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April 29, 2021

Mr. Bob Schwarz
Oregon Department of Environmental Quality
DEQ - Northwest Region
700 NE Multnomah St., Ste. 600
Portland, OR 97232-4100

SUBJECT: Submittal of 2020 Annual Environmental Monitoring Report Riverbend Landfill Solid Waste Disposal Site Permit No. 345 Yamhill County, Oregon

Dear Mr. Schwarz:

This letter accompanies the enclosed two copies of the 2020 annual environmental monitoring report (AEMR) for the Riverbend Landfill (RL) and provides a Statement of Compliance, per Section 17.3 of RL's Solid Waste Disposal Permit (SWDP) 345 issued to Riverbend Landfill Co. (RLC) from Oregon Department of Environmental Quality (DEQ) on December 3, 1999.

SCS Engineers (SCS), in Portland, Oregon prepared the 2020 AEMR at the request of RLC. The 2020 AEMR presents and evaluates the RL environmental monitoring data from 2020, consistent with the RL's SWDP, December 10, 2012 administrative modification to the SWDP, and DEQ-approved environmental monitoring plan (EMP) dated December 2014.

Statement of Compliance Per Section 17.3 of SWDP

Evaluation of the 2020 compliance groundwater monitoring data did not identify any significant change in groundwater quality at RL's point-of-compliance boundary, as defined in the site's SWDP and EMP, which has not been previously reported to and addressed with the DEQ.

Comparison of the 2020 compliance groundwater analytical results to the EMP-required data evaluation standards, which include prescriptive or statistically-derived concentration limits, showed the following notable results:

- No concentrations of volatile organic compounds (i.e., action limits or permit-specific concentration limits) were detected in groundwater samples collected from the site compliance wells in 2020, consistent with historical results.
- Three or more inorganic parameters were not detected at concentrations above their respective site-specific limits in site compliance wells during a single semiannual monitoring event.

- Consistent with previous results reported to the DEQ, dissolved iron, dissolved manganese, and/or total dissolved solids were detected at concentrations above their secondary groundwater quality standards (i.e., Oregon numerical groundwater quality guidance levels) in groundwater samples collected from a subset of site compliance wells in 2020. Conclusions from past evaluations of site groundwater have attributed the concentrations of these parameters in site groundwater to be reflective of natural variation in groundwater chemistry.

Please contact me (602) 757-3352 if you have any questions related to the contents of the AEMR.

Sincerely,

James L. Denson, Jr.
PNW/BC Environmental Protection Manager

Enclosure – RL's 2020 AEMR (hardcopy and electronic)

Cc (w/enclosure): Seth Sadofsky, DEQ (Eugene)
Denise Miller, DEQ (Eugene)
Ashley Watkins, Yamhill County
Melody Adams, WM
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2020 Annual Environmental Monitoring Report

Riverbend Landfill
McMinnville, Oregon

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SCS ENGINEERS

04208022.21 | April 29, 2021

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2020 Annual Environmental Monitoring Report

Riverbend Landfill
McMinnville, Oregon

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04208022.21 | April 29, 2021

Christopher Perra
Staff Professional
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Appendices

Appendices listed below are provided in hard copy and in electronic format on the compact disc (CD) attached to this report:

The appendices listed below are only included in the compact disc (CD) attached to this report:

ACRONYMS AND ABBREVIATIONS

AEMR	annual environmental monitoring report
Alexin	Alexin Analytical Laboratories, Inc.
Ca	calcium
CD	compact disc
Cl	chloride
COC	chain of custody
DEQ	Oregon Department of Environmental Quality
DO	dissolved oxygen
EMP	environmental monitoring plan
Fe	iron
FGPM	Final Grading Plan Modification
FSDS	field sampling data sheet
ft/ft	feet per foot
ft/yr	feet per year
gal/acre/day	gallons-per-acre-per-day
GCCS	gas collection and control system
GEM	CES LandTec GEM™ 2000 or 5000 Landfill Gas Analyzer
HCO_3	bicarbonate alkalinity
K	potassium
LCRS	leachate collection and removal system
LDS	secondary leak detection system
LEL	lower explosive limit
LFG	landfill gas
LMS	leachate management system
MEK	2-butanone
Mg	magnesium
mg/L	milligrams per liter
Mn	manganese
MSE	mechanically stabilized earthen
Na	sodium
NGQGL	numerical groundwater quality guidance level
NGQRL	numerical groundwater quality reference level
ORELAP	Oregon Environmental Laboratory Accreditation Program
ORP	oxidation-reduction potential
PQL	practical quantitation limit
QA/QC	quality assurance/quality control
SCS	SCS Engineers
RL	Riverbend Landfill
RLC	Riverbend Landfill Co.
SM	Standard Methods
SMP	stability monitoring plan
SO_4	sulfate
SSL	site-specific concentration limit
S.U.	standard units

ACRONYMS AND ABBREVIATIONS (CONTINUED)

SWDP	solid waste disposal site permit
TestAmerica	Eurofins TestAmerica Laboratories, Inc.
TDS	total dissolved solids
TICs	tentatively identified compounds
TOC	total organic carbon
VOC	volatile organic compound
WBZ	water-bearing zone
WM	Waste Management

EXECUTIVE SUMMARY

This annual environmental monitoring report presents and evaluates monitoring data for groundwater, surface water, leachate management system (LMS) liquids (leachate and secondary leak detection system [LDS] liquids), and landfill gas (LFG) collected during 2020 at Riverbend Landfill (RL) in Yamhill County, Oregon. Monitoring and reporting were performed in 2020 consistent with the requirements of (1) RL's solid waste disposal site permit (SWDP) 345, issued by the Oregon Department of Environmental Quality (DEQ) on December 3, 1999, and subsequent addenda, and (2) RL's approved environmental monitoring plan (EMP) [SCS Engineers (SCS), 2014].

RESULTS AND CONCLUSIONS

Compliance Well Groundwater Quality

Analytical results of groundwater samples collected in 2020 from the site's compliance monitoring well network did not indicate any change in groundwater quality, as defined in the SWDP and the EMP. Volatile organic compounds (VOCs) were not detected in compliance well groundwater samples in 2020. Concentrations of three or more site-specific inorganic parameters were not detected above their respective statistically-derived site-specific limits (SSLs) in any groundwater sample collected from a single compliance well during a semiannual monitoring event.

Groundwater Quality in Detection Wells MW-5A and MW-5B

Low-level concentrations of VOCs were detected in groundwater samples collected from detection monitoring well MW-5A in 2020, consistent with historical results from this non-compliance location. Results of a remedial investigation performed in 1993 demonstrated that LFG is the source of VOCs impacting groundwater in the shallow water-bearing zone (WBZ) in the MW-5A area. Concentrations of VOCs historically detected in MW-5A have significantly decreased in response to active LFG collection at RL. VOCs were not detected in the groundwater sample collected in 2020 from detection well MW-5B (located adjacent to MW-5A and screened in the deep WBZ) or in compliance wells located hydraulically downgradient of MW-5A (including MW-12A), consistent with historical results.

Groundwater Quality in Poplar Tree Farm Detection Wells and Piezometers

Analytical results of groundwater samples collected in 2020 from detection wells MW-19A and MW-20A, located downgradient of the south and north poplar tree farm areas, respectively, continue to show incremental improvements (i.e., recent decreases or stabilized concentrations for inorganic parameters compared to historical increasing trends) in localized water quality in the shallow WBZ at these locations. These improvements are likely related to the suspension of leachate irrigation in the poplar tree farm areas in 2013. It should also be noted that no changes in groundwater quality were observed in samples collected from MW-20B screened in the deep WBZ adjacent to MW-20A or in P-07A screened in the shallow WBZ located south of MW-20A, consistent with historical results.

Leachate Management System

Pumping volume data from LDSs during 2020 showed that small volumes (relative to the volumes pumped from the associated primary leachate collection and removal systems [LCRS]) of liquids detected in and pumped from LDSs are not attributed to leachate leakage through the primary liner systems. Analytical results of liquid samples collected from the LCRSs and LDSs in 2020 are generally consistent with historical results.

VOCs were not detected in liquid samples collected from LDS Sumps 4/5S and 8S. Low-level concentrations of VOCs were detected in the LDS Sumps 6/7S and 9S liquid samples, which is consistent with previous results that have shown sporadic detections of VOCs in these sumps. . Importantly, no changes in groundwater quality, including VOC detections, have been identified downgradient of Modules 6/7 and 9 at compliance monitoring well pairs MW-16A/B and MW-21A/B, respectively. It should be noted that liquids that accumulate in the LDS sumps are effectively contained and pumped into RL's primary LCRS.

Leachate Pond and Leachate Pond Secondary Detection System

A review of analytical results from groundwater samples collected from monitoring wells in the vicinity of the leachate pond (i.e., wells MW-14A/B, MW-21A/B, and MW-22A) determined no changes in groundwater quality. These results indicate that liquids in the pond LDS sump are being effectively contained and removed, and that these liquids have not affected groundwater quality in the area near the leachate pond.

An additional geomembrane liner was installed in the leachate pond in September/October 2017 to address defects and reduce the potential for leachate in the pond from leaking into the pond LDS sump. Monitoring results from 2020 continue to indicate that this enhancement has been effective as only 1,693 gallons were pumped from the pond LDS in 2020. This volume is consistent with the decreased annual volumes pumped from this sump since the improvement was completed in 2017.

Landfill Gas Monitoring Results

Methane in perimeter (compliance) LFG monitoring probes and facility structures were not detected above regulatory compliance levels, consistent with previous results.

Compliance LFG monitoring results for 2020 continue to show that RL's LFG collection and control has been effective at managing lateral LFG migration in the subsurface at the compliance boundary and into facility structures.

1.0 INTRODUCTION

1.1 TERMS OF REFERENCE

SCS Engineers (SCS), in Portland, Oregon has prepared this annual environmental monitoring report (AEMR) on behalf of Riverbend Landfill Co. (RLC), to present and evaluate monitoring data for groundwater, surface water, leachate management system (LMS) liquids, and landfill gas (LFG) collected during 2020 at Riverbend Landfill (RL) in Yamhill County, Oregon (Figure 1-1). Monitoring and reporting were consistent with requirements in (1) RL's solid waste disposal site permit (SWDP) No. 345, issued by Oregon Department of Environmental Quality (DEQ) on December 3, 1999 and subsequent addenda, and (2) RL's DEQ-approved environmental monitoring plan (EMP; SCS, 2014).

SCS performed 2020 compliance monitoring activities for groundwater, surface water, LMS liquids, and LFG. RL personnel conducted the management and performance monitoring of the LMS in 2020. With the exception of bacterial analyses in surface water samples, Eurofins TestAmerica Laboratories Inc. (TestAmerica) in Denver, Colorado, analyzed all groundwater, surface water, and LMS liquid samples collected in 2020. Bacterial analyses for *E. coli* and fecal coliform in surface water samples were performed by Alexin Analytical Laboratories, Inc. (Alexin) in Tigard, Oregon.

1.2 SITE DESCRIPTION

RL is located approximately three miles southwest of McMinnville, Oregon, in Yamhill County (Figure 1-1). RL is owned and operated by RLC and is permitted by DEQ to receive municipal solid waste and approved special waste.

The RL property is over 500 acres and encompasses the active landfill and ancillary facilities, north and south poplar tree farm areas, a former recreational vehicle park west to southwest of the landfill, and undeveloped land south of the landfill extending to and beyond the South Yamhill River (see Figure 1-2). Agricultural land surrounds the landfill site.

The landfill is composed of nine constructed modules (Modules 1 through 9) covering approximately 87.4 acres (see Figure 1-2) and includes a vertical expansion above existing permitted final grades in the southwest portion of the landfill. As of 2021 only Phase 1 of the vertical expansion has been built. The north and south poplar tree farm areas occupy approximately 43 acres.

1.3 SIGNIFICANT ACTIVITIES OF 2020

Significant site and monitoring activities performed at RL in 2020 include the following:

- Submitted the 2019 AEMR to DEQ (SCS, 2020). DEQ approved the 2019 AEMR in a letter dated July 1, 2020 (DEQ, 2020).

- Conducted a technical meeting with the DEQ on July 8, 2020 to discuss updating the statistically-derived concentration limits for compliance groundwater wells and proposed modifications to the EMP. The updated concentration limits and proposed modifications to the EMP will be submitted to the DEQ in 2021.

- Approximately 6.2 acres of landfill final cover on the South side over Module 3 were repaired and closed.

- Fourteen vertical landfill gas wells and associated piping were installed on the South Slope in Module 3 and 4 and six vertical landfill gas wells and associated piping were installed on the west end of the top deck in Module 8.

- RL performed routine monitoring and inspections of the mechanically-stabilized earthen (MSE) berm in 2020. MSE Berm instrumentation (inclinometers, extensometer, and piezometers) monitoring activities were performed in accordance with the stability monitoring plan (SMP) provided by the geotechnical engineer (Geosyntec, 2020a). Significant changes in displacement were not observed in the inclinometers in 2020. Extensometer and piezometer measurements obtained throughout 2020 indicated minor settlement and small changes in pore pressure. On this basis, no stability concerns were noted in 2020 (Geosyntec, 2021).

- The leachate loadout pump system was replaced and upgraded to facilitate the management of liquid levels in the pond.

- Improvements were made to the south stormwater pond including construction of a concrete collar and riser pipe at the outfall to improve storage, repair of the overflow weir, and construction of a terraced forebay system to improve sediment removal.

- Installation of a perimeter landfill gas header to improve vacuum control around the site.

1.4 SUMMARY OF SUPPORTING DOCUMENTATION

Supporting documentation is provided in the following report appendices:

- Appendix A: Historical groundwater elevations (including hydrographs), and field water quality monitoring results for groundwater and LMS samples.

- Appendix B (included only on the attached compact disc [CD]): Field documentation, including groundwater elevation survey forms, field sampling data sheets (FSDSs), site inspection checklists, and field report forms.

