her 2	LC/JM
WR-147A	9/6/2018	8:42	256.05	-0.58	255.47	2529.09	2273.62	Her 2	LC/JM
WR-186A	9/6/2018	9:30	281.82	0.00	281.82	2545.49	2263.67	Her 2	LC/JM
WR-439A	9/6/2018	8:27	293.66	-0.83	292.83	2560.27	2267.44	Her 2	LC/JM
WR-453A	9/6/2018	9:39	270.97	-1.04	269.93	2532.87	2262.94	Her 2	LC/JM
WR-456A	9/6/2018	8:00	276.88	-1.13	275.75	2541.08	2265.33	Her 2	LC/JM
WR-457A	9/6/2018	9:05	269.88	-1.03	268.85	2528.95	2260.10	Her 2	LC/JM
WR-458A	9/6/2018	10:22	287.63	0.77	288.40	2541.58	2253.18	Her 2	LC/JM
WR-459A	9/6/2018	9:54	277.22	-0.56	276.66	2535.86	2259.20	Her 2	LC/JM
WR-600A	9/6/2018	9:15	255.20	1.06	256.26	2514.43	2258.17	Her 2	LC/JM
VMW-502A	9/6/2018	10:35	287.65	-0.68	286.97	2539.26	2252.29	Her 2	LC/JM
HSL-96	9/6/2018	10:05	274.74	Do Not Have Benchmark Elevation				Her 2	LC/JM
R-103A-280'	9/6/2018	8:55	238.17	Do Not Have Benchmark Elevation				Her 2	LC/JM
R-126A-290'	9/6/2018	7:56	277.33	Do Not Have Benchmark Elevation				Her 2	LC/JM

**Notes:**

ft = feet

ft a.m.s.l. = feet above mean sea level

Correction factor is the measured difference between the measuring point and the benchmark elevation.

Benchmark Elevation is normally a chiseled x on the concrete pad in NAVD88, feet above mean sea level.

Monitoring Wells WR-181A and WR-186A benchmark elevations are casing elevations and require no correction.

A Depth to Water Measurement was not Taken at Monitoring Well WR-181A during the November 2017 Measurement Event.

