BIANNUAL SURFACE WATER AND BIOLOGICAL STREAM SAMPLING AROUND RUMPKE AND BOND ROAD LANDFILLS

April 2024

HAMILTON COUNTY
PUBLIC HEALTH

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Introduction

Hamilton County Public Health conducted biannual sampling of the surface water streams around the Rumpke Colerain Sanitary Landfill on June 6 and November 16, 2023. Additionally, biannual sampling of Bond Road Sanitary Landfill was conducted on June 14 and November 29, 2023.

Sampling Locations

Rumpke Colerain Sanitary Landfill, located in Colerain Township, Hamilton County, Ohio, is situated at the northeast intersection of US-27 and Struble Road. The limits of waste exists within the facility's boundary, which is bordered by Struble Road to the south, US-27 to the west, Bank Road to the north/northwest, Crest and Buell Road to the northeast/east and Breezy Acres Drive to the southeast.

Three sedimentation ponds are located on the site, identified as the NW Pond, SE Pond and North Pond. The North Pond was constructed in 2022 due to the eastern expansion and is not yet fully functional. The sedimentation ponds collect rainwater run-off from the landfill and settle out the suspended solids/silt prior to discharging into the adjacent streams and creeks.

Generally, two watersheds surround the landfill: the western watershed and the eastern watershed. The NW Pond discharges into the western watershed, while the SE Pond discharges into the eastern watershed. Once fully operational, the North Pond will also discharge into the western watershed.

The sampling locations around the landfill consists of the NW Pond and SE Pond outfalls, and their respective upstream and downstream locations (Figure 1).

Western Watershed Sampling Locations:

NW Pond

The discharge/outfall location for the sedimentation pond located on the west/northwest portion of the landfill. The pond discharges into the western watershed surrounding the landfill where Banklick creek borders the landfill and flows north/northeasterly along Bank Road.

S-1 Located downstream from the NW Pond and S-2 at the northern end of the landfill in Banklick creek along Bank Road. This is generally a creek with a series of riffles and pools. The bottom is silty in the pool areas and rocky in the riffle areas.

S-2 Located downstream from the NW Pond outfall and at the western edge of the landfill, upstream from S-1, in Banklick creek along Bank Road. The sampling location is west of the overpass below the culvert in a small, shallow pool. The bottom is silty in the pool areas and rocky to solid bedrock in the shallow riffle areas.

S-3 Located upstream, above the NW Pond outfall, in an unnamed stream west of Banklick creek. The sampling location is a series of very small, shallow pools and riffles. The bottom is solid rock to rocky with some silt.

S-11 Located upstream, above the NW Pond outfall, in a stream west/southwest of the landfill, across US-27. The stream consists of very small shallow pools. The sampling location was added in 2014 as an additional upstream location.

S-13 The furthest downstream location from the NW Pond outfall in Banklick creek along Bank Road. The sample location was added in 2022 due to the eastern expansion of the landfill and newly constructed North Pond. The 2022 sampling results will provide background analytical data for comparison purposes as the landfill expands and the North Pond outfall becomes fully operational. The sample location consists of ponding pools and rocky bottom.

Headwall Seep

Located upstream from the NW Pond outfall and downstream from S-11 where the stream west/southwest of the landfill emerges from an underground culvert at an existing headwall. The seep was identified coming from the weep holes at base of the headwall while Hamilton County Public Health was investigating a potential source of elevated concentrations in 2021. The seep was clear, but areas of discoloration were noted on the headwall where it had been continuously flowing; the seep also smelled of sulfur.

Eastern Watershed Sampling Locations:

SE Pond

The discharge/outfall location for the sedimentation pond located on the southeast portion of the landfill. The pond discharges into the eastern watershed surrounding the landfill in an unnamed stream east of the landfill, across Hughes Road.

S-9 Located upstream, above the SE Pond outfall, and east of the landfill in an unnamed stream east of Hughes Road and west of Buell Road. The sample location consists of a series of very small, shallow pools with a rocky bottom. The sample location was added in 2008 due to the southern expansion of the landfill. The sample location was removed during the October 2022 sampling event due to the eastern expansion of the landfill.

S-10 Located downstream from the SE Pond outfall, in an unnamed stream east of the landfill. The sample location consists of a series of small, shallow pools with a rocky bottom. The sample location was added in 2008 due to the southern expansion of the landfill.

S-12 The furthest downstream location from the SE Pond outfall, located at the northern end of the landfill, in an unnamed stream that flows along Buell Road to Crest Road and eventually into Banklick Creek. The sample location was added in 2019

due to the eastern expansion of the landfill and consists of ponding pools and rocky bottom.

Bond Road Sanitary Landfill, located in Whitewater Township, is situated in western Hamilton County, Ohio. The landfill borders the State of Indiana to the west and Bond Road to the north. In 2021, Rumpke purchased 466 acres of land south of the existing landfill for purposes of future development and improvements, extending the southern landfill border to Sand Run Road. Improvements to the site will include the relocation of the facility entrance to Sand Run Road, accompanied by an access road to the existing limits of waste placement. Sampling locations around the Bond Road Sanitary Landfill consists of the following five sites (Figure 2):

B-1 Located at the east end of the sedimentation pond which discharges to a tributary to Fox Run.

B-3 Located south of the landfill in an unnamed tributary to Fox Run where most water is generated from storm swales. The sample location was added in 2022 due to proposed developments and improvements at the facility. The 2022 sampling results will provide background analytical data for comparison purposes as the landfill develops.

B-4 Located on the southeast end of the property in Fox Run. The sample location was added in 2022 due to proposed developments and improvements at the facility. The 2022 sampling results will provide background analytical data for comparison purposes as the landfill develops.

B-5 Located near the landfill entrance along Sand Run Road. The sample location was added in 2022 due to proposed developments and improvements at the facility. The 2022 sampling results will provide background analytical data for comparison purposes as the landfill develops.

Methods

Surface water sampling was conducted in the Spring and Fall by obtaining grab samples in streams around each of the landfills where possible. Generally, Spring sampling is more influenced by precipitation and Fall sampling is more influenced by groundwater. Efforts are made to collect the samples during low flow times where groundwater contributions are considered to be greater. This monitoring was performed to serve as an indicator of water quality above and below each landfill.

Samples were collected in polyethylene wide-mouth jars ranging in size from 250 mL to 500 mL and two set of hypovials for sampling volatile organic compounds. Depending on the sampling parameter, samples were either unpreserved or preserved with hydrochloric acid, sulfuric acid, nitric acid, or sodium hydroxide (as required). All samples were placed in a cooler on ice. Samples were analyzed by Eurofins Environmental Testing. Chain-of-custody protocols were followed. Water temperature was recorded using a Taylor thermometer near the sampling location.

Biological water samples were collected at each of the sampling locations. Biological samples were collected using an aquatic kick net with 1000-micron mesh. A kick technique was used to loosen organisms from riffle areas of the streams and then the area was swept with the net. Hand picking of organisms off the rock surfaces was also employed at the sample locations.

Results and Discussion

Water Quality Monitoring

Rumpke Sanitary Landfill

The surface water sampling results from the 2023 sample events are presented in Table 1, and include sampling results dating back to 2010.

Western watershed:
The western watershed surrounding the landfill consists of upstream sample locations S-3 and S-11, the NW Pond outfall, and downstream sample locations S-1, S-2 and S-13. S-13 was added in 2022, and is located downstream of the newly installed North Pond. During the June 2023 sampling event, the NW Pond outfall was not flowing and could not be sampled.

Sampling results comparing the NW Pond outfall with upstream sample locations (S-3 & S-11) and downstream sample locations (S-1, S-2 & S-13) are illustrated on Figures 3 & 4 and narrated below:

- Chloride was detected above the secondary maximum contaminant level (SMCL) of 250 mg/l in upstream sample location S-11 (301 mg/l) during the November sampling event. Chloride was not detected above the SCML in upstream sample S-3 during 2023 or the NW Pond in November 2023 when it was able to be sampled.
    - Chloride was detected above the SCML in all downstream sample locations (S-1, S-2 & S-13) during the 2023 sampling events.

- Sulfate was detected above the SMCL of 250 mg/l in upstream sample S-11 (271 mg/L) during the June sampling event (282 mg/L) as well as the November sampling event (250 mg/L). Sulfate was not detected above the SCML in upstream sample S-3 during 2023 or the NW Pond in November 2023 when it was sampled.
    - Similarly to chloride, sulfate was detected above the SCML in all downstream sample locations (S-1, S-2 & S-13) during the 2023 sampling events.

- All sample locations were above the SMCL of 500 mg/L for total dissolved solids (TDS) during the 2023 sampling events, including the NW Pond in November 2023.

- In June 2023, iron was detected above the SMCL of 0.3 mg/l in upstream sample locations S-11 (0.381 mg/L) and S-3 (0.412 mg/L), but below the SMCL during the

November 2023 sampling event. Iron was not detected above the SMCL in the NW Pond in November 2023.

  - Iron was detected above the SMCL in downstream sample location S-1 in June 2023 (0.349 mg/L) and November 2023 (0.353 mg/L). All other downstream locations were below the SMCL for iron in 2023.

- Manganese was detected above the SMCL of 0.05 mg/l in upstream sample locations S-3 in June 2023 (0.0681 mg/L) and S-11 in November 2023 (0.152 mg/L).
  - Manganese was detected above the SMCL in downstream samples S-1 and S-13 during both 2023 sampling events. Downstream sample location S-2 was below the SMCL for manganese during both 2023 sampling events.

- Ammonia was detected above the 0.20 mg/l laboratory limits in downstream sample location S-13 (0.212 mg/l) during the November 2023 sampling event. Less than 1.0 mg/L ammonia is considered usual for natural waters.

- Comparing sampling analytical results with years' past, concentrations of TDS, chloride and sulfate at the downstream samples S-1, S-2 and S-13 continue to be elevated as they were during the 2021 and 2022 sampling events. The higher concentrations of the analytes in the downstream samples in June 2023 compared to November 2023 is likely the result of the NW Pond outfall not being open, diluting the waters during sample collection.

  In 2021, in determining a potential source of the elevated concentrations, Hamilton County Public Health surveyed areas upstream from S-2 to an existing headwall where the stream continues along the western landfill through an underground culvert. At the base of the headwall, a seep was identified coming from the weep holes installed to keep moisture from accumulating behind it. The seep was clear, but areas of discoloration were noted where it had been continuously flowing; the seep also smelled of sulfur.

  The headwall seep was sampled during the 2022 and 2023 sampling events, and the results identified similarly increased concentrations of TDS, chloride and sulfate compared to downstream sample locations S-1, S-2, and S-13.

  Hamilton County Public Health will continue to communicate with the Ohio EPA and Rumpke to further evaluate the headwall seep and determine its origin, whether it be groundwater, surface water or possibly landfill derived. The Ohio EPA, Hamilton County Public Health, and third-party consultants have determined that the headwall seep is not an imminent threat to public health or the environment as further sampling and investigation continues.

Eastern watershed:

The eastern watershed surrounding the landfill consists of the SE Pond discharge point, and downstream sample locations S-10 and S-12. Sample location S-9 could no longer be an effective upstream sample location during the October 2022 sampling event due to the eastern expansion of the landfill. The SE Pond outfall was flowing during both

sampling events and sampled. Sampling results comparing the SE Pond and downstream sample locations (S-10 & S-12) are illustrated on Figures 5 & 6 and narrated below:

- Chloride was detected below the secondary maximum contaminant level (SMCL) of 250 mg/l in the SE Pond outfall sample during both 2023 sampling events.
    - Chloride was detected above the SMCL for chloride in downstream sample locations S-10 and S-12 in June 2023 (944 mg/L & 299 mg/L, respectively) and below the SMCL in November 2023.

- Sulfate was detected below the secondary maximum contaminant level (SMCL) of 250 mg/l in the SE Pond outfall sample in June and November 2023.
    - Sulfate was detected above the SMCL for sulfate in downstream sample location S-10 (616 mg/L) in June 2023 and below the SMCL in November 2023. Downstream sample location S-12 was below the SMCL in June and November 2023.

- Total dissolved solids (TDS) was above the SMCL of 500 mg/L in the SE Pond outfall sample in June 2023 (616 mg/L) and below the SMCL in November 2023.
    - Downstream sample locations S-10 and S-12 were above the SMCL for TDS during both 2023 sampling events.

- Iron was detected below the secondary maximum contaminant level (SMCL) of 0.3 mg/l in the SE Pond outfall sample in June and November 2023.
    - Downstream sample locations S-10 and S-12 were above the SMCL of 0.3 mg/L for iron during both 2023 sampling events.

- Manganese was detected above the SMCL of 0.05 mg/l in all sample locations during both 2023 sampling events.

- In June 2023, ammonia was detected above the 0.2 mg/l laboratory limits in the SE Pond outfall sample (0.271 mg/L) and downstream sample S-10 (0.226 mg/L). Less than 1.0 mg/L ammonia is considered usual for natural waters.

- No other parameters were above the MCL/SMCL/Action Level.

Bond Road Landfill

Surface water sampling at the Bond Road Landfill was conducted at the B-1 location for both sample periods (Table 2). No parameters were above the MCL/SMCL/Action Level in sample location B-1 during the 2023 sampling events.

Additionally, surface water sampling was conducted at newly established sample locations B-3, B-4 and B-5 and will provide background analytical data for comparison purposes as the landfill develops. Sample location B-3 was dry in June and November 2023 and could not be sampled.

Biological Monitoring

Biological organisms can provide an indication of water quality based on their typical habitat requirements. For example, organisms such as isopods (sowbugs) inhabit relatively unpolluted shallows. Amphipods (sideswimmers), plecopterans (stoneflies), ephemeropterans (mayflies), some odonatans (dragonflies and damselflies), trichopterans (caddisflies), and turbellarians (flatworms) need an abundance of dissolved oxygen (DO) to survive and are indicative of good stream quality. Hemipterans (water boatman bugs) and some gastropods (pouch snails) are semi-tolerant to low DO. Dipterans (flies, mosquitos, and midges) are able to live in low DO environments and are much more tolerant of pollution. Some of these organisms can live in only low current streams; in unpolluted clear waters; occur in debris (masses of leaves and algae); occur under stones; occur in vegetation; occur in mud; found in decaying vegetation; or occur only in ponds. These ecological characteristics can provide an indication of a clean versus a polluted environment. Some organisms have specific physical features such as respiratory tubes (Dipteran larva), which enable those organisms to survive in low DO environments or in highly polluted waters.

Table 3 presents the results of biological monitoring around each licensed landfill over both sampling periods. Data is also presented from the 2010 through 2023 monitoring events for comparison.

Rumpke Sanitary Landfill

The Rumpke landfill streams were biologically monitored two times in 2023. In June, the day was cloudy with a temperature around 73° F. In November, the day was partly to mostly cloudy with a temperature around 56° F.

Western watershed:
Because the NW Pond outfall was closed during the June sampling event, downstream sample locations (S-1, S-2, and S-13) along Banklick creek were very slow with small pools of water. And slow to moderate with larger pools of water in November 2023 when the NW Pond outfall was open and flowing.

Upstream Sample Locations

- A salamander and sow bugs were among the organisms observed in June at upstream sample location S-3. Water pennies, sowbugs and a scud were observed in November.

- Six types of organisms were observed in June at upstream sample location S-11, including caddisfly and sowbugs. A salamander, water pennies and sow bugs were among the organisms observed in November.

Downstream Sample Locations

- While sow bugs were predominantly observed among the organisms in downstream sample location S-1 in June and November, water pennies and caddisflies were also identified in November.

- Water pennies, caddisflies and sow bugs were observed during the June and November sampling events at downstream sample location S-2.

- Sample location S-13 was added in 2022 to provide a downstream sample location to the newly constructed North Pond. The location is also downstream from sample locations S-1 & S-2. Similarly, water pennies, caddisflies and sow bugs were all observed during the June and November 2023 sampling events. Damselflies were also observed during both dates.

Eastern watershed:
During both 2023 sampling events, the SE Pond outfall was open and flowing. Steam flow in downstream sample locations, S-10 and S-12, was slow to moderate, with larger pools of water.

Upstream Sample Location

- The upstream sample location was omitted in 2022 to advancement of the eastern expansion of the landfill.

Downstream Sample Locations

- Five types of organisms were observed in both in June at downstream sample location S-10, predominantly sow bugs (greater than 100) and caddisflies. Six types of organisms were observed in November, including water pennies, caddisflies and sowbugs.

- Caddisflies, sowbugs, crayfish and minnows were among the seven organisms identified in June at downstream sample location S-12. In November, a water penny, caddisflies, sow bugs, a frog and fingernail clam were identified.

Bond Road Landfill

The Bond Road landfill sedimentation pond and nearby streams were biologically monitored two times in 2023. In June, the day was mostly cloudy with a temperature around 69^{o} F. In November, the day was cloudy with a temperature around 40^{o} F.

Samples are typically taken at the southeast corner of the sedimentation pond and in the dissipater box below the pond (identified as sample location B-1). Because the pond outfall had been closed prior to sampling and bank sampling access is limited, minimal organisms were observed in 2023. Pouch snails were noted in June and November, while sowbugs were also observed in November.

Biological sampling was also conducted at newly established sample locations B-3, B-4 and B-5 to provide background data as the landfill develops. Sample location B-3 was dry during both 2023 sampling events.

Conclusions

The results of the water quality and biological monitoring conducted in 2023 at Rumpke Sanitary Landfill and Bond Road Landfill are consistent with past sampling periods. The continued presence of certain key organisms in the downstream sample locations indicate an unpolluted environment, although stream conditions and seasons seem to primarily affect the number and types of organisms sampled.

Hamilton County Public Health will continue to communicate with the Ohio EPA and Rumpke to further evaluate the headwall seep. The Ohio EPA, Hamilton County Public Health, and third-party consultants have determined that the headwall seep is not an imminent threat to public health or the environment as further sampling and investigation continues.