- Appendix C (included only on the attached CD): Laboratory analytical reports, including chain-of-custody (COC) forms, cation-anion balance data, and laboratory quality assurance/quality control (QA/QC) documentation for groundwater, surface water, and LMS samples. Appendix C also includes a copy of TestAmerica's Oregon Environmental Laboratory Accreditation Program (ORELAP) certification.

- Appendix D (included only on the attached CD): Results of SCS's field and laboratory QA/QC reviews.

- Appendix E (included only on the attached CD): Time-concentration graphs of 2020 and historical groundwater, surface water, and LMS analytical data.

- Appendix F: Geochemical diagrams (Piper [Trilinear] and Stiff Plots) for groundwater and LMS samples.

- Appendix G (included only on the attached CD): 2020 Annual Geotechnical Monitoring Report, Riverbend Landfill, McMinnville, Oregon.

The CD provided with this AEMR also includes (1) the historical analytical database for groundwater, surface water, and LMS samples in a searchable (Excel) format, and (2) a complete electronic version of this 2020 AEMR.

2.0 HYDROGEOLOGIC SETTING

Numerous local and regional hydrogeologic investigations have been performed at and in the vicinity of RL. In general, investigations included (1) interpreting topographic maps, (2) drilling soil borings, (3) installing monitoring wells and piezometers, (4) conducting geophysical investigations, (5) collecting and analyzing soil, groundwater and leachate samples, and (6) analyzing aquifer hydraulic parameters. These studies provide the foundation for hydrogeologic interpretations and the technical basis for the environmental monitoring program at RL.

Most interpretive information on the site's geology was obtained from previous RL studies, in particular the additional hydrogeologic investigation conducted by EMCON (1994). Other geologic information was collected during drilling of boreholes for compliance and detection monitoring wells and piezometers (EMCON, 1995, 1996; CH2M Hill, 2000; SCS, 2015).

2.1 HYDROGEOLOGY

For the purposes of environmental monitoring at RL, groundwater occurs in two water-bearing zones (WBZs): (1) upper (shallow) silt-clay alluvial deposits (both Willamette Silt and late-Quaternary alluvium) comprised predominantly of bedded silts, clays, clayey silts and silty clays, and (2) lower (deep) sand-gravel deposits. Pliocene-age sand-gravel deposits overlay the Eocene bedrock deposits, are predominantly laterally continuous units, and consist mostly of sandy gravels and gravelly sands, with localized interbeds of clayey and silty gravels and clay and silt lenses.

Groundwater elevations measured in site groundwater monitoring wells and piezometers since January 1993 have been used to evaluate hydraulic parameters and flow characteristics of both WBZs. A description of these two WBZ based on interpretive information collected as part of previous hydrogeologic investigations (EMCON, 1994, 1995, and 1996; CH2M Hill, 2000; SCS, 2015) and groundwater monitoring (elevations and chemistry) performed since 1994 are provided below.

2.1.1 Upper (Shallow) Silt-Clay Water-Bearing Zone

Across most of RL, the groundwater flow direction and gradient in the upper shallow WBZ show minor seasonal and spatial variability, typically in response to variations in seasonal precipitation patterns. The direction of groundwater flow in the upper shallow WBZ is typically south-southeast, toward the South Yamhill River. In the extreme southwestern portion of the site, groundwater flow is predominantly toward the east. The historical seasonal range of groundwater gradients is generally from 0.005 to 0.01 foot per foot (ft/ft). Average groundwater flow velocities in the shallow WBZ generally range from 0.1 to 24.2 feet per year (ft/yr).

Historical groundwater level data for monitoring wells screened in the upper shallow WBZ near the South Yamhill River indicate that temporal fluctuations of approximately 10 to 15 feet occur. Groundwater elevations measured in those wells are typically higher than the river elevation, indicating that groundwater in the upper silt-clay WBZ discharges to the river. This relationship between the South Yamhill River and groundwater indicates that the South Yamhill River acts as a hydraulic boundary to groundwater flow in the shallow WBZ.

2.1.2 Lower (Deep) Sand-Gravel Water-Bearing Zone

Groundwater flow direction and gradient in the deep WBZ do not vary significantly as a result of seasonal changes in precipitation. In most areas of RL, groundwater flows toward the southeast, in the direction of the South Yamhill River, and shifts southward as it approaches the South Yamhill River. The historical seasonal range of groundwater gradients is generally from 0.0088 to 0.012 ft/ft. The average groundwater flow velocity in the deep WBZ has been estimated to be about 124 ft/yr.

Interpretation of RL stratigraphic information indicates that the deep WBZ does not receive direct recharge from precipitation in the vicinity of RL due to the presence of the overlying shallow WBZ, which has a relatively low hydraulic conductivity. Furthermore, because the lower sand-gravel stratigraphic unit partially transects the South Yamhill River, the river most likely represents a hydraulic barrier for groundwater in the lower sand-gravel zone. Historically, groundwater elevations measured in wells screened in the lower sand-gravel WBZ near the South Yamhill River were consistently higher than the river elevation. The differences in elevation suggest that groundwater in the lower sand-gravel WBZ was discharging to the river during those time periods.

RL has a production well (PW-1) near the facility entrance that is completed in and pumps water from the deep WBZ. There is another production well (MB-1) on the former Bernard property on the east side of the RL entrance that is also active. During the dry season, when PW-1 and MB-1 are used most frequently, groundwater elevations in the deep WBZ are affected (decreased by 10 to 20 feet) in the northwest corner of RL by production well pumping.

3.0 ENVIRONMENTAL MONITORING NETWORKS AND SCHEDULES

3.1 GROUNDWATER MONITORING NETWORK AND SCHEDULE

3.1.1 Monitoring Network

The groundwater monitoring network at RL is shown in Figure 1-2. Monitoring well and piezometer construction information is summarized in Table 3-1. Wells and piezometers labeled "A" are screened in the upper silt-clay unit, and those labeled "B" are screened in the lower sand-gravel unit, except for the designations of MW-1A and MW-1B, which are reversed. Wells and piezometers with no designation (e.g., MW-2R, P-01) are screened in the upper silt-clay unit.

3.1.2 Monitoring Schedule

SCS performed spring sampling activities April 20 through 28, 2020 (hereafter referred to as Spring). SCS performed fall sampling activities November 9 and 11, 2020 (i.e., Fall), with the exceptions described below. The 2020 semiannual and annual groundwater monitoring schedule is summarized in Table 3-2 and included the following activities:

- Compliance monitoring: MW-12A/B, MW-14A/B, MW-15A/B, MW-16A/B, and MW-21A/B were monitored semiannually in Spring and Fall 2020. It should be noted that due to low water levels in the shallow WBZ at MW-14A, MW-15A, MW-16A, and MW-21A sampling was not possible during the scheduled Fall 2020 monitoring event because insufficient water was present in these wells to allow for purging and sampling. The low water levels in the shallow zone in Fall 2020 are consistent with site conditions during previous Fall events. MW-14A, MW-15A, MW-16A, and MW-21A were sampled on January 28, 2021 when sufficient water was present for purging and sampling.

- Detection monitoring: Detection well MW-5A was sampled semiannually in Spring and Fall 2020 and detection well MW-5B was sampled annually in Spring 2020. MW-5A/B were monitored for VOC concentrations, consistent with the EMP. Additionally, non-routine (i.e., not required by the EMP) monitoring of MW-5A groundwater for inorganic parameters was performed in 2020.

- Poplar tree farm detection monitoring: MW-19A and MW-20A were monitored semiannually in Spring and Fall 2020, and MW-20B was monitored annually in Spring 2020 (see Figure 1-2). These wells monitor groundwater quality downgradient of the south and north poplar tree farm areas, respectively. Water quality monitoring of piezometers P-05A, P-06A, and P-07A located in and near the north poplar tree farm area was also performed Spring 2020.

- Detection monitoring downgradient of leachate pond: MW-22A was not monitored annually in Spring 2020 due to insufficient groundwater in the well to purge and sample. During subsequent site visits in the Fall 2020, January and during the Spring 2021 event, groundwater levels were measured at MW-22A and remained insufficient to purge and sample.

- Groundwater elevation monitoring: Groundwater elevations were monitored semiannually in Spring and Fall 2020 in the compliance and detection monitoring wells listed above, and in monitoring wells (and well pairs) MW-1A/B, MW-2R, MW-3A/B, MW-4A/B, MW-6A/B, MW-9A/B(R), MW-10A/B, MW-17A, MW-18A/B, MW-22B, MW-23A/B, MW-24, and MW-25A/B, and piezometers P-01, P-02, P-03, SA-BH-1, SA-BH-3, SA-BH-5, SA-BH-6, and GT-10-12. Groundwater elevation was also measured in onsite production well PW-1.

Locations of site monitoring wells and piezometers are shown in Figure 2-1. Well construction information for site monitoring wells in RL's groundwater monitoring program, including reference elevations, screen interval elevations, and screened unit, is provided in Table 3-1.

3.2 SURFACE WATER MONITORING NETWORK AND SCHEDULE

Surface water quality samples were collected from the South Yamhill River adjacent to the landfill property in April 2020 at the following locations (see Figure 1-2):

- SYR SW-1 located upstream of the RL operations.
- SYR SW-2 located downstream of the RL operations and near the Unnamed Creek that runs along the eastern property boundary of RL.
- SYR MW-12A located at the South Yamhill River gauging station to the southwest and downgradient of MW-12A[1] .

3.3 LEACHATE MANAGEMENT SYSTEM MONITORING NETWORK AND SCHEDULE

The LMS monitoring network at RL is shown in Figure 1-2 and includes leachate collection and removal systems (LCRSs) and secondary leak detection systems (LDSs). The LCRSs remove leachate from landfill modules and convey it to a double-lined collection pond for storage, treatment and disposal. The LDSs provide containment and monitoring below the primary LCRSs.

The 2020 leachate and LDS monitoring schedule are summarized in Table 3-2 and included collecting the following samples:

- Liquid from the leachate pond and LDS semiannually in Spring and Fall 2020.
- Leachate from Modules 1/5, 6/7, 8, and 9 LCRS sumps annually in Spring 2020.
- Liquid from Modules 4/5, 6/7, 8, and 9 LDS sumps annually in Spring 2020.

3.4 LANDFILL GAS MONITORING NETWORK AND SCHEDULE

The LFG monitoring network at RL is shown in Figure 1-2. LFG compliance monitoring is performed to determine whether explosive gases (i.e., methane) are migrating from the landfill into facility structures

[1] Surface water sample location SYR MW-12A was added in 2016 as part of the MW-12A informal preliminary assessment (IPA) and is monitored for informational purposes and is not included in the EMP.

or to RL's property boundary. Monitoring of compliance LFG monitoring probes and facility structures was performed quarterly in 2020 at the following locations:

- Compliance boundary LFG probes: CGP-09R, CGP-10R, CGP-11, CGP-12, CGP-13, and CGP-14.
- Facility structures: office building, scale house, maintenance building, operations building, and landfill gas to energy building.

To supplement the six compliance LFG probes, there are six performance LFG probes (PGP-01 [dual completion], PGP-02 [dual completion], PGP-03, PGP-04, PGP-06, and PGP-08R) designed to monitor performance of the facility's GCCS. These performance probes are located adjacent to the facility waste modules (Modules 1, 2, 3, and 8; see Figure 1-2) and are not used for compliance LFG monitoring and reporting purposes and are noted for informational purposes only.

4.0 FIELD PROCEDURES

4.1 GROUNDWATER

During each semiannual monitoring event, depth-to-groundwater levels in site monitoring wells and piezometers were measured using an electronic water-level probe before groundwater samples were collected. Historical and 2020 depth-to-groundwater measurements and groundwater elevation data are summarized in Appendix A (Table A-1).

Compliance and detection wells were purged and sampled using dedicated QED® bladder pumping systems with pump intakes in the approximate middle of the well screen interval. Piezometers P-05A, P-06A, and P-07A, which are not fitted with dedicated bladder pumps, were purged and sampled using a portable peristaltic pump.

Traditional Purging. Compliance and detection monitoring wells (and piezometers) screened in the shallow WBZ were sampled using the traditional purging technique that involves purging each well of at least three casing volumes (unless the well purged dry). Purged groundwater was discharged through a flow-through cell to measure field water quality parameters. At a minimum, after each casing volume was purged, water quality parameters (temperature, pH, specific conductance, oxidation-reduction potential [ORP], and dissolved oxygen [DO] content) were measured and recorded on a FSDS (provided in Appendix B). Groundwater in each well was sampled after at least three casing volumes were purged (unless the well purged dry) and the water quality parameters stabilized. After stabilization, representative groundwater samples were collected directly from the dedicated pump discharge tubing and into laboratory-supplied containers. For wells that were purged dry, groundwater samples are collected after the well has either recovered to at least 90 percent of its original water level or within a 24-hour period.

Low Flow Purging. Compliance and detection monitoring wells screened in the lower WBZ were sampled using the low-flow purging and sampling technique. Low-flow purging requires purging at a low discharge rate and while monitoring water quality parameters (temperature, pH, specific conductance, ORP, and DO content) at approximately 0.1 to 0.25-gallon intervals during purging. urge rates were maintained at approximately 400 milliliters per minute or less, and groundwater levels were maintained within 0.3 feet of their initial water level measurement. Once pumping levels stabilize and water quality parameters are within the stabilization criteria outlined in the EMP (SCS, 2014b) groundwater samples were collected.

The cumulative volume of groundwater purged and field-measured water quality parameters were recorded on an FSDS after each measurement (see Appendix B). Table A-2 (Appendix A) summarizes historical and 2020 field-measured water quality parameters in groundwater samples collected at RL.

The condition of wells, piezometers, and the surrounding area were noted on the landfill inspection checklist forms (see Appendix B). All wells were in good condition, secure, and accessible.

4.2 SURFACE WATER

Surface water samples were collected at SYR SW-1, SYR SW-2, and SYR MW-12A by dipping laboratory-supplied sample bottles into the surface water and allowing them to slowly fill.