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
VMW-502A		06/22/06	2006.471	<1.0	<1.5	<0.5	<2.0	<3.0	<0.5	<0.5	<2.0	<0.5
VMW-502A		07/05/06	2006.507	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/12/06	2006.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		12/11/06	2006.942	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/05/07	2007.173	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/11/07	2007.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/06/08	2008.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	D	03/06/08	2008.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/17/08	2008.710	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/09/09	2009.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	D	03/09/09	2009.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/15/09	2009.704	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/04/10	2010.170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	D	03/04/10	2010.170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/15/10	2010.704	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/07/11	2011.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/21/11	2011.721	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
VMW-502A	D	09/21/11	2011.721	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
VMW-502A		12/14/11	2011.951	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
VMW-502A	HS-306 ft	02/14/12	2012.120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-334 ft	02/14/12	2012.120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-362 ft	02/14/12	2012.120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-390 ft	02/14/12	2012.120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-418 ft	02/14/12	2012.120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/20/12	2012.216	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
VMW-502A		09/26/12	2012.735	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/12/13	2013.192	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
VMW-502A		09/25/13	2013.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/12/14	2014.192	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
VMW-502A		09/24/14	2014.729	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/11/15	2015.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/23/15	2015.727	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
VMW-502A		03/09/16	2016.186	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
VMW-502A		09/14/16	2016.702	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	0.6	<0.5	<0.5
VMW-502A		03/08/17	2017.182	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5
VMW-502A		09/14/17	2017.702	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5
VMW-502A		03/08/18	2018.182	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	0.7	<0.5	<0.5
VMW-502A		09/18/18	2018.712	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
VMW-502A	D	09/19/18	2018.715	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
R-126A		10/04/13	2013.756	<0.5	<0.5	<0.5	2.7	<0.5	1.1	<0.5	0.6	<0.5
R-126A		03/13/14	2014.195	<0.5	<0.5	<0.5	1.9	<0.5	1.3	<0.5	0.5	<0.5
R-126A		03/12/15	2015.192	<0.5	<0.5	<0.5	2.0	<0.5	2.0	0.5	0.6	<0.5
R-126A		03/12/15	2015.193	<0.5	<0.5	<0.5	2	<0.5	2.0	0.5	0.6	<0.5
R-126A		09/24/15	2015.729	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
R-126A		03/14/16	2016.199	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5
R-126A		03/14/17	2017.198	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5
R-126A		09/20/17	2017.719	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5
R-126A		03/12/18	2018.193	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
R-126A		09/20/18	2018.718	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		05/17/00	2000.374	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/07/00	2000.683	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/15/01	2001.200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		10/29/01	2001.825	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/06/02	2002.175	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
WR-115A		09/16/02	2002.707	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/03	2003.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/08/03	2003.685	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/16/04	2004.205	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
WR-115A		07/20/04	2004.549	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/08	2008.191	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/16/08	2008.708	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/10/09	2009.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/15/09	2009.704	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A	D	09/15/09	2009.704	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/08/10	2010.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/13/10	2010.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/08/11	2011.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/22/11	2011.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/14/12	2012.199	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/24/12	2012.730	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/13	2013.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/23/13	2013.726	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A	D	09/23/13	2013.726	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/14	2014.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/22/14	2014.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/10/15	2015.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/22/15	2015.724	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/08/16	2016.183	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/13/16	2016.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/07/17	2017.179	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/12/17	2017.697	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/07/18	2018.179	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/11/18	2018.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/15/00	2000.202	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/07/00	2000.683	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/15/01	2001.200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		10/29/01	2001.825	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/06/02	2002.175	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
WR-116A		09/16/02	2002.707	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/11/03	2003.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/08/03	2003.685	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/16/04	2004.205	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		07/20/04	2004.549	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		05/31/05	2005.411	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/20/05	2005.718	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A	D	09/20/05	2005.718	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/07/06	2006.178	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/11/06	2006.693	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A	D	09/11/06	2006.693	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/06/07	2007.175	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/10/07	2007.690	<0.5	<0.5	<0.5	0.9	<0.5	1.5	0.6	<0.5	<0.5
WR-116A		03/11/08	2008.191	<0.5	<0.5	<0.5	0.9	<0.5	1.0	<0.5	<0.5	<0.5
WR-116A	D	03/11/08	2008.191	<0.5	<0.5	<0.5	1.0	<0.5	1.0	<0.5	<0.5	<0.5
WR-116A		09/16/08	2008.708	0.6	<0.5	0.6	1.0	<0.5	1.8	0.8	<0.5	<0.5
WR-116A		03/12/09	2009.192	0.7	<0.5	0.5	0.6	<0.5	2.2	1.0	<0.5	<0.5
WR-116A		09/16/09	2009.707	<0.5	<0.5	<0.5	1.0	<0.5	1.6	0.7	<0.5	<0.5
WR-116A		03/09/10	2010.184	0.7	<0.5	0.5	0.5	<0.5	2.2	0.9	<0.5	<0.5
WR-116A		09/15/10	2010.704	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	0.6	<0.5	<0.5
WR-116A		03/09/11	2011.184	0.5	<0.5	<0.5	<0.5	<0.5	2.0	0.8	<0.5	<0.5
WR-116A		09/26/11	2011.734	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.6	<0.5	<0.5
WR-116A	HS-303 ft	02/22/12	2012.142	2.1	<0.5	1.2	1.2	<0.5	<b>6.4</b>	2.5	<0.5	<0.5
WR-116A	HS-323 ft	02/14/12	2012.120	2.1	<0.5	1.2	1.2	<0.5	<b>5.8</b>	2.3	<0.5	<0.5
WR-116A	HS-343 ft	02/14/12	2012.120	1.5	<0.5	0.9	1.0	<0.5	4.8	2.0	<0.5	<0.5
WR-116A		03/20/12	2012.216	0.6	<0.5	<0.5	0.7	<0.5	2.2	0.9	<0.5	<0.5
WR-116A		09/27/12	2012.738	0.8	<0.5	<0.5	0.6	<0.5	2.6	1.0	<0.5	<0.5
WR-116A	D	09/27/12	2012.738	0.8	<0.5	<0.5	0.6	<0.5	2.6	1.1	<0.5	<0.5
WR-116A		03/13/13	2013.195	0.9	<0.5	0.6	0.7	<0.5	3.2	1.2	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				-	<b>75.0</b>	<b>70.0</b>	-	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	-	<b>2.0</b>
WR-116A		03/13/13	2013.195	0.8	<0.5	0.5	0.7	<0.5	3.4	1.2	<0.5	<0.5
WR-116A		09/26/13	2013.734	0.5	<0.5	<0.5	0.5	<0.5	1.9	0.7	<0.5	<0.5
WR-116A	D	09/26/13	2013.734	0.5	<0.5	<0.5	0.5	<0.5	2.1	0.7	<0.5	<0.5
WR-116A		03/13/14	2014.195	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	0.6	<0.5	<0.5
WR-116A	D	03/13/14	2014.195	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	0.6	<0.5	<0.5
WR-116A		09/25/14	2014.732	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.5	<0.5	<0.5
WR-116A	D	09/25/14	2014.732	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
WR-116A		03/12/15	2015.192	0.5	<0.5	<0.5	<0.5	<0.5	2.2	0.7	<0.5	<0.5
WR-116A		09/28/15	2015.741	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	0.6	<0.5	<0.5
WR-116A		03/10/16	2016.189	3.6	<0.5	3.5	3.8	<0.5	<b>15</b>	3.9	1.4	<0.5
WR-116A		05/03/16	2016.336	3.6	<0.5	2.8	2.9	<0.5	<b>15.3</b>	4	1.0	<0.5
WR-116A		03/09/17	2017.185	2.6	<0.5	1.2	1.6	<0.5	<b>10.7</b>	2.7	0.7	<0.5
WR-116A	D	03/09/17	2017.185	2.6	<0.5	1.4	1.6	<0.5	<b>10.9</b>	2.6	0.7	<0.5
WR-116A		09/19/17	2017.716	1.6	<0.5	0.7	1.3	<0.5	<b>6.7</b>	1.7	<0.5	<0.5
WR-116A		03/13/18	2018.196	1.5	<0.5	0.6	1	<0.5	<b>7.8</b>	1.8	<0.5	<0.5
WR-116A		09/20/18	2018.718	1.2	<0.5	<0.5	1	<0.5	<b>6.0</b>	1.3	<0.5	<0.5
WR-117A		03/15/00	2000.202	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/07/00	2000.683	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/15/01	2001.200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		10/29/01	2001.825	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/06/02	2002.175	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
WR-117A		09/16/02	2002.707	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/11/03	2003.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/08/03	2003.685	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/22/04	2004.221	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		07/20/04	2004.549	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		05/31/05	2005.411	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A	D	05/31/05	2005.411	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/12/05	2005.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/07/06	2006.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/11/06	2006.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/06/07	2007.175	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/10/07	2007.690	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/10/08	2008.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/16/08	2008.708	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/10/09	2009.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/15/09	2009.704	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/08/10	2010.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/13/10	2010.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/08/11	2011.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/22/11	2011.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/14/12	2012.199	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/24/12	2012.730	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/11/13	2013.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/23/13	2013.726	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/11/14	2014.189	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/22/14	2014.723	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/10/15	2015.186	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/22/15	2015.724	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/08/16	2016.183	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/12/16	2016.697	<0.5	<0.5	<0.5	1.3	<0.5	0.7	<0.5	<0.5	<0.5
WR-117A		03/08/17	2017.182	<0.5	<0.5	<0.5	1.9	<0.5	1	<0.5	<0.5	<0.5
WR-117A		09/13/17	2017.700	<0.5	<0.5	<0.5	1.6	<0.5	0.9	<0.5	<0.5	<0.5
WR-117A	D	09/13/17	2017.700	<0.5	<0.5	<0.5	1.6	<0.5	0.9	<0.5	<0.5	<0.5
WR-117A		03/07/18	2018.178	<0.5	<0.5	<0.5	1.5	<0.5	1.3	<0.5	<0.5	<0.5
WR-117A		09/19/18	2018.715	<0.5	<0.5	<0.5	2.1	<0.5	1.7	<0.5	<0.5	<0.5