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Figure 1
Rumpke Sanitary Landfill

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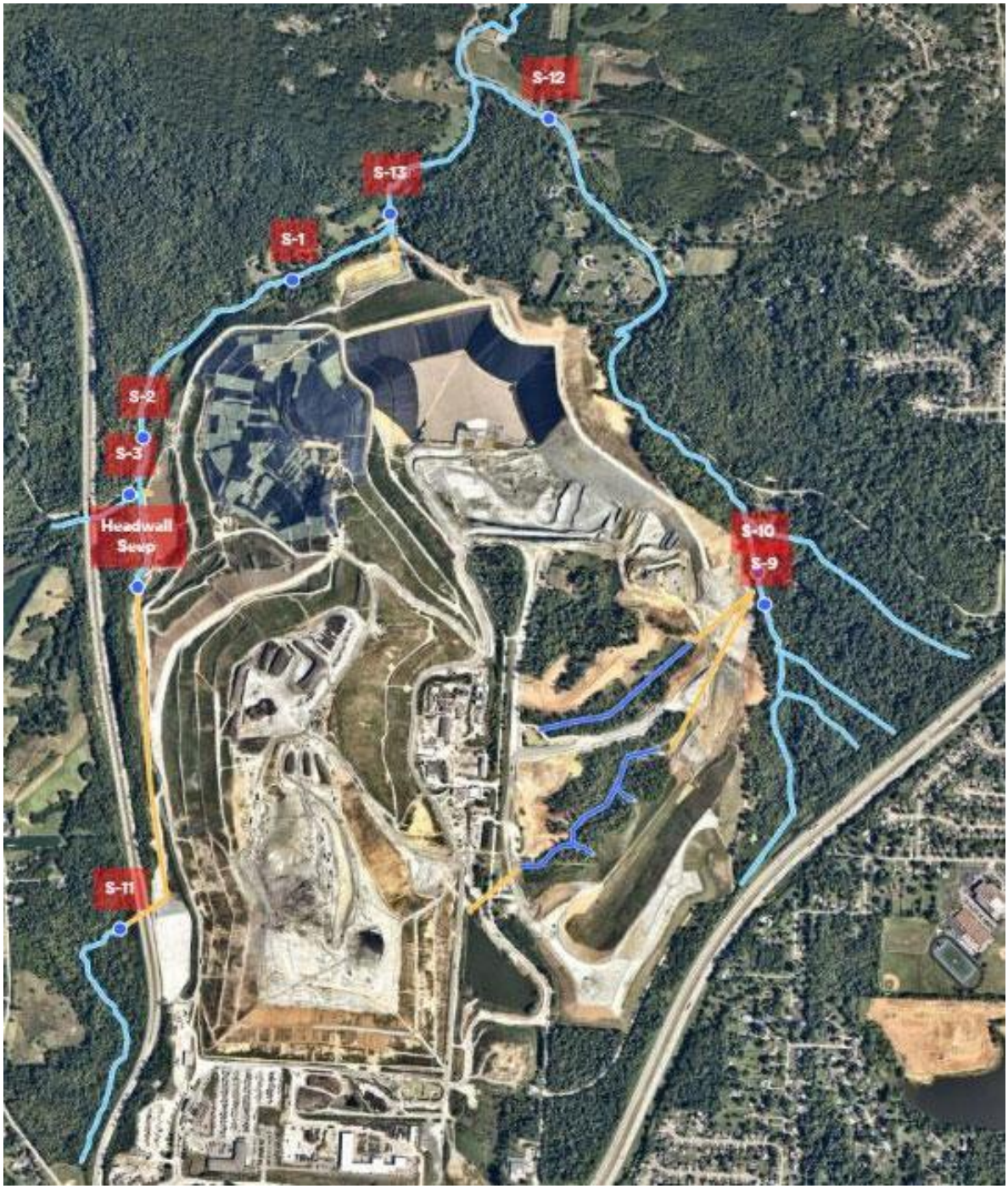

Stream Sampling Locations

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Figure 2
Bond Road Landfill

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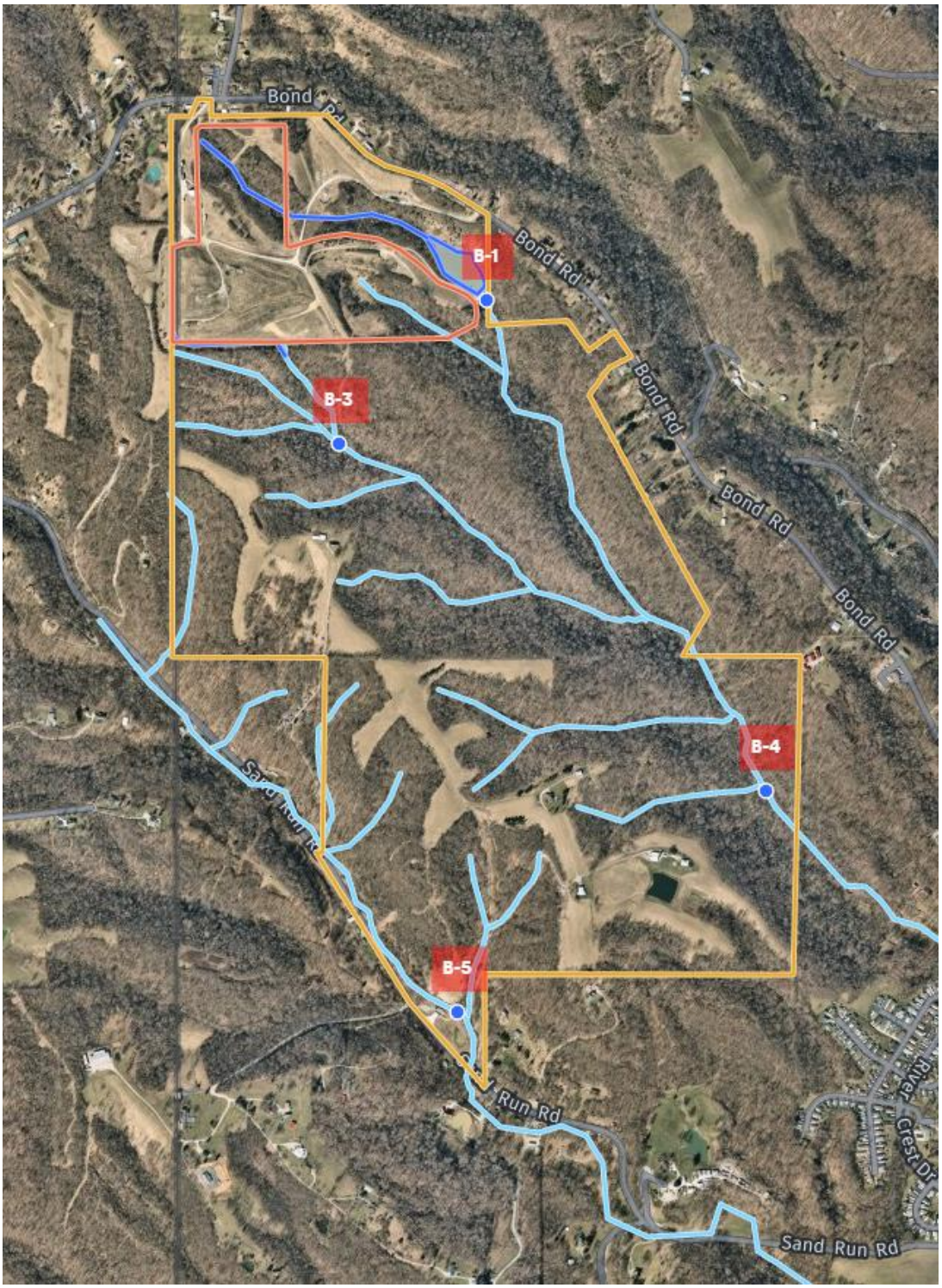

Sampling Locations

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Figure 3

Comparison of Western Watershed Sampling Locations
June 6, 2023

Surface water flow direction
Red indicates above the MCL/SMCL/Action Level

Upstream Sample Locations

S-11
Chloride: 172 mg/L
Sulfate: 282 mg/L
TDS: 950 mg/L
Iron: 0.381 mg/L
Manganese: 0.0213 mg/L
Ammonia: Non-detect

S-3
Chloride: 218 mg/L
Sulfate: 88.4 mg/L
TDS: 826 mg/L
Iron: 0.412 mg/L
Manganese: 0.0681 mg/L
Ammonia: Non-detect

Downstream Sample Locations

S-2
Chloride: 1,919 mg/L
Sulfate: 1,030 mg/L
TDS: 4,630 mg/L
Iron: Non-detect
Manganese: Non-detect
Ammonia: Non-detect

S-1
Chloride: 1,430 mg/L
Sulfate: 769 mg/L
TDS: 3,580 mg/L
Iron: 0.349 mg/L
Manganese: 0.249 mg/L
Ammonia: Non-detect

S-13
Chloride: 1,280 mg/L
Sulfate: 729 mg/L
TDS: 3,180 mg/L
Iron: 0.132 mg/L
Manganese: 0.29 mg/L
Ammonia: Non-detect

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Figure 4

Comparison of Western Watershed Sampling Locations
November 16, 2023

Surface water flow direction
Red indicates above the MCL/SMCL/Action Level

Upstream Sample Locations

S-11
Chloride: 301 mg/L
Sulfate: 259 mg/L
TDS: 956 mg/L
Iron: 0.114 mg/L
Manganese: 0.152 mg/L
Ammonia: Non-detect

S-3
Chloride: 206 mg/L
Sulfate: 137 mg/L
TDS: 813 mg/L
Iron: 0.143 mg/L
Manganese: 0.0404 mg/L
Ammonia: Non-detect

Downstream Sample Locations

S-2
Chloride: 708 mg/L
Sulfate: 506 mg/L
TDS: 1,770 mg/L
Iron: 0.129 mg/L
Manganese: 0.0161 mg/L
Ammonia: Non-detect

S-1
Chloride: 723 mg/L
Sulfate: 513 mg/L
TDS: 1,680 mg/L
Iron: 0.353 mg/L
Manganese: 0.253 mg/L
Ammonia: Non-detect

S-13
Chloride: 753 mg/L
Sulfate: 494 mg/L
TDS: 1,740 mg/L
Iron: 0.264 mg/L
Manganese: 0.389 mg/L
Ammonia: 0.212 mg/L

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Figure 5

Comparison of Eastern Watershed Sampling Locations
June 6, 2023

Surface water flow direction
Red indicates above the MCL/SMCL/Action Level

Upstream Sample Locations

S-9
No longer able to sample due to the construction of Eastern Expansion of landfill.

Outfall Location

SE Pond
Chloride: 149 mg/L
Sulfate: 178 mg/L
TDS: 616 mg/L
Iron: 0.165 mg/L
Manganese: 0.0859 mg/L
Ammonia: 0.271 mg/L

Downstream Sample Locations

S-10
Chloride: 944 mg/L
Sulfate: 594 mg/L
TDS: 2,350 mg/L
Iron: 0.399 mg/L
Manganese: 0.306 mg/L
Ammonia: 0.226 mg/L

S-12
Chloride: 299 mg/L
Sulfate: 184 mg/L
TDS: 890 mg/L
Iron: 0.871 mg/L
Manganese: 0.112 mg/L
Ammonia: Non-detect

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Figure 6

Comparison of Eastern Watershed Sampling Locations
November 16, 2023

Surface water flow direction
Red indicates above the MCL/SMCL/Action Level

Upstream Sample Locations

S-9
No longer able to sample due to the construction of Eastern Expansion of landfill.

Outfall Location

SE Pond
Chloride: 93.6 mg/L
Sulfate: 136 mg/L
TDS: 490 mg/L
Iron: 6.35 mg/L
Manganese: 0.191 mg/L
Ammonia: Non-detect

Downstream Sample Locations

S-10
Chloride: 119 mg/L
Sulfate: 152 mg/L
TDS: 544 mg/L
Iron: 1.13 mg/L
Manganese: 0.0884 mg/L
Ammonia: Non-detect

S-12
Chloride: 121 mg/L
Sulfate: 147 mg/L
TDS: 535 mg/L
Iron: 0.447 mg/L
Manganese: 0.0923 mg/L
Ammonia: Non-detect

Table 1.
*=split samples with OEPA
**=low quality control check
associated with TDS results; suspect results accordingly
Bold Face=at/above the MCL or SMCL