4.3 LEACHATE MANAGEMENT SYSTEM

Liquid samples from the LCRS and LDS sumps were collected using dedicated submersible pumps installed in each sump's riser pipe. Sample bottles were filled directly from submersible pump discharge lines. Leachate grab samples were collected from the leachate pond by lowering a non-dedicated, single-use disposable polyvinyl chloride bailer into the pond at four locations. Leachate pond grab samples were then composited, and the composite used to fill sample bottles.

Field parameters (temperature, pH, specific conductance, ORP, and DO) were measured during sampling of each leachate and LDS sump and recorded on FSDSs (provided in Appendix B). Table A-3 (Appendix A) summarizes 2020 and historical field-measured water quality parameters in LMS liquid samples.

4.4 LANDFILL GAS

LFG concentrations (i.e., methane) were measured in RL's LFG monitoring probes and facility structures using a CES LandTec GEM™ 2000 or 5000 landfill gas analyzer (GEM). The probes were purged using the internal pump in the GEM for a minimum of one minute before LFG concentrations stabilized and could be recorded. The facility structures were monitored for LFG using the GEM in potentially confined areas where air movement may be restricted. At each of these locations, LFG concentrations were recorded after the GEM was purged and stabilized for at least one minute. The facility structures are also equipped with dedicated continuous monitoring fixed gas detectors.

4.5 FIELD QA/QC PROCEDURES

Environmental and QA/QC samples were packed in coolers with wet ice and sent using COC protocol by overnight courier to TestAmerica in Denver, Colorado for analysis, except for the surface water samples collected for fecal coliform and *E. coli* analyses, which were submitted to Alexin in Tigard, Oregon. Samples shipped and delivered to TestAmerica and Alexin, respectively, arrived at acceptable temperatures and in good condition.

Field QA/QC procedures included (1) collecting at least one field blank and one field duplicate sample for each day of sampling or for every ten samples, whichever was more frequent, and (2) carrying laboratory-supplied trip blanks into the field and submitting the trip blanks with VOC samples to the laboratory for days VOCs samples were collected in the field.

5.0 LABORATORY METHODS

This section summarizes laboratory methods used in 2020. Analytical laboratory reports (with COCs and cation-anion balance values) are provided in Appendix C.

5.1 ANALYTICAL PARAMETERS FOR GROUNDWATER

Consistent with the site's EMP (SCS, 2014b), 2020 semiannual environmental monitoring samples were analyzed as follows:

- Groundwater samples were analyzed for parameters summarized in Table 5-1.
- Surface water samples collected from the South Yamhill River were analyzed for parameters summarized in Table 5-2.
- LMS samples were analyzed for parameters summarized in Table 5-3.

Groundwater samples were analyzed by TestAmerica[2] using applicable U.S. Environmental Protection Agency (EPA) methods in SW-846, third edition (EPA, 1986), EPA Methods for Chemical Analysis of Water and Wastes (MCAWW) (EPA, 1983), and Standard Methods (SM) for Examination of Water and Wastewater, eighteenth edition (American Public Health Association, et. al., 1992).

5.2 LABORATORY QA/QC PROCEDURES AND RESULTS

Results of SCS's QA/QC reviews of the laboratory reports (Appendix C) indicated that 2020 analytical data were acceptable for their intended use (see Appendix D).

Laboratory data and QA/QC procedures were reviewed to determine whether the data met QC requirements, consistent with the procedures outlined in the EMP. TestAmerica incorporated its laboratory data quality review comments in the QA/QC case narrative included with each final laboratory report.

Cation-anion balance results for groundwater and LMS samples collected in 2020 are summarized in Table 5-4. Cation-anion balances in groundwater samples collected in 2020 were below the QC guidance level of variability of plus or minus 10 percent. Consistent with the SWDP and the EMP, TestAmerica performed a library search for tentatively identified compounds (TICs) during the Method 8260 VOC scan. The TICs are presented in the laboratory reports.

[2] A copy of TestAmerica's Oregon Environmental Laboratory Accreditation Program (ORELAP) certification is provided in Appendix C.

6.0 MONITORING RESULTS AND DATA EVALUATION

6.1 GROUNDWATER ELEVATIONS

The 2020 groundwater elevation data and flow directions were consistent with historical data (and interpretations) reported in previous AEMRs submitted to DEQ. Historical depth-to-groundwater measurements and groundwater elevation data, including data collected in 2020, are provided in Appendix A (see Table A-1); hydrographs for each well are also provided in Appendix A. The groundwater elevations were plotted on the site map and contoured to depict the groundwater potentiometric surface of the shallow and deep WBZs (see Figures 6-1 through 6-4).

6.1.1 Shallow (Silt-Clay) WBZ

The 2020 shallow WBZ groundwater potentiometric elevation and gradient data were consistent with historical data and showed the following:

- The groundwater flow direction in the shallow WBZ was generally south to southeast, toward the South Yamhill River (see Figures 6-1 and 6-3).
- Groundwater elevations measured in the western and southwestern portion of the site showed that (1) the groundwater flow was more towards the east-southeast (see Figures 6-1 and 6-3), and (2) both the flow direction and hydraulic gradient are influenced by the South Yamhill River.
- The groundwater elevations measured in piezometer P-07A are typically higher than elevations measured in nearby monitoring wells and piezometers in the Spring resulting in a localized groundwater elevation high centered around this piezometer (see Figures 6-1).
- Horizontal hydraulic gradients in the shallow WBZ in 2020 ranged from approximately 0.010 to 0.05 ft/ft, which were consistent with historical results. The highest horizontal gradients occurred in the southwest section of the site between MW-19A and the South Yamhill River.

6.1.2 Deep (Sand-Gravel) WBZ

The 2020 deep WBZ groundwater potentiometric elevation and gradient data were consistent with historical data and showed the following:

- In most areas of RL, groundwater in the deep WBZ flowed generally south to more southeasterly in the eastern portion of the site (see Figures 6-2 and 6-4). The flow direction was more southerly as groundwater approaches the South Yamhill River in the area of wells MW-12B, MW-14B, MW-15B, MW-22B, and MW-23B.
- Horizontal hydraulic gradients in the deep WBZ in 2020 ranged from 0.006 to 0.01 ft/ft. Typically, the gradient is steeper in the southwestern portion of the site where the deep WBZ is thinner.

6.1.3 Vertical Hydraulic Gradients

Trends in groundwater elevations between the shallow and deep WBZs (exhibited by adjacent piezometers and monitoring well pairs) are generally similar, with periods of high and low elevations in both WBZs occurring at the same time of the year. Based on semiannual monitoring data, the highest water levels in the shallow and deep WBZs typically occur during the Spring event, while the lowest elevations occur during the Fall event. The fluctuations are directly influenced by precipitation. Although seasonal trends are similar in the two WBZs, the magnitudes of the water-level fluctuations are variable indicating a low degree of hydraulic connection between the shallow and deep WBZs.

The 2020 monitoring well pair groundwater elevation data (for 14 of the 17 well pairs) typically show higher water levels in the shallow WBZ than those in the deep WBZ, indicating downward vertical hydraulic gradients (see Table 6-1). For monitoring well pairs MW-9A/BR and MW-14A/B, the 2020 groundwater elevation data showed upward vertical hydraulic gradients during both monitoring events. Slight upward vertical gradients also occurred during the Spring event in well pairs MW-3A/B and MW-20A/B and during the Fall event at MW-16A/B (see Table 6-1).

6.2 GROUNDWATER ANALYTICAL RESULTS

As addressed in Section 6.2.2, SCS did not identify a significant change in groundwater quality in 2020 at RL's point-of-compliance boundary, as defined in the site's SWDP and EMP.

6.2.1 Evaluation Methods

Analytical results of the 2020 groundwater samples collected from site compliance wells MW-12A/B, MW-14A/B, MW-15A/B, MW-16A/B, and MW-21A/B were evaluated to determine whether a potentially significant change in water quality occurred based on the following criteria, consistent with RL's EMP (SCS, 2014b):

- Detection of one or more VOCs above a practical quantitation limit (PQL), which are permit-specific concentration limits for vinyl chloride and action limits for all other VOCs. Any VOC detected and verified (i.e., confirmed during subsequent resampling) at a concentration above the PQL would be considered a change in groundwater quality.

- Confirmed detections of three or more inorganic (non-hazardous) parameters at concentrations (as verified by resampling if necessary) above their respective statistically-derived site-specific limits (SSLs) in a sample collected from a site compliance well during a routine monitoring event. Well-specific SSLs for total organic carbon (TOC), total dissolved solids (TDS), bicarbonate (HCO_3), chloride (Cl), sulfate (SO_4), Mg, dissolved potassium (K), and dissolved sodium (Na) are specified in the EMP (SCS, 2014b) and summarized in Table 6-2.

Additionally, statistical trend analysis was performed on 2020 and historical inorganic parameter data using the Sen's Test method and DUMPStat® computer software. The analysis was conducted on data collected from compliance wells MW-12A/B, MW-14A/B, MW-15A/B, MW-16A/B, and MW--21A/B and detection wells/piezometers MW-5A, MW-19A, MW-20A, MW-20B, MW-22A, P-05A, P-06A, and P-07A. Statistically significant concentration trends in groundwater collected from these site compliance and detection wells using the 2020 and historical data set are summarized in Table 6-3, and trend graphs are provided in Appendix E. As noted previously, RLC will submit updated statistically-derived groundwater concentration limits to the DEQ in 2021.

6.2.2 Compliance Well Groundwater Samples Analytical Results

SCS did not identify a significant change in groundwater quality in 2020 at RL's point-of-compliance boundary, as defined in the site's SWDP and EMP. Analytical results supporting this conclusion include the following:

- No VOCs were detected in groundwater samples collected from site compliance wells, consistent with historical results.
- Three or more inorganic parameters were not detected at concentrations above their respective SSLs in site compliance wells during a single semiannual monitoring event (see Table 6-2).

Other notable results based on evaluation of analytical data for compliance well groundwater samples collected in 2020 include the following:

- Individual parameters detected at a concentration above its SSL were Na in MW-12A, HCO_3 in MW-14A and MW-16B, and TDS in MW-15A groundwater samples collected in Spring 2020, as well as Mg in MW-12A, TDS in MW-15A, and HCO_3 in MW-16B groundwater samples collected in Fall 2020 (see Table 6-2). These results do not meet the criteria for a potentially significant change in groundwater quality, as described in Section 6.2.1.
- Statistical trend analysis results of 2020 and historical compliance groundwater analytical data were consistent with previous results except for seven new significantly decreasing trends (see Table 6-3 and time-concentration graphs provided in Appendix E).
- No order-of-magnitude increases in parameter concentrations or anomalous data were identified in compliance groundwater analytical data, as shown in time-concentration graphs provided in Appendix E.
- Field water quality parameter values were generally consistent with historical values and trends (see Appendix A, Table A-2). The field-measured pH values were below the secondary standard range of 6.5 to 8.5 standard units (S.U.) in groundwater samples collected during Fall 2020 sampling event from wells MW-12A, MW-14A, MW-15A, MW-16A, and MW-21A. Groundwater collected from site monitoring wells (and piezometers) screened in the shallow (silt-clay) WBZ has been shown to have an intrinsic pH that is often below 6.5 S.U. (USA Waste, Inc., 1997). DEQ has agreed with this conclusion (DEQ, 1998).
- Dissolved iron (Fe), dissolved Mn, and TDS were detected at concentrations above their secondary groundwater quality standards (i.e., per Oregon numerical groundwater quality guidance levels [NGQGLs]) of 0.3, 0.05, and 500 mg/L, respectively, in groundwater samples collected from the site compliance wells listed below, consistent with previous results:
    - Fe in MW-12B, MW-14B, and MW-21B.

- Mn in MW-12A, MW-12B, MW-14B, MW-15B, MW-16A, MW-16B, , and MW-21B.
- TDS in MW-12B, MW-15A, and MW-16B.

The Fe and Mn concentrations that were above the NGQGLs were consistent with historical concentrations (see Appendix E) previously reported to the DEQ. The results of an IPA conducted in 2001 concluded that the elevated Fe and Mn concentrations in groundwater samples were attributable to natural variation in groundwater chemistry and reflective of background groundwater conditions (HWA Geosciences, Inc., 2001). This conclusion is further supported by Fe and Mn analytical results from upgradient monitoring wells sampled as part of the 5-year comprehensive monitoring event last performed in 2018 that showed levels above the NGQGLs (SCS, 2018).

6.2.3 Analytical Results for Detection Well Groundwater Samples

6.2.3.1 Detection Monitoring Wells MW-5A/MW-5B

Detection monitoring wells are not part of the compliance monitoring network and are sampled to track groundwater quality or to monitor historical detections that are not a component of the current compliance monitoring network. Low concentrations of three VOCs (chlorobenzene, 1,4-dichlorobenzene, and cis-1,2-dichloroethene) were detected in samples collected in 2020 from MW-5A at concentrations that were consistent with recent results (see Table 6-4). VOCs were not detected in groundwater samples collected from detection well MW-5B (located adjacent to MW-5A and screened in the deep WBZ) in 2020, or in groundwater collected from compliance monitoring wells located hydraulically downgradient of MW-5A, including MW-12A.

Results of a remedial investigation performed in 1993 (EMCON, 1993) demonstrated that LFG is the source of VOCs impacting shallow groundwater in the MW-5A area. The number and concentrations of VOCs originally detected in MW-5A groundwater have significantly decreased since the early 1990s (see Table 6-4 and Figure 6-5). These trends indicate that the GCCS continues to be effective at (1) reducing VOC concentrations in shallow groundwater near MW-5A and (2) mitigating lateral migration of VOCs, as noted by DEQ (DEQ, 2001).