WR-118A		03/15/00	2000.202	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/07/00	2000.683	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-118A		03/15/01	2001.200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		10/29/01	2001.825	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/06/02	2002.175	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/11/02	2002.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/03	2003.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/29/03	2003.742	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/22/04	2004.221	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/13/04	2004.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/16/05	2005.203	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/12/05	2005.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/12/05	2005.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/07/06	2006.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/25/06	2006.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/25/06	2006.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/06/07	2007.175	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/10/07	2007.690	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/10/07	2007.690	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/10/08	2008.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/16/08	2008.708	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/16/08	2008.708	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/09	2009.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	03/11/09	2009.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/15/09	2009.704	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/08/10	2010.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/14/10	2010.701	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/14/10	2010.701	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/08/11	2011.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/22/11	2011.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/14/12	2012.199	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/25/12	2012.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/13	2013.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/23/13	2013.726	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/14	2014.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/22/14	2014.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/22/14	2014.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/10/15	2015.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/21/15	2015.721	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/21/15	2015.722	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/08/16	2016.183	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/12/16	2016.697	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/12/16	2016.697	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/07/17	2017.179	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/12/17	2017.697	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/12/17	2017.697	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/07/18	2018.179	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/11/18	2018.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		04/08/04	2004.268	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/15/05	2005.200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		06/27/06	2006.485	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/05/07	2007.173	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/04/08	2008.172	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/09/09	2009.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/10/10	2010.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/14/11	2011.197	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/13/12	2012.197	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/14/13	2013.197	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/13/14	2014.195	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/11/15	2015.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/10/16	2016.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-186A		03/13/17	2017.196	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/12/18	2018.193	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		06/20/02	2002.466	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/11/02	2002.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/11/03	2003.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/08/03	2003.685	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/16/04	2004.205	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/13/04	2004.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/15/05	2005.200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/13/05	2005.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A	D	09/13/05	2005.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/06	2006.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A	D	03/07/06	2006.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/11/06	2006.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/05/07	2007.173	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/11/07	2007.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/06/08	2008.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/10/09	2009.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/04/10	2010.170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/11	2011.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A	D	03/07/11	2011.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/22/11	2011.723	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/08/12	2012.183	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/13	2013.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/10/14	2014.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/09/15	2015.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/16	2016.180	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A	D	03/07/16	2016.180	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/06/17	2017.177	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/06/18	2018.177	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-453A		03/22/04	2004.221	1.0	<0.5	5.5	2.0	1.4	5.2	2.1	1.3	<0.5
WR-453A		05/03/04	2004.336	1.1	<0.5	6.2	2.5	1.8	5.6	2.5	1.4	<0.5
WR-453A		09/13/04	2004.699	1.0	<0.5	5.5	2.3	1.6	4.8	2.3	1.3	<0.5
WR-453A		12/07/04	2004.932	1.1	<0.5	6.0	2.8	1.8	4.9	2.1	1.2	<0.5
WR-453A		03/15/05	2005.200	1.4	<0.5	6.8	3.0	2.7	5.8	2.8	1.6	<0.5
WR-453A		06/27/05	2005.485	1.4	<0.5	6.3	4.3	2.5	5.1	2.4	1.7	<0.5
WR-453A		09/14/05	2005.701	1.1	<0.5	5.1	3.9	2.0	4.9	2.1	1.5	<0.5
WR-453A	D	09/14/05	2005.701	1.2	<0.5	5.2	4.0	2.0	4.8	2.0	1.5	<0.5
WR-453A		12/06/05	2005.929	1.0	<0.5	4.5	4.0	1.7	4.9	1.9	1.8	<0.5
WR-453A	D	12/06/05	2005.929	1.0	<0.5	4.4	3.3	1.6	4.6	1.8	1.4	<0.5
WR-453A		03/09/06	2006.184	0.9	<0.5	3.7	3.0	1.1	4.4	1.7	1.4	<0.5
WR-453A	D	03/09/06	2006.184	0.9	<0.5	3.6	3.1	1.1	4.4	1.7	1.5	<0.5
WR-453A		06/22/06	2006.471	0.8	<0.5	3.1	3.3	0.7	4.3	1.7	1.4	<0.5
WR-453A		09/25/06	2006.732	0.6	<0.5	2.8	3.6	0.6	4.0	1.2	1.4	<0.5
WR-453A		12/14/06	2006.951	0.6	<0.5	2.5	2.7	<0.5	4.2	1.2	1.1	<0.5
WR-453A		03/08/07	2007.181	0.5	<0.5	2.4	2.5	<0.5	4.0	1.1	1.1	<0.5
WR-453A		09/13/07	2007.699	<0.5	<0.5	2.6	3.6	<0.5	4.1	1.1	1.5	<0.5
WR-453A		03/12/08	2008.194	<0.5	<0.5	2.5	4.2	<0.5	3.9	1.0	1.5	<0.5
WR-453A		09/18/08	2008.713	<0.5	<0.5	1.7	4.2	<0.5	3.6	0.8	1.2	<0.5
WR-453A		03/16/09	2009.203	<0.5	<0.5	2.0	3.5	<0.5	4.0	0.9	1.2	<0.5
WR-453A		09/17/09	2009.710	<0.5	<0.5	1.9	6.8	<0.5	4.3	0.9	1.6	<0.5
WR-453A		03/10/10	2010.186	<0.5	<0.5	2.2	4.5	<0.5	4.6	1.1	1.5	<0.5
WR-453A		09/15/10	2010.704	<0.5	<0.5	1.6	2.7	<0.5	3.6	0.8	1.1	<0.5
WR-453A		03/10/11	2011.186	<0.5	<0.5	1.4	3.4	<0.5	3.6	0.8	1.0	<0.5
WR-453A		09/27/11	2011.737	<0.5	<0.5	1.3	2.9	<0.5	3.2	0.7	0.9	<0.5
WR-453A	D	09/27/11	2011.737	<0.5	<0.5	1.3	2.7	<0.5	3.1	0.7	0.9	<0.5
WR-453A		03/20/12	2012.216	<0.5	<0.5	1.4	5.2	<0.5	3.8	0.9	1.1	<0.5
WR-453A		09/27/12	2012.738	<0.5	<0.5	1.1	5.8	<0.5	3.4	0.8	1.3	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				-	<b>75.0</b>	<b>70.0</b>	-	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	-	<b>2.0</b>
WR-453A		03/13/13	2013.195	<0.5	<0.5	0.9	5.3	<0.5	3.4	0.7	1.2	<0.5
WR-453A		09/26/13	2013.734	<0.5	<0.5	1.0	7.2	<0.5	3.7	0.7	1.6	<0.5
WR-453A		03/13/14	2014.195	<0.5	<0.5	0.8	4.0	<0.5	3.0	0.6	0.9	<0.5
WR-453A		09/25/14	2014.732	<0.5	<0.5	0.9	7.6	<0.5	3.9	0.8	1.3	<0.5
WR-453A		03/12/15	2015.192	<0.5	<0.5	0.8	4.3	<0.5	3.8	0.8	1.1	<0.5
WR-453A	D	03/12/15	2015.192	<0.5	<0.5	0.8	4.1	<0.5	4.0	0.8	1.1	<0.5
WR-453A		09/28/15	2015.741	<0.5	<0.5	0.5	5.3	<0.5	3.4	0.7	1.3	<0.5
WR-453A		03/10/16	2016.189	0.6	<0.5	0.8	4.8	<0.5	3.5	0.8	1.0	<0.5
WR-453A		09/15/16	2016.705	<0.5	<0.5	0.7	8.0	<0.5	3.3	0.7	1.7	<0.5
WR-453A	D	09/15/16	2016.705	<0.5	<0.5	0.7	7.2	<0.5	3.0	0.6	1.5	<0.5
WR-453A		03/09/17	2017.185	<0.5	<0.5	<0.5	6.7	<0.5	2.0	<0.5	1.4	<0.5
WR-453A		09/19/17	2017.716	<0.5	<0.5	<0.5	8.1	<0.5	1.8	<0.5	1.6	<0.5
WR-453A	D	09/19/17	2017.716	<0.5	<0.5	<0.5	8.2	<0.5	1.8	<0.5	1.6	<0.5
WR-453A		03/13/18	2018.196	<0.5	<0.5	<0.5	6.1	<0.5	1.8	<0.5	1.4	<0.5
WR-453A		09/27/18	2018.737	<0.5	<0.5	<0.5	8.2	<0.5	2.4	<0.5	1.2	<0.5
WR-456A		1/28/2005*	2005.077	<1.0	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		02/17/05	2005.129	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		06/28/05	2005.488	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/13/05	2005.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		12/05/05	2005.926	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	D	12/05/05	2005.926	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/08/06	2006.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	D	03/08/06	2006.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		06/21/06	2006.468	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/12/06	2006.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		12/12/06	2006.945	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/07/07	2007.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	D	03/07/07	2007.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/12/07	2007.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/10/08	2008.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/17/08	2008.710	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/11/09	2009.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/16/09	2009.707	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/08/10	2010.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/14/10	2010.701	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/08/11	2011.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/26/11	2011.734	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/13/12	2012.197	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/25/12	2012.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/07/13	2013.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	D	03/07/13	2013.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/24/13	2013.729	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/10/14	2014.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	D	03/10/14	2014.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/23/14	2014.726	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/09/15	2015.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/22/15	2015.725	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/07/16	2016.180	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/13/16	2016.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/06/17	2017.177	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/12/17	2017.697	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/06/18	2018.177	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/18/18	2018.712	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	D	09/18/18	2018.712	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-457A		01/27/05	2005.074	<0.5	<1.5	0.1	<0.5	<0.5	<b>6.3</b>	0.7	<0.5	<0.5
WR-457A		02/17/05	2005.129	<0.5	<0.5	1.3	1.2	0.6	<b>9.8</b>	1.3	1.0	<0.5
WR-457A		06/27/05	2005.485	0.9	<0.5	2.8	3.0	0.8	<b>11.0</b>	1.6	1.6	<0.5
WR-457A	D	06/27/05	2005.485	0.8	<0.5	2.7	2.6	0.9	<b>10.4</b>	1.9	1.3	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
WR-457A		09/14/05	2005.701	1.1	<0.5	3.9	2.2	0.9	12.6	2.5	1.0	<0.5
WR-457A		12/06/05	2005.929	1.6	<0.5	6.0	3.2	1.1	18.2	3.7	1.4	<0.5
WR-457A		03/09/06	2006.184	1.8	0.6	6.2	2.2	1.2	15.5	3.7	0.9	<0.5
WR-457A		06/22/06	2006.471	1.9	0.5	5.9	2.6	1.0	16.8	4.1	1.1	<0.5
WR-457A		09/25/06	2006.732	1.9	0.6	5.4	2.1	1.2	15.1	3.8	0.8	<0.5
WR-457A		12/14/06	2006.951	2.0	0.6	5.2	2.1	1.0	16.4	4.0	0.9	<0.5
WR-457A		03/08/07	2007.181	1.6	<0.5	4.3	2.0	0.6	14.4	3.3	0.9	<0.5
WR-457A		09/13/07	2007.699	1.5	<0.5	4.4	3.2	<0.5	13.4	3.0	1.3	<0.5
WR-457A		03/12/08	2008.194	1.2	<0.5	3.6	3.7	<0.5	10.6	2.4	1.6	<0.5
WR-457A		09/18/08	2008.713	1.7	<0.5	4.9	5.3	<0.5	15.1	3.4	1.7	<0.5
WR-457A		03/16/09	2009.203	1.3	0.5	4.0	1.5	<0.5	9.0	2.5	0.7	<0.5
WR-457A		09/17/09	2009.710	1.9	0.5	5.1	4.2	<0.5	12.1	3.3	1.1	<0.5
WR-457A		03/10/10	2010.186	2.4	0.6	5.2	2.9	<0.5	13.2	3.9	1.1	<0.5
WR-457A		09/15/10	2010.704	2.1	0.6	4.5	2.2	<0.5	13.0	3.5	1.1	<0.5
WR-457A		03/10/11	2011.186	1.7	0.6	3.6	2.2	<0.5	11.4	3.2	0.8	<0.5