Rumpke Sanitary Landfill
Surface Water Sampling Results

Standards		Field Temp. °C	Dissolved Oxygen	TDS mg/l	NH3 mg/l	NO2 - NO3 mg/l - N	Cl mg/l	SO4 mg/l	COD mg/l	P mg/L	Turb. NTU	Cond. umhos/cm	Bicarb mg/l	T. Alk. mg/l	Carb mg/l	pH	Hg mg/L	Ca mg/l	Fe mg/l	Mg mg/l	K mg/l	Na mg/l	Sb mg/L	As mg/L	Ba mg/l	Be mg/l	Cd mg/l	Cr mg/l	Co mg/l	Cu mg/l	Pb mg/l	Mn mg/l	Ni mg/l	Se mg/l	Ag mg/l	Al mg/l	B mg/l	Sr mg/l	Tl mg/l	V mg/l	Zn mg/l	VOCs
MCL						10										0.002						0.006	0.01	2	0.004	0.005	0.1					0.05						0.002			
SMCL				500			250	250								6.5-8.5			0.3										1		0.05			0.1						5	
Action Level																													1.3	0.015										
Stream Sample	Date																																							
S-1	6/7/2010	-		**1170**	0.54	1.24	**387**	230	<50.0	-	6.6	1980	-	256	-	7.71	-	162	**1.17**	39.2	9.66	218	0.00034	<0.002	0.0605	<0.0002	<0.0002	<0.002	0.000906	<0.003	0.000472	**0.354**	<0.007	<0.004	<0.0001				<0.0002	<0.004	<0.014	BDL
S-1	10/14/2010	-		**1340**	0.063	0.0387	**451**	**299**	140	-	43	2140	233	238	<20.0	7.41		189	**1.98**	45.4	35.1	235	<0.0005	0.00509	0.0974	<0.0002	<0.0002	<0.002	0.00193	0.00385	0.00118	**3.09**	<0.008	<0.006	<0.0001				<0.0002	<0.003	<0.018	BDL
S-1	6/28/2011	19.9		**881**	0.136	0.399	228	197	<50.0	<0.1	12	1410	219	220	<20.0	8.07	<0.0002	122	**0.597**	24.4	6.16	127	<0.001	<0.01	0.0458	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.163**	<0.009	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-1	10/25/2011	8.8		**907**	0.282	0.339	212	242	<50.0	<0.1	11	1420	197	198	<20.0	7.94	<0.0002	143	**0.624**	29.1	6.89	131	<0.001	<0.01	0.041	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.267**	<0.0075	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-1	6/7/2012	15.3		**1160**	0.221	1.24	**327**	230	<50.0	<0.100	12	1860	264	268	<10.0	7.88	<0.0002	157	**0.506**	40.2	8.56	179	<0.001	<0.01	0.0625	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.302**	<0.01	<0.01	<0.0005				<0.001	<0.025	<0.02	BDL
S-1	10/25/2012	12.5		**1800**	0.222	0.0205	**597**	**325**	<50.0	0.131	7.1	2820	289	290	<10.0	7.69	<0.0002	212	**0.535**	56.7	14.2	329	<0.001	<0.01	0.090	<0.001	<0.001	<0.01	0.00278	<0.005	<0.001	**0.93**	<0.019	<0.01	<0.0005				<0.001	<0.025	<0.026	BDL
S-1	6/12/2013	20		**974**	<0.2	0.555	**283**	186	<10.0	<0.1	6.74	1650	281	281	-	8.06	<0.0002	148	**0.511**	32.9	7.63	167	<0.002	<0.005	0.0651	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.265**	0.00316	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-1	10/8/2013	14.5		489	0.345	0.318	96.5	180	10.3	0.117	29.7	794	96.8	96.8	-	7.89	<0.0002	81	**1.28**	15.9	5.95	57.4	<0.002	<0.005	<0.0355	<0.001	<0.001	<0.002	<0.001	0.00298	<0.001	**0.0649**	0.00304	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-1	5/21/2014	19.4	9.39	**526**	<0.200	0.176	80.1	212	28	<0.100	6.06	796	76.4	76.4	<5.00	8	<0.0002	87.5	**0.764**	15	4.21	44.1	<0.002	<0.005	0.027	<0.001	<0.002	<0.002	<0.001	0.00278	<0.001	**0.067**	0.00211	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-1	10/27/2014	9.6	10.06	**1760**	<0.200	0.56	**721**	222	22.2	0.151	8.5	3040	334	334	<5.00	7.86	<0.0002	189	**0.684**	53.1	12.3	352	<0.002	<0.005	0.086	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.495**	0.00666	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-1	6/4/2015	16.8	8.5	**1360**	<0.200	0.879	**513**	230	23	<0.100	4.63	2430	240	240	<5.00	7.95	<0.0002	172	**0.391**	45.2	10.8	279	<0.002	<0.005	0.076	<0.001	<0.001	0.00242	0.00114	<0.002	<0.001	**0.516**	0.00687	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-1	10/6/2015	15.3	16.1	**1570**	<0.200	0.147	**616**	183	22.4	0.105	4.5	2510	293	293	<5.00	7.66	<0.0002	137	**0.426**	42.6	13	293	<0.002	<0.005	0.066	<0.001	<0.001	<0.002	0.00127	0.00373	<0.001	**0.23**	0.00836	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-1	5/25/2016	16.5	14.1	**1400**	0.1	<0.45	**330**	210	19	0.055	3.7	2000	320	320	<4.0	7.6	<0.0002	160	**0.32**	43	7.8	190	<0.005	<0.005	0.061	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	**0.3**	0.0077	<0.005	<0.005	0.2	0.99	1.8	<0.005	<0.005	<0.010	BDL
S-1	11/7/2016	9.1		**840**	0.11	<0.45	150	200	17	0.057	2	1200	140	140	<4.0	7.7	<0.0005	110	0.28	28	6.1	99	<0.03	<0.01	<0.10	<0.0004	<0.005	<0.02	<0.004	<0.025	<0.015	**0.21**	<0.05	<0.03	<0.01	<0.2	0.56	1.2	<0.005	<0.05	0.23	BDL
S-1	6/1/2017	21		444	<0.200	0.777	66	140	<10.0	<0.100	12.1	728	130	137	6.37	6.8	<0.0002	82.9	**0.543**	18.6	3.57	40.7	<0.002	<0.005	0.030	<0.001	<0.001	<0.002	<0.001	0.00416	<0.001	**0.0828**	0.00207	<0.005	<0.001	0.325	0.339	0.598	<0.001	<0.005	<0.020	BDL
S-1	11/9/2017	5.8		**682**	<0.200	0.344	122	192	12.9	0.112	28.1	1090	211	211	<5.00	8.1	<0.0002	113	**1.07**	23.1	4.98	704	<0.002	<0.005	0.039	<0.001	<0.001	<0.002	<0.001	0.00255	<0.001	**0.147**	0.00237	<0.005	<0.001	0.901	0.634	0.845	<0.001	<0.005	<0.020	BDL
S-1	6/4/2018	24.2		424	<0.200	0.648	68.5	167	17.7	0.101	38.7	681	69.7	69.7	<5.00	8.1	<0.0002	72.2	**1.69**	13.1	4.91	41.9	<0.002	<0.005	0.029	<0.001	<0.001	0.0024	0.00138	0.00513	0.00123	**0.0826**	0.00389	<0.005	<0.001	2.04	0.256	0.563	<0.001	<0.005	<0.020	BDL
S-1	10/30/2018			**2930**	<0.200	0.0819	**1030**	**533**	34.5	<0.100	3.71	4720	303	303	<5.00	7.8	<0.0002	296	**0.355**	97.1	21.4	1390	<0.002	<0.005	0.118	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.302**	0.00379	<0.005	<0.001	<0.050	3.81	7.49	<0.001	<0.005	<0.020	BDL
S-1	5/22/2019	17.7		**751**	<0.200	<0.05	176	201	<10.0	<0.100	10.1	1230	160	160	<5.00	8.1	<0.0002	108	**0.489**	25	5.94	93.5	<0.002	<0.005	0.0358	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.0668**	0.00276	<0.005	<0.001	0.437	0.626	1.4	<0.001	<0.005	<0.020	BDL
S-1	11/6/2019	5.9		**878**	<0.200	0.105	**270**	234	<10.0	<0.100	11.8	1580	117	117	<5.00	7.9	<0.0002	99.5	**0.383**	28.1	7.17	139	<0.002	<0.005	0.0257	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.0737**	0.00242	<0.005	<0.001	0.334	0.967	1.85	<0.001	<0.005	<0.020	BDL
S-1	5/27/2020	22.8		**530**	<0.200	0.131	84	176	<10.0	<0.100	34	903	147	147	<5.00	8.3	<0.0002	90.3	**1.69**	21.3	5.26	55.6	<0.002	<0.005	0.0298	<0.001	<0.001	0.00211	0.00109	0.00293	<0.001	**0.0969**	0.00341	<0.005	<0.001	1.86	0.473	0.97	<0.001	<0.005	<0.020	BDL
S-1	10/27/2020	12.2		**538**	<0.200	0.277	113	207	10.2	0.115	55.5	956	83	83	<5.00	8	<0.0002	85.2	**1.47**	18.9	6.46	64.1	<0.002	<0.005	0.0245	<0.001	<0.001	0.00203	0.00116	0.00304	<0.001	**0.0672**	0.00379	<0.005	<0.001	1.57	0.433	1.07	<0.001	<0.005	<0.020	BDL
S-1	5/26/2021			**811**	<0.200	0.184	232	235	27.5	<0.100	10.7	1420	158	158	<5.00	8	<0.0002	115	**0.655**	29.5	6.19	124	<0.002	<0.005	0.0427	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.288**	0.00273	<0.005	<0.001	0.402	0.735	1.64	<0.001	<0.005	<0.020	BDL
S-1	10/22/2021	12.5		**1830**	<0.200	0.255	**694**	**434**	18.9	<0.100	5.6	3040	177	177	<5.00	7.9	<0.0002	234	0.28	60.7	15.6	355	<0.002	<0.005	0.0649	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.200**	0.00321	<0.005	<0.001	0.111	1.81	3.89	<0.001	<0.005	<0.020	BDL
S-1	5/17/2022	19.2		**2070**	0.525	1.73	**1290**	**323**	24.7	<0.100	6.1	4550	85.2	85.2	<5.00	8	<0.0002	175	0.298	54	19.6	543	<0.002	<0.005	0.0671	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.137**	0.0023	<0.005	<0.001	0.228	1.04	6.75	<0.001	<0.005	<0.020	BDL
S-1	10/25/2022	11.5		**4990**	<0.200	<0.0500	**2400**	**1180**	49.4	0.321	5.6	8290	325	325	<5.00	7.9	<0.0002	411	**0.874**	177	52.1	1220	<0.002	<0.005	0.163	<0.001	<0.001	<0.005	0.00165	0.00234	<0.001	**1.780**	0.0101	<0.005	<0.001	0.195	6.87	14.9	<0.001	<0.005	<0.020	BDL
S-1	6/6/2023			**3580**	<0.200	0.121	**1430**	**769**	28.3	<0.100	3	6250	198	198	<5.00	8.17	<0.0002	282	**0.349**	121	30	786	<0.002	<0.005	0.126	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.249**	0.00769	<0.005	<0.001	0.168	4.23	8.11	<0.001	<0.005	<0.020	BDL
S-1	11/16/2023	5.3		**1680**	<0.200	0.562	**723**	**513**	17.4	<0.100	5.1	3240	176	176	<5.00	7.98	<0.0002	176	**0.353**	62.8	18.9	366	<0.002	<0.005	0.0492	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.253**	0.00332	<0.005	<0.001	0.0803	2.09	4.57	<0.001	<0.005	<0.020	BDL
S-2	6/7/2010	-		**1290**	0.155	0.812	**420**	243	<50.0	-	6.7	2060	-	276	-	8.19	-	180	**1.93**	41.7	11.7	231	0.00045	<0.002	0.0652	<0.0002	<0.0002	<0.0002	0.00121	<0.004	0.00111	**0.0861**	<0.009	<0.005	<0.0001				<0.0002	<0.004	0.0119	BDL
S-2	10/14/2010	-		**3120**	0.249	0.619	**1470**	**552**	60.1	-	4.4	5160	215	216	<20.0	7.93	<0.0002	295	0.223	87.8	25.8	753	<0.0006	<0.003	0.108	<0.0002	<0.0006	<0.002	0.00105	<0.008	0.00069	**0.0532**	<0.012	<0.009	<0.0001				<0.0002	<0.002	0.0283	BDL
S-2	6/28/2011	20.6		**740**	0.074	0.315	190	172	<50.0	<0.1	22	1270	213	214	<20.0	8.29	<0.0002	114	**1.01**	21	6.01	111	<0.001	<0.01	0.0385	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.0529**	<0.008	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-2	10/25/2011	10.3		**695**	0.147	0.344	162	194	<50.0	<0.1	16	1130	164	166	<20.0	8.08	<0.0002	116	**0.518**	20.6	6.57	95.2	0.00118	<0.01	0.0325	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.163**	<0.0075	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-2	6/7/2012	17.3		**962**	0.122	0.258	**257**	178	<50.0	<0.1	12	1540	239	242	<10.0	8.18	<0.0002	144	**0.598**	34.2	8.11	156	<0.001	<0.01	0.0457	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.025	<0.008	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-2	10/25/2012	13.8		**1590**	0.17	0.0478	**631**	242	<50.0	<0.1	12	2760	277	280	<10.0	8.15	<0.0002	172	**0.478**	53.4	14.8	341	<0.001	<0.01	0.0708	<0.001	<0.001	<0.01	0.00269	<0.005	<0.001	0.037	<0.018	<0.01	<0.0005				<0.001	<0.025	<0.026	BDL
S-2	6/12/2013	21.4		**958**	<0.2	0.308	**263**	182	10.9	<0.1	6.14	1570	268	268	-	5.28	<0.0002	134	**0.853**	28.1	7.07	141	<0.002	<0.005	0.0535	<0.001	<0.001	<0.002	<0.001	0.00202	<0.001	**0.0801**	0.00337	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-2	10/8/2013	16.4		446	<0.2	0.194	81.3	171	13.5	0.111	29.2	717	96.4	96.4	-	7.95	<0.0002	78.8	**1.51**	14.3	5.81	49.7	<0.002	<0.005	0.034	<0.001	<0.001	0.00224	<0.001	0.00324	<0.001	**0.0609**	0.00302	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-2	5/21/2014	20.0	7.8	**521**	<0.200	0.148	75	210	17.5	<0.100	8.81	762	68.3	68.3	<5.00	8.24	<0.0002	88.1	**0.751**	15	4.38	43.3	<0.002	<0.005	0.0237	<0.001	<0.001	<0.002	<0.001	0.00213	<0.001	**0.0543**	0.00209	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-2	10/27/2014	11.0	15.2	**1860**	<0.200	<0.0500	**831**	184	31.9	<0.100	3.29	3000	348	348	<5.00	8.22	<0.0002	178	0.144	53.9	14.7	407	<0.002	<0.005	0.0861	<0.001	<0.001	<0.002	0.00102	0.00237	<0.001	0.0291	0.00806	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-2	6/4/2015	19.6	8.5	**1520**	<0.200	1.7	**598**	214	35.5	<0.100	3.8	2730	284	284	<5.00	8.21	<0.0002	174	0.177	46.9	14.3	312	<0.002	<0.005	0.0748	<0.001	<0.001	0.00252	0.00123	0.00275	<0.001	**0.0534**	0.00914	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-2	10/6/2015	16.9	16.1	**905**	<0.200	0.146	**295**	188	18	<0.100	6.99	1460	168	168	<5.00	7.91	<0.0002	91.8	0.157	24.2	8.18	136	<0.002	<0.005	0.0359	<0.001	<0.001	<0.002	<0.001	0.0253	0.00466	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-2	5/25/2016	16.9		**1400**	0.038	0.57	**330**	190	18	<0.05	2.5	2000	370	370	<4.0	7.8	<0.0002	160	0.13	40	8.9	200	<0.005	<0.005	0.06	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	0.037	0.0055	<0.005	<0.005	0.49	1	1.9	<0.005	<0.005	<0.01	BDL
S-2	11/7/2016	11.8		**830**	0.1	<0.45	200	210	16	<0.05	1.6	1200	130	130	<4.0	8.2	<0.0005	100	<0.2	27	6.2	100	<0.03	<0.01	<0.1	<0.0004	<0.005	<0.02	<0.004	<0.025		<0.05	<0.05	<0.03	<0.01	<2.0	0.58	1.2	<0.005	<0.05	<0.05	BDL
S-2	6/1/2017	21.2		382	<0.200	0.353	38.8	138	<10.0	<0.100	11.9	594	92.1	95.8	<5.00	8.3	<0.0002	82.2	**0.485**	16.3	3.38	30.7	<0.002	<0.005	0.0242	<0.001	<0.001	<0.002	<0.001	<0.00476	<0.001	**0.0526**	0.00204	<0.005	<0.001	0.287	0.252	0.554	<0.001	<0.005	<0.020	BDL
S-2	11/9/2017	5.9		412	<0.200	0.254	45.9	151	15.3	0.184	63.4	645	112	112	<5.00	8.2	<0.0002	70.5	**1.64**	13.9	4.17	29.2	<0.002	<0.005	0.026	<0.001	<0.001	0.0025	0.00102	0.00278	<0.001	0.0439	0.00223	<0.005	<0.001	1.92	0.293	0.48	<0.001	<0.005	<0.020	BDL
S-2	6/4/2018	24.9		409	<0.200	0.629	66.1	167	17.7	<0.100	19.6	667	57.4	57.4	<5.00	8.2	<0.0002	71.4	**0.806**	12.6	4.57	40.4	<0.002	<0.005	0.0223	<0.001	<0.001	<0.002	0.00102	0.00355	<0.001	0.0431	0.0033	<0.005	<0.001	1.06	0.248	0.539	<0.001	<0.005	<0.020	BDL
S-2	10/30/2018			**2,420**	<0.200	0.271	**869**	**458**	23.5	<0.100	11.6	3940	279	279	<5.00	8.1	<0.0002	249	**0.835**	78.2	20.9	468	<0.002	<0.005	0.0778	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.144**	0.00477	<0.005	<0.001	0.739	3.19	7.09	<0.001	<0.005	<0.020	BDL
S-2	5/22/2019	19.5		**741**	<0.200	0.0735	173	198	11.7	<0.100	0.0146	1220	153	153	<5.00	8.1	<0.0002	107	**0.696**	24.9	6.12	95	<0.002	<0.005	0.0359	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.0964**	0.00326	<0.005	<0.001	0.715	0.633	1.41	<0.001	<0.005	<0.020	BDL
S-2	11/6/2019	9.5		**1,010**	<0.200	0.176	**357**	**283**	10.8	<0.100	14.1	1910	121	121	<5.00	8.0	<0.0002	109	**0.504**	32.7	8.35	173	<0.002	<0.005	0.0242	<0.001	<0.001	<0.002	<0.001	0.00229	<0.001	0.0233	0.00281	<0.005	<0.001	0.486	1.17	2.33	<0.001	<0.005	<0.020	BDL
S-2	5/27/2020	22.8		**919**	<0.200	0.347	229	225	10.8	<0.100	20.2	1520	229	229	<5.00	8.3	<0.0002	126	**1.13**	30.6	6.86	123	<0.002	<0.005	0.0376	<0.001	<0.001	<0.002	<0.001	0.00201	<0.001	0.0468	0.00244	<0.005	<0.001	1.06	0.985	1.59	<0.001	<0.005	<0.020	BDL
S-2	10/27/2020	12.9		**680**	<0.200	0.292	187	240	13.2	0.115	73	1250	95.3	95.3	<5.00	8.1	<0.0002	97.2	**1.49**	23.1	7.59	95.5	<0.002	<0.005	0.0279	<0.001	<0.001	0.00205	0.00124	0.00319	<0.001	0.0387	0.00409	<0.005	<0.001	1.62	0.634	1.42	<0.001	<0.005	<0.020	BDL
S-2	5/26/2021			**1,510**	<0.200	0.224	**823**	**452**	22.3	<0.100	5.63	3540	315	315	<5.00	8.3	<0.0002	205	0.298	65.4	15.3	385	<0.002	<0.005	0.0655	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0299	0.00321	<0.005	<0.001	0.211	2.31	4.43	<0.001	<0.005	<0.020	BDL
S-2	10/22/2021	13		**2,650**	<0.200	0.571	**1,020**	**582**	27	<0.100	3.5	4440	255	255	<5.00	8.2	<0.0002	282	0.118	89	25.3	519	<0.002	<0.005	0.0632	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0271	0.0042	<0.005	<0.001	0.115	3.23	6.5	<0.001	<0.005	<0.020	BDL
S-2	5/17/2022	30.2		**2,050**	<0.200	1.88	**999**	**429**	23.7	<0.100	6.6	4280	210	210	<5.00	8.3	<0.0002	213	**0.317**	69.3	21.6	530	<0.002	<0.005	0.0682	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0344	0.00398	<0.005	<0.001	0.262	2.05	6.46	<0.001	<0.005	<0.020	BDL
S-2	10/25/2022	12.3		**5,330**	<0.200	0.681	**2,940**	**1,410**	52.4	<0.100	1.6	9790	385	385	<5.00	8.1	<0.0002	451	<0.100	209	66.7	1460	<0.002	<0.005	0.1290	<0.001	<0.001	<0.005	<0.001	0.0025	<0.001	0.0411	0.0113	<0.005	<0.001	<0.050	9.38	19.2	<0.001	<0.005	<0.020	BDL
S-2	6/6/2023			**4,630**	<0.200	1.16	**1,910**	**1,030**	34.2	<0.100	5.5	7790	322	322	<5.00	8.13	<0.0002	331	<0.100	157	46.3	1060	<0.002	<0.005	0.1060	<0.001	<0.001	<0.005	<0.001	0.0024	<0.001	<0.005	0.01	<0.005	<0.001	<0.050	6.44	12.2	<0.001	<0.005	<0.020	BDL
S-2	11/16/2023	7.6		**1,770**	<0.200	0.865	**708**	**506**	18.6	<0.100	4	3630	173	173	<5.00	8.0	<0.0002	178	0.129	62.6	20	372	<0.002	<0.005	0.0384	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0161	0.0038	<0.005	<0.001	0.077	2.11	4.75	<0.001	<0.005	<0.020	BDL

BDL=Below Detectable Limits
#=Toluene, all others VOC's BDL
ND=Not detected at a concentration greater than the LOQ=Limits of Qunantitation
ND(VOC's)=not detected at a concentration greater than the CRRL=Client Requested Reporting Limit

Table 1.
*=split samples with OEPA
**=low quality control check
associated with TDS results; suspect results accordingly
Bold Face=at/above the MCL or SMCL