6.2.3.2 Poplar Tree Farm Detection Wells and Piezometers

Sample analytical results in 2020 for detection wells MW-19A and MW-20A, located downgradient of the south and north poplar tree farm areas, respectively, continue to show that suspension of leachate irrigation in the poplar tree farm areas in 2013 has had positive effects on MW-19A and MW-20A water quality. Recent results that support this conclusion include stabilized or decreasing concentrations for (1) Ca, Cl, Mg, Na, SO_4 and TDS in MW-19A groundwater and (2) Ca, Cl, Mg, Mn, Na, TDS, and TOC in MW-20A groundwater.[3]

Consistent with the EMP, SCS evaluated analytical results for groundwater samples from detection monitoring wells by reviewing 2020 data for order-of-magnitude increases over historical results using Sen's statistical trend analysis.

[3] Although recent data for these parameters in MW-19A and MW-20A groundwater show stabilized or decreasing concentrations, statistical trend analysis (Sen's Test) of the entire historical data set (2001 through 2020) continues to identify these parameters as statistically significant increasing trends.

Notable results based on evaluation of the analytical data for groundwater samples collected in 2020 (and historically) from detection wells MW-19A, MW-20A, and MW-20B and piezometers P-05A, P-06A, and P-07A installed to monitor the poplar tree farm areas include the following:

- No VOCs were detected in detection wells MW-19A, MW-20A, and MW-20B.[4]
- No order-of-magnitude increase in parameter concentrations or anomalous data were identified (see time-concentration graphs provided in Appendix E).
- Statistical trend analysis results were generally consistent with previous results (see Table 6--3 and time-concentration graphs provided in Appendix E), except for a statistically significant increasing trend for Ca in P-06A groundwater. The dissolved Ca concentration detected in 2020 in P-06A groundwater is only slightly above previous results.
- Consistent with historical results previously reported to DEQ, Fe, Mn, and TDS (November only) were detected at concentrations above their NGQGLs of 0.3, 0.05, and 500 mg/L, respectively, in MW-20A groundwater samples collected in 2020. It should be noted that Cl concentrations in MW-20A groundwater continued to decrease and were below the NGQGL of 250 mg/L in 2020.
- Fe and/or Mn were detected at concentrations above their NGQGLs of 0.3 and 0.05 mg/L, respectively, in MW-19A, MW-20B, P-05A, and P-06A groundwater samples collected in 2020, consistent with historical results previously reported to DEQ.
- TDS was detected at a concentration above the NGQGL of 500 mg/L in P-05A groundwater sample collected in 2020.

As part of a continued evaluation of the groundwater quality near MW-20A, RL continues to monitor piezometer P-07A, located approximately 300 feet south of MW-20A. Laboratory results of groundwater samples collected from P-07A in 2020 (and since 2012 when this well was installed) indicate that Cl concentrations were considerably lower than recent Cl concentrations detected in MW-20A groundwater. Additionally, none of the other statistically significant increasing concentration trends identified in MW-20A groundwater were identified in P-07A groundwater, consistent with previous results (see Table 6-3).

6.2.3.3 Geochemical Diagrams for Compliance and Detection Well Samples

Ionic chemistries of groundwater samples collected in 2020 are generally consistent with historical results. Piper (trilinear) and Stiff diagrams showing the relative concentrations of common cations and anions in groundwater samples collected in 2020 and historically from site compliance and detection wells are provided in Appendix F.

[4] VOCs are not required by the site's EMP to be analyzed in piezometer P-05A, P-06A, and P-07A groundwater samples.

6.3 SURFACE WATER ANALYTICAL RESULTS

Analytical results of South Yamhill River 2020 surface water samples showed uniformity in concentrations of water quality parameters in samples collected both upstream and downstream of RL, including the sample collected downgradient of MW-12A (SYR MW-12A). Field water quality parameters and laboratory analytical results of inorganic parameters in surface water samples collected Spring 2020 are summarized in Tables 6-5 through 6-8.

6.4 LANDFILL GAS MONITORING RESULTS

LFG monitoring of the perimeter (compliance) LFG probes (CGP-09R, CGP-10R, CGP-11, CGP-12, CGP-13, and CGP-14) did not detect methane at or above the compliance level of 5 percent (%) (i.e., lower explosive limit [LEL] of methane) in 2020.

Historical (since 1997) and 2020 monitoring data for compliance boundary LFG probe and facility structures are summarized in Table 6-9.

Low levels of methane above the GEM detection limit of 0.1 % were detected in perimeter (compliance) LFG probe CGP-09R during the first and second quarters at 1.2% and 0.5%, respectively. Both results were below the 5% methane criteria for compliance probes and therefore no regulatory response action was required (see Section 5.1.2 of LFG Monitoring Plan, Appendix B of the EMP). Methane was not detected at or above the GEM detection limit of 0.1% in the subsequent third and fourth 2020 monitoring events.

Methane was not detected at or above the GEM detection limit of 0.1 percent in the facility structures (office, scale building, maintenance building, operations building, and landfill gas to energy building) in 2020, which is below the. 1.25% (i.e., 25% of the LEL of methane) compliance level for structures.

7.0 OPERATIONAL AND PERFORMANCE MONITORING RESULTS OF LEACHATE MANAGEMENT SYSTEMS

This section presents operational and performance monitoring results for RL's LMS to meet the requirements of SWDP Sections 17.5 and 17.6 for submitting an annual leachate treatment report.

7.1 OPERATION AND MAINTENANCE OF LEACHATE MANAGEMENT SYSTEMS

Other than routine operations and maintenance of RL's LMS, no performance issues were identified in 2020 by RLC staff. A discussion of the maintenance and operations are provided below.

7.1.1 LMS Maintenance

The following includes notable maintenance activities completed to the LMS in 2020:

January

- Condensate 6 pump cleaning and maintenance performed
- Condensate 2 pump cleaning and maintenance performed
- Module 9 flow meter maintenance
- Condensate 5 flow meter maintenance
- Module 5 sump pump replacement
- Condensate 6 flow meter replacement
- Repair power supply to Condensate sumps 1, 2 & 7

February

- Install flow meter display panel at Module 9

March

- Flow meter replacement at leachate loadout

April

- Flow meter replacement at Module 9
- Flushing of leachate force mains around landfill

MAY

- Module 9 pump replacement and cleaning
- Module 9 secondary pump maintenance

June

- Module 8 pump cleaning and maintenance performed
- Module 4/5P sump pumping system cleaning and maintenance performed

July

- Module 8 wiring troubleshooting; fuses replaced.
- Troubleshooting and replacement of leachate loadout shutoff switch

August

- Troubleshoot Condensate 4 sump pump power supply

September

- Troubleshoot intake pump at Leachate pond load out
- Pulled and cleaned Condensate 4 sump pump
- Realigned French drain leachate sump connection into Module 9

October

- New sump pump installed near Module 9
- Troubleshoot leachate aerator power supply
- Maintenance performed on leachate pump

November

- Performed maintenance on Module 4/5 pump
- Module 8 pump cleaning and maintenance performed
- Replacement of transducer in Module 8
- Replacement of transducer and cord in Module 9
- Installed new leachate loadout pump system.

December

- Troubleshoot power loss at Condensate Sump 1
- Troubleshoot and repair Module 8 power loss
- Module 8 pump cleaning and maintenance performed
- Module 9A pump maintenance and biomass treatment and removal

7.1.2 LMS Operations

Leachate head on liner is continuously monitored in all sumps. Levels above the 12-inches threshold occurred intermittently in 2020 due to short-term operational issues of the LCRS pumping systems at Module 4/5, Module 6/7, Module 8 and Module 9 as follows. All instances the 12-inch threshold events were reported in a timely manner and each system was put back into service once the repairs were completed:

- **January:** Module 9 levels reported a 12-inches threshold event in LCRS Sump 9P from January 18, 2020 through January 21, 2020 while parts were replaced and repairs made. This occurrence was caused by a faulty flow meter.
- **June**: Module 9 had an apparent 12-inches threshold event on June 2, 2020. The SCADA system began sending notifications to the RL operations personnel of a 12-inches threshold event in LCRS Sump 9P; upon further investigation, both pumps were running. The event was cleared approximately 2 hours later. Based on troubleshooting measures, it was determined

the transducer readings were faulty and sending incorrect information to the SCADA system and pumps. On that basis, the event appears to have been reported in error.

- **June:** The Module 8 LCRS Sump 8P reported a 12-inches threshold event for 15 minutes on June 11, 2020. This event was caused by a circuit breaker switching power off to the primary sump pump. The SCADA system high-level alarm notified operations staff and they were able to resupply power and bring the system into full operation.
- **June:** Module 8 reported a 12-inches threshold event on June 19, 2020. This occurrence was caused by a circuit breaker switching power off to the LCRS Sump 8P pump. The SCADA system high-level alarm notified operations and they were able to resupply power shortly after the event. A new breaker was installed to resolve the reoccurring breaker failure.
- **June:** Module 4/5 Sump reported a 12-inches threshold event on June 23. This level was caused by damaged wiring that powers the primary sump pump. The SCADA system high level alarm notified operations and the wiring was repaired and resupply power within approximately 1 hours after the occurrence.
- **September**: The Module 6/7 primary sump (LCRS Sump 6/7P) level reported a 12-inches threshold event on September 4, 2020. Site operations team were re-routing pipe that leads to the leachate pond and had to shut down the LCRS Sump 6/7P pump until the pipe could be reconnected. The LCRS Sump 6/7P pump was returned to service and the sump level decreased to the normal operating level.
- **October:** Annual hydro jetting of the leachate main required that several of the primary sump pumps be temporarily turned off, resulting in short-term leachate build-up. During the maintenance event on October 9, 12-inches threshold events were reported in sumps 6/7, 8 and 9:
- **November:** Two occurrences on November 5 as a result of electrical system servicing of LCRS Sump 9P and ongoing pump failures at Module 4/5 LCRS Sump 1/5P. In the case of Module 9, the SCADA system reported a 12-inches threshold event, at which time the site operations team re-energized the pump at the switch and brought levels back down to operational levels. The primary pump power was inadvertently left off at the panel after electrical maintenance was performed on the LDS Sump 9S pump, resulting in the short-term >12" event.

  For Module 4/5, reported >12-inchesthreshold event on November 5 due to a pump failure in LCRS Sump 1/5P. An alternate pump was located to temporarily replace the Sump 1/5P existing pump and levels were brought back to operational. subsequently the replacement pump failed and the sump reported a >12-inches event on November 6 a replacement pump was installed for the failed backup system and the system was brought back into full operation.

- **November:** LCRS Sump 8P reported a 12-inches threshold event on November 14, 2020, the LCRS Sump 8P pump failed due to loss of power. The pump and wiring were inspected on the following day and it was determined that a faulty cord was the source of power loss. The power cord was replaced on November 16 and the system was restored to normal operating conditions.
- **November:** Site operational staff pulled the LCRS Sump 9P transducer on November 10, 2020 and the LCRS Sump 8P transducer on November 19, 2020 due to faulty readings. Sump 8P was recording the maximum high reading of 83.1 inches indicating a transducer

failure. For Sump 9P, a reading of zero inches was recorded, site operational staff determined that both of the transducer readings were not representative of the actual leachate levels and replaced both units. During the period when the transducers were removed and replaced the pumps for Sump 8P and Sump 9P out of an abundance of caution were connected to temporary timers that turned the pumps on and off to remove accumulated leachate to maintain levels within normal operations while replacement transducers were acquired. The new transducers were installed, and the systems returned to normal operation.

7.2 LCRS AND LDS PUMPING SYSTEM PERFORMANCE RESULTS

7.2.1 LCRS and LDS Pumping Volumes

Monthly and annual leachate and LDS liquid pumping volume data for 2020 are summarized in Table 7-1. Notable results include the following:

- Total volume of leachate collected by RL's LMS was 11.34 million gallons, which is similar to 2019 (10.53 million gallons and shows a notable decrease relative to the total volumes in 2018 (16.36 million gallons) and 2017 (23.48 million gallons)

- Monthly leachate pumping volumes from RL's combined LCRSs ranged from 3,505,290 gallons in January to 429,152 gallons in August.

- Total volume of liquid pumped from the LDS sumps was 193,102 gallons. Total volume from the leachate pond LDS sump was 1,693 gallons. The 2020 leachate pond LDS liquid volume pumped continues to show a significant reduction in volume compared to pre-2018 volumes The decrease in liquids pumped from the leachate pond LDS is a result of the repair made to the primary geomembrane liner in September/October 2017 (SCS, 2018).

In terms of gallons-per-acre-per-day (gal/acre/day), approximate quantities of liquid generated in 2020 from LDSs for Modules 6/7 (2.2 to 4.6 gal/acre/day) and Module 8 (1.9 to 7.8 gal/acre/day) are consistently low. Variability in Module 9 LDS has stabilized and is similar to Module 6/7 and 8 (less than 0 to 37.7 gal/acre/day). For the Modules 4/5 LDS, the data shows variability of inflows ranging from 10.5 to 35.3 gal/acre/day in 2020, which is lower inflow rate than observed in previous years.

Data from LDSs indicates influence from seasonality, with relatively higher flows coinciding with seasonal high groundwater levels in the late fall/winter and spring, and relatively lower flows during low groundwater conditions in the summer. As discussed further in Section 7.3, these results further support the historical conclusion that liquids detected in and pumped from RL's landfill LDSs are associated with groundwater intrusion and not leakage through the primary landfill liner system.

7.2.2 Leachate Management

Site leachate generated at RL in 2020 was managed by collection, storage, evaporation, and truck-haul to offsite, permitted wastewater treatment facilities. The poplar tree farms have been irrigated exclusively by precipitation since 2013. The truck haul program removed approximately 12.51 million gallons of leachate from the site in 2020, which included liquids collected from RL's GCCS.