WR-457A		09/27/11	2011.737	1.1	<0.5	2.2	1.3	<0.5	6.3	1.7	0.6	<0.5
WR-457A		12/14/11	2011.951	1.2	<0.5	2.2	4.4	<0.5	7.6	1.9	1.0	<0.5
WR-457A	HS-295 ft	02/14/12	2012.120	<0.5	<0.5	<0.5	4.4	<0.5	2.2	<0.5	1.5	<0.5
WR-457A	HS-321 ft	02/14/12	2012.120	1.0	<0.5	1.9	4.4	<0.5	7.4	1.7	1.4	<0.5
WR-457A	HS-347 ft	02/14/12	2012.120	1.0	<0.5	1.9	4.5	<0.5	7.6	1.7	1.4	<0.5
WR-457A	HS-373 ft	02/14/12	2012.120	1.1	<0.5	2.1	4.6	<0.5	7.7	1.8	1.4	<0.5
WR-457A	HS-399 ft	02/14/12	2012.120	1.1	<0.5	2.0	4.6	<0.5	7.3	1.7	1.4	<0.5
WR-457A		03/20/12	2012.216	0.8	<0.5	1.5	1.5	<0.5	4.7	1.2	0.5	<0.5
WR-457A		09/27/12	2012.738	0.8	<0.5	1.7	4.7	<0.5	6.5	1.4	1.4	<0.5
WR-457A		03/13/13	2013.195	0.7	<0.5	1.4	3.7	<0.5	6.4	1.3	1.2	<0.5
WR-457A		09/26/13	2013.734	0.5	<0.5	1.0	4.8	<0.5	5.0	0.8	1.1	<0.5
WR-457A		03/13/14	2014.195	<0.5	<0.5	0.9	2.9	<0.5	4.0	0.8	0.9	<0.5
WR-457A		09/25/14	2014.732	0.6	<0.5	0.8	4.6	<0.5	6.0	1.0	1.2	<0.5
WR-457A		03/12/15	2015.192	<0.5	<0.5	0.6	3.3	<0.5	5.4	0.8	1.2	<0.5
WR-457A		09/28/15	2015.741	<0.5	<0.5	<0.5	0.9	<0.5	1.6	<0.5	<0.5	<0.5
WR-457A		03/10/16	2016.189	<0.5	<0.5	<0.5	4.6	<0.5	1.4	<0.5	1.1	<0.5
WR-457A	D	03/10/16	2016.189	<0.5	<0.5	<0.5	3.4	<0.5	1.4	<0.5	0.9	<0.5
WR-457A		09/15/16	2016.705	<0.5	<0.5	<0.5	5.4	<0.5	3.0	<0.5	1.3	<0.5
WR-457A		03/09/17	2017.185	<0.5	<0.5	<0.5	5.6	<0.5	2.9	<0.5	1.3	<0.5
WR-457A		09/19/17	2017.716	<0.5	<0.5	<0.5	5.5	<0.5	1.1	<0.5	0.7	<0.5
WR-457A		03/13/18	2018.196	<0.5	<0.5	<0.5	3.8	<0.5	2.2	<0.5	1.0	<0.5
WR-457A	D	03/13/18	2018.196	<0.5	<0.5	<0.5	3.8	<0.5	2.3	<0.5	1.0	<0.5
WR-457A		09/19/18	2018.715	<0.5	<0.5	<0.5	6.2	<0.5	2.8	<0.5	1.3	<0.5
WR-458A		1/25/2005*	2005.068	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		02/16/05	2005.126	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		06/28/05	2005.488	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A	D	06/28/05	2005.488	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/13/05	2005.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		12/05/05	2005.926	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/08/06	2006.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		06/21/06	2006.468	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A	D	06/21/06	2006.468	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/13/06	2006.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		12/12/06	2006.945	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/07/07	2007.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/12/07	2007.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/10/08	2008.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/17/08	2008.710	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/11/09	2009.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/16/09	2009.707	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/09/10	2010.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/14/10	2010.701	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/09/11	2011.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A	D	03/09/11	2011.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
WR-458A		09/26/11	2011.734	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/14/12	2012.199	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/25/12	2012.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/12/13	2013.192	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.8	<0.5	<0.5
WR-458A		09/24/13	2013.729	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
WR-458A		03/12/14	2014.192	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.5	<0.5	<0.5
WR-458A		09/23/14	2014.726	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.6	<0.5	<0.5
WR-458A		03/11/15	2015.189	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.6	<0.5	<0.5
WR-458A		09/23/15	2015.727	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.5	<0.5
WR-458A		03/09/16	2016.186	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	<0.5	<0.5
WR-458A		09/14/16	2016.702	<0.5	<0.5	0.6	<0.5	<0.5	0.6	0.7	<0.5	<0.5
WR-458A		03/08/17	2017.182	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.6	<0.5	<0.5
WR-458A		09/13/17	2017.700	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.6	<0.5	<0.5
WR-458A		03/08/18	2018.182	<0.5	<0.5	0.7	<0.5	<0.5	0.8	0.5	<0.5	<0.5
WR-458A		09/18/18	2018.712	1.1	<0.5	1.6	<0.5	<0.5	4.0	1.8	<0.5	<0.5
WR-458A		11/06/18	2018.847	<0.5	<0.5	0.8	<0.5	<0.5	1.3	0.7	<0.5	<0.5
WR-459A		1/26/2005*	2005.071	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		02/16/05	2005.126	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		06/28/05	2005.488	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/13/05	2005.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		12/05/05	2005.926	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/08/06	2006.181	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		06/21/06	2006.468	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/13/06	2006.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		12/12/06	2006.945	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/07/07	2007.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/12/07	2007.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/11/08	2008.191	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/12/09	2009.192	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/09/10	2010.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/09/11	2011.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/26/11	2011.734	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/13/12	2012.197	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/24/12	2012.730	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
WR-459A	D	09/24/12	2012.730	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
WR-459A		03/12/13	2013.192	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/24/13	2013.729	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
WR-459A		03/12/14	2014.192	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/23/14	2014.726	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
WR-459A		03/11/15	2015.189	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
WR-459A		09/23/15	2015.727	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/09/16	2016.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/13/16	2016.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/07/17	2017.179	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
WR-459A		09/13/17	2017.700	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5
WR-459A		03/08/18	2018.182	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
WR-459A		09/18/18	2018.712	<0.5	<0.5	<0.5	0.6	<0.5	2.5	0.5	<0.5	<0.5
WR-459A		11/06/18	2018.847	<0.5	<0.5	<0.5	0.8	<0.5	1.1	<0.5	<0.5	<0.5
WR-459A	D	11/06/18	2018.847	<0.5	<0.5	<0.5	1.0	<0.5	1.0	0.5	<0.5	<0.5
WR-600A		04/07/06	2006.263	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		04/26/06	2006.315	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	04/26/06	2006.315	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		06/22/06	2006.471	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		09/12/06	2006.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		12/11/06	2006.942	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	12/11/06	2006.942	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/05/07	2007.173	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	03/05/07	2007.173	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
WR-600A		09/11/07	2007.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/06/08	2008.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/09/09	2009.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/04/10	2010.170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/07/11	2011.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		09/21/11	2011.721	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/07/12	2012.180	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	03/07/12	2012.180	<0.5	<1.5	<0.5	<2	<3	<0.5	<0.5	<2	<0.5
WR-600A		03/07/13	2013.178	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/10/14	2014.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/09/15	2015.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	03/09/15	2015.184	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/06/17	2017.177	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	03/06/17	2017.177	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/06/18	2018.176	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	D	03/06/18	2018.176	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/10/11	2011.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/27/11	2011.737	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		12/15/11	2011.953	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/08/12	2012.183	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/26/12	2012.735	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/12/13	2013.192	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/25/13	2013.732	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/12/14	2014.192	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/24/14	2014.729	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/11/15	2015.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/29/15	2015.744	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/10/16	2016.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/13/16	2016.699	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/08/17	2017.182	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
HSL-96		09/14/17	2017.702	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5
HSL-96		03/08/18	2018.182	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/20/18	2018.718	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		05/11/04	2004.358	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		06/22/04	2004.473	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5
HSL-97		09/13/04	2004.699	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5
HSL-97		11/16/04	2004.874	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5
HSL-97		03/16/05	2005.203	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
HSL-97		06/28/05	2005.488	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5
HSL-97		09/12/05	2005.696	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		12/06/05	2005.929	<0.5	<0.5	<0.5	<0.5	<0.5	2.6	<0.5	<0.5	<0.5
HSL-97		03/09/06	2006.184	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
HSL-97		06/21/06	2006.468	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		09/13/06	2006.699	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5
HSL-97		12/14/06	2006.951	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
HSL-97		03/08/07	2007.181	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5
HSL-97		09/13/07	2007.699	<0.5	<0.5	<0.5	<0.5	<0.5	2.6	<0.5	<0.5	<0.5
HSL-97		03/11/08	2008.191	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5
HSL-97		09/18/08	2008.713	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5
HSL-97		03/12/09	2009.192	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		09/17/09	2009.710	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5
HSL-97		03/09/10	2010.184	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
HSL-97	D	03/09/10	2010.184	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
HSL-97		09/15/10	2010.704	<0.5	<0.5	<0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5
HSL-97		03/10/11	2011.186	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5
HSL-97		09/27/11	2011.737	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		03/08/12	2012.183	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
HSL-97		09/26/12	2012.735	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	DecDate	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>				-	<b>75.0</b>	<b>70.0</b>	-	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	-	<b>2.0</b>
HSL-97		03/11/13	2013.189	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
HSL-97		09/25/13	2013.732	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
HSL-97		03/11/14	2014.189	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
HSL-97		09/24/14	2014.729	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		03/10/15	2015.186	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5
HSL-97		09/24/15	2015.730	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5
HSL-97		03/09/16	2016.186	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		09/14/16	2016.702	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		03/07/17	2017.180	<0.5	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	<0.5
HSL-97		09/14/17	2017.702	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5
HSL-97		03/07/18	2018.179	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
HSL-97		09/20/18	2018.718	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MISYS		04/25/06	2006.312	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MISYS	D	04/25/06	2006.312	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