Rumpke Sanitary Landfill
Surface Water Sampling Results

Standards		Field Temp. °C	Dissolved Oxygen	TDS mg/l	NH3 mg/l	NO2 - NO3 mg/l - N	Cl mg/l	SO4 mg/l	COD mg/l	P mg/L	Turb. NTU	Cond. umhos/cm	Bicarb mg/l	T. Alk. mg/l	Carb mg/l	pH	Hg mg/L	Ca mg/l	Fe mg/l	Mg mg/l	K mg/l	Na mg/l	Sb mg/l	As mg/l	Ba mg/l	Be mg/l	Cd mg/l	Cr mg/l	Co mg/l	Cu mg/l	Pb mg/l	Mn mg/l	Ni mg/l	Se mg/l	Ag mg/l	Al mg/l	B mg/l	Sr mg/l	Tl mg/l	V mg/l	Zn mg/l	VOCs
MCL						10										0.002						0.006	0.01	2	0.004	0.005	0.1					0.05						0.002			
SMCL				500			250	250								6.5-8.5			0.3										1		0.05			0.1					5	
Action Level																													1.3	0.015									
Stream Sample	Date																																							
	Not Sampled Prior to 2004																																							
S-3	6/7/2010	-		**868**	0.215	0.486	**268**	68.8	<50.0	-	35	1400	-	286	-	8.13	-	148	**1.81**	21.8	3.5	149	<0.0002	<0.002	0.0431	<0.0002	<0.0002	<0.002	0.000857	<0.003	0.00116	**0.0508**	<0.006	<0.002	<0.0001				<0.0002	<0.004	<0.009	BDL
S-3	10/14/2010	-		**1,590**	0.278	0.0243	**577**	227	187	-	400	2550	339	340	<20.0	7.38	<0.0002	183	**1.67**	30	26	364	0.00025	0.00383	0.0776	<0.0002	<0.0003	<0.002	0.00241	<0.006	0.000981	**2.56**	<0.009	<0.002	<0.0001				<0.0002	<0.003	<0.016	BDL
S-3	6/28/2011	18.5		**528**	0.088	0.304	107	44.7	<50.0	0.253	24	873	243	246	<20.0	8.35	<0.0002	104	**1.19**	13.6	2.26	62.2	<0.001	<0.01	0.0266	<0.001	<0.001	<0.01	<0.001	0.00553	<0.001	0.0327	<0.006	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-3	10/25/2011	10.2		**560**	0.053	0.17	112	52.2	<50.0	<0.1	11	875	244	246	<20.0	8.23	<0.0002	106	**0.429**	13	2.63	71	<0.001	<0.01	0.0241	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.0107	<0.005	<0.0125	<0.0005				<0.001	<0.02	<0.02	BDL
S-3	6/7/2012	13.5		**620**	0.113	0.237	134	72.8	<50.0	0.172	14	1050	275	278	<10.0	8.14	<0.0002	131	**0.735**	19.6	2.36	71	<0.001	<0.01	0.0305	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.0201	<0.006	<0.01	<0.0005				<0.001	<0.025	<0.02	BDL
S-3	10/25/2012	13.2		**856**	0.115	0.0276	114	46.8	<50.0	0.126	8.9	1380	318	320	<10.0	7.81	<0.0002	143	**0.343**	21.7	3.22	145	<0.001	<0.01	0.0394	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.0398	<0.007	<0.01	<0.0005				<0.001	<0.025	<0.02	BDL
S-3	6/12/2013	17.7		**724**	<0.2	0.384	199	66.6	<10.0	0.245	16.9	1260	313	313	-	8.15	<0.0002	118	**1.56**	17.8	2.68	101	<0.002	<0.005	0.0405	<0.001	<0.001	0.00207	<0.001	0.0025	0.0012	0.0486	0.00213	<0.005	<0.001				<0.002	<0.005	0.0224	BDL
S-3	10/8/2013	11.9		491	<0.200	0.262	108	44.5	17.9	0.23	11.6	937	233	233	-	8.03	<0.0002	95.4	**0.715**	12.7	2.54	65.3	<0.002	<0.005	0.0271	<0.001	<0.001	<0.002	<0.001	0.00224	<0.001	0.0227	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-3	5/21/2014	15.1	9.9	**805**	<0.200	0.416	203	67.7	23.8	0.197	9.31	1220	278	281	<5.00	8.31	<0.0002	135	**1.23**	18.2	1.98	89.5	<0.002	<0.005	0.0389	<0.001	<0.001	<0.002	<0.001	0.00276	<0.001	0.0224	<0.002	<0.005	<0.001	0.232	<0.2	0.453	<0.001	<0.005	<0.020	BDL
S-3	10/27/2014	10.9	11.3	**1,060**	<0.200	<0.0500	**297**	74.3	<10.0	0.15	6.54	1680	344	344	<5.00	7.97	<0.0002	143	**0.336**	23.3	2.93	175	<0.002	<0.005	0.0387	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0451	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-3	6/4/2015	16.2	7.5	**838**	<0.200	0.665	**280**	71.3	<10.0	0.179	20.2	1530	269	269	<5.00	8.09	<0.0002	147	**0.725**	23.5	2.74	138	<0.002	<0.005	0.0425	<0.001	<0.001	0.00254	<0.001	<0.002	<0.001	**0.0587**	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-3	10/6/2015	14.9	9.4	**896**	<0.200	0.0879	**264**	59.5	<10.0	0.192	6.85	1480	387	387	<5.00	7.78	<0.0002	128	0.298	21.1	2.81	139	<0.002	<0.005	0.0345	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.067**	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-3	5/25/2016	15.0	12.0	**870**	<0.02	<0.61	180	72	10	0.17	17	1300	330	330	<4.0	7.9	<0.0002	150	**0.63**	24	1.8	97	<0.005	<0.005	0.038	<0.002	<0.002	<0.005	<0.005	0.031	<0.005	<0.005	<0.005	1	0.1	0.6	<0.005	<0.005	<0.010	BDL
S-3	11/7/2016	9.7		**870**	0.26	<0.45	220	55	20	0.18	5	1000	390	390	<4.0	7.9	<0.0005	140	0.26	24	2.8	130	<0.03	<0.01	<0.1	<0.0004	<0.005	<0.02	<0.004	<0.025	<0.015	<0.05	<0.05	<0.03	<0.01	<0.2	<0.1	0.55	<0.005	<0.05	<0.05	
S-3	6/1/2017	17.5		**610**	<0.200	0.729	116	72.8	<10.0	0.228	6.57	1010	246	274	27.4	8.3	<0.0002	133	**0.366**	17.8	1.91	68.1	<0.002	<0.005	0.0293	<0.001	<0.001	<0.002	<0.001	0.00276	<0.001	0.0224	<0.002	<0.005	<0.001	0.232	<0.2	0.453	<0.001	<0.005	<0.020	BDL
S-3	11/9/2017	6.5		457	<0.200	0.352	84	44.2	12.2	0.158	8.34	796	248	253	<5.00	8.2	<0.0002	94.1	**0.443**	11.4	1.9	53.4	<0.002	<0.005	0.022	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0166	<0.002	<0.005	<0.001	0.456	<0.2	0.296	<0.001	<0.005	<0.020	BDL
S-3	6/4/2018	15.9		**702**	<0.200	0.457	190	64.4	11.6	0.195	27.1	1230	294	302	8.32	8.2	<0.0002	123	**0.72**	18.6	2.29	101	<0.002	<0.005	0.0335	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0459	<0.002	<0.005	<0.001	0.788	<0.100	0.485	<0.001	<0.005	<0.020	BDL
S-3	10/30/2018			**781**	<0.200	0.144	180	68.6	<10.0	0.179	5	1310	340	340	<5.00	8	<0.0002	140	0.228	21.6	2.37	106	<0.002	<0.005	0.0307	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0448	<0.002	<0.005	<0.001	0.288	<0.100	0.546	<0.001	<0.005	<0.020	BDL
S-3	5/22/2019	15.2		**714**	<0.200	0.653	139	94.4	<10.0	0.179	9.1	1160	288	299	10.8	8.2	<0.0002	136	**0.887**	19.7	2.12	71.7	<0.002	<0.005	0.0342	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0347	<0.002	<0.005	<0.001	0.863	<0.100	0.536	<0.001	<0.005	<0.020	BDL
S-3	11/6/2019	9.5		**720**	<0.200	0.0548	173	103	<10.0	0.105	4.92	1280	283	283	<5.00	8.1	<0.0002	104	0.181	16.4	2.39	102	<0.002	<0.005	0.024	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0139	<0.002	<0.005	<0.001	0.151	<0.100	0.406	<0.001	<0.005	<0.020	BDL
S-3	5/27/2020	16.7		490	<0.200	0.414	83.6	60.8	<10.0	0.286	17.7	878	258	267	8.48	8.4	<0.0002	114	**3.05**	16.2	2.51	55.8	<0.002	<0.005	0.0367	<0.001	<0.001	0.00315	0.00123	0.00244	0.00173	**0.0958**	0.00254	<0.005	<0.001	2.94	<0.100	0.408	<0.001	0.0055	<0.020	BDL
S-3	10/27/2020	10.9		**626**	<0.200	0.0602	136	85.3	<10.0	0.13	5.73	1130	288	288	<5.00	8.1	<0.0002	112	0.206	17.3	2.81	95.5	<0.002	<0.005	0.0262	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0174	<0.002	<0.005	<0.001	0.247	<0.100	0.448	<0.001	0.0055	<0.020	BDL
S-3	5/26/2021			**710**	<0.200	0.422	196	83.9	16.7	0.186	10.1	1250	300	300	<5.00	8.3	<0.0002	131	**0.941**	19.8	2.06	97.8	<0.002	<0.005	0.0359	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0431	<0.002	<0.005	<0.001	0.826	<0.100	0.546	<0.001	<0.005	<0.020	BDL
S-3	10/22/2021	12.2		**686**	<0.200	0.101	198	48.6	14.2	0.216	4.1	1270	316	316	<5.00	8.1	<0.0002	128	**0.308**	17.4	2.74	105	<0.002	<0.005	0.027	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0471	<0.002	<0.005	<0.001	0.279	<0.100	0.441	<0.001	<0.005	<0.020	BDL
S-3	5/17/2022	17.3		**700**	<0.200	0.423	162	81.8	<10.0	0.127	16	1220	275	275	<5.00	8.4	<0.0002	123	**1.36**	18.7	2.24	86.1	<0.002	<0.005	0.0349	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.042	<0.002	<0.005	<0.001	1.51	<0.100	0.452	<0.001	<0.005	0.0237	BDL
S-3	10/25/2022	10.5		**878**	<0.200	<0.05	**307**	103	22	0.402	4.1	1690	320	320	<5.00	7.9	<0.0002	152	**0.351**	25.2	4.51	160	<0.002	<0.005	0.0433	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.707**	<0.002	<0.005	<0.001	0.281	1.66	0.659	<0.001	<0.005	<0.020	BDL
S-3	6/6/2023			**826**	<0.200	0.137	218	88.4	<10.0	0.2	5.2	1530	337	337	<5.00	7.91	<0.0002	146	**0.412**	22.6	2.7	126	<0.002	<0.005	0.0393	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0681**	<0.002	<0.005	<0.001	0.519	<0.100	0.595	<0.001	<0.005	<0.020	BDL
S-3	11/16/2023	5.7		**813**	<0.200	<0.05	206	137	<10.0	0.162	2.1	1590	321	321	<5.00	7.99	<0.0002	146	0.143	23	3.09	125	<0.002	<0.005	0.0353	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0404	<0.002	<0.005	<0.001	0.0911	<0.100	0.569	<0.001	<0.005	<0.020	BDL
S-9	6/7/2010	-		**826**	0.108	0.329	**304**	88.5	<50.0	-	26	1430	-	242	-	8.06	-	130	**1.2**	19.7	4.99	174	0.00038	<0.002	0.0539	<0.0002	<0.0002	<0.002	0.00076	<0.004	0.000689	0.046	<0.005	<0.002	<0.0001				<0.0002	<0.004	<0.009	BDL
S-9	10/14/2010																																							
	Not Sampled - Dry																																							
S-9	6/28/2011	19.5		**608**	<0.05	0.322	161	58.9	<50.0	0.192	12	1020	216	218	<20.0	8.25	<0.0002	90.6	**0.524**	13.5	3.46	96.2	<0.001	<0.01	0.0319	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.0099	<0.005	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-9	10/25/2011	10.4		**825**	0.129	0.725	**263**	236	<50.0	<0.1	8.3	1400	89	90	<20.0	8.04	<0.0002	96.7	**0.666**	23.2	10.8	156	<0.001	<0.01	0.0387	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.0502**	<0.0075	<0.01	<0.0005				<0.001	<0.02	<0.0275	BDL
S-9	6/7/2012	14.6		**856**	0.102	0.666	224	242	<50.0	0.136	25	1380	137	139	<10.0	7.99	<0.0002	104	**1.17**	26.8	9.62	143	<0.001	<0.01	0.0485	<0.001	<0.001	<0.01	0.00108	<0.005	<0.001	0.044	<0.008	<0.01	<0.0005				<0.001	<0.25	<0.04	BDL
S-9	10/25/2012	14.3		**728**	0.086	0.027	223	86.5	<50.0	0.227	25	1230	223	224	<10.0	7.72	<0.0002	118	**0.533**	16.9	4.29	126	<0.001	<0.01	0.0445	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	**0.0561**	<0.006	<0.01	<0.0005				<0.001	<0.025	<0.02	BDL
S-9	6/12/2013	18.8		**709**	<0.200	0.482	221	68.2	<10.0	0.206	12.7	1240	255	255	-	8.16	<0.0002	100	**0.74**	15.2	3.15	128	<0.002	<0.005	43.7	<0.001	<0.001	<0.002	<0.001	0.00247	<0.001	0.0407	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-9	10/8/2013	17.5		**1080**	<0.200	0.263	**361**	**272**	13.8	<0.100	16	1820	122	122	-	8.03	<0.0002	119	**0.849**	34.1	14.3	214	<0.002	<0.005	0.0559	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.0843**	0.00466	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-9	5/21/2014	19.8	7.84	**1170**	0.219	0.378	**350**	**326**	21.4	<0.100	8.58	1800	143	143	<5.00	8.22	<0.0002	123	**1.54**	29.9	11.9	192	<0.002	<0.005	0.0544	<0.001	<0.001	<0.002	0.00136	0.00228	0.00111	**0.107**	0.00582	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-9	10/27/2014	13.8	12.60	**1060**	<0.200	<0.0500	**243**	**255**	<10.0	<0.100	6.76	1490	145	145	<5.00	8.19	<0.0002	112	**0.425**	32	12.2	158	<0.002	<0.005	0.0437	<0.001	<0.001	<0.002	<0.001	<0.0002	<0.001	**0.0523**	0.004	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-9	6/4/2015	18.8	8.26	**1230**	<0.200	0.0818	**376**	**359**	22.7	0.192	38.7	2120	169	169	<5.00	8.21	<0.0002	146	**2.3**	40.8	13.7	230	<0.002	<0.005	0.0625	<0.001	<0.001	0.00441	0.0018	0.00267	0.00159	**0.176**	0.00725	<0.005	<0.001				<0.002	0.0052	<0.020	BDL
S-9	10/6/2015	17.2	3.85	**807**	<0.200	0.147	**273**	57.3	<10.0	0.309	13	1350	268	268	<5.00	7.34	<0.0002	101	**0.667**	15.9	4.21	145	<0.002	<0.005	0.0436	<0.001	<0.001	<0.002	<0.001	0.00423	<0.001	**0.173**	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-9	5/25/2016	10.8		**860**	0.021	<0.61	150	170	16	0.11	8.5	1200	250	250	<4.0	7.9	<0.0002	120	0.24	27	6.2	100	<0.005	<0.005	0.041	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	0.044	<0.005	<0.005	<0.005	0.26	0.39	1.1	<0.005	<0.005	<0.01	BDL
S-9	11/7/2016	10.8		**990**	0.21	<0.45	180	240	16	0.086	0.9	1400	220	220	<4.0	8.1	<0.0005	120	<0.20	33	8.9	130	<0.03	<0.01	<0.10	<0.0004	<0.005	<0.02	<0.004	<0.025	<0.015	<0.05	<0.05	<0.03	<0.01	<0.20	0.67	1.4	<0.005	<0.05	<0.05	BDL
S-9	6/1/2017	18.8		**562**	<0.200	0.19	103	175	16.4	0.101	11.2	901	120	123	<5.00	8.2	<0.0002	82.6	**0.786**	20.1	5.4	70.8	<0.002	<0.005	0.0366	<0.001	<0.001	<0.002	0.00102	0.00462	<0.001	**0.0741**	0.00437	<0.005	<0.001	0.58	0.425	0.756	<0.001	<0.005	<0.020	BDL
S-9	11/9/2017	7.2		**565**	<0.200	0.326	95.9	169	13.2	<0.100	25.5	899	162	162	<5.00	8.1	<0.0002	87.6	**0.962**	17.7	6.22	61.9	<0.002	<0.005	0.0369	<0.001	<0.001	<0.002	<0.001	0.00233	<0.001	**0.0612**	0.00145	<0.005	<0.001	0.929	0.398	0.738	<0.001	<0.005	<0.020	BDL
S-9	6/4/2018	19.7		**577**	<0.200	0.248	109	159	19.4	0.212	43.8	927	165	171	6.73	8.2	<0.0002	98.2	**1.81**	19	7.41	69.1	<0.002	<0.005	0.0396	<0.001	<0.001	0.00239	0.00144	0.00247	0.00113	**0.109**	0.00622	<0.005	<0.001	2.11	0.226	0.625	<0.001	<0.005	<0.020	BDL
S-9	10/30/2018	6.8		**521**	<0.200	0.199	67.5	120	<10.0	0.108	7.48	830	191	191	<5.00	8.1	<0.0002	101	**0.34**	18.6	5.91	45.9	<0.002	<0.005	0.0309	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0486	0.00455	<0.005	<0.001	0.338	0.226	0.595	<0.001	<0.005	<0.020	BDL
S-9	5/22/2019	18.3		**503**	<0.200	0.234	90.1	107	<10.0	0.186	25.5	820	163	163	<5.00	8.2	<0.0002	82.3	**2.39**	16.6	5.75	55.8	<0.002	<0.005	0.0388	<0.001	<0.001	0.00264	0.00151	0.00278	0.00141	**0.127**	0.00546	<0.005	<0.001	2.47	0.157	0.482	<0.001	<0.005	<0.020	BDL
S-9	11/6/2019	6.0		**528**	<0.200	0.142	115	110	12.6	0.168	9.26	909	160	160	<5.00	7.8	<0.0002	70.9	**0.52**	14.4	3.8	58.3	<0.002	<0.005	0.0247	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0448	0.00213	<0.005	<0.001	0.506	0.142	0.401	<0.001	<0.005	<0.020	BDL
S-9	5/27/2020	18.0		**557**	<0.200	0.322	85.6	80.6	<10.0	0.135	9.98	913	262	262	<5.00	8.3	<0.0002	98.3	**0.99**	15.7	2.29	51.4	<0.002	<0.005	0.037	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0275	0.00213	<0.005	<0.001	0.939	<0.100	0.355	<0.001	<0.005	<0.020	BDL
S-9	10/27/2020	11.8		**557**	<0.200	0.087	156	75.2	22.3	0.224	11	1030	190	190	<5.00	8.1	<0.0002	85.7	**0.444**	13.3	3.75	93.3	<0.002	<0.005	0.0304	<0.001	<0.001	<0.002	<0.001	0.00267	<0.001	0.0325	<0.002	<0.005	<0.001	0.412	<0.100	0.339	<0.001	<0.005	<0.020	BDL
S-9	5/26/2021			**846**	<0.200	0.316	**294**	120	30.6	0.315	11.2	1630	298	298	<5.00	8.1	<0.0002	132	**3.94**	22.2	4.08	146	<0.002	<0.005	0.0665	<0.001	<0.001	0.00395	0.00215	0.00445	0.00257	**0.146**	0.00418	<0.005	<0.001	3.23	<0.100	0.559	<0.001	0.0061	<0.020	BDL
S-9	10/22/2021	12.2		**646**	<0.200	<0.0500	212	57.5	20.6	0.364	7.4	1190	220	220	<5.00	8	<0.0002	101	**1.1**	14.4	4.7	121	<0.002	<0.005	0.0375	<0.001	<0.001	<0.005	0.00104	0.00236	<0.001	**0.0741**	0.0025	<0.005	<0.001	1.08	<0.100	0.339	<0.001	<0.005	<0.020	BDL
S-9	5/17/2022	14.7		**664**	<0.200	0.334	182	91.9	13.8	0.187	16	1230	233	233	<5.00	8.2	<0.0002	103	**2.2**	18.8	3.06	102	<0.002	<0.005	0.0464	<0.001	<0.001	0.00586	0.00105	0.00351	0.00129	**0.0619**	0.00563	<0.005	<0.001	1.89	<0.100	0.412	<0.001	<0.005	<0.020	BDL
S-9	10/25/2022	No longer sampled due to Eastern Expansion																																						