7.3 LCRS LEACHATE AND LANDFILL LDS LIQUID ANALYTICAL RESULTS

Based on the 2020 liquid pumping data, the limited volume of liquids observed in and pumped from RL's secondary LDS sumps (compared to leachate volumes) are not attributed to potential leachate leakage through the primary liner systems

Time-concentrations graphs presenting the 2020 and historical analytical results for LCRS and LDS samples are provided in Appendix E. Notable results based on evaluation of the LCRS and LDS analytical data are described below:

- No VOCs were detected in liquid samples collected from LDS Sumps 4/5S and 8S (see Table 7-2).
- Low-level concentrations of VOCs (benzene and naphthalene) were detected in LDS Sump 6/7S liquid samples, consistent with previous results that have shown sporadic low-level detections of these VOCs (see Table 7-2). It should be noted that liquids that accumulate in the LDS Sump 6/7S are effectively contained and pumped into RL's primary LCRS. As such, these sporadic detections have not influenced groundwater quality as no VOCs have been detected downgradient of Modules 6/7 at compliance monitoring well pair MW-16A/B.
- Only low-level concentrations of benzene and toluene were detected in the Spring 2020 LDS Sump 9S liquid sample. This is a marked decrease from the 11 VOCs detected in 2019. Given that liquids in the LDS Sump 9S sumps are effectively contained and pumped into RL's primary LCRS, these detections have not influenced groundwater quality as no VOCs have been detected downgradient of Module 9 at compliance monitoring well pair MW-21A/B.
- Consistent with historical results, VOCs detected in one or more of the leachate samples collected from the Modules 1/5P, 6/7P, 8P, and 9P included acetone, benzene, MEK, ethylbenzene, toluene, trichloroethene, vinyl chloride, total xylenes, 1,2,4 trimethylbenzene, 1,3,5-trimethylbenzene, 1,4-dichlorobenzene, cis 1,2-dichloroethene, isopropylbenzene, 4-isopropyltoluene, naphthalene, and 4-methyl-2-pentanone (see Table 7-2).
- Ionic chemistries of leachate samples collected from Module 1/5P, 6/7P, 8P, and 9P LCRS sumps were different to varying degrees than the ionic chemistries of liquid samples collected from their associated LDS sumps (see Piper [trilinear] and Stiff diagrams provided in Appendix F). The most pronounced difference was between ionic chemistries of leachate and LDS samples collected from Module 1/5P and 4/5S.
- In general, leachate samples collected from the LCRS sumps are characterized by significantly higher relative concentrations of Cl and Na composition and higher TDS relative to corresponding LDS samples.

Based on the 2020 liquid pumping data, the limited volume of liquids observed in and pumped from RL's secondary LDS sumps (compared to leachate volumes) are not attributed to potential leachate leakage through the primary liner systems. Instead, these liquids are likely a result from inward gradients from the underlying groundwater, i.e., limited quantities of groundwater that enter the

LDSs and are removed by pumping, as noted in Section 7.2.1. Analytical results supporting this finding include the following:

- Geochemical compositions of liquid samples collected from the LDS sumps are either very similar to or closely aligned with the chemistry of groundwater samples collected from the shallow WBZ compliance monitoring wells (see Figure 7-1).

- The VOC signature of leachate samples collected from the LCRS sumps were distinctively different than liquid samples collected during the same monitoring event from the LDS sumps associated with the same landfill modules. Also notable is that no VOCs were detected in liquid samples collected from LDS Sumps 4/5S and 8S.

- Inorganic chemistries of leachate and LDS liquid samples are different. Leachate impacts to LDS liquids would be expected to affect the inorganic chemistry of LDS liquids, such that there would be a close correlation in inorganic chemistries.

7.4 LEACHATE POND AND LDS LIQUID ANALYTICAL RESULTS

Comparison of 2020 and past groundwater, leachate pond, and leachate pond LDS analytical results indicates that liquids in the pond LDS are being effectively contained and removed, and that these liquids have not affected groundwater quality in the area near the leachate pond.

Laboratory reports for liquid samples collected from the leachate pond in 2020 are provided in Appendix C. Time-concentration graphs presenting the 2020 and historical analytical results for the leachate pond and LDS samples are provided in Appendix E.

The volume of liquid pumped from the leachate pond LDS in 2020 decreased significantly compared to previous years (66,137 gallons in 2017) before the 2017 liner repair was completed. This liner repair was documented in the construction quality assurance report *Geosyntec, 2018, Leachate Pond – Additional Geomembrane CQA, Riverbend Landfill, McMinnville, Oregon, prepared for Waste Management, Portland, Oregon, by Geosyntec, February 26, 2018*. Liquid sampling of the pond LDS sump continues to track the effectiveness of the 2017 liner repair.

Notable results based on an evaluation of the 2020 leachate pond and LDS sump analytical data include the following:

- Concentrations of acetone and MEK were detected in the leachate pond only during the Spring event (see Table 7-2). Acetone, which have historically been observed in the leachate pond results, was absent during the Fall 2020 event and only MEK was observed to be present.

- The ionic chemistries of leachate pond samples collected in 2020 were similar to previous results (see Piper diagram provided in Appendix F). Samples are characterized by significantly higher concentrations of sodium and HCO_3 relative to other ionic species.

- Leachate pond LDS liquid samples collected in 2020 have lower concentrations of anions and cations relative to leachate pond samples, except for sulfate and nitrate-nitrite (as N) (see Appendix E). The increase in sulfate content in the leachate pond LDS liquid samples during 2020 has shifted the major anion composition of the water resulting in a hydrochemical facies change from bicarbonate type to a mixed type water, which is different than the leachate pond samples (see Appendix F).

- VOCs (acetone, MEK and methylene chloride) were observed in the Fall 2020 leachate pond LDS liquid. These VOCs were either not detected or detected at a lower concentration in the corresponding leachate pond sample, which suggests a source other than leachate for these detections (e.g., maintenance activities related to the LDS sump and pumping system). It should be noted that these VOCs were absent in the Spring 2020 LDS sump sample.

Comparison of 2020 and past groundwater, leachate pond, and leachate pond LDS analytical results indicates that liquids in the pond LDS are being effectively contained and removed, and that these liquids have not affected groundwater quality in the area near the leachate pond. Analytical results of groundwater samples collected from monitoring wells in the vicinity of the leachate pond (i.e., wells MW-14A/B and MW-21A/B,, and MW-22A) did not show any changes in groundwater quality in 2020. Additionally, geochemical evaluation of groundwater analytical results for samples collected from these wells did not indicate any potential mixing of groundwater with leachate pond liquid (e.g., Cl enrichment) (see Figure 7-2).

8.0 RECOMMENDED MODIFICATIONS

Groundwater monitoring program modifications proposed for 2021 includes updating the background data set and re-calculating the intra-well prediction limits outlined in the Addendum No. 5 of the SDWP (DEQ, 2014). The background data set and the prediction limits for the site's compliance monitoring wells will be updated in 2021 using additional background water quality data The revised prediction limits will improve the statistical power of the groundwater monitoring program by decreasing data variance and the false-negative error rate. RLC will submit the revised prediction limits with additional proposed modifications to optimize the environmental monitoring program at RL.

As discussed in a technical meeting with the DEQ on July 8, 2020, RL plans to update the statistically-derived concentration limits for compliance groundwater wells and propose modifications to the EMP. The updated concentration limits and proposed modifications to the EMP will be submitted to the DEQ in 2021.

9.0 REFERENCES

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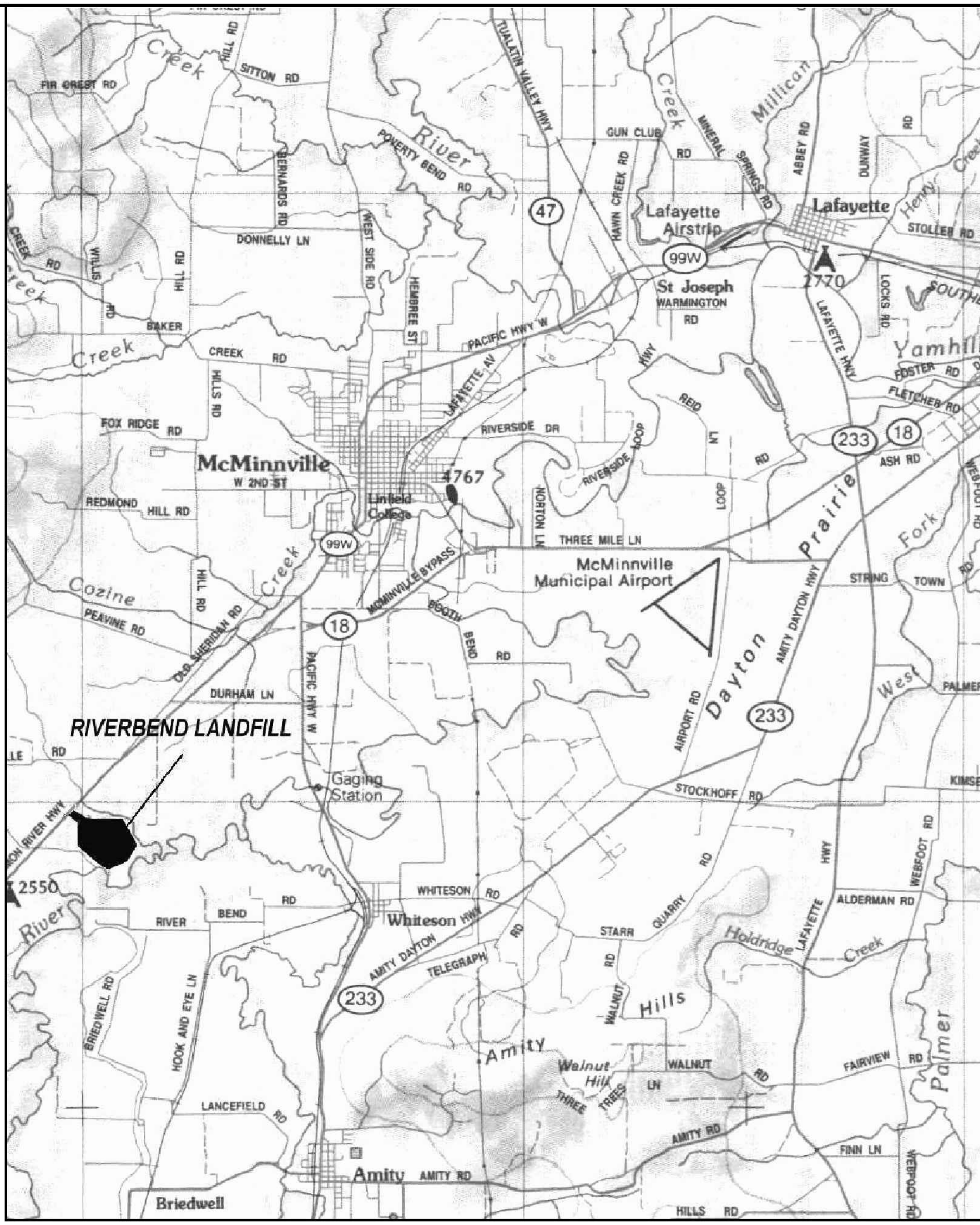
FIGURES



Basemap from Oregon Atlas and Gazetteer (DeLorme)

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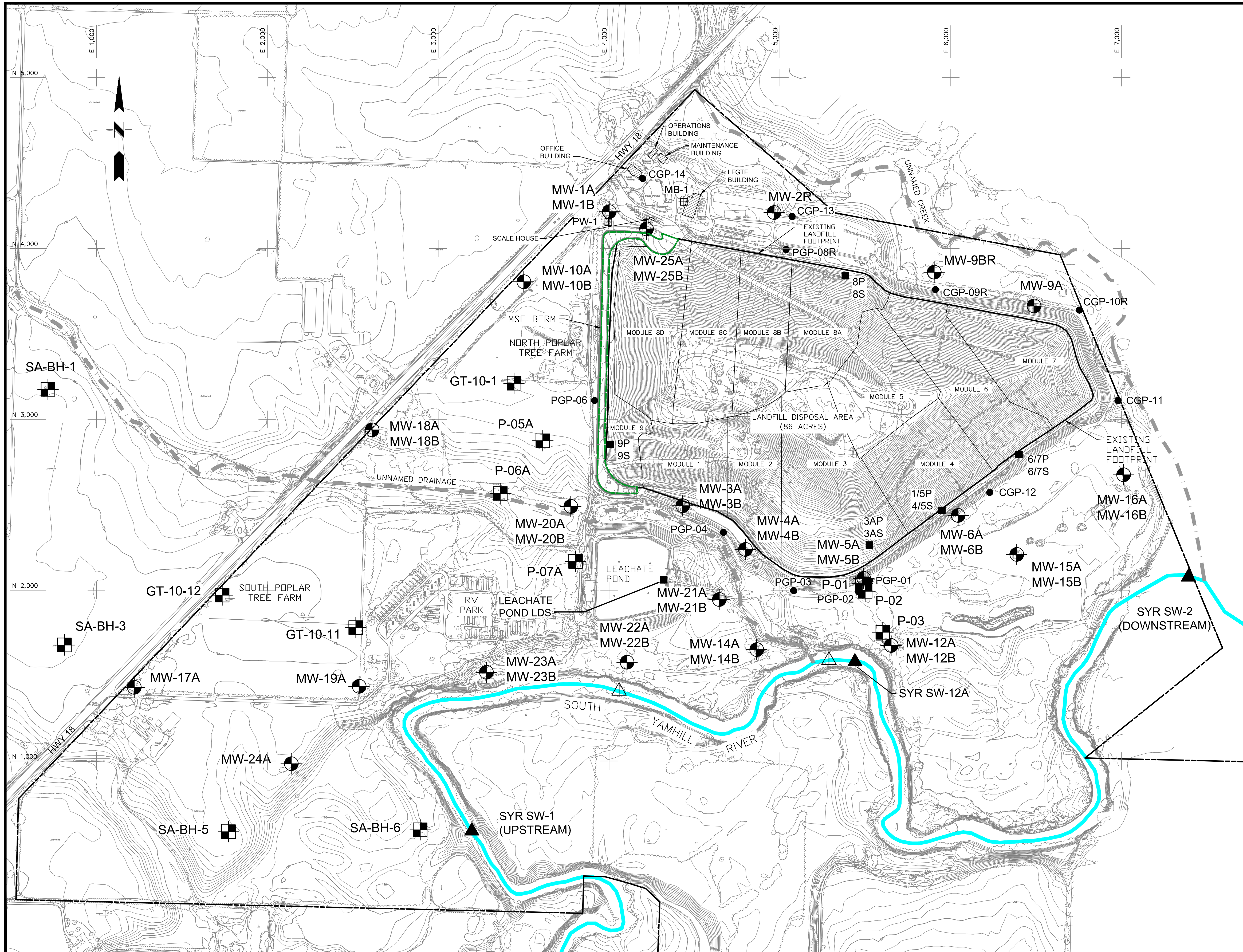
MILES

WASTE MANAGEMENT

SCS ENGINEERS Environmental Consultants and Contractors 15940 S.W. 72nd Avenue Portland, Oregon 97224 (503) 639-9201 FAX: (503) 684-6948	PROJECT NO. 04208022.21 SCALE AS SHOWN CAD FILE FIGURE 1-1	DES BY C.P. CHK BY B.L. APP BY C.A.	SITE LOCATION MAP RIVERBEND LANDFILL McMINNVILLE, OREGON	DATE APRIL 2021 FIGURE 1-1



LEGEND:

	Topographic Contours (Surveyed)
	Topographic Contours (USGS)
	Property Boundary
	Flow Line - Yamhill River
	Flow Line - Tributary Stream
MW-19A	Groundwater Monitoring Well
P-05A	Piezometer
PW-1	On-Site Water Well
CGP-11	Compliance Landfill Gas Monitoring Probe
PGP-06	Performance Landfill Gas Monitoring Probe
6/7P 6/7S	LCRS and LSCS Monitoring Location
SYR SW-1	South Yamhill River Sampling Location (Approximate)
	South Yamhill River Gauging Station

SOURCE:

1) Existing contours based on aerial topography provided by Miller Creek Associates, date of photograph January 14, 2021. Contours are based on NAVD 88.