D = Duplicate Sample

HS-### ft - sample was collected by hydrasleeve at depth noted.

\*Sample taken during well development

Values in **bold and shaded** exceed the AWQS

AWQS = State of Arizona Aquifer Water Quality Standard

- |                   |   |           |   |
|-------------------|---|-----------|---|
| <b>1,1-DCA</b>    | 1,1-dichloroethane                                |           |   |
| <b>1,4 DCB</b>    | 1,4-dichlorobenzene (a.k.a. para-dichlorobenzene) |           |   |
| <b>PCE</b>        | tetrachloroethene                                 |           |   |
| <b>TCE</b>        | trichloroethene                                   |           |   |
| <b>Cis-1,2DCE</b> | cis-1,2-dichloroethene                            | <b>MC</b> | methylene chloride (a.k.a. dichloromethane) |
| <b>TCFA</b>       | trichlorofluoromethane                            | <b>VC</b> | vinyl chloride                              |
| <b>DCFA</b>       | dichlorodifluoromethane                           |           |   |

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
VMW-502A	03/05/07	0.095	46	40	1.6	0.79	158	0.1	28	12	266	<0.02	<0.002	<0.004	4.4	<0.02	<0.005	<0.0005
VMW-502A	03/06/08	0.1	50	41	1.6	1.2	164	0.1	27	13	290	<0.02	<0.002	<0.004	4.7	<0.02	<0.005	<0.0005
VMW-502A	03/06/08	0.1	50	41	1.5	1.2	163	<0.1	27	13	291	<0.02	<0.002	<0.004	4.7	<0.02	<0.005	<0.0005
VMW-502A	03/09/09	0.1	50	41	1.5	1.1	166	0.12	26	13	278	<0.02	<0.002	<0.004	4.8	<0.02	<0.005	<0.0005
VMW-502A	03/09/09	0.1	50	41	1.5	1.1	163	0.12	26	13	275	<0.02	<0.002	<0.004	4.8	<0.02	<0.005	<0.0005
VMW-502A	03/04/10	0.096	48	40	1.5	1.1	277	0.14	29	13	277	<0.02	<0.002	<0.0025	4.6	<0.02	<0.005	<0.0005
VMW-502A	03/04/10	0.097	48	40	1.5	1.1	225	0.13	29	13	225	<0.02	<0.002	<0.025	4.6	<0.02	<0.005	<0.0005
VMW-502A	03/07/11	0.1	52	42	1.5	1.2	169	0.15	29	12	283	<0.02	<0.002	<0.025	4.9	<0.02	<0.005	<0.0005
VMW-502A	03/20/12	0.1	51	41	1.5	1.1	175	0.12	29	12	289	<0.02	<0.001	<0.025	4.8	<0.02	<0.001	<0.0005
VMW-502A	03/12/13	0.12	58	44	1.6	1.3	187	0.13	29	13	306	<0.02	<0.001	<0.001	5.4	<0.02	<0.001	<0.0005
WR-115A	05/17/00	0.0860	39	37	1.4	1.1	116	0.22	54	14	261	<0.02	0.0077	<0.004	4.0	<0.02	<0.005	<0.0005
WR-115A	09/07/00	0.0760	37	35	<2.0	1.1	110	0.22	55	13	240	<0.01	0.0068	<0.0005	3.7	<0.01	<0.003	<0.0002
WR-115A	03/15/01	0.0690	37	36	<2.0	1.0	109	0.25	52	12	245	<0.01	0.0035	<0.0005	3.7	<0.01	<0.005	<0.0005
WR-115A	10/29/01	0.0930	30	40	1.3	0.89	93	0.28	56	11	243	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-115A	03/06/02	0.0920	34	36	1.3	0.97	102	0.25	54	10	178	<0.02	<0.002	<0.004	3.5	<0.02	<0.005	<0.0005
WR-115A	09/16/02	0.0860	35	35	1.2	0.98	101	0.22	58	9	244	<0.02	0.0029	<0.004	3.6	<0.02	<0.005	<0.0005
WR-115A	03/11/03	0.0750	34	33	1.3	0.93	101	0.22	53	7.9	235	<0.02	0.0022	<0.004	3.4	<0.02	<0.005	<0.0005
WR-115A	03/16/04	0.0680	31	33	1.1	0.72	97	0.23	45	6.2	225	<0.02	0.0038	<0.004	3.1	<0.02	<0.005	<0.0005
WR-115A	03/11/08	0.0610	32	34	1.2	1.1	86	0.22	45	9.1	230	<0.02	0.0029	<0.004	3.2	<0.02	<0.005	<0.0005
WR-115A	03/10/09	0.0670	34	35	1.2	1.2	93	0.24	48	9.2	244	<0.02	0.0026	<0.004	3.4	<0.02	<0.005	<0.0005
WR-115A	03/08/10	0.0720	36	37	1.3	1.4	100	0.27	61	11	258	<0.02	0.0074	<0.0025	3.7	<0.02	<0.005	<0.0005
WR-115A	03/08/11	0.0800	42	40	1.4	1.5	111	0.26	57	9.6	251	<0.02	0.0059	<0.0025	4.2	<0.02	<0.005	<0.0005
WR-115A	03/14/12	0.0670	31	39	1.3	0.91	93	0.4	60	9.5	243	<0.02	0.0018	<0.0025	3.2	<0.02	0.0013	<0.0005
WR-115A	03/11/13	0.0780	40	38	1.3	1.2	116	0.23	56	8.6	257	<0.02	0.0072	<0.001	4.0	<0.02	0.0013	<0.0005
WR-115A	03/11/14	0.0794	40.7	38.9	1.33	1.27	118	0.254	53.2	8.39	257	<0.02	0.0167	<0.001	4.1	<0.02	0.0015	<0.0005
WR-115A*	03/10/15	0.0842	43.7	41.7	1.4	1.32	138	0.215	53.4	9.62	265	<0.02	0.0022	<0.001	4.3	<0.02	<0.001	<0.0005
WR-115A*	03/08/16	0.0898	43.8	39.2	1.38	1.4	137	0.188	53.7	10.5	271	<0.02	<0.001	<0.001	4.3	<0.02	0.0015	<0.0005
WR-115A*	03/07/17	0.0854	44.9	40.6	1.47	1.46	133	0.267	55	10.5	266	<0.02	<0.001	<0.001	4.4	<0.02	<0.001	<0.0005
WR-115A*	03/07/18	0.0821	40.3	38.9	1.33	1.28	130	0.232	48.6	9.17	263	<0.02	<0.001	<0.001	4.04	<0.02	0.0016	<0.0005
WR-116A	03/15/00	0.077	35	34	1.3	1.0	114	0.26	47	13	248	<0.02	0.003	<0.004	3.7	<0.02	<0.005	<0.0005
WR-116A	09/07/00	0.079	35	34	<2.0	1.1	116	0.31	49	13	233	<0.01	0.0029	<0.0005	3.7	<0.01	<0.003	<0.0005
WR-116A	03/15/01	0.07	36	35	<2.0	1.2	112	0.28	49	12	246	<0.01	0.0043	<0.0005	3.2	<0.01	<0.005	<0.0005
WR-116A	10/29/01	0.095	41	39	1.4	1.2	113	0.19	53	13	261	<0.02	0.0044	<0.004	4.2	<0.02	<0.005	<0.0005
WR-116A	03/06/02	0.085	39	36	1.3	1.3	118	0.23	50	13	263	<0.02	0.0021	<0.004	4.0	<0.02	<0.005	<0.0005
WR-116A	09/16/02	0.093	41	36	1.4	1.3	119	0.22	56	14	266	<0.02	0.0037	<0.004	4.2	<0.02	<0.005	<0.0005
WR-116A	03/11/03	0.084	40	35	1.4	1.2	122	0.22	52	14	265	<0.02	<0.002	<0.004	4.1	<0.02	<0.005	<0.0005

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-116A	03/16/04	0.093	39	35	1.3	1.4	122	0.22	52	13	269	<0.02	0.0024	<0.004	4.1	<0.02	<0.005	<0.0005
WR-116A	05/31/05	0.094	42	37	1.4	1.2	122	0.2	52	14	260	<0.02	<0.002	<0.004	4.3	<0.02	<0.005	<0.0005
WR-116A	03/07/06	0.094	48	38	1.5	1.2	118	0.24	55	15	258	<0.02	0.0021	<0.004	4.8	<0.02	<0.005	<0.0005
WR-116A	03/06/07	0.1	45	40	1.5	1.2	126	0.22	54	15	265	<0.02	<0.002	<0.004	4.7	<0.02	<0.005	<0.0005
WR-116A	03/11/08	0.11	47	40	1.4	1.5	132	0.2	53	14	285	<0.02	<0.002	<0.004	4.9	<0.02	<0.005	<0.0005
WR-116A	03/11/08	0.12	48	42	1.5	1.5	124	0.2	53	14	268	<0.02	0.011	<0.004	5.1	<0.02	<0.005	<0.0005
WR-116A	03/12/09	0.12	51	42	1.4	1.7	144	0.26	50	13	316	<0.02	0.0028	<0.004	5.4	<0.02	<0.005	<0.0005
WR-116A	03/09/10	0.12	50	43	1.5	1.9	151	0.26	56	13	308	<0.02	<0.002	<0.0025	5.4	<0.02	<0.005	<0.0005
WR-116A	03/09/11	0.14	56	46	1.6	1.8	153	0.26	54	14	303	<0.02	0.0065	<0.0025	5.8	<0.02	<0.005	<0.0005
WR-116A	03/20/12	0.15	62	45	1.6	1.7	156	0.25	55	14	314	<0.02	0.01	<0.0025	5.8	<0.02	<0.001	<0.0005
WR-116A	03/13/13	0.13	58	46	1.6	2	162	0.25	53	13	320	<0.02	0.0019	<0.001	6.1	<0.02	0.0015	<0.0005
WR-116A	03/13/13	0.13	57	45	1.6	1.9	163	0.25	53	13	321	<0.02	0.002	<0.001	6.0	<0.02	0.0013	<0.0005
WR-116A	03/13/14	0.126	53.5	44.4	1.54	1.78	152	0.258	55.8	14.1	306	<0.02	0.0117	<0.001	5.7	<0.02	<0.001	<0.0005
WR-116A	03/13/14	0.118	52	42.8	1.49	1.78	152	0.252	55.7	14.3	303	<0.02	0.0033	<0.001	5.6	<0.02	0.0011	<0.0005
WR-116A*	03/12/15	0.125	55.5	44.9	1.57	2.04	171	0.256	55.6	13.5	312	<0.02	<0.001	<0.001	5.9	<0.02	<0.001	<0.0005
WR-116A*	03/10/16	0.283	115	68.4	2.36	5.07	427	0.171	43.2	7.99	546	<0.02	0.003	<0.001	12.7	<0.02	0.0011	<0.0005
WR-116A*	05/03/16	0.281	115	69	2.42	4.84	412	0.156	45	9	533	<0.02	<0.001	<0.001	12.5	<0.02	<0.001	<0.0005
WR-116A	03/09/17	0.222	91.8	59.2	2.1	3.48	307	0.307	45.3	9.62	421	<0.02	0.0061	<0.001	10.1	<0.02	<0.001	<0.0005
WR-116A*	03/09/17	0.22	91.2	58.2	2.08	3.44	301	0.293	45.3	9.68	434	<0.02	<0.001	<0.001	10.1	<0.02	<0.001	<0.0005
WR-116A*	03/13/18	0.198	79.9	54.9	1.97	3.6	258	0.281	52	10.8	410	<0.02	<0.001	<0.001	8.9	<0.02	0.0016	<0.0005
WR-117A	03/15/00	0.073	29	34	1.3	0.57	110	0.21	30	11	212	<0.02	0.0033	<0.004	3.1	<0.02	<0.005	<0.0005
WR-117A	09/07/00	0.059	27	32	<2.0	0.59	109	0.22	32	11	191	<0.01	0.0055	<0.0005	2.9	<0.01	<0.003	<0.0002
WR-117A	03/15/01	0.056	30	35	<2.0	0.67	110	0.23	31	11	210	<0.01	0.01	<0.0005	3.2	<0.01	<0.005	<0.0005
WR-117A	10/29/01	0.079	29	37	1.3	0.52	106	0.2	32	11	220	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-117A	03/06/02	0.067	28	33	1.2	0.68	106	0.21	32	10	217	<0.02	0.0033	<0.004	3.0	<0.02	<0.005	<0.0005
WR-117A	09/16/02	0.072	31	34	1.3	0.73	108	0.2	35	10	215	<0.02	0.0029	<0.004	3.3	<0.02	<0.005	<0.0005
WR-117A	03/11/03	0.063	29	34	1.4	0.77	109	0.19	33	11	212	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
WR-117A	03/22/04	0.08	30	35	1.3	0.87	108	0.22	35	11	211	<0.02	0.005	<0.004	3.4	<0.02	<0.005	<0.0005
WR-117A	05/31/05	0.075	32	36	1.3	0.94	104	0.18	37	12	221	<0.02	<0.002	<0.004	3.5	<0.02	<0.005	<0.0005
WR-117A	03/07/06	0.079	32	35	1.3	1	121	0.21	40	12	228	<0.02	0.0044	<0.004	3.6	<0.02	<0.005	<0.0005
WR-117A	03/06/07	0.081	33	37	1.3	0.93	119	0.19	40	12	205	<0.02	0.0029	<0.004	3.7	<0.02	<0.005	<0.0005
WR-117A	03/10/08	0.08	33	38	1.4	0.88	101	0.18	40	12	222	<0.02	<0.002	<0.004	3.8	<0.02	<0.005	<0.0005
WR-117A	03/10/09	0.081	34	39	1.4	0.85	104	0.22	40	12	245	<0.02	<0.002	<0.004	3.8	<0.02	<0.005	<0.0005
WR-117A	03/08/10	0.08	34	38	1.3	0.87	108	0.25	44	13	243	<0.02	0.0061	<0.0025	3.8	<0.02	<0.005	<0.0005
WR-117A	03/08/11	0.088	36	39	1.4	0.88	107	0.24	42	13	232	<0.02	0.0075	<0.0025	3.9	<0.02	<0.005	<0.0005
WR-117A	03/14/12	0.11	38	39	1.4	0.77	114	0.21	45	13	248	<0.02	0.029	<0.0025	4.0	<0.02	0.001	<0.0005
WR-117A	03/11/13	0.079	38	38	1.4	0.82	116	0.18	41	12	248	<0.02	0.028	<0.001	4.2	<0.02	<0.001	<0.0005