BDL=Below Detectable Limits
#=Toluene, all others VOC's BDL
ND=Not detected at a concentration greater than the LOQ=Limits of Qunantitation
ND(VOC's)=not detected at a concentration greater than the CRRL=Client Requested Reporting Limit

Table 1.
*=split samples with OEPA
**=low quality control check
associated with TDS results; suspect results accordingly
Bold Face=at/above the MCL or SMCL

Rumpke Sanitary Landfill
Surface Water Sampling Results

Standards		Field Temp. °C	Dissolved Oxygen	TDS mg/l	NH3 mg/l	NO2 - NO3 mg/l - N	Cl mg/l	SO4 mg/l	COD mg/l	P mg/L	Turb. NTU	Cond. umhos/cm	Bicarb mg/l	T. Alk. mg/l	Carb mg/l	pH	Hg mg/L	Ca mg/l	Fe mg/l	Mg mg/l	K mg/l	Na mg/l	Sb mg/l	As mg/l	Ba mg/l	Be mg/l	Cd mg/l	Cr mg/l	Co mg/l	Cu mg/l	Pb mg/l	Mn mg/l	Ni mg/l	Se mg/l	Ag mg/l	Al mg/l	B mg/l	Sr mg/l	Tl mg/l	V mg/l	Zn mg/l	VOCs
MCL						10											0.002						0.006	0.01	2	0.004	0.005	0.1						0.05					0.002			
SMCL				500			250	250								6.5-8.5			0.3											1		0.05			0.1						5	
Action Level																														1.3	0.015											
Stream Sample	**Date**																																									
S-10	6/7/2010	-		**770**	0.178	1.09	233	148	<50.0	-	75	1210	-	206	-	8.07	-	118	**2.8**	23.4	8.38	145	0.00036	<0.002	0.0492	<0.0002	<0.0002	<0.002	0.0014	0.00369	0.0017	**0.0678**	<0.007	<0.002	<0.0001				<0.0002	<0.004	0.0117	BDL
S-10	10/14/2010			Not Sampled - Dry																																						
S-10	6/28/2011	21.5		**838**	<0.05	0.539	**253**	232	<50.0	0.112	21	1360	118	118	<20.0	8.13	<0.0002	84	**1.5**	21.5	10.2	143	<0.001	<0.01	0.0418	<0.001	<0.001	<0.01	0.00138	<0.005	0.00115	**0.062**	<0.008	<0.01	<0.0005				<0.001	<0.02	<0.024	BDL
S-10	10/25/2011	11.1		**554**	0.055	0.17	169	62.5	<50.0	0.141	7.9	1050	215	218	<20.0	8.11	<0.0002	97	**0.301**	13.8	2.9	91.3	<0.001	<0.01	0.0322	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.0093	<0.005	<0.01	<0.0005				<0.001	<0.02	<0.02	BDL
S-10	6/7/2012	14.8		**644**	0.111	0.556	155	85.3	<50.0	0.209	9.3	1080	238	241	<10.0	8.02	<0.0002	117	**0.367**	18.3	3.18	80.6	<0.001	<0.01	0.0385	<0.001	<0.001	<0.01	<0.001	<0.005	<0.001	0.0123	<0.006	<0.01	<0.0005				<0.001	<0.025	<0.02	BDL
S-10	10/25/2012	13.9		**1200**	0.08	0.0552	**379**	288	<50.0	0.178	30	1980	179	180	<10.0	7.85	<0.0002	163	**1.16**	36.5	12.3	219	<0.001	<0.01	0.0633	<0.001	<0.001	<0.01	0.00107	<0.005	<0.001	**0.0876**	<0.011	<0.01	<0.0005				<0.001	<0.025	<0.02	BDL
S-10	6/12/2013	18.7		**776**	<0.200	0.449	221	133	13.4	0.224	42	1290	216	216	-	8.06	<0.0002	101	**1.68**	20.2	6.94	123	<0.002	<0.005	0.0468	<0.001	<0.001	0.0021	0.00103	0.00301	0.00122	**0.0861**	0.00335	<0.005	<0.001				<0.002	<0.005	0.0268	BDL
S-10	10/8/2013	13.0		**517**	<0.200	0.498	142	60.8	16	0.25	9.48	893	210	210	-	8.06	<0.0002	79.2	**0.352**	12.4	3.09	94.4	<0.002	<0.005	0.0304	<0.001	<0.001	<0.002	<0.001	0.003	<0.001	0.0146	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-10	5/21/2014	16.2	7.96	**886**	<0.200	0.339	**264**	91.5	12	0.188	7.79	1460	284	284	<5.00	8.17	<0.0002	133	**0.793**	19	2.89	143	<0.002	<0.005	0.00546	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0235	<0.002	<0.005	<0.001				<0.002	<0.0005	<0.020	BDL
S-10	10/27/2014	12.0	9.50	**1150**	<0.200	<0.0500	**468**	82.5	<10.0	0.236	8.31	2000	250	250	<5.00	7.93	<0.0002	128	**0.344**	19.5	4.32	238	<0.002	<0.005	0.0505	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.108**	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-10	6/4/2015	18.0	7.36	**1200**	<0.200	0.57	**491**	95.7	10.5	0.227	17.4	2100	227	227	<5.00	7.92	<0.0002	150	**1.26**	23.9	4.06	227	<0.002	<0.005	0.066	<0.001	<0.001	0.0031	<0.001	0.00269	<0.001	**0.0923**	0.00225	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-10	10/6/2015	17.7	8.76	**1050**	<0.200	0.223	**277**	**271**	<10.0	<0.100	17.2	1590	196	196	<5.00	7.99	<0.0002	108	**1.1**	33.6	10.5	149	<0.002	<0.005	0.0432	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.153**	0.00417	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-10	5/25/2016	16.0	10.20	**860**	<0.020	<0.61	170	99	17	0.17	9.4	1300	310	310	<4.0	8	<0.0002	130	**0.44**	23	2.7	120	<0.005	<0.005	0.049	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	0.028	<0.005	<0.005	<0.005	0.41	0.08	0.55	<0.005	<0.005	<0.010	BDL
S-10	11/7/2016	12.4		**820**	0.22	<0.45	210	77	19	0.25	8.8	1300	320	320	<4.0	7.8	<0.0005	120	**0.4**	21	3.8	130	<0.03	<0.01	<0.1	<0.0004	<0.005	<0.020	<0.004	<0.025	<0.015	**0.15**	<0.05	<0.03	<0.01	0.27	<0.1	0.44	<0.005	<0.05	<0.05	BDL
S-10	6/1/2017	16.6		**685**	<0.200	0.496	152	99.9	16.4	0.213	5.13	1130	236	253	17.8	8.2	<0.0002	128	**0.358**	19.4	2.6	88.2	<0.002	<0.005	0.0445	<0.001	<0.001	<0.002	<0.001	0.00365	<0.001	0.0271	<0.002	<0.005	<0.001	0.265	<0.200	0.416	<0.001	<0.005	<0.020	BDL
S-10	11/9/2017	6.7		499	<0.200	0.243	102	65.4	13.2	0.138	4.76	846	234	237	<5.00	8.2	<0.0002	91.3	0.228	13.4	2.7	68	<0.002	<0.005	0.0279	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0087	<0.002	<0.005	<0.001	0.242	<0.200	0.283	<0.001	<0.005	<0.020	BDL
S-10	6/4/2018	17.9		**631**	<0.200	0.419	155	83.6	14.9	0.186	24.4	1100	267	278	10.4	8.2	<0.0002	105	**0.803**	17.3	3.21	99.3	<0.002	<0.005	0.0421	<0.001	<0.001	<0.002	<0.001	0.00379	<0.001	0.0244	<0.002	<0.005	<0.001	0.836	<0.100	0.396	<0.001	<0.005	<0.020	BDL
S-10	10/30/2018	6.8		**800**	<0.200	<0.050	221	82.3	<10.0	0.185	2.48	1410	270	270	<5.00	7.9	<0.0002	124	0.116	20.3	3.49	126	<0.002	<0.005	0.041	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0181	<0.002	<0.005	<0.001	0.116	<0.100	0.452	<0.001	<0.005	<0.020	BDL
S-10	5/22/2019	16.0		**765**	<0.200	0.526	165	118	<10.0	0.145	7.54	1250	277	281	<5.00	8.1	<0.0002	131	**0.692**	21.2	3.03	91	<0.002	<0.005	0.0476	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0235	<0.002	<0.005	<0.001	0.684	<0.100	0.53	<0.001	<0.005	<0.020	BDL
S-10	11/6/2019	6.1		**576**	<0.200	0.0919	175	62.7	11.7	0.177	6.36	1060	176	176	<5.00	7.9	<0.0002	73.5	0.241	11.8	3.2	98.6	<0.002	<0.005	0.0257	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.00817	<0.002	<0.005	<0.001	0.238	<0.100	0.275	<0.001	<0.005	<0.020	BDL
S-10	5/27/2020	21.4		**519**	<0.200	0.238	82.4	144	12.8	0.627	63	816	146	146	<5.00	8.2	<0.0002	84.5	**5.68**	18.7	7.31	60.9	<0.002	<0.005	0.0459	<0.001	<0.001	0.00555	0.00274	0.00429	0.00235	**0.17100**	0.00748	<0.005	<0.001	5.24	0.3	0.788	<0.001	0.00954	<0.020	BDL
S-10	10/27/2020	12.6		**560**	<0.200	0.286	106	179	24.6	0.161	47.9	961	136	136	<5.00	8.2	<0.0002	89.7	**1.52**	22.1	7.27	70.1	<0.002	<0.005	0.0353	<0.001	<0.001	0.00555	0.00127	0.00429	0.00235	**0.07120**	0.00597	<0.005	<0.001	1.57	0.464	1.04	<0.001	0.00954	<0.020	BDL
S-10	5/26/2021			**1480**	<0.200	0.465	**647**	**274**	22.6	0.199	15.7	2690	212	212	<5.00	8.1	<0.0002	155	**1.61**	41.7	12.5	308	<0.002	<0.005	0.0695	<0.001	<0.001	0.00201	0.00112	0.00214	<0.001	**0.103**	0.00358	<0.005	<0.001	1.45	0.773	2.86	<0.001	<0.005	<0.020	BDL
S-10	10/22/2021	12.9		**1270**	<0.200	0.336	**483**	**279**	15.2	<0.100	6.7	2280	208	208	<5.00	8	<0.0002	175	0.288	41	11.2	200	<0.002	<0.005	0.0573	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.116**	0.00243	<0.005	<0.001	0.324	0.625	2.36	<0.001	<0.005	<0.020	BDL
S-10	5/17/2022	18.4		**906**	<0.200	0.484	**307**	213	25.4	0.21	50	1750	153	153	<5.00	8.1	<0.0002	96.9	**4.9**	27.2	9.84	164	<0.002	<0.005	0.058	<0.001	<0.001	0.00664	0.00249	0.00387	0.00214	**0.186**	0.0104	<0.005	<0.001	4.12	0.521	1.29	<0.001	0.0068	<0.020	BDL
S-10	10/25/2022	12.5		**1410**	0.732	0.571	**643**	**331**	21.3	0.132	7.3	2750	227	227	<5.00	7.9	<0.0002	169	**0.657**	48.7	18.8	314	<0.002	<0.005	0.0423	<0.001	<0.001	<0.005	0.00139	<0.002	<0.001	**0.208**	0.0064	<0.005	<0.001	0.534	1.34	4.24	<0.001	<0.005	<0.020	BDL
S-10	6/6/2023	16.2		**2350**	0.226	0.679	**944**	**594**	13.4	0.123	6	4470	220	220	<5.00	7.96	<0.0002	241	**0.399**	78.5	24.5	518	<0.002	<0.005	0.0553	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.306**	0.00422	<0.005	<0.001	0.377	2.04	6.62	<0.001	<0.005	<0.020	BDL
S-10	11/16/2023	10.9		**544**	<0.200	0.144	119	152	17.1	<0.100	21	998	167	167	<5.00	8.03	<0.0002	79.6	**1.13**	27.5	7.11	70.4	<0.002	<0.005	0.0408	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0884**	0.00401	<0.005	<0.001	1.04	0.363	0.965	<0.001	<0.005	<0.020	BDL
S-11	5/21/2014	16.5	8.23	**1140**	<0.200	0.0583	**302**	224	<10.0	0.117	2.24	1750	296	296	<5.00	8.15	<0.0002	155	**0.545**	30.7	3.21	149	<0.002	<0.005	0.0786	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0249	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-11	10/27/2014	11.7	8.71	**1460**	<0.200	<0.0500	**495**	219	13.8	0.132	3.01	2270	273	273	<5.00	7.95	<0.0002	165	**0.335**	36.1	5.23	274	<0.002	<0.005	0.0834	<0.001	<0.001	<0.002	<0.001	0.00201	<0.001	0.0229	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-11	6/4/2015	17.1	7.15	**1360**	<0.200	<0.0500	**561**	212	12.3	<0.100	1.68	2460	269	269	<5.00	7.74	<0.0002	172	0.113	39.3	4.48	293	<0.002	<0.005	0.0883	<0.001	<0.001	<0.002	<0.001	0.00201	<0.001	**0.161**	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-11	10/6/2015	16.1	5.05	**1570**	<0.200	<0.0500	**667**	178	13.1	0.142	2.96	2630	300	300	<5.00	7.68	<0.0002	155	0.158	38.6	5.59	314	<0.002	<0.005	0.0828	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.107**	0.00201	<0.005	<0.001				<0.002	<0.005	<0.020	BDL
S-11	6/4/2018	17.2		**849**	<0.200	0.311	178	182	10.5	<0.100	4.19	1370	299	303	<5.00	8	<0.0002	141	**0.302**	31.3	3.65	99.8	<0.002	<0.005	0.0687	<0.001	<0.001	<0.002	<0.001	0.00236	<0.001	0.0318	<0.002	<0.005	<0.001	0.318	0.974	0.639	<0.001	<0.005	<0.020	BDL
S-11	10/30/2018			**917**	<0.200	0.0993	191	214	<10.0	0.129	8.67	1490	285	285	<5.00	8	<0.0002	158	**0.483**	39.5	4.24	113	<0.002	<0.005	0.0648	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.105**	0.00203	<0.005	<0.001	0.478	2.08	0.75	<0.001	<0.005	<0.020	BDL
S-11	5/22/2019	15.2		**900**	<0.200	0.0765	152	225	<10.0	<0.100	2.74	1410	294	294	<5.00	7.9	<0.0002	161	0.259	35.2	3.25	79	<0.002	<0.005	0.0702	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0368	<0.002	<0.005	<0.001	0.281	0.981	0.768	<0.001	<0.005	<0.020	BDL
S-11	11/6/2019	6.6		**638**	<0.200	<0.05	150	152	14.9	0.144	10.3	1150	201	201	<5.00	8	<0.0002	91.9	0.267	22.9	3.34	83.5	<0.002	<0.005	0.0409	<0.001	<0.001	<0.002	<0.001	0.0024	<0.001	0.0225	<0.002	<0.005	<0.001	0.21	1.06	0.435	<0.001	<0.005	<0.020	BDL
S-11	5/27/2020	18.7		**675**	<0.200	0.213	124	132	23.9	<0.100	6.33	1100	269	269	<5.00	8.2	<0.0002	117	0.29	25.8	3	80.4	<0.002	<0.005	0.0576	<0.001	<0.001	<0.002	<0.001	0.00276	<0.001	0.0199	<0.002	<0.005	<0.001	0.288	1.95	0.556	<0.001	<0.005	<0.020	BDL
S-11	10/27/2020	10.4		**809**	<0.200	<0.05	179	204	13.2	<0.100	2.85	1380	235	241	5.95	8.2	<0.0002	129	<0.10	32.6	4.31	112	<0.002	<0.005	0.0543	<0.001	<0.001	<0.002	<0.001	0.00227	<0.001	0.0073	<0.002	<0.005	<0.001	<0.050	1.82	0.647	<0.001	<0.005	<0.020	BDL
S-11	5/26/2021			**1130**	<0.200	0.387	226	**276**	19.4	0.125	4.81	1630	303	303	<5.00	8.2	<0.0002	168	**2.2**	40.1	3.95	115	<0.002	0.00772	0.942	0.00329	0.00307	0.00581	0.00445	0.00717	0.00581	**0.124**	0.0059	0.00626	<0.001	1.62	1.32	0.832	**0.00628**	0.00673	0.0216	BDL
S-11	10/22/2021	11.7		**881**	<0.200	0.227	212	193	13.2	0.267	1.8	1470	284	284	<5.00	8.2	<0.0002	151	<0.10	34.3	4.64	126	<0.002	<0.005	0.0582	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	<0.010	<0.002	<0.005	<0.001	0.0501	1.8	0.627	<0.001	<0.005	<0.020	BDL
S-11	5/17/2022	13.5		**912**	<0.200	0.171	**308**	170	11.4	<0.100	1.8	1750	249	249	<5.00	8.3	<0.0002	119	0.133	27.3	2.6	163	<0.002	<0.005	0.0625	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	<0.010	<0.002	<0.005	<0.001	0.114	0.731	0.548	<0.001	<0.005	<0.020	BDL
S-11	10/25/2022	10.1		**932**	<0.200	<0.05	224	**271**	24	0.355	1.4	1600	282	282	<5.00	7.9	<0.0002	146	**0.51**	38.7	4.91	140	<0.002	<0.005	0.0699	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.313**	<0.002	<0.005	<0.001	0.281	1.66	0.698	<0.001	<0.005	<0.020	BDL