2) Horizontal Datum: Assumed
Iron pipe at scale house = N4000.000 E4000.000
Iron pipe at maintenance building = N2825.685 E4000.000

NOTES:

1) Monitoring wells and piezometers with "A" designation are screened in the shallow (Silt-Clay) water-bearing zone, and monitoring wells and piezometers with "B" designation are screened in the deeper (Sand-Gravel) water-bearing zone.

2) Piezometers with "GT" and "SA-BH" designations are screened in the shallow (Silt-Clay) water-bearing zone.

3) Leachate Collection and Removal System (LCRS) monitoring locations are identified by a "P" designation and Leak Detection System (LDS) monitoring locations are identified with a "S" designation.

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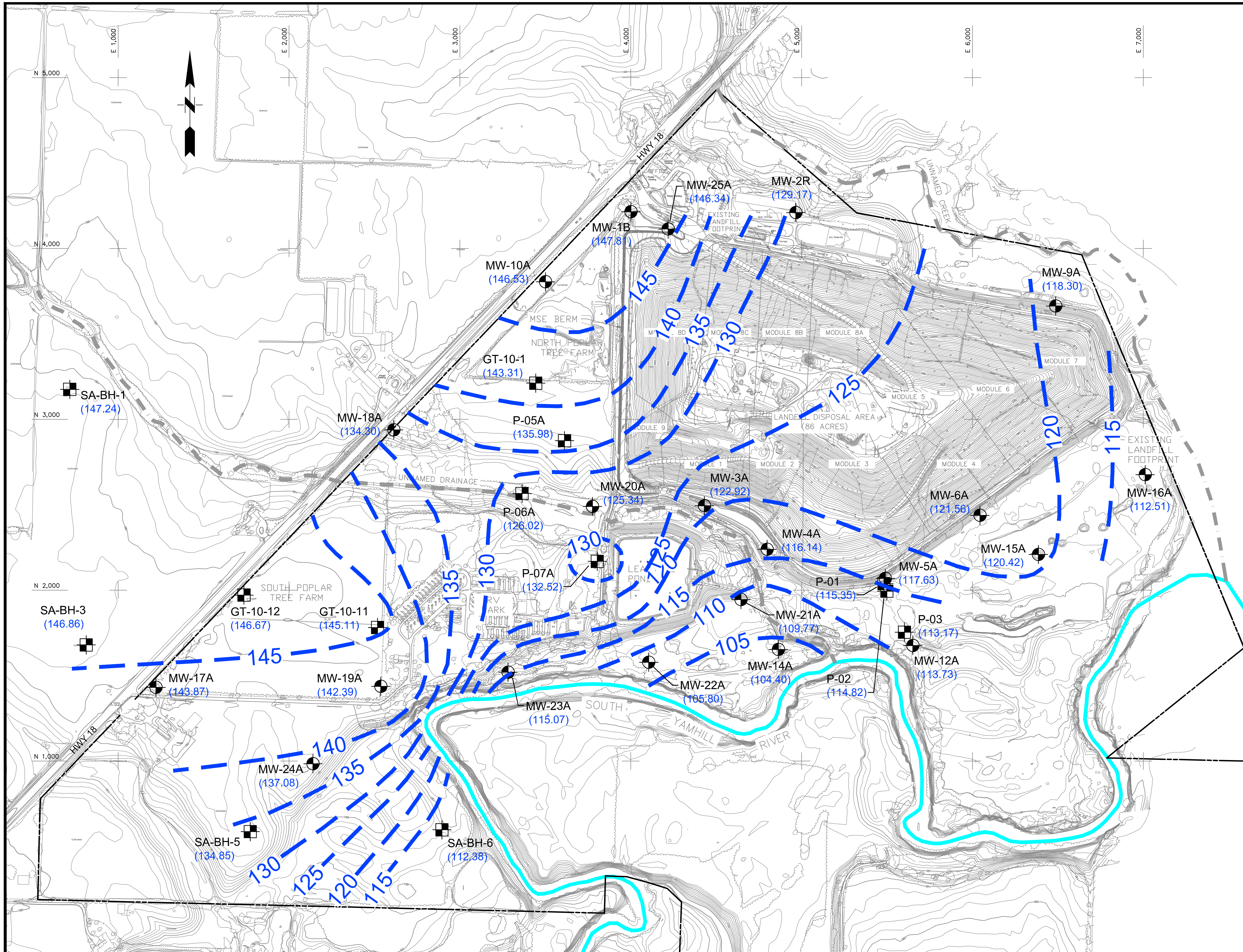
0 600 1200
SCALE IN FEET

PROJECT NO. 04208022.21	DES BY C.P.	SITE PLAN AND MONITORING LOCATIONS	DATE APRIL 2021
SCALE AS SHOWN	CHK BY B.L.	RIVERBEND LANDFILL McMINNVILLE, OREGON	FIGURE 1-2
CAD FILE FIGURE 1-2	APP BY C.A.		



LEGEND:

- Topographic Contours (Surveyed)
- Topographic Contours (USGS)
- Property Boundary
- Flow Line - Yamhill River
- Flow Line - Tributary Stream
- 110 — Potentiometric Surface Contours for shallow water - bearing zone (Feet MSL) Contour Interval = 5 Feet (Quieried where uncertain)
- MW-19A — Groundwater Monitoring Well
- P-05A — Piezometer
- (118.30) — Groundwater Elevation in Feet Above Mean Sea Level on April 20, 2020

SOURCE:

1) Existing contours based on aerial topography provided by Miller Creek Associates, date of photograph January 14, 2021. Contours are based on NAVD 88.
2) Horizontal Datum: Assumed
   Iron pipe at scale house = N4000.000 E4000.000
   Iron pipe at maintenance building = N2825.685 E4000.000

NOTES:

1) Monitoring wells and piezometers with "A" designation are screened in the shallow (Silt-Clay) water-bearing zone, and monitoring wells and piezometers with "B" designation are screened in the deeper (Sand-Gravel) water-bearing zone.
2) Piezometers with "GT" and "SA-BH" designations are screened in the shallow (Silt-Clay) water-bearing zone.

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WM WASTE MANAGEMENT

0 600 1200
SCALE IN FEET

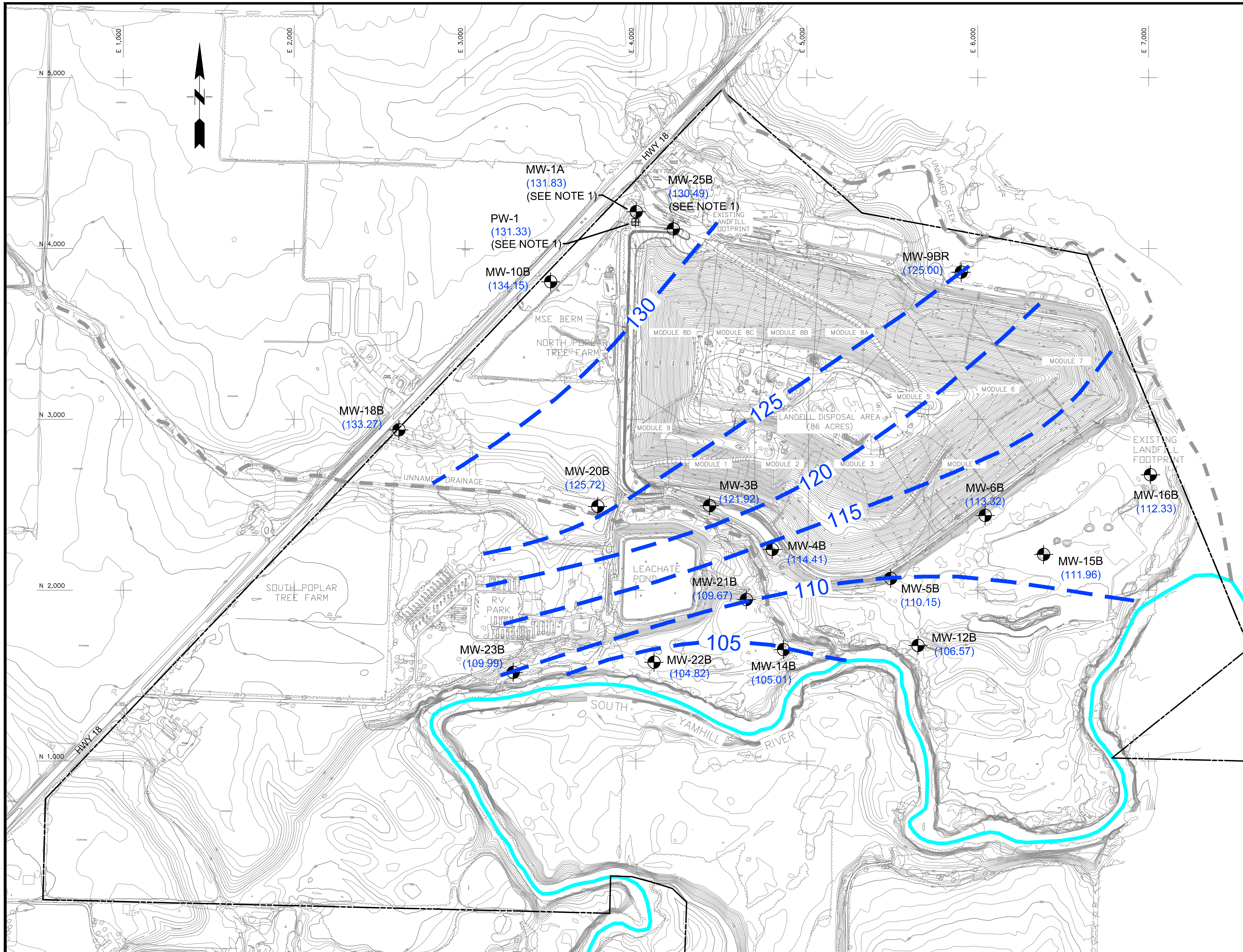
PROJECT NO.	DES BY
04208022.21	C.P.
SCALE: AS SHOWN	CHK BY: B.L.
CAD FILE: FIGURE 6-1	APP BY: C.A.

SHALLOW WATER - BEARING ZONE POTENTIOMETRIC SURFACE CONTOURS (APRIL 20, 2020)

RIVERBEND LANDFILL
McMINNVILLE, OREGON

DATE: APRIL 2021

FIGURE 6-1



LEGEND:

- Topographic Contours (Surveyed)
- Topographic Contours (USGS)
- Property Boundary
- Flow Line - Yamhill River
- Flow Line - Tributary Stream
- 120 — Potentiometric Surface Contours for deep water - bearing zone (Feet MSL) Contour Interval = 5 Feet
- MW-18B — Groundwater Monitoring Well
- PW-1 — On-Site Water Well
- (113.32) — Groundwater Elevation in Feet Above Mean Sea Level on April 20, 2020

SOURCE:

1) Existing contours based on aerial topography provided by Miller Creek Associates, date of photograph January 14, 2021. Contours are based on NAVD 88.

2) Horizontal Datum: Assumed
Iron pipe at scale house = N4000.000 E4000.000
Iron pipe at maintenance building = N2825.685 E4000.000

NOTES:

1) Water level in well is depressed due to periodic pumping of the site production well (PW-1). These wells were not used in the interpretation of potentiometric contours.

2) Monitoring wells and piezometers with "A" designation are screened in the shallow (Silt-Clay) water-bearing zone, and monitoring wells and piezometers with "B" designation are screened in the deeper (Sand-Gravel) water-bearing zone.