**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-117A	03/11/14	0.0794	38.8	39.8	1.42	1.21	128	0.227	39.1	12.9	252	<0.02	0.0043	<0.001	4.5	<0.02	<0.001	<0.0005
WR-117A*	03/10/15	0.0907	40.5	40.9	1.45	1.92	138	0.202	38.1	14.3	250	<0.02	<0.001	<0.001	4.6	<0.02	<0.001	<0.0005
WR-117A*	03/08/16	0.0958	41.2	40.7	1.48	2.07	146	0.169	38.6	13.4	264	<0.02	<0.001	<0.001	4.7	<0.02	0.0011	<0.0005
WR-117A*	03/08/17	0.109	51.8	45.1	1.67	3.91	159	0.251	40.2	15.6	300	<0.02	<0.001	<0.001	5.92	<0.02	<0.001	<0.0005
WR-117A*	03/07/18	0.12	49.9	44.2	1.59	3.95	164	0.235	39.9	15.5	300	<0.02	<0.001	<0.001	5.69	<0.02	0.0014	<0.0005
WR-118A	03/15/00	0.071	32	33	1.9	0.74	98	0.14	22	30	221	<0.02	0.0095	<0.004	3.2	<0.02	<0.005	<0.0005
WR-118A	09/07/00	0.047	32	34	<2.0	0.78	98	0.2	23	32	213	<0.01	0.0084	<0.0005	3.0	<0.01	<0.003	<0.0002
WR-118A	03/15/01	0.038	33	35	<2.0	0.92	95	0.14	22	34	221	<0.01	0.0034	<0.0005	3.0	<0.01	<0.005	<0.0005
WR-118A	10/29/01	0.056	38	41	1.7	0.73	103	0.14	24	42	259	<0.02	<0.002	<0.004	3.4	<0.02	<0.005	<0.0005
WR-118A	03/06/02	0.038	30	33	1.3	0.63	96	0.15	23	27	145	<0.02	<0.002	<0.004	2.6	<0.02	<0.005	<0.0005
WR-118A	09/11/02	0.038	30	32	1.4	0.52	98	0.13	26	22	209	<0.02	<0.002	<0.004	2.6	<0.02	<0.005	<0.0005
WR-118A	03/11/03	0.031	30	32	1.5	0.51	99	0.12	25	18	203	<0.02	0.0021	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/22/04	0.035	29	31	1.3	0.53	101	0.14	26	16	191	<0.02	0.0081	<0.004	2.4	<0.02	<0.005	<0.0005
WR-118A	03/16/05	0.028	30	31	1.4	0.48	106	0.12	27	13	215	<0.02	0.0043	<0.004	2.4	<0.02	<0.005	<0.0005
WR-118A	03/07/06	0.031	30	32	1.4	0.38	97	0.14	29	14	188	<0.02	0.006	<0.004	2.6	<0.02	<0.005	<0.0005
WR-118A	03/06/07	0.028	32	34	1.4	0.39	115	0.13	28	14	196	<0.02	<0.002	<0.004	2.7	<0.02	<0.005	<0.0005
WR-118A	03/10/08	0.028	30	32	1.4	0.3	94	0.12	27	10	188	<0.02	0.018	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/11/09	0.029	30	32	1.3	0.31	93	0.15	27	9.9	204	<0.02	0.015	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/11/09	0.024	30	32	1.3	0.31	94	0.15	27	9.9	201	<0.02	0.0029	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/08/10	0.03	29	32	1.3	<0.25	96	0.17	28	10	201	<0.02	0.026	<0.0025	2.3	<0.02	<0.005	<0.0005
WR-118A	03/08/11	0.031	32	33	1.3	0.29	100	0.18	27	9.7	189	<0.02	0.041	<0.0025	2.5	<0.02	<0.005	<0.0005
WR-118A	03/14/12	0.092	59	30	1.5	<0.25	104	<0.1	16	63	323	<0.02	0.0017	<0.0025	4.6	<0.02	<0.001	<0.0005
WR-118A	03/11/13	0.038	24	29	1.2	<0.25	81	0.24	27	11	171	<0.02	0.0083	<0.001	2.1	<0.02	<0.001	<0.0005
WR-118A	03/11/14	0.0336	23.4	31.9	1.28	<0.25	87.9	0.238	25.8	10.3	174	<0.02	0.0036	<0.001	2.0	<0.02	<0.001	<0.0005
WR-118A*	03/10/15	0.0336	25.7	33.3	1.36	<0.25	101	0.174	26.3	10.1	180	<0.02	<0.001	<0.001	2.1	<0.02	<0.001	<0.0005
WR-118A*	03/08/16	0.0327	26.4	32.6	1.37	<0.25	104	0.158	28	10.9	185	<0.02	<0.001	<0.001	2.3	<0.02	<0.001	<0.0005
WR-118A*	03/07/17	0.0313	28.4	33.5	1.44	0.326	99.9	0.211	28.3	11.8	190	<0.02	<0.001	<0.001	2.41	<0.02	<0.001	<0.0005
WR-118A*	03/07/18	0.0317	28.4	33	1.36	0.466	103	0.175	26.3	12	198	<0.02	<0.001	<0.001	2.52	<0.02	<0.001	<0.0005
WR-186A	04/08/04	0.081	19	43	1.5	0.87	134	<0.1	26	3.3	209	<0.02	0.0052	<0.004	3.4	<0.02	<0.005	NA
WR-186A	03/15/05	0.099	50	40	1.6	19	124	<0.1	30	12	337	<0.02	0.0067	<0.004	5.5	<0.02	<0.005	<0.0005
WR-186A	06/27/06	0.12	51	42	1.7	11	136	0.1	39	6.8	315	<0.02	0.0041	<0.004	5.6	<0.02	<0.005	<0.0005
WR-186A	03/05/07	0.11	50	42	1.7	11	134	<0.1	40	6.8	292	<0.02	0.004	<0.004	5.5	<0.02	<0.005	<0.0005
WR-186A	03/04/08	0.11	49	44	1.7	8.6	128	<0.1	41	7.1	309	<0.02	0.0034	<0.004	5.6	<0.02	<0.005	<0.0005
WR-186A	03/09/09	0.1	49	45	1.6	9.5	136	0.13	40	8.3	309	<0.02	<0.002	<0.004	5.7	<0.02	<0.005	<0.0005
WR-186A	03/10/10	0.11	51	43	1.6	9.6	149	0.12	46	9	332	<0.02	<0.002	<0.0025	5.8	<0.02	<0.005	<0.0005
WR-186A	03/14/11	0.13	60	49	1.9	14	139	0.15	44	15	357	<0.02	<0.002	<0.0025	7.1	<0.02	<0.005	<0.0005