S-11	6/6/2023	14		**950**	<0.200	0.445	172	**282**	<10.0	0.149	3.7	1610	286	286	<5.00	8.11	<0.0002	168	**0.381**	42.5	3.76	103	<0.002	<0.005	0.0779	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0213	<0.002	<0.005	<0.001	0.378	1.01	0.817	<0.001	<0.005	<0.020	BDL
S-11	11/16/2023	4.6		**956**	<0.200	0.144	**301**	**259**	15.4	<0.100	0.75	1770	257	257	<5.00	7.55	<0.0002	161	0.114	34.6	3.71	179	<0.002	<0.005	0.074	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.152**	<0.002	<0.005	<0.001	<0.050	0.9	0.729	<0.001	<0.005	<0.020	BDL
S-12	5/22/2019	16.8		**504**	<0.200	1.27	89.5	99.1	10.3	0.275	21.1	850	187	187	<5.00	8.2	<0.0002	87	**1.57**	17.2	5.06	51.8	<0.002	<0.005	0.0358	<0.001	<0.001	<0.002	0.00105	0.00243	<0.001	**0.11**	0.00369	<0.005	<0.001	1.61	0.135	0.48	<0.001	<0.005	<0.020	BDL
S-12	11/6/2019	5.9		446	<0.200	4.26	84	73.9	<10.0	0.789	5.88	781	157	157	<5.00	7.8	<0.0002	65.3	0.191	17.2	5.6	49.3	<0.002	<0.005	0.0194	<0.001	<0.001	<0.002	<0.001	0.00264	<0.001	0.0304	<0.002	<0.005	<0.001	0.135	0.159	0.334	<0.001	<0.005	<0.020	BDL
S-12	5/27/2020	20.3		**503**	<0.200	0.637	72.4	109	<10.0	0.312	27.2	837	200	200	<5.00	8.3	<0.0002	86.6	**1.99**	17.3	4.97	47.9	<0.002	<0.005	0.0363	<0.001	<0.001	0.00215	0.00111	0.00226	<0.001	**0.0935**	0.00322	<0.005	<0.001	2.04	0.196	0.611	<0.001	<0.005	<0.020	BDL
S-12	10/27/2020	11.5		**567**	<0.200	0.904	109	164	17.9	0.311	56	962	145	145	<5.00	8.1	<0.0002	85.3	**1.34**	21.1	6.97	68.4	<0.002	<0.005	0.0335	<0.001	<0.001	0.00215	0.00111	0.00215	<0.001	**0.0821**	0.00462	<0.005	<0.001	1.49	0.409	0.922	<0.001	<0.005	<0.020	BDL
S-12	5/26/2021			**858**	<0.200	2.58	**329**	155	24.4	0.514	20.9	1660	212	212	<5.00	8.2	<0.0002	114	**1.21**	30	8.55	163	<0.002	<0.005	0.0498	<0.001	<0.001	<0.002	0.00109	0.00327	<0.001	**0.114**	0.00338	<0.005	<0.001	1.04	0.41	1.65	<0.001	<0.005	<0.020	BDL
S-12	10/22/2021	22.4		**543**	<0.200	3.82	137	98.6	14.5	0.747	9.4	977	175	175	<5.00	7.9	<0.0002	83.5	**0.314**	20.7	7.53	67.4	<0.002	<0.005	0.0262	<0.001	<0.001	<0.005	<0.001	0.0023	<0.001	**0.0657**	0.00229	<0.005	<0.001	0.334	0.271	0.746	<0.001	<0.005	<0.020	BDL
S-12	5/17/2022	16.9		**878**	<0.200	0.808	**275**	195	20.9	0.273	45	1600	158	158	<5.00	8.2	<0.0002	98.4	**4.07**	26.5	9.22	148	<0.002	<0.005	0.0564	<0.001	<0.001	<0.005	0.0024	0.00382	0.00208	**0.197**	0.00872	<0.005	<0.001	3.87	0.477	1.19	<0.001	0.00663	<0.020	BDL
S-12	10/25/2022	12.2		**986**	<0.200	2.37	**456**	233	24.7	0.819	2.7	2310	185	185	<5.00	8	<0.0002	132	0.152	39.5	15.7	229	<0.002	<0.005	0.0449	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0287	0.00285	<0.005	<0.001	0.119	0.994	2.74	<0.001	<0.005	<0.020	BDL
S-12	6/6/2023			**890**	<0.200	1.13	**299**	184	<10.0	0.745	14	1700	160	160	<5.00	8.18	<0.0002	103	**0.871**	35.5	9.78	169	<0.002	<0.005	0.0441	<0.001	<0.001	<0.005	<0.001	0.00247	<0.001	**0.112**	0.00218	<0.005	<0.001	0.983	0.601	1.67	<0.001	<0.005	<0.020	BDL
S-12	11/16/2023	8.6		**535**	<0.200	0.355	121	147	<10.0	0.142	7.8	1550	162	162	<5.00	8.12	<0.0002	79.2	**0.447**	27.7	7.1	74.1	<0.002	<0.005	0.0331	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0923**	0.00313	<0.005	<0.001	0.409	0.362	0.971	<0.001	<0.005	<0.020	BDL
S-13	5/17/2022	19.1		**1,770**	0.308	1.05	**945**	**293**	12.4	<0.100	7.7	3470	75.7	75.7	<5.00	**8.9**	<0.0002	143	**0.805**	43	14.2	396	<0.002	<0.005	0.0599	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0879**	0.00229	<0.005	<0.001	0.64	0.819	4.73	<0.001	<0.005	<0.020	BDL
S-13	10/25/2022	11.1		**4,330**	<0.200	<0.0500	**2,210**	**1,070**	51.8	0.547	11	8060	308	308	<5.00	7.9	<0.0002	397	**0.931**	162	45.1	1110	<0.002	<0.005	0.2	<0.001	<0.001	<0.005	0.00302	<0.002	<0.001	**4.97**	0.01	<0.005	<0.001	0.128	5.18	13	<0.001	<0.005	<0.020	BDL
S-13	6/6/2023			**3,180**	<0.200	<0.0500	**1,280**	**729**	18.4	<0.100	1.7	5570	223	223	<5.00	8.01	<0.0002	328	0.132	109	19.1	634	<0.002	<0.005	0.131	<0.001	<0.001	<0.005	0.00302	<0.002	<0.001	**0.29**	0.0059	<0.005	<0.001	<0.050	2.56	6.36	<0.001	<0.005	<0.020	BDL
S-13	11/16/2023	7.2		**1,740**	0.212	0.463	**753**	**494**	13.2	<0.100	3.4	3250	180	180	<5.00	7.88	<0.0002	211	0.264	65.7	17.3	382	<0.002	<0.005	0.06	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.389**	0.0037	<0.005	<0.001	0.0821	1.69	4.54	<0.001	<0.005	<0.020	BDL
NW Pond	5/21/2014	20.6	9.18	492	<0.200	0.133	57.3	214	15.1	<0.100	8.9	714	52.3	52.3	<5.00	8.17	<0.0002	83.2	**0.571**	14.2	4.25	36.3	<0.002	<0.005	0.0204	<0.001	<0.001	<0.002	<0.001	0.00252	<0.001	0.0488	<0.002	<0.005	<0.001				<0.002	<0.005	<0.020	etone - 11.0 ug
NW Pond	6/1/2017			**346**	<0.200	<0.05	23.7	146	14.5	<0.100	13	508	65.5	67.5	<5.00	8.8	<0.0002	66.9	**0.464**	12.8	2.82	19.3	<0.002	<0.005	0.0197	<0.001	<0.001	<0.002	<0.001	0.00448	<0.001	**0.0619**	0.00203	<0.005	<0.001	0.297	<0.2	0.424	<0.001	<0.005	<0.020	BDL
NW Pond	11/9/2017			**320**	<0.200	0.202	20.2	138	37.5	0.15	60.8	485	73.9	73.9	<5.00	8	<0.0002	58.2	**2.06**	11.2	4.12	14.7	<0.002	<0.005	0.0243	<0.001	<0.001	0.00292	0.00119	0.00313	0.0011	0.0488	0.00279	<0.005	<0.001	2.53	<0.2	0.36	<0.001	<0.005	<0.020	etone: 10.4 ug
NW Pond	6/4/2018			380	<0.200	0.604	52.4	160	19.7	<0.100	14.9	601	49.2	49.2	<5.00	8.4	<0.0002	65.5	**0.498**	11.1	4.17	33	<0.002	<0.005	0.018	<0.001	<0.001	<0.002	<0.001	0.00327	<0.001	0.023	0.00278	<0.005	<0.001	0.713	0.199	0.435	<0.001	<0.005	<0.020	etone: 13.4 ug
NW Pond	10/30/2018			438	<0.200	<0.05	63.6	153	13.3	<0.100	15	709	90.4	90.4	<5.00	8.2	<0.0002	76.5	**0.541**	16.2	4.61	44.4	<0.002	<0.005	0.0217	<0.001	<0.001	<0.002	<0.001	0.0021	<0.001	**0.153**	0.00352	<0.005	<0.001	0.641	0.263	0.589	<0.001	<0.005	<0.020	BDL
NW Pond	5/22/2019			408	<0.200	<0.05	40.4	132	18.9	0.158	28.2	619	109	109	<5.00	7.9	<0.0002	74.3	**2.11**	14.5	4.13	27.8	<0.002	<0.005	0.0325	<0.001	<0.001	0.0024	0.0015	0.00216	0.00125	**0.262**	0.00448	<0.005	<0.001	2.34	0.174	0.471	<0.001	<0.005	<0.020	BDL
NW Pond	11/6/2019			294	<0.200	<0.05	30.2	136	10.6	<0.100	14.9	510	56.4	56.4	<5.00	8.1	<0.0002	52.9	**0.504**	10.3	2.76	18.1	<0.002	<0.005	0.012	<0.001	<0.001	<0.002	<0.001	0.00289	<0.001	0.0414	0.00262	<0.005	<0.001	0.578	0.177	0.331	<0.001	<0.005	<0.020	etone: 15.9 ug
NW Pond	5/27/2020			347	<0.200	0.07	18.5	142	<10.0	0.377	118	493	88.5	88.5	<5.00	8.3	<0.0002	66.6	**4.74**	15.3	5.71	17.9	<0.002	<0.005	0.0291	<0.001	<0.001	0.00568	0.00231	0.00475	0.00179	**0.154**	0.00596	<0.005	<0.001	5.91	0.213	0.443	<0.001	0.00903	<0.020	BDL
NW Pond	10/27/2020			384	<0.200	0.276	44.6	175	<10.0	0.161	93.5	634	63	63	<5.00	7.9	<0.0002	70.2	**1.85**	12.8	5.22	26.1	<0.002	<0.005	0.0232	<0.001	<0.001	0.00263	0.00147	0.00355	0.00104	**0.0583**	0.00425	<0.005	<0.001	2.21	0.184	0.566	<0.001	<0.005	<0.020	BDL
NW Pond	5/26/2021			442	0.227	<0.05	85.4	180	27.5	<0.100	12.5	729	66.3	66.3	<5.00	8	<0.0002	67.7	**0.777**	15.2	3.39	44.7	<0.002	<0.005	0.016	<0.001	<0.001	<0.002	<0.001	0.00232	<0.001	**0.0777**	0.00322	<0.005	<0.001	0.701	0.229	0.655	<0.001	<0.005	<0.020	BDL
NW Pond	10/22/2021	15.4		**542**	<0.200	<0.05	145	193	15.2	<0.100	17	964	59.7	59.7	<5.00	8.1	<0.0002	95.2	**0.596**	16.4	5.18	67.9	<0.002	<0.005	0.0234	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0845**	<0.002	<0.005	<0.001	0.652	0.253	1.11	<0.001	<0.005	<0.020	BDL
NW Pond	5/17/2022	Not Sampled																																								
NW Pond	10/25/2022	Not Sampled																																								
NW Pond	6/6/2023	Not Sampled																																								
NW Pond	11/16/2023	10.1		**535**	<0.200	0.253	101	227	<10.0	<0.100	7.2	924	69.9	69.6	<5.00	8.11	<0.0002	88	0.211	18.9	5.9	61.1	<0.002	<0.005	0.0219	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	0.0142	<0.002	<0.005	<0.001	0.19	0.284	0.959	<0.001	<0.005	<0.020	BDL
SE Pond	6/4/2018			**558**	<0.200	<0.05	102	157	29.9	<0.100	9.32	917	163	163	<5.00	7.7	<0.0002	95.7	0.231	18.1	7.05	66.3	<0.002	<0.005	0.0386	<0.001	<0.001	<0.002	0.00137	<0.002	<0.001	**0.441**	0.0056	<0.005	<0.001	0.195	0.24	0.589	<0.001	<0.005	<0.020	etone: 14.5 ug
SE Pond	10/30/2018			486	<0.200	0.115	56.2	115	12.9	<0.100	4.44	770	186	186	<5.00	7.9	<0.0002	93.2	0.274	17.1	6.83	39.5	<0.002	<0.005	0.0346	<0.001	<0.001	<0.002	<0.001	0.00246	<0.001	**0.108**	0.0074	<0.005	<0.001	0.2	0.245	0.526	<0.001	<0.005	<0.020	BDL
SE Pond	5/22/2019			454	<0.200	<0.05	87.1	103	13.1	<0.100	4.45	786	152	152	<5.00	7.9	<0.0002	74.3	0.178	15.6	4.99	54.5	<0.002	<0.005	0.0282	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.052**	0.00443	<0.005	<0.001	0.199	0.144	0.434	<0.001	<0.005	<0.020	BDL
SE Pond	11/6/2019	Not Sampled													<5.00																											
SE Pond	5/27/2020			444	<0.200	0.0706	70.6	128	15.2	<0.100	4.05	716	118	118	<5.00	8.4	<0.0002	68.8	0.147	15.1	4.86	51.8	<0.002	<0.005	0.0178	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	0.0419	0.00373	<0.005	<0.001	0.186	0.228	0.543	<0.001	<0.005	<0.020	BDL
SE Pond	10/27/2020			479	<0.200	0.115	75.8	161	17.3	<0.100	9.01	814	128	128	<5.00	7.9	<0.0002	76.5	**0.321**	19.6	6.21	53.2	<0.002	<0.005	0.0332	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	**0.129**	0.0049	<0.005	<0.001	0.279	0.4	0.77	<0.001	<0.005	<0.020	BDL
SE Pond	5/26/2021	Not Sampled																																								
SE Pond	10/22/2021	Not Sampled																																								
SE Pond	5/17/2022	Not Sampled																																								
SE Pond	10/25/2022			**572**	0.319	0.609	145	131	26	<0.100	4.4	1070	187	187	<5.00	8.3	<0.0002	84.9	0.255	25.5	7.86	86.3	<0.002	<0.005	0.046	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0927**	0.00521	<0.005	<0.001	0.163	0.433	0.883	<0.001	<0.005	<0.020	BDL
SE Pond	6/6/2023			**616**	0.271	0.514	149	178	16.8	<0.100	1.9	1120	136	136	<5.00	8.2	<0.0002	78.1	0.165	24.7	7.14	99.6	<0.002	<0.005	0.0173	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0859**	0.00374	<0.005	<0.001	0.0932	0.471	0.992	<0.001	<0.005	<0.020	BDL
SE Pond	11/16/2023	11.9		490	<0.200	0.12	93.6	136	15.1	0.635	85	856	136	136	<5.00	8.12	<0.0002	81.7	**6.35**	27.8	8.15	59.1	<0.002	<0.005	0.0555	<0.001	<0.001	0.00574	0.00285	0.00417	0.00259	**0.191**	0.00828	<0.005	<0.001	5.06	0.326	0.807	<0.001	0.00802	<0.020	BDL
Headwall Seep	12/2/2021			**4,140**	3.56	<0.100	**1,690**	**469**	73.9	<0.100	26	6,680	876	876	<5.00	6.8	<0.0002	346	**1.05**	125	41.7	833	<0.002	<0.005	0.0852	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.513**	0.0045	<0.005	<0.001	<0.05	5.7	12	<0.001	<0.005	<0.020	BDL
Headwall Seep	5/17/2022			**4,040**	6.4	<0.050	**1,900**	**500**	49.3	<0.100	26	7,940	802	802	<5.00	6.7	<0.0002	279	**3.28**	117	40.8	788	<0.002	<0.005	0.134	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.364**	0.00397	<0.005	<0.001	<0.05	5.7	11	<0.001	<0.005	<0.020	BDL
Headwall Seep	10/25/2022			**6,730**	3.36	<0.050	**3,440**	**1,290**	62.5	<0.100	15	10,700	760	760	<5.00	6.9	<0.0002	561	**1.09**	234	76.3	1630	<0.002	<0.005	0.158	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.693**	0.0098	<0.005	<0.001	<0.05	10.6	21.3	<0.001	<0.005	<0.020	BDL
Headwall Seep	6/6/2023			**5,330**	8.05	<0.050	**2,310**	**464**	62.2	0.116	25	9,620	919	919	<5.00	6.57	<0.0002	423	**1.44**	175	63.7	1330	<0.002	<0.005	0.194	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.643**	0.00847	<0.005	<0.001	<0.05	8.59	19.3	<0.001	<0.005	<0.020	BDL
Headwall Seep	11/16/2023	13.3		**5,700**	4.04	<0.050	**2,790**	**888**	71.6	<0.100	20	928	867	867	<5.00	6.93	<0.0002	461	0.281	204	72.3	1520	<0.002	<0.005	0.15	<0.001	<0.001	<0.005	<0.001	<0.002	<0.001	**0.732**	0.0112	<0.005	<0.001	<0.05	9.56	19.8	<0.001	<0.005	<0.020	BDL

BDL=Below Detectable Limits
#=Toluene, all others VOC's BDL
ND=Not detected at a concentration greater than the LOQ=Limits of Qunantitation
ND(VOC's)=not detected at a concentration greater than the CRRL=Client Requested Reporting Limit

Table 2.