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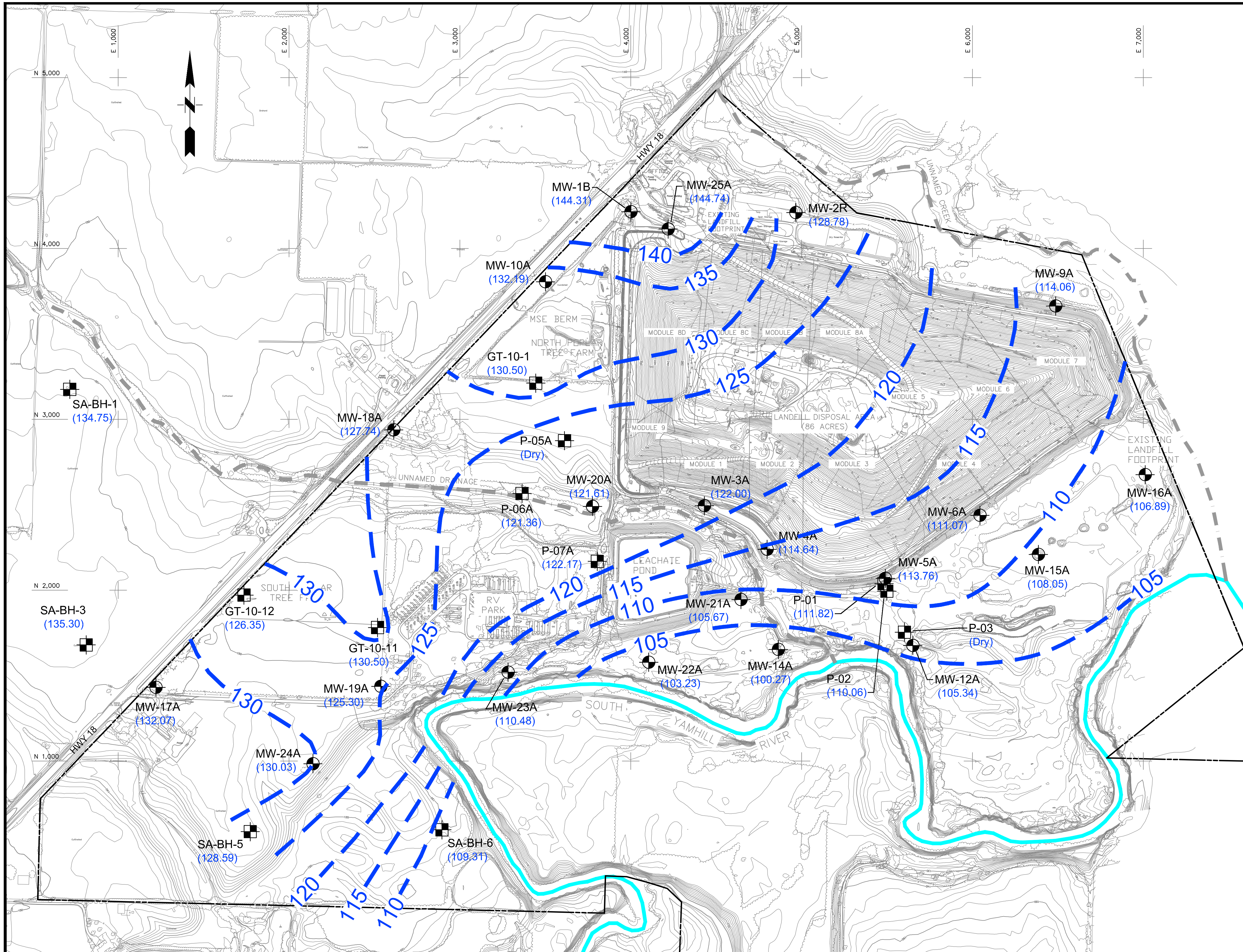
SCALE IN FEET

PROJECT NO. 04208022.21	DES BY C.P.	DEEP WATER - BEARING ZONE POTENTIOMETRIC SURFACE CONTOURS (APRIL 20, 2020)	DATE APRIL 2021
SCALE AS SHOWN	CHK BY B.L.	RIVERBEND LANDFILL McMINNVILLE, OREGON	FIGURE 6-2
CAD FILE FIGURE 6-2	APP BY C.A.		



LEGEND:

- Topographic Contours (Surveyed)
- Topographic Contours (USGS)
- Property Boundary
- Flow Line - Yamhill River
- Flow Line - Tributary Stream
- 120 — Potentiometric Surface Contours for shallow water - bearing zone (Feet MSL) Contour Interval = 5 Feet (Quieried where uncertain)
- MW-19A — Groundwater Monitoring Well
- P-06A — Piezometer
- (114.06) — Groundwater Elevation in Feet Above Mean Sea Level on November 9, 2020

SOURCE:

1) Existing contours based on aerial topography provided by Miller Creek Associates, date of photograph January 14, 2021. Contours are based on NAVD 88.

2) Horizontal Datum: Assumed
Iron pipe at scale house = N4000.000 E4000.000
Iron pipe at maintenance building = N2825.685 E4000.000

NOTES:

1) Monitoring wells and piezometers with "A" designation are screened in the shallow (Silt-Clay) water-bearing zone, and monitoring wells and piezometers with "B" designation are screened in the deeper (Sand-Gravel) water-bearing zone.

2) Piezometers with "GT" and "SA-BH" designations are screened in the shallow (Silt-Clay) water-bearing zone.

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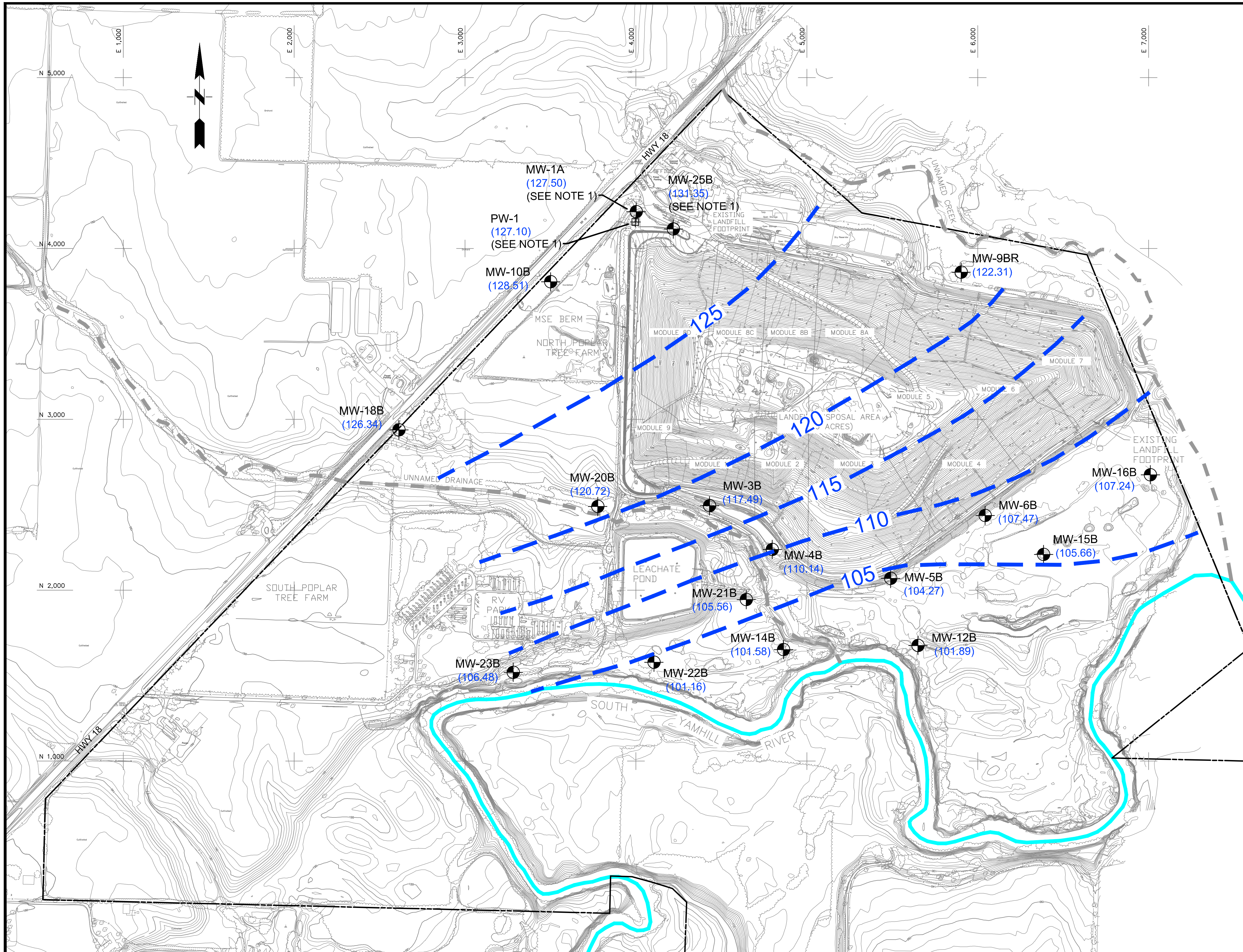
PROJECT NO. 04208022.21	DES BY C.P.	SHALLOW WATER - BEARING ZONE POTENTIOMETRIC SURFACE CONTOURS (NOVEMBER 9, 2020)	DATE APRIL 2021
SCALE AS SHOWN	CHK BY B.L.	RIVERBEND LANDFILL McMINNVILLE, OREGON	FIGURE 6-3
CAD FILE FIGURE 6-3	APP BY C.A.		



LEGEND:

- Topographic Contours (Surveyed)
- Topographic Contours (USGS)
- Property Boundary
- Flow Line - Yamhill River
- Flow Line - Tributary Stream
- 120 — Potentiometric Surface Contours for deep water - bearing zone (Feet MSL) Contour Interval = 5 Feet
- MW-18B — Groundwater Monitoring Well
- PW-1 — On-Site Water Well
- (107.24) — Groundwater Elevation in Feet Above Mean Sea Level on November 9, 2020

SOURCE:

1) Existing contours based on aerial topography provided by Miller Creek Associates, date of photograph January 14, 2021. Contours are based on NAVD 88.

2) Horizontal Datum: Assumed
Iron pipe at scale house = N4000.000 E4000.000
Iron pipe at maintenance building = N2825.685 E4000.000

NOTES:

1) Water level in well is depressed due to periodic pumping of the site production well (PW-1). These wells were not used in the interpretation of potentiometric contours.

2) Monitoring wells and piezometers with "A" designation are screened in the shallow (Silt-Clay) water-bearing zone, and monitoring wells and piezometers with "B" designation are screened in the deeper (Sand-Gravel) water-bearing zone.

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SCALE IN FEET

PROJECT NO. 04208022.21	DES BY C.P.
SCALE AS SHOWN	CHK BY B.L.
CAD FILE FIGURE 6-4	APP BY C.A.

DEEP WATER - BEARING ZONE
POTENTIOMETRIC SURFACE CONTOURS
(NOVEMBER 9, 2020)
RIVERBEND LANDFILL
McMINNVILLE, OREGON

DATE APRIL 2021

FIGURE 6-4

Figure 6-5
Volatile Organic Compounds Detected in MW-5A Groundwater Samples
Riverbend Landfill