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-186A	03/13/12	0.13	57	47	1.9	11	154	0.14	45	13	341	<0.02	0.0022	<0.0025	6.9	<0.02	<0.001	<0.0005
WR-186A	03/14/13	0.13	58	44	1.7	4	177	0.14	44	7.5	322	<0.02	<0.001	<0.001	6.4	<0.02	0.0013	<0.0005
WR-439A	09/11/02	0.064	34	33	1.7	0.61	116	0.11	35	11	226	<0.02	0.0077	<0.004	3.2	<0.02	<0.005	<0.0005
WR-439A	03/11/03	0.055	34	32	1.6	0.59	115	0.11	34	11	231	<0.02	0.008	<0.004	3.0	<0.02	<0.005	<0.0005
WR-439A	03/16/04	0.12	37	35	3.2	0.57	116	0.12	33	12	238	<0.02	0.0085	<0.004	4.8	<0.02	<0.005	<0.0005
WR-439A	03/15/05	0.059	37	34	1.6	0.6	115	0.1	34	13	239	<0.02	0.0058	<0.004	3.3	<0.02	<0.005	<0.0005
WR-439A	03/07/06	0.064	34	34	1.6	0.64	101	0.13	35	14	222	<0.02	0.0096	<0.004	3.3	<0.02	<0.005	<0.0005
WR-439A	03/07/06	0.061	35	34	1.6	0.64	106	0.13	35	14	207	<0.02	0.012	<0.004	3.3	<0.02	<0.005	<0.0005
WR-439A	03/05/07	0.049	33	34	1.4	0.6	95	0.12	33	14	212	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-439A	03/06/08	0.054	34	35	1.4	0.71	99	0.1	33	15	223	<0.02	0.0024	<0.004	3.1	<0.02	<0.005	<0.0005
WR-439A	03/10/09	0.053	34	34	1.4	0.75	98	0.14	32	16	237	<0.02	0.0041	<0.004	3.1	<0.02	<0.005	<0.0005
WR-439A	03/04/10	0.049	32	33	1.3	0.87	96	0.14	34	16	269	<0.02	<0.002	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-439A	03/07/11	0.051	34	35	1.4	0.96	98	0.17	33	16	207	<0.02	0.0025	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-439A	03/07/11	0.052	34	35	1.4	0.97	95	0.2	32	16	207	<0.02	<0.002	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-439A	03/08/12	0.051	32	33	1.3	1	97	0.15	32	15	210	<0.02	0.0025	<0.0025	2.8	<0.02	<0.001	<0.0005
WR-439A	03/07/13	0.047	31	32	1.2	1.1	89	0.13	31	16	211	<0.02	0.0019	<0.001	2.8	<0.02	<0.001	<0.0005
WR-453A	03/22/04	0.28	118	67	2.6	3.6	435	0.13	27	4.5	525	<0.02	0.0021	<0.004	13.0	<0.02	<0.005	<0.0005
WR-453A	03/15/05	0.27	124	66	2.4	2.8	447	0.11	25	4.5	552	<0.02	0.0065	<0.004	13.0	<0.02	<0.005	<0.0005
WR-453A	03/09/06	0.24	102	60	2.1	NA	382	NA	NA	NA	514	<0.02	<0.002	<0.004	11.0	<0.02	<0.005	<0.0005
WR-453A	03/09/06	0.24	104	60	2.2	NA	369	NA	NA	NA	510	<0.02	<0.002	<0.004	11.0	<0.02	<0.005	<0.0005
WR-453A	03/08/07	0.24	102	63	2.2	2.5	330	0.12	36	12	471	<0.02	<0.002	<0.004	11.0	<0.02	<0.005	<0.0005
WR-453A	03/12/08	0.23	95	61	2.1	2.2	284	0.11	36	24	434	<0.02	<0.002	<0.004	10.0	<0.02	<0.005	<0.0005
WR-453A	03/16/09	0.23	93	59	2	1.7	254	0.19	42	37	476	<0.02	<0.002	<0.004	10.0	<0.02	<0.005	<0.0005
WR-453A	03/10/10	0.24	96	59	2.1	1.8	280	0.15	52	44	481	<0.02	<0.002	<0.0025	11.0	<0.02	<0.005	<0.0005
WR-453A	03/10/11	0.24	103	62	2.2	1.7	253	0.18	57	52	484	<0.02	0.0026	<0.0025	11.0	<0.02	<0.005	<0.0005
WR-453A	03/20/12	0.2	96	56	2	2.2	249	0.16	57	44	475	<0.02	<0.001	<0.0025	10.0	<0.02	<0.001	<0.0005
WR-453A	03/13/13	0.19	101	57	2.1	2.5	234	0.17	62	56	493	<0.02	<0.001	<0.001	11.0	<0.02	0.0011	<0.0005
WR-453A	03/13/14	0.183	105	57.1	2.13	2.36	251	0.173	63.3	57.9	497	<0.02	<0.001	<0.001	11.3	<0.02	<0.001	<0.0005
WR-453A	03/12/15	0.182	104	55.6	2.15	2.08	278	0.176	61.9	51.8	483	<0.02	<0.001	<0.001	11.5	<0.02	<0.001	<0.0005
WR-453A	03/12/15	0.178	103	55.2	2.21	2.11	270	0.171	61.8	52	483	<0.02	0.0079	<0.001	11.3	<0.02	0.0019	<0.0005
WR-453A	03/10/16	0.172	98.9	50.6	2.08	1.82	263	0.119	62.8	46.4	477	<0.02	<0.001	<0.001	10.6	<0.02	0.0011	<0.0005
WR-453A	03/09/17	0.201	109	50.2	2.24	2.31	255	0.215	71.2	49.1	494	<0.02	<0.001	<0.001	11.6	<0.02	<0.001	<0.0005
WR-453A	03/13/18	0.182	106	45	2.18	2.82	278	0.194	65.4	31.7	483	<0.02	<0.001	<0.001	11.4	<0.02	<0.001	<0.0005
WR-456A	02/17/05	0.095	36	37	1.9	0.92	111	0.2	46	12	240	<0.02	0.0074	<0.004	4.0	<0.02	<0.005	<0.0005
WR-456A	03/08/06	0.089	37	38	1.4	1.1	108	0.22	54	14	242	<0.02	<0.002	<0.004	3.9	<0.02	<0.005	<0.0005