Bond Road Landfill
Surface Water Sampling Results

		Field Temp. °C	Dissolved Oxygen	TDS mg/l	NH3 mg/l	NO2 - NO3 mg/l - N	Cl mg/l	SO4 mg/l	COD mg/l	P mg/l	Cond.umhos/cm	Alkalinity Bicarb mg/l	T. Alk. mg/l	Alkalinity Carb mg/l	pH	Turb. NTU	Hg mg/L	Ca mg/l	Fe mg/l	Mg mg/l	K mg/l	Na mg/l	Al mg/L	Sb mg/l	As mg/l	Ba mg/l	Be mg/l	B mg/L	Cd mg/l	Cr mg/l	Co mg/l	Cu mg/l	Pb mg/l	Mn mg/l	Ni mg/l	Se mg/l	Sr mg/l	Ag mg/l	Tl mg/l	V mg/l	Zn mg/l	VOCs	ug/l
MCL						10																		0.006	0.01	2	0.004		0.005	0.1					0.05				0.002				
SMCL				500			250	250							6 to 9				0.3												1		0.05							5		
Action Level																																0.015									
Stream Sample	**Date**																																										
B-1	5/26/2010	-		436	0.109	<0.02	52.6	177	<50.0	-	713	-	104	-	8.2	6.8		86.6	0.212	21.4	1.95	31.7		0.0023	<0.003	0.047	<0.0002		<0.0002	<0.0002	0.000826	0.00153	0.000441	0.0471	0.014	<0.003		<0.0001	<0.0002	<0.004	0.0111	BDL	
B-1	10/13/2010	-		354	<0.05	<0.02	47.6	146	<50.0	-	545	-	94	-	8.81	3.3		70.7	0.125	20.6	2.9	30.8		<0.0002	<0.002	0.0155	<0.0002		<0.0002	<0.002	0.000204	<0.001	<0.0002	0.0336	<0.0025	<0.002		<0.0001	<0.0002	<0.004	<0.007	BDL	
B-1	6/15/2011	-		388	0.063	<0.02	25.5	123	<50.0	0.111	581	177	178	<10.0	8.16	9.5		91	**0.441**	15	1.82	17.7		0.000522	<0.002	0.0222	<0.0004		<0.0002	<0.002	0.00041	0.00107	<0.0002	0.0242	<0.004	<0.002		<0.0001	<0.0002	<0.004	<0.008	BDL	
B-1	10/18/2011	15.9		291	<0.05	<0.02	24.8	90.4	<50.0	<0.1	481	125	126	<20.0	8.02	3.9	<0.0002	69	<0.1	12.9	2.3	16.5		<0.0002	<0.002	0.0134	<0.0002		<0.0002	<0.002	0.000224	<0.001	<0.0002	**0.0597**	<0.0025	<0.0045		<0.0001	<0.0002	<0.004	<0.005	BDL	
B-1	6/19/2012	19.5		362	0.309	<0.02	27	103	<50.0	0.241	579	184	184	<10.0	7.18	15	<0.0002	86.8	**0.491**	15.3	2.63	17.5		<0.1	<0.1	0.0301	<0.005		<0.03	<0.04	<0.02	<0.02	<0.08	**0.648**	<0.01	<0.1		<0.04	<0.1	<0.05	<0.05	BDL	
B-1	10/24/2012	14.4		402	0.098	0.0902	30.9	140	64.1	<0.1	536	100	102	<10.0	8.2	3.9	<0.0002	80.5	0.164	17.7	2.84	20.3		<0.0002	<0.002	0.0209	<0.0002		<0.0002	<0.002	<0.02	<0.02	<0.0002	0.0403	<0.01	<0.002		<0.04	<0.0002	<0.05	<0.05	BDL	
B-1	8/8/2013	23.2		381	0.287	<0.100	32	120	11.8	0.235	604	155	155	<5.0	7.81	5.82	<0.0002	78	**0.943**	16.9	2.35	21.5		<0.002	<0.005	0.0213	<0.001		<0.001	<0.002	0.00237	<0.002	<0.001	**0.539**	0.00292	<0.005		<0.001	<0.002	<0.005	<0.020	BDL	
B-1	11/21/2013	14		409	0.217	<0.100	34.4	175	16.1	0.193	644	148	148	<5.0	8.27	12	<0.0002	86.3	**1.42**	18	2.99	21.2		<0.002	<0.005	0.0273	<0.001		<0.001	<0.002	<0.001	0.00213	<0.001	**0.501**	0.00213	<0.005		<0.001	<0.002	<0.005	<0.020	BDL	
B-1	5/28/2014	24.8	9.16	**518**	<0.200	<0.0500	65.2	190	17	<0.100	738	148	148	<5.00	8.4	1.68	<0.0002	95.1	0.101	18.7	1.69	30.6		<0.002	<0.005	0.017	<0.001		<0.001	<0.002	<0.001	0.00204	<0.001	**0.00993**	<0.002	<0.005		<0.001	<0.002	<0.005	<0.020	BDL	
B-1	10/28/2014	16.1		397	<0.200	<0.0500	67	163	20.6	0.146	675	110	110	<5.00	8.04	2.66	<0.0002	72.1	**0.333**	20.4	2.52	34.7		<0.002	<0.005	0.0146	<0.001		<0.001	<0.002	<0.001	<0.002	<0.001	0.0492	<0.002	<0.005		<0.001	<0.002	<0.005	<0.020	BDL	
B-1	5/21/2015	20.8	121.5	**533**	<0.200	<0.0500	65	200	40.7	<0.100	844	173	173	<5.00	8.29	1.52	<0.0002	113	<0.100	23	1.84	32.4		<0.002	<0.005	0.0191	<0.001	0.0685	<0.001	<0.002	<0.001	<0.002	<0.001	0.0156	<0.002	<0.005	0.471	<0.001	<0.002	<0.005	<0.020	BDL	
B-1	9/22/2015	19.1		407	<0.200	<0.0500	51.1	136	23.5	0.214	665	134	140	6.76	8.02	7.68	<0.0002	78.1	**1.07**	20.1	2.69	30.6		<0.002	<0.005	0.0238	<0.001	-	<0.001	<0.002	<0.001	<0.002	<0.001	**0.251**	<0.002	<0.005	-	<0.001	<0.002	<0.005	<0.020	BDL	
B-1	6/28/2016			**570**	<0.02	<0.61	55	170	13	<0.05	740	140	140	<4.0	8	2.2	<0.0002	80	0.081	21	1.7	28	0.12	<0.005	<0.005	0.02	<0.002	0.097	<0.002	<0.005	<0.005	<0.005	0.43	<0.005	0.013	<0.005	<0.005	0.43	<0.005	<0.005	<0.01	BDL	
B-1	12/7/2016			**510**	<10	<0.61	51	130	61	0.079	660	150	150	<4.0	8	5.6	<0.0005	77	<0.02	22	2.4	29	0.76	<0.03	<0.01	<0.1	<0.0004	<0.1	<0.005	<0.02	<0.004	<0.025	<0.015	<0.05	<0.05	<0.03	0.4	<0.01	<0.005	<0.05	<0.05	BDL	
B-1	6/30/2017	19.8		346	1.21	<0.0500	21.7	74.4	13.5	0.472	548	166	166	<5.0	7.9	17.7	<0.0002	72.4	**0.767**	13.7	2.23	14.5	0.443	<0.002	<0.005	0.025	<0.001	<0.200	<0.001	<0.002	<0.001	0.00365	<0.001	**0.679**	<0.002	<0.005	0.253	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	12/20/2017	6.1		377	1.36	<0.0500	31.4	108	30.7	0.399	616	180	180	<5.0	8	17.3	<0.0002	82	**2.32**	15.7	3.11	17	1.9	<0.002	<0.005	0.029	<0.001	<0.200	<0.001	0.0024	0.00166	0.00243	<0.001	**2.75**	0.00243	<0.005	0.313	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	6/28/2018	26.3		372	<0.200	<0.0500	38.5	99.5	23.5	<0.100	573	130	130	<5.0	8.3	13.8	<0.0002	67.1	**0.477**	15.4	2.6	22.4	0.443	<0.002	<0.005	0.0193	<0.001	<0.100	<0.001	<0.002	<0.001	0.00384	<0.001	0.0187	<0.002	<0.005	0.294	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	12/12/2018	4.1		375	<0.200	0.0719	25.5	101	17	<0.143	598	173	173	<5.0	8	9.69	<0.0002	85.9	**0.449**	14.8	2.44	16.3	0.439	<0.002	<0.005	0.0163	<0.001	<0.100	<0.001	<0.002	<0.001	<0.002	<0.001	0.0392	<0.002	<0.005	0.277	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	6/28/2019	21.6		313	0.813	<0.0500	16.1	73.4	18.4	0.252	497	158	158	<5.0	7.8	16.9	<0.0002	113	**2.25**	30.5	1.39	31.7	<0.050	<0.002	<0.005	0.579	<0.001	<0.100	<0.001	<0.002	<0.001	<0.002	<0.001	**0.401**	0.00269	<0.005	0.256	<0.001	<0.001	<0.005	0.0637	BDL	
B-1	11/14/2019	3.5		**509**	0.276	<0.0500	44.5	221	11.8	<0.100	784	144	144	<5.0	8.1	6.0	<0.0002	108	**0.324**	20	2.36	26.8	0.168	<0.002	<0.005	0.0199	<0.001	0.145	<0.001	0.00757	<0.001	<0.002	<0.001	**0.602**	0.00458	<0.005	0.53	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	6/16/2020	25.2		359	<0.200	<0.0500	26.4	135	16.7	<0.100	586	143	150	7.22	7.2	7.6	<0.0002	76	0.268	16.8	1.76	18.1	0.196	<0.002	<0.005	0.0151	<0.001	0.145	<0.001	<0.002	<0.001	<0.002	<0.001	**0.0507**	<0.002	<0.005	0.319	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	11/19/2020	10.1		329	<0.200	<0.0500	32.1	101	21.5	<0.100	553	127	127	<5.0	8.1	6.3	<0.0002	70.4	0.298	18.9	2.4	23.2	0.162	<0.002	<0.005	0.0154	<0.001	0.145	<0.001	<0.002	<0.001	<0.002	<0.001	**0.0903**	<0.002	<0.005	0.358	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	6/4/2021	18.9		442	<0.200	<0.0500	59.2	129	12.1	0.108	765	173	185	11.8	8.6	9.42	<0.0002	99.1	**0.448**	19.7	1.87	33.1	0.197	<0.002	<0.005	0.0179	<0.001	<0.100	<0.001	<0.002	<0.001	<0.002	<0.001	**0.126**	<0.002	<0.005	0.36	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	11/18/2021	8.9		377	0.216	0.0614	40.2	143	17.8	<0.100	662	136	136	<5.0	8.7	8.8	<0.0002	81.1	0.258	17.8	2.59	24	0.126	<0.002	<0.005	0.02	<0.001	0.116	<0.001	<0.005	<0.001	<0.002	<0.001	**0.116**	<0.002	<0.005	0.362	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	6/6/2022	24		331	<0.200	<0.0500	41.5	134	20.2	<0.100	729	164	172	7.87	8.3	3.4	<0.0002	91.8	0.249	20	2.09	24.8	0.18	<0.002	<0.005	0.017	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	0.028	<0.002	<0.005	0.364	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	10/24/2022	12.8		343	<0.200	0.118	48.3	113	14.4	<0.100	611	127	127	<5.00	8.4	3.5	<0.0002	64.4	**0.34**	19.5	2.44	26.5	0.163	<0.002	<0.005	0.0153	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0675**	<0.002	<0.005	0.327	<0.001	0.00119	<0.005	<0.020	Iodomethane: 1.23	
B-1	6/14/2023			379	<0.200	0.103	37.1	121	12.1	0.202	653	157	157	<5.00	8.24	5.4	<0.0002	86	**0.895**	18.2	2.61	21.9	0.621	<0.002	<0.005	0.0118	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	**0.288**	<0.002	<0.005	0.343	<0.001	<0.001	<0.005	<0.020	BDL	
B-1	11/29/2023	3.6		333	<0.200	<0.0500	39.1	107	29.9	<0.100	539	96	108	12	8.93	3.7	<0.0002	57.2	0.111	18.6	2.29	23.4	0.053	<0.002	<0.005	0.0114	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	0.0436	<0.002	<0.005	0.303	<0.001	<0.001	<0.005	<0.020	BDL	
B-3	6/6/2022			583	<0.200	0.199	12.6	161	<10.0	0.141	957	327	327	<5.00	8	30	<0.0002	152	**2.23**	25.2	2.62	11	2.25	<0.002	<0.005	0.0401	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0794**	0.00207	<0.005	0.654	<0.001	<0.001	<0.005	<0.020	BDL	
B-3	10/24/2022	Not Sampled - Dry																																								
B-3	6/14/2023	Not Sampled - Dry																																								
B-3	11/29/2023	Not Sampled - Dry																																								
B-4	6/6/2022	31.8		451	<0.200	0.158	36.6	125	10.5	0.197	757	211	211	<5.00	8.3	27	<0.0002	99.5	**1.97**	18.3	2.59	20.6	1.86	<0.002	<0.005	0.0289	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0562**	0.00202	<0.005	0.387	<0.001	<0.001	<0.005	<0.020	BDL	
B-4	10/24/2022	9.2		669	<0.200	<0.050	133	84.7	15.7	0.579	1190	349	349	<5.00	8	1.4	<0.0002	146	<0.100	25.3	6.97	70	<0.050	<0.002	<0.005	0.0313	<0.001	0.158	<0.001	<0.005	<0.001	<0.002	<0.001	**0.463**	<0.002	<0.005	0.827	<0.001	0.00154	<0.005	<0.020	BDL	
B-4	6/14/2023			479	<0.200	<0.050	37.1	96.6	<10.0	0.179	833	298	298	<5.00	8.02	22	<0.0002	131	0.723	19.6	3.24	20.6	0.769	<0.002	<0.005	0.0322	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	**0.161**	<0.002	<0.005	0.552	<0.001	<0.001	<0.005	<0.020	BDL	
B-4	11/29/2023	1.8		434	<0.200	<0.050	25.9	94.5	<10.0	<0.100	689	240	240	<5.00	7.87	4.4	<0.0002	110	0.28	15.8	1.99	14	0.28	<0.002	<0.005	0.0231	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	**0.0678**	<0.002	<0.005	0.406	<0.001	<0.001	<0.005	<0.020	BDL	
B-5	6/6/2022	19.8		502	<0.200	0.11	48.4	112	<10.0	<0.100	891	269	275	6.15	8.3	3.2	<0.0002	126	0.171	18.6	2.16	28.6	0.162	<0.002	<0.005	0.026	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	<0.010	<0.002	<0.005	0.496	<0.001	<0.001	<0.005	<0.020	BDL	
B-5	10/24/2022	10		934	<0.200	<0.050	**276**	87.4	103	0.98	1620	315	315	<5.00	7.8	29	<0.0002	163	**1.43**	30.1	16.2	107	0.8	<0.002	<0.005	0.0881	<0.001	0.276	<0.001	<0.005	0.0019	<0.002	<0.001	**4.08**	0.00282	<0.005	1.45	<0.001	<0.001	<0.005	<0.020	Acetone: 44.6	
B-5	6/14/2023			517	<0.200	<0.050	55	118	<10.0	0.133	895	273	273	<5.00	8.18	1.4	<0.0002	133	<0.100	17.6	2.85	29.7	<0.050	<0.002	<0.005	0.027	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	0.00537	<0.002	<0.005	0.513	<0.001	<0.001	<0.005	<0.020	BDL	
B-5	11/29/2023	0		580	<0.200	0.0759	106	124	<10.0	<0.100	914	241	241	<5.0	8.14	2.9	<0.0002	118	0.218	16.2	2.4	48.7	0.198	<0.002	<0.005	0.0221	<0.001	<0.100	<0.001	<0.005	<0.001	<0.002	<0.001	0.00967	<0.002	<0.005	0.398	<0.001	<0.001	<0.005	<0.020	BDL	

Results in mg/l except:
pH=no units
Turbidity=NTUs
Conductivity=umhos/cm
BDL=Below Detectable Limits
Bold=Parameter above drinking water secondary std.
Sulfate (SO4)=250 mg/l
Iron (Fe=0.3 mg/l
Manganese (Mn)=0.05 mg/l
TDS=500 mg/l

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-1)

	GROUP 1 (Higher Quality)														GROUP 2 (Moderate Quality)																	GROUP 3 (Lower Quality)													Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-1																																																	
6/7/2010											2																	1		100+		1					1											50+			
10/14/2010										1							*													4			6																	
# 10/14/10																																																	
6/28/2011											2						*	*												50+	6	10																	2		
10/25/2011																	2													50+	7	3																			
# 10/25/11											1																			50+					1		2													
6/7/2012											5																			100+	1	7																2			
10/25/2012																										1				100+																				
6/12/2013											1						*											2		100+	20	1					2													
10/8/2013											7						1						6		2					100+		2	1																
5/21/2014																		3											1	100+			1																	
10/27/2014																	*											1		50+																				
6/3/2015										2	10																			30	2	1	30					*										15			
10/6/2015																	*											1		5			10																	
5/25/2016				1													*	*												5			5				1											*			
11/7/2016																	*			1																1		1													
6/1/2017											15							1												5																				
9/9/2017											4																									2													
6/4/2018																		1												2		1				1											*			
10/30/2018											1	1																1		16			2		1		1													
5/22/2019									1		38							2	10+									1		79		2	5															1			
11/6/2019									3		12	6																		7						1		1												
5/27/2020									2									2												100+		1	14																	
10/27/2020									4	1	17																			31		1					2													
5/26/2021									2	9	4																			35		2	22															1			
10/21/2021									5		21																	2		38			2				1													
5/17/2022									4		7						*		1											100+			3				3										1			
10/25/2022									31		21																	1		12							2													
6/6/2023																	*													65		1					1													
11/16/2023									17		2						*													53			2				2													