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-456A	03/08/06	0.088	37	37	1.4	1.1	107	0.21	53	14	247	<0.02	0.003	<0.004	3.8	<0.02	<0.005	<0.0005
WR-456A	03/07/07	0.092	38	39	1.4	0.98	106	0.19	50	13	258	<0.02	<0.002	<0.004	4.0	<0.02	<0.005	<0.0005
WR-456A	03/07/07	0.092	38	39	1.4	0.98	104	0.19	50	13	234	<0.02	<0.002	<0.004	4.1	<0.02	<0.005	<0.0005
WR-456A	03/10/08	0.088	37	37	1.3	1	101	0.18	51	13	235	<0.02	<0.002	<0.004	3.9	<0.02	<0.005	<0.0005
WR-456A	03/11/09	0.085	37	36	1.3	1	99	0.21	52	12	258	<0.02	<0.002	<0.004	4.0	<0.02	<0.005	<0.0005
WR-456A	03/08/10	0.072	33	33	1.2	1	98	0.22	54	9.7	243	<0.02	<0.002	<0.0025	3.4	<0.02	<0.005	<0.0005
WR-456A	03/08/11	0.077	36	37	1.3	1	99	0.21	52	10	236	<0.02	0.0049	<0.0025	3.7	<0.02	<0.005	<0.0005
WR-456A	03/13/12	0.083	35	36	1.3	1.1	107	0.22	53	11	245	<0.02	<0.001	<0.0025	3.6	<0.02	<0.001	<0.0005
WR-456A	03/07/13	0.094	38	38	1.4	1.1	103	0.2	54	11	252	<0.02	0.0013	<0.001	4.0	<0.02	<0.001	<0.0005
WR-456A	03/07/13	0.096	38	39	1.4	1.1	102	0.2	54	11	250	<0.02	<0.001	<0.001	4.1	<0.02	0.001	<0.0005
WR-456A	03/10/14	0.0908	36.6	37.9	1.35	1.13	103	0.268	53.8	11.1	244	<0.02	0.001	<0.001	3.9	<0.02	0.0012	<0.0005
WR-456A	03/10/14	0.0876	35.3	36.2	1.3	1.14	103	0.265	54	11	247	<0.02	<0.001	<0.001	3.8	<0.02	0.0011	<0.0005
WR-456A	03/09/15	0.0966	37.3	38.5	1.39	1.06	117	0.196	57.9	13	248	<0.02	0.0037	<0.001	3.9	<0.02	0.001	<0.0005
WR-456A	03/07/16	0.0951	36.4	37.9	1.38	0.963	116	0.186	52.2	11.3	247	<0.02	0.0031	<0.001	3.9	<0.02	0.0015	<0.0005
WR-456A	03/06/17	0.0928	37.4	37.8	1.4	0.969	112	0.276	53.1	11.6	253	<0.02	0.0015	<0.001	3.91	<0.02	<0.001	<0.0005
WR-456A	03/06/18	0.0911	35.5	37.1	1.36	0.948	110	0.266	50.6	11.5	254	<0.02	<0.001	<0.001	3.76	<0.02	0.0011	<0.0005
WR-457A	02/17/05	0.2	91	56	2.3	1.7	330	0.14	27	5.3	412	<0.02	0.0067	<0.004	9.5	<0.02	<0.005	<0.0005
WR-457A	03/09/06	0.2	94	53	2	NA	334	NA	NA	NA	458	<0.02	0.0041	<0.004	9.9	<0.02	<0.005	<0.0005
WR-457A	03/08/07	0.21	97	58	2.1	2.4	314	0.13	32	6.4	424	<0.02	0.0027	<0.004	10.0	<0.02	<0.005	<0.0005
WR-457A	03/12/08	0.21	91	56	2	2.1	301	0.12	27	5	410	<0.02	0.0048	<0.004	9.7	<0.02	<0.005	<0.0005
WR-457A	03/16/09	0.22	101	59	2.1	2.4	319	0.2	27	4.3	470	<0.02	0.0028	<0.004	11.0	<0.02	<0.005	<0.0005
WR-457A	03/10/10	0.19	83	52	1.9	2.5	283	0.21	38	7.3	416	<0.02	0.0028	<0.0025	8.9	<0.02	<0.005	<0.0005
WR-457A	03/10/11	0.21	89	55	2	2.6	279	0.25	34	6.4	401	<0.02	0.0066	<0.0025	9.4	<0.02	<0.005	<0.0005
WR-457A	03/20/12	0.18	74	48	1.8	2.4	245	0.2	39	7.5	373	<0.02	0.0015	<0.0025	7.8	<0.02	<0.001	<0.0005
WR-457A	03/13/13	0.18	80	48	1.8	3.1	242	0.2	31	11	379	<0.02	0.0026	<0.001	8.3	<0.02	<0.001	<0.0005
WR-457A	03/13/14	0.178	78.6	47.5	1.82	3.34	215	0.212	40.4	32.8	392	<0.02	0.002	<0.001	8.3	<0.02	<0.001	<0.0005
WR-457A	03/12/15	0.205	82.3	47.7	1.94	3.02	236	0.191	44.4	32.5	419	<0.02	0.0166	<0.001	9.1	<0.02	<0.001	<0.0005
WR-457A	03/10/16	0.18	94.5	33.4	2.07	3.24	217	0.142	51.7	46.8	422	<0.02	<0.001	<0.001	9.9	<0.02	<0.001	<0.0005
WR-457A	03/10/16	0.178	92.4	33	2.02	3.24	215	0.141	51.7	46.9	417	<0.02	<0.001	<0.001	10.0	<0.02	<0.001	<0.0005
WR-457A	03/09/17	0.195	89.3	31.4	1.95	3.11	219	0.242	37.5	27.7	370	<0.02	<0.001	<0.001	9.79	<0.02	<0.001	<0.0005
WR-457A	03/13/18	0.21	91.5	29	1.99	3.5	217	0.212	48.7	25.7	403	<0.02	0.0012	<0.001	10.2	<0.02	<0.001	<0.0005
WR-457A	03/13/18	0.21	90.9	28.5	1.97	3.51	220	0.212	48.7	25.6	398	<0.02	0.0016	<0.001	10.1	<0.02	<0.001	<0.0005
WR-458A	02/16/05	0.56	31	28	1.2	0.29	115	0.13	28	8.8	196	<0.02	0.0024	<0.004	2.9	<0.02	<0.005	<0.0005
WR-458A	03/08/06	0.063	32	30	1.2	1.1	108	0.15	31	9.8	206	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-458A	03/07/07	0.066	33	32	1.3	0.44	102	0.14	28	9	225	<0.02	<0.002	<0.004	3.2	<0.02	<0.005	<0.0005
WR-458A	03/10/08	0.063	32	31	1.2	0.46	107	0.12	28	8.8	191	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-458A	03/11/09	0.063	32	30	1.2	0.5	105	0.17	27	8.8	216	<0.02	<0.002	<0.004	3.2	<0.02	<0.005	<0.0005
WR-458A	03/09/10	0.068	34	32	1.3	0.62	119	0.18	29	9.4	219	<0.02	<0.002	<0.0025	3.2	<0.02	<0.005	<0.0005
WR-458A	03/09/11	0.071	38	34	1.3	0.64	121	0.19	28	9.1	220	<0.02	<0.002	<0.0025	3.5	<0.02	<0.005	<0.0005
WR-458A	03/09/11	0.071	38	34	1.3	0.64	124	0.17	28	9.1	216	<0.02	<0.002	<0.0025	3.5	<0.02	<0.005	<0.0005
WR-458A	03/14/12	0.078	39	34	1.4	0.72	129	0.15	29	9.3	237	<0.02	0.001	<0.0025	3.6	<0.02	<0.001	<0.0005
WR-458A	03/12/13	0.084	42	34	1.4	0.75	134	0.17	29	9.5	238	<0.02	<0.001	<0.001	3.8	<0.02	<0.001	<0.0005
WR-459A	02/16/05	0.064	34	31	1.7	0.92	112	0.15	28	11	197	<0.02	<0.002	<0.004	2.9	<0.02	<0.005	<0.0005
WR-459A	03/08/06	0.072	34	32	1.3	1.6	109	0.16	31	13	214	<0.02	0.0035	<0.004	3.0	<0.02	<0.005	<0.0005
WR-459A	03/07/07	0.077	36	34	1.4	1.4	102	0.14	29	12	226	<0.02	<0.002	<0.004	3.2	<0.02	<0.005	<0.0005
WR-459A	03/11/08	0.07	34	31	1.2	1.4	106	0.13	29	11	220	<0.02	<0.002	<0.004	2.9	<0.02	<0.005	<0.0005
WR-459A	03/12/09	0.068	35	31	1.2	1.2	104	0.18	29	11	234	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-459A	03/09/10	0.068	34	32	1.3	1.2	110	0.18	32	12	223	<0.02	<0.002	<0.0025	3.2	<0.02	<0.005	<0.0005
WR-459A	03/09/11	0.072	38	33	1.3	1.4	118	0.2	30	11	222	<0.02	<0.002	<0.0025	3.1	<0.02	<0.005	<0.0005
WR-459A	03/13/12	0.079	38	33	1.3	1.2	120	0.18	30	10	223	<0.02	<0.001	<0.0025	3.2	<0.02	<0.001	<0.0005
WR-459A	03/12/13	0.08	39	33	1.3	1.2	117	0.18	30	10	228	<0.02	0.0013	<0.001	3.2	<0.02	<0.001	<0.0005
WR-600A	06/22/06	NA	NA	NA	NA	1.4	NA	0.18	68	16	NA	NA	NA	NA	NA	NA	NA	NA
WR-600A	03/05/07	0.067	50	41	1.6	1.4	120	0.18	67	14	278	<0.02	<0.002	<0.004	3.3	<0.02	<0.005	<0.0005
WR-600A	03/05/07	0.068	50	41	1.5	1.3	117	0.18	67	14	276	<0.02	<0.002	<0.004	3.3	<0.02	<0.005	<0.0005
WR-600A	03/06/08	0.065	48	40	1.5	1.4	115	0.16	64	12	279	<0.02	0.014	<0.004	3.2	<0.02	<0.005	<0.0005
WR-600A	03/09/09	0.061	47	39	1.5	1.4	122	0.2	58	11	275	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
WR-600A	03/04/10	0.059	44	38	1.4	1.5	121	0.27	58	11	279	<0.02	<0.002	<0.0025	2.9	<0.02	<0.005	<0.0005
WR-600A	03/07/11	0.058	46	40	1.5	1.5	123	0.22	51	10	253	<0.02	<0.002	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-600A	03/07/12	0.058	42	38	1.4	1.3	127	0.22	45	9.6	250	<0.02	<0.001	<0.0025	2.8	<0.02	0.0014	<0.0005
WR-600A	03/07/12	0.0533	40.3	38	1.55	1.26	137	<0.5	44.8	9.5	268	<0.01	<0.01	<0.005	2.5	<0.02	<0.02	<0.0001
WR-600A	03/07/13	0.058	43	37	1.4	1.2	122	0.17	42	8.7	249	<0.02	<0.001	<0.001	2.9	<0.02	0.0014	<0.0005
HSL-96	03/10/11	0.089	54	56	2.5	9.2	124	0.37	60	29	343	<0.02	<.002	<.0025	6.0	<0.02	<.005	<.0005
HSL-96	03/08/12	0.14	70	52	2	15	157	0.26	52	28	400	<0.02	0.002	<.0025	7.6	<0.02	0.002	<.0005
HSL-96	03/12/13	0.13	68	48	1.8	10	150	0.25	47	29	383	<0.02	<0.001	<0.001	7.4	<0.02	0.0023	<.0005
HSL-97	05/11/04	0.072	44	39	1.4	1.8	148	0.16	39	13	263	<0.02	0.0034	<0.004	3.6	<0.02	<0.005	<0.0005
HSL-97	06/22/04	0.072	46	39	1.4	1.9	149	0.15	38	13	291	<0.02	0.0026	<0.004	3.7	<0.02	<0.005	<0.0005
HSL-97	03/16/05	0.057	38	35	1.3	1.4	125	0.14	42	13	255	<0.02	0.0071	<0.004	2.9	<0.02	<0.005	<0.0005
HSL-97	03/09/06	0.081	48	41	1.5	NA	135	NA	NA	NA	280	<0.02	0.0041	<0.004	4.1	<0.02	<0.005	<0.0005
HSL-97	06/21/06	NA	NA	NA	NA	2.2	NA	0.13	41	14	NA	NA	NA	NA	NA	NA	NA	NA
HSL-97	03/08/07	0.083	49	43	1.5	2.1	130	0.13	44	14	265	<0.02	0.002	<0.004	4.2	<0.02	<0.005	<0.0005

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
<b>AWQS (mg/L) →</b>		<b>2</b>				<b>10</b>		<b>4</b>				<b>0.1</b>	<b>0.05</b>	<b>0.005</b>			<b>0.05</b>	<b>0.002</b>
HSL-97	03/11/08	0.61	40	38	1.3	1.6	112	0.14	41	13	232	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
HSL-97	03/09/10	0.07	35	31	1.3	0.88	110	0.21	36	11	219	<0.02	<0.002	<0.0025	2.9	<0.02	<0.005	<0.0005
HSL-97	03/09/10	0.051	34	34	1.3	0.84	109	0.2	35	11	225	<0.02	<0.002	<0.0025	2.3	<0.02	<0.005	<0.0005
HSL-97	03/10/11	0.077	42	40	1.5	1.3	112	0.19	39	11	239	<0.02	0.0063	<.0025	3.2	<0.02	<.005	<.0005
HSL-97	03/08/12	0.085	48	41	1.5	2.7	141	0.16	44	14	282	<0.02	0.001	<.0025	4.1	<0.02	<.001	<.0005
HSL-97	03/11/13	0.048	35	33	1.3	0.92	107	0.15	35	10	227	<0.02	<0.001	<.001	2.2	<0.02	<.001	<.0005
HSL-97	03/11/14	0.0488	34.8	33.9	1.3	0.826	109	0.192	33.9	9.94	216	<0.02	0.0047	<.001	2.2	<0.02	<.001	<.0005

\*Lead sample was field filter for wells WR-115A, WR-116A, WR-117A and WR-118A. Approved by ADEQ Solid Waste by letter dated 3/27/2014.

NA = Not analyzed

Values in **bold and shaded** exceed the AWQS

<b>Ba</b>	barium	<b>NO<sub>3</sub></b>	nitrate	<b>TDS</b>	total dissolved solids	<b>Mg</b>	magnesium
<b>Ca</b>	calcium	<b>F</b>	fluoride	<b>Cr</b>	chromium	<b>Ag</b>	silver
<b>Na</b>	sodium	<b>SO<sub>4</sub></b>	sulfate	<b>Pb</b>	lead	<b>Se</b>	selenium
<b>K</b>	potassium	<b>Cl</b>	chloride	<b>Cd</b>	cadmium	<b>Hg</b>	mercury

**Table 6**

**2018 Weather Event Log, Vincent Mullins Landfill**

**(Embedded on Page 11 of the Report)**