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-2)

	GROUP 1 (Higher Quality)															GROUP 2 (Moderate Quality)																		GROUP 3 (Lower Quality)															Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-2																																																				
6/7/2010											10							*											100+	15	6	1						3															
10/14/2010									2								*	1											7							8		1										*		14	
# 10/14/10																													3							3															
6/28/2011																	*	2											50+		25					8												50+			
10/25/2011																		1											100+							4												1		1	
# 10/25/11																																																			
6/7/2012									1		4																		50+		2							1										3			
10/25/2012																		*											25																						
6/12/2013											1						*											1	50	15	2	10		1	1	15												*			
10/8/2013										1*																1*		3*	50*		2*	1*																1*			
5/21/2014																													100+		1*	10*		1*														1*			
10/27/2014																	*									1			10		1*					100+											20		1	
6/3/2015																	>100					2							50			50				20		1								50		*	
10/6/2015																	*	*											10			10				4											*			
5/25/2016																													15			5				10		1											
11/7/2016									1		3							*											7			2				3														
6/1/2017											4																		10			5				3													
9/9/2017											10																		8							13													
6/4/2018										2																			8		1	3		1		5										*			
10/30/2018									2		7																	1	23							1													
5/22/2019																													64		1					2										1			
11/6/2019									3																			1	17			2				9													
5/27/2020		8										1																	100+		8					2										1			
10/27/2020									6	1																		1	100+		1					9												3	
5/26/2021									1		2																	2	28		12																			
10/21/2021									5		9																	4	62	5		1			1	8												6	
5/17/2022									4		12						*	1										1	100+		1	11				2											1			
10/25/2022									9		3						*											2	2	3						3														
6/6/2023									6		1																		16			5																*			
11/16/2023									12		1						*												65	3		2				26		2												

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-3)

	GROUP 1 (Higher Quality)														GROUP 2 (Moderate Quality)																GROUP 3 (Lower Quality)												Non-indicative			
	Micropterus	**Notropis**	**Etheostoma**	**Amphibia**	**Gastropoda**	**Gastropoda**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Trichoptera**	**Ephemeroptera**	**Plecoptera**	**Plecoptera**	**Chelydra**	**Dorosoma**	**Pimephales**	**Amphibia**	**Amphibia**	**Pelecypoda**	**Pelecypoda**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Odonata**	**Odonata**	**Odonata**	**Odonata**	**Isopoda**	**Amphipoda**	**Decapoda**	**Turbellaria**	**Nematoda**	**Annelida**	**Annelida**	**Gastropoda**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-3																																														
6/7/2010											26																		100+		2	100+															
10/14/2010										7																										14				38							
# 10/14/10																													3																		
6/28/2011																													50+			1															
10/25/2011											1																		50+	7	1	50+															
6/7/2012				1							1							1											10			1													1			
10/25/2012																												1	4			2															
6/12/2013				2						1		1																	25		1	1		1											1		1	
10/8/2013				6*						1*	4*																		20*		4*	4*														4*	
5/21/2014																						3*							50		25	10															
10/27/2014				3*																									50		1*														10	
6/3/2015				2							5																		25		10	15													*		*	
10/6/2015				*																									20															*		20	
5/25/2016				1							10																		15		1	10															
11/7/2016				3																									20		3	5														10	
6/1/2017																													35		3																
9/9/2017				1							7																		38			12														12	
6/4/2018										1	25																		22		1	28													*			
10/30/2018				5							8																		30		1	12														5	
5/22/2019				1							2																		17		2	15															
11/6/2019				1					1																				7	1																	
5/27/2020											16	2	1																45		5	8															
10/27/2020				1					1	1	3																		5			13															
5/26/2021				1					2		6																		34		20	40															
10/21/2021				4					4																				7		4																
5/17/2022				2							17		1									1							78		1	22														1			
10/25/2022				2						2	2																		4		2																
6/6/2023				1																									26		4	21													*			
11/16/2023									3																				30	1		8															

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-9)

	GROUP 1 (Higher Quality)															GROUP 2 (Moderate Quality)																			GROUP 3 (Lower Quality)																Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simulidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-9																																																				
6/7/2010				7	1													*											5			20																1			
10/14/2010	Not Sampled																																																		
# 10/14/10	Not Sampled																																																	
6/28/2011				3						1	2																			2		7																50+			
10/25/2011																			1											50+			22																	20		
# 10/25/11																																																			
6/7/2012				2					2									1												10			3																			
10/25/2012																														100+			6																			
6/12/2013				3						1	25	5																		25		2																1			
10/8/2013									1*												1*									100+	2*	1*	5		1*														1*			
5/21/2014											1*																			100+			1*				1*														
10/27/2014																	1*													15+	1*																			50		
6/3/2015									25																				*	>100		5	10															50		
10/6/2015																		*												>100			>100					12										*		20	
5/25/2016				1					10																					20			10																	
11/7/2016									5																					23			10																	
6/1/2017				1	1					1	6																			30																			*		
9/9/2017									13																					11		*	3				2												2	
6/4/2018				5					13																					8		2	15															*			
10/30/2018									45																					35			8																		
5/22/2019									3		3											1						1		100+		1	2																			
11/6/2019									52																			1		13			1																			
5/27/2020									4	1	2	25																		5			1																			
10/27/2020									18																					60			85																			
5/26/2021				1					9																					77		4	5																			
10/21/2021				5					45																					18			4				1														
5/17/2022				4					2		39	2																		>60		1	57																			
10/25/2022	Not Sampled (No Longer consured an upstream sample locatin due to eastern expansion)																																																			

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-10)

	GROUP 1 (Higher Quality)														GROUP 2 (Moderate Quality)																	GROUP 3 (Lower Quality)															Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-10																																																	
6/7/2010				5							2																		10		*																			
10/14/2010	Not Sampled																																															
# 10/14/10	Not Sampled																																															
6/28/2011											50+																		50+						1												*			
10/25/2011				1							20																		100+	1	1	10			2														
6/7/2012				2					1	5								1											2			5																	
10/25/2012									1																				2																			
6/12/2013				10						1	15																		25		2																*		3	
10/8/2013																													>50*	1*	4*	10*															20		>50*	
5/21/2014				5*						*	2*																		10																		*			
10/27/2014																													100+			20																50	
6/3/2015				2					*																				70		*														20		10	
10/6/2015								>100																					40			25																50	
5/25/2016																													*			*																	
11/7/2016									10																				100+	1		100+																17	
6/1/2017				1							2		2									1								20																			
9/9/2017				2					8																				35			8		1														7	
6/4/2018				1						3	50																		5			6														*			
10/30/2018				2					20																				4			5																12	
5/22/2019									2	4	6																		72			8																2	
11/6/2019									18		1																		24			11																8	
5/27/2020									14	1	1	3																	47		1																	
10/27/2020									38																				30			8																	
5/26/2021				1					12																				100+		1	1															1			
10/21/2021									19																			1	28			13				23												
5/17/2022									6		65																		100+		1	5															1			
10/25/2022				1					3		10																		67			7															*			
6/6/2023											5																		100+		1	17				1													
11/16/2023									4		18																		58			2		1		88													

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-11)

	GROUP 1 (Higher Quality)														GROUP 2 (Moderate Quality)																GROUP 3 (Lower Quality)													Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-11																																																
5/21/2014																													20		2*																		
10/27/2014																													10			*															1*	
6/3/2015				10																									20			50				3											1*	
10/6/2015				6																									25			75				4												
5/25/2016				1																									75			50																
11/7/2016																													25		1	25				50											*	
6/1/2017																		1											20																				
9/9/2017											2																					2				17												
6/4/2018				2	1													1											6			20								1								
10/30/2018											3																		20		1	16				12												
5/22/2019				1									2																5		1	8				2												
11/6/2019											1																		5			47				22												
5/27/2020											3																		22	1	3	25				3												
10/27/2020																													4			40				2												
5/26/2021				3																									100+		3	100+				4										2			
10/21/2021									1		12																		8	3		100+				1												
5/17/2022				1							13											1							23		3	100+				10										1		
10/25/2022											3																		3		2	15															*	
6/6/2023											2																		29		1	42				1										*			
11/16/2023				1					4																				41			100+																

Table 3. BIOLOGICAL STREAM SAMPLING
RUMPKE SANITARY LANDFILL (Location S-12)

	GROUP 1 (Higher Quality)														GROUP 2 (Moderate Quality)															GROUP 3 (Lower Quality)														Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-12																																																
5/22/2019									4		12	1	1				*												100+																				
11/6/2019									38		22	2					*												18			13																
5/27/2020									2	1	1	6																1	72			46				2												
10/27/2020									5		6	26																	49			21																
5/26/2021									3		8										1								72		1	12																
10/21/2021									24		2																		46							1												
5/17/2022									9		2																		100+			12																
10/25/2022									22		9																		36	1	1	2																*
6/6/2023											2						*												42		1	14			1	1											
11/16/2023									1		18							1		1									53			1																

	GROUP 1 (Higher Quality)														GROUP 2 (Moderate Quality)																		GROUP 3 (Lower Quality)															Non-indicative			
	Micropterus	**Notropis**	**Etheostoma**	**Amphibia**	**Gastropoda**	**Gastropoda**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Trichoptera**	**Ephemeroptera**	**Plecoptera**	**Plecoptera**	**Chelydra**	**Dorosoma**	**Pimephales**	**Amphibia**	**Amphibia**	**Pelecypoda**	**Pelecypoda**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Odonata**	**Odonata**	**Odonata**	**Odonata**	**Isopoda**	**Amphipoda**	**Decapoda**	**Turbellaria**	**Nematoda**	**Annelida**	**Annelida**	**Gastropoda**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-13																																																	
5/17/2022									5	10	32																		100+							3											1			
10/25/2022									54	2	12																	2		13							2		3											
6/6/2023									4		1						*	*										1		51		2																		
11/16/2023									5		11																	1		22							10														

Table 3. BIOLOGICAL STREAM SAMPLING
BOND ROAD LANDFILL (Location 1)

	GROUP 1 (Higher Quality)															GROUP 2 (Moderate Quality)															GROUP 3 (Lower Quality)												Non-indicative			
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera		Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Bluegill	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Elmidae (Adult Riffle)	Psephenidae (Water Penny)	Dobsonfly Larva	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location 1																																															
5/26/2010		*											6						*										3		5			5				25		30									
10/13/2010									10	1			5						*	*								2						3				100+									
6/15/2011									10										*												50							13		40									
10/18/2011												3							*												20							10											
6/19/2012							10																								100+							30		30									
10/24/2012																															30							100+											
8/8/2013																			~20	2*											~20							100+											
11/21/2013	Not sampled; pond drained to repair valve																																														
5/28/2014		1*				3*																																									
10/28/2014		10																	20+																													
6/3/2015																			>100														1	5														
10/6/2015																			>100																													
6/28/2016																			100+																													
12/7/2016																			10	5																												
6/30/2017																			50+																													
12/20/2017																															1			1				1											
6/28/2018		1														1															2							1											
12/12/2018																															23			32				100+											
6/28/2019		*																													30							22		100+									
11/14/2019	Unable to sample; water level too low.																																														
6/16/2020		5										30																1						6				10											
11/19/2020																															1							35											
6/4/2021																															24			8															
11/18/2021										2		15																										28											
6/6/2022																															19							34											
10/24/2022										8																					2							6											
6/14/2023																															3							5											
11/29/2023																																						1											

* - Observed while sampling

Table 3. BIOLOGICAL STREAM SAMPLING
BOND ROAD LANDFILL (Location 2)

	GROUP 1 (Higher Quality)													GROUP 2 (Moderate Quality)															GROUP 3 (Lower Quality)												Non-indicative			
	Micropterus	**Notropis**	**Etheostoma**	**Amphibia**	**Gastropoda**	**Gastropoda**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Coleoptera**	**Trichoptera**	**Ephemeroptera**	**Plecoptera**	**Plecoptera**	**Chelydra**	**Dorosoma**	**Pimephales**	**Amphibia**	**Amphibia**	**Pelecypoda**	**Pelecypoda**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Odonata**	**Odonata**	**Odonata**	**Odonata**	**Isopoda**	**Amphipoda**	**Decapoda**	**Turbellaria**	**Nematoda**	**Annelida**	**Annelida**	**Gastropoda**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Nothfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location 2																																														
5/26/2010	Not Sampled																																													
10/13/2010	Not Sampled																																													
6/15/2011	Not Sampled																																													
10/18/2011	Not Sampled																																													
6/18/2012	Not Sampled																																													
10/24/2012	Not Sampled																																													
8/8/2013	Not Sampled																																													
11/21/2013	Not Sampled																																													
5/28/2014	Not Sampled																																													
10/28/2014	Not Sampled																																													
6/3/2015	Not Sampled																																													
10/6/2015	Not Sampled																																													
6/28/2016	Not Sampled																																													
12/7/2016	Not Sampled																																													
6/30/2017	Not Sampled																																													
12/20/2017	Not Sampled																																													
6/28/2018	Not Sampled																																													
12/12/2018	Not Sampled																																													
6/28/2019	Not Sampled																																													
11/14/2019	Not Sampled																																													
6/16/2020	Not Sampled																																													
11/19/2020	Not Sampled																																													
6/4/2021	Not Sampled																																													
11/18/2021	Not Sampled																																													
6/6/2022	Not Sampled																																													
10/24/2022	Not Sampled																																													
6/14/2023	Not Sampled																																													
11/29/2023	Not Sampled																																													

* - Observed while sampling
\# - Sampled with Hester Dendy
^ - All Dead

	GROUP 1 (Higher Quality)															GROUP 2 (Moderate Quality)																				GROUP 3 (Lower Quality)																			Non-indicative			
	Micropterus	**Notropis**	**Etheostoma**	**Amphibia**	**Gastropoda**	**Gastropoda**	**Coleoptera**	**Coleoptera**		**Coleoptera**	**Coleoptera**	**Trichoptera**	**Ephemeroptera**	**Plecoptera**	**Plecoptera**	**Chelydra**	**Dorosoma**	**Pimephales**	**Amphibia**	**Amphibia**	**Pelecypoda**	**Pelecypoda**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Odonata**	**Odonata**	**Odonata**	**Odonata**	**Isopoda**	**Amphipoda**	**Decapoda**	**Turbellaria**	**Nematoda**	**Annelida**	**Annelida**	**Gastropoda**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**	**Hemiptera**
	Bass	Bluegill	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Elmidae (Adult Riffle)	Psephenidae (Water Penny)	Dobsonfly Larva	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location 3																																																				
6/6/2022																1														11	12	25	1																			
10/24/2022	Not Sampled; Dry																																																			
6/14/2023	Not Sampled; Dry																																																		
11/29/2023	Not Sampled; Dry																																																		

Location 4	GROUP 1 (Higher Quality)														
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera		Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera
	Bass	Bluegill	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Elmidae (Adult Riffle)	Psephenidae (Water Penny)	Dobsonfly Larva	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult
6/6/2022										48		3	17		
10/24/2022				1											
6/14/2023				2						100+			4		
11/29/2023										6					

Location 4	GROUP 2 (Moderate Quality)																	
	Chelydra	Dorosoma	Pimephales	Amphibia	Amphibia	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera	Hemiptera	Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda
	Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish
6/6/2022																2		
10/24/2022			*															
6/14/2023			*													23		8
11/29/2023																25	12	

Location 4	GROUP 3 (Lower Quality)													
	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera
	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva
6/6/2022														
10/24/2022														
6/14/2023														
11/29/2023	2				1									

Location 4	Non-indicative			
	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
6/6/2022	*			
10/24/2022				
6/14/2023	*		*	
11/29/2023				

	GROUP 1 (Higher Quality)														
	Micropterus	**Notropis**	**Etheostoma**	**Amphibia**	**Gastropoda**	**Gastropoda**	**Coleoptera**	**Coleoptera**		**Coleoptera**	**Coleoptera**	**Trichoptera**	**Ephemeroptera**	**Plecoptera**	**Plecoptera**
	Bass	Bluegill	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Elmidae (Adult Riffle)	Psephenidae (Water Penny)	Dobsonfly Larva	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult
Location 5															
6/6/2022										32		1	4		
10/24/2022										41			14		
6/14/2023									13	37		1	4		
11/29/2023										28					

	GROUP 2 (Moderate Quality)																	
	Chelydra	**Dorosoma**	**Pimephales**	**Amphibia**	**Amphibia**	**Pelecypoda**	**Pelecypoda**	**Diptera**	**Diptera**	**Diptera**	**Hemiptera**	**Odonata**	**Odonata**	**Odonata**	**Odonata**	**Isopoda**	**Amphipoda**	**Decapoda**
	Turtle	Gizzard Shad	Minnow	Ranidae (Frogs)	Tadpoles	Fingernail Clam	Other Clams	Crane Fly Pupae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish
Location 5																		
6/6/2022			*													6		
10/24/2022			*	1														
6/14/2023			*															3
11/29/2023			*													52	2	

	GROUP 3 (Lower Quality)													
	Turbellaria	**Nematoda**	**Annelida**	**Annelida**	**Gastropoda**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**	**Diptera**
	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tabanidae (Horsefly Larva)	Tabanidae (Horsefly)	Tubifera (Rat-Tailed Maggot)	Unknown Larva
Location 5														
6/6/2022	13													
10/24/2022	2													
6/14/2023	18													
11/29/2023	41													

	Non-indicative			
	Hemiptera	**Hemiptera**	**Hemiptera**	**Hemiptera**
	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location 5				
6/6/2022	*			
10/24/2022				
6/14/2023	*			
11/29/2023				