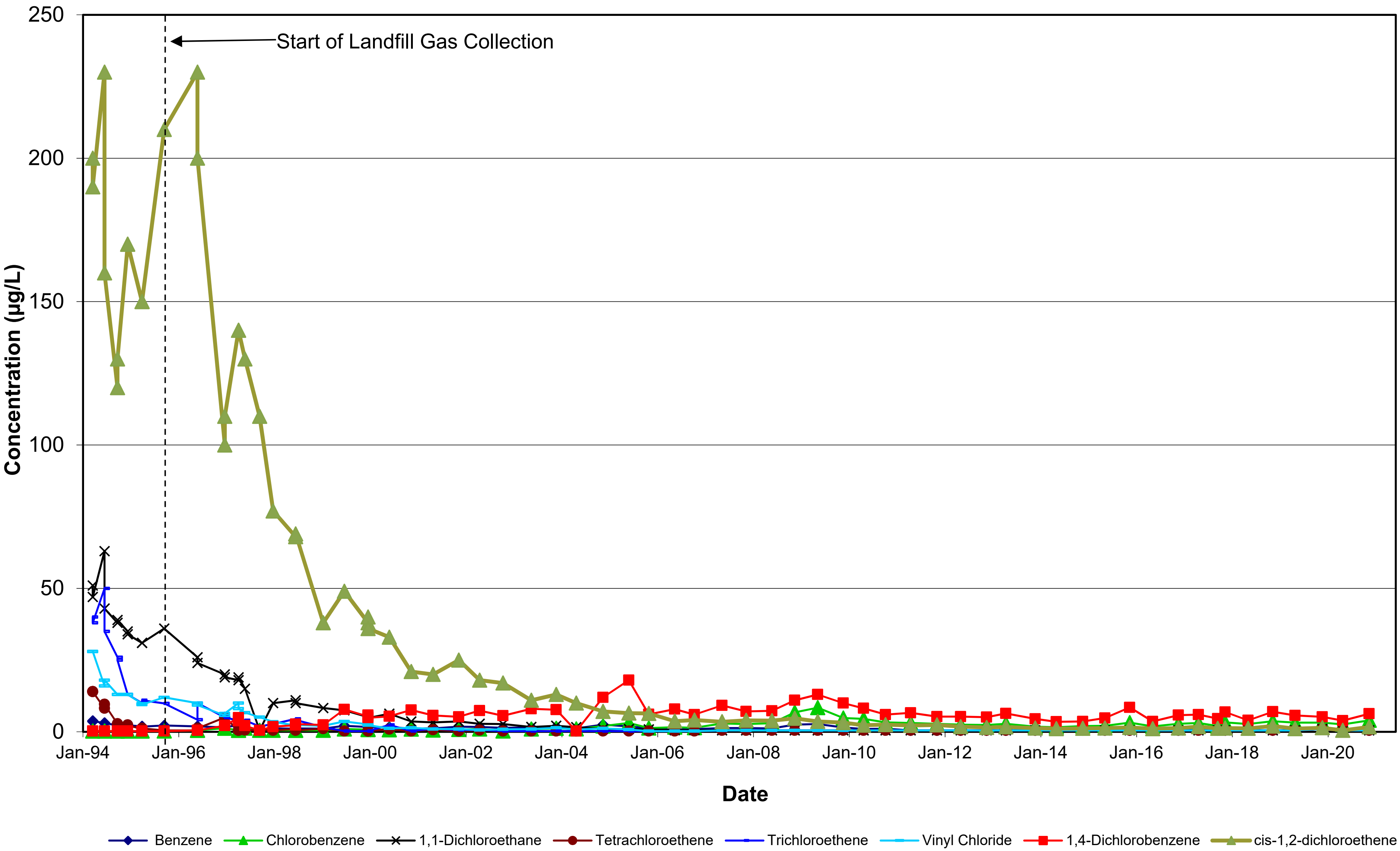
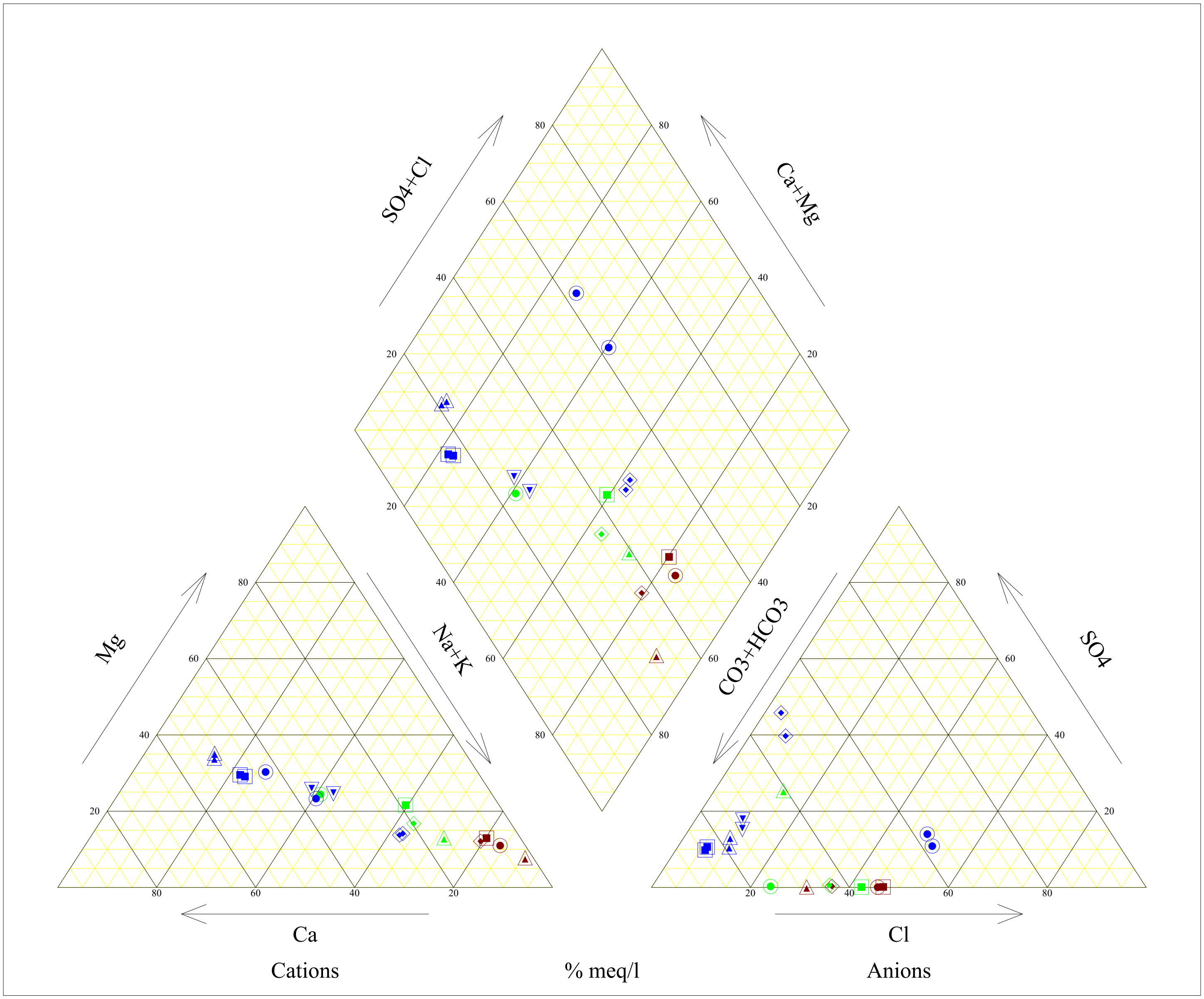


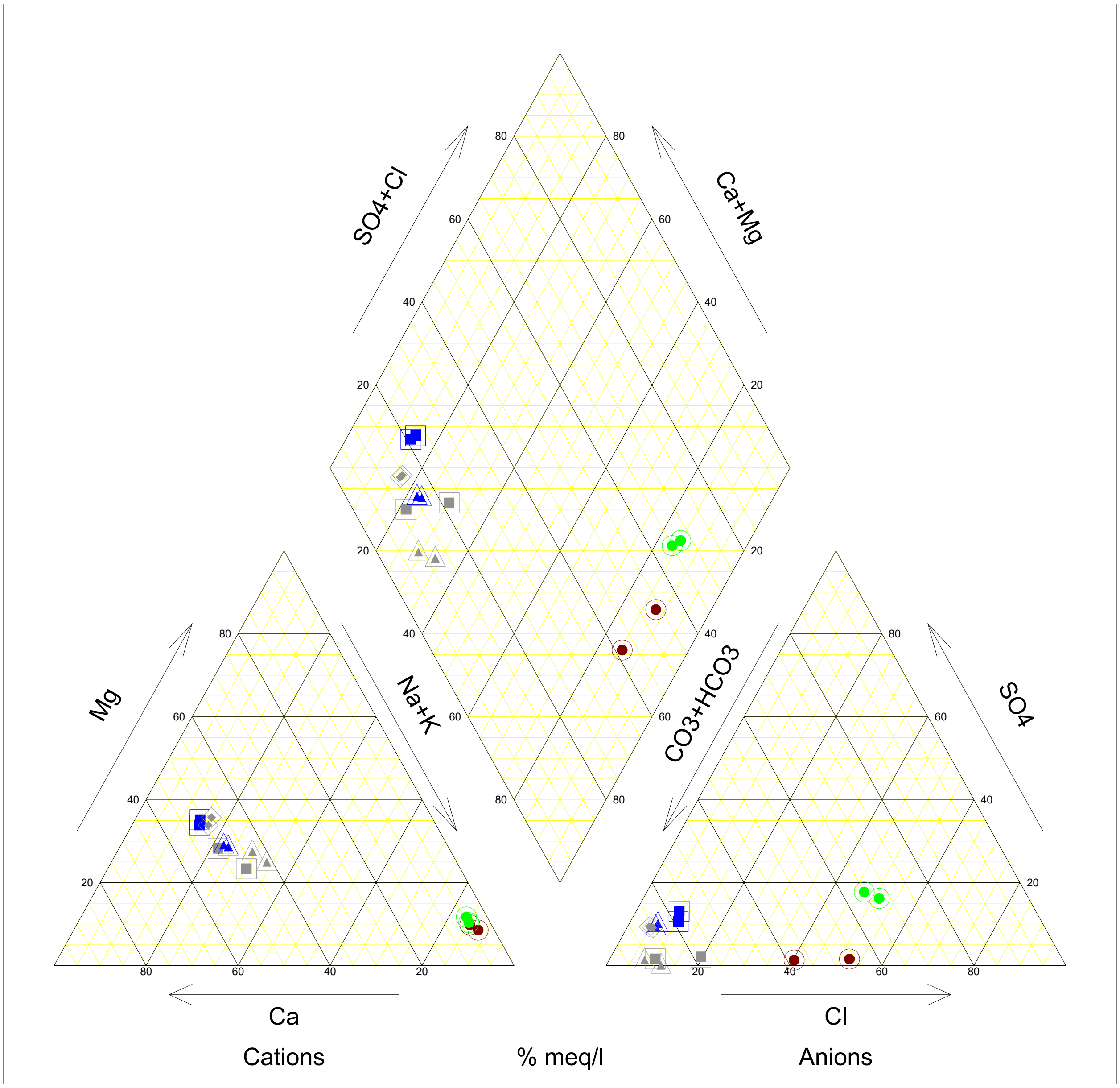
Figure 7-1 2020 Shallow Groundwater and Sumps Trilinear



1/5 P	4/22/2020	MW-12A	4/22/2020	MW-21A	4/21/2020
4/5 S	4/22/2020	MW-12A	11/11/2020	MW-21A	1/28/2021
6/7 P	4/22/2020	MW-14A	4/21/2020		
6/7 S	4/22/2020	MW-14A	1/28/2021		
8P	4/22/2020	MW-15A	4/22/2020		
8S	4/22/2020	MW-15A	1/28/2021		
9P	4/22/2020	MW-16A	4/21/2020		
9S	4/22/2020	MW-16A	1/28/2021		

Prepared by: SCS Engineers

Figure 7-2 2020 Leachate Pond, LDS Liquid, and Nearby Groundwater Samples



LEACHATE POND	4/22/2020	MW-21A	4/21/2020
LEACHATE POND	11/11/2020	MW-21A	1/28/2021
LPOND LDS	4/28/2020	MW-21B	4/21/2020
LPOND LDS	11/11/2020	MW-21B	11/10/2020
MW-14A	4/21/2020	MW-22A	5/01/2018
MW-14A	1/28/2021	MW-22A	4/24/2019
MW-14B	4/21/2020		
MW-14B	11/10/2020		

Prepared by: SCS Engineers

TABLES

Table 3-1
Groundwater Monitoring Network Construction Information
Riverbend Landfill

Well Designation	Hydro-stratigraphic Unit Screened	Date Installation Completed	Eastings[a]	Northings[a]	Ground Elevation[a] (ft-msl)	TOC Elevation[a] (ft-msl)	Boring Depth (ft-bgs)	Boring Diameter (inches)	Well Diameter (inches)	Well Screen Interval (ft-bgs)	Sand Pack Interval (ft-bgs)	Well Seal Interval (ft-bgs)
Monitoring Wells												
MW-1A	Sand-Gravel	6-Sep-89	3999.9	4210.2	153.40	155.30	61.5	10	2	50.0 to 60.0	48.0 to 61.5	3.0 to 48.0
MW-1B	Silt-Clay	8-Sep-89	4001.1	4214.5	153.40	155.00	26.5	10	2	15.0 to 25.0	13.0 to 26.5	3.0 to 13.0
MW-2R	Silt-Clay	29-Jul-16	4966.1	4210.2	144.50	147.02	31.0	10	2	20.0 to 30.0	18.0 to 31.0	3.0 to 18.0
MW-5A	Silt-Clay	8-Sep-92	5490.7	2069.0	132.00	138.73	28.0	10	2	18.0 to 28.0	16.0 to 28.0	3.0 to 16.0
MW-5B	Sand-Gravel	9-Mar-92	5481.2	2073.1	132.80	138.88	44.7	10	2	42.0 to 45.0	40.0 to 45.0	3.0 to 40.0
MW-9A	Silt-Clay	21-Oct-93	6486.5	3663.2	128.10	128.42	24.5	8	2	14.3 to 23.8	27.0 to 40.0	2.0 to 11.0
MW-9BR	Sand-Gravel	24-Aug-94	5903.2	3760.8	124.76	127.40	36.5	10	2	28.2 to 33.7	27.0 to 37.5	2.0 to 26.0
MW-10A	Silt-Clay	28-Oct-93	3501.0	3805.0	150.75	153.21	28.3	8	2	17.3 to 26.8	14.0 to 28.3	2.2 to 14.0
MW-10B	Sand-Gravel	27-Oct-93	3492.5	3795.5	150.76	152.87	69.0	10	2	44.3 to 53.8	40.9 to 55.3	2.0 to 40.9
MW-12A	Silt-Clay	19-Jul-95	5650.8	1676.5	123.80	126.81 [b]	25.5	10	2	15.3 to 24.8	12.0 to 25.5	0.5 to 15.3
MW-12B	Sand-Gravel	19-Jul-95	5643.6	1676.5	124.00	126.05 [b]	49.9	10	2	34.3 to 43.8	31.0 to 45.0	0.5 to 31.0
MW-14A	Silt-Clay	16-Oct-96	4863.8	1652.6	118.80	121.87	21.0	10	2	10.7 to 20.2	7.8 to 21.0	2.2 to 7.8
MW-14B	Sand-Gravel	15-Oct-96	4854.1	1653.7	119.10	123.32	42.0	10	2	31.7 to 41.2	2.85 to 42.0	2.2 to 28.5
MW-15A	Silt-Clay	21-Oct-96	6385.5	2209.1	126.00	130.07	22.8	10	2	12.5 to 22.0	10.0 to 22.8	2.0 to 10.0
MW-15B	Sand-Gravel	21-Oct-96	6393.5	2214.7	126.00	129.73	44.0	10	2	33.2 to 42.7	30.2 to 44.0	2.0 to 30.2
MW-16A	Silt-Clay	23-Oct-96	7010.7	2675.6	126.30	128.89	23.5	10	2	13.5 to 23.0	11.0 to 23.5	1.5 to 11.0
MW-16B	Sand-Gravel	23-Oct-96	7004.3	2670.7	126.30	128.95	45.0	10	2	34.8 to 44.3	31.6 to 45.0	2.0 to 31.6
MW-17A	Silt-Clay	26-Sep-00	1221.4	1431.4	151.12	153.83	24.5	10	2	14.0 to 24.0	11.5 to 24.5	0.5 to 11.5
MW-18A	Silt-Clay	26-Sep-00	2612.9	2938.0	146.77	148.77	26.0	10	2	13.5 to 23.5	11.0 to 24.0	0.5 to 11.0
MW-18B	Sand-Gravel	26-Sep-00	2621.6	2931.1	146.58	148.57	62.0	10	2	47.0 to 53.0	45.0 to 53.0	0.5 to 45.0
MW-19A	Silt-Clay	27-Sep-00	2537.0	1437.0	149.05	151.27	30.0	10	2	18.0 to 28.0	18 .5 to 28.5	0.5 to 16.5
MW-20A	Silt-Clay	26-Sep-00	3776.2	2490.1	127.20	129.92	21.0	10	2	10.0 to 20.0	8.5 to 21.0	0.5 to 8.5
MW-20B	Sand-Gravel	26-Sep-00	3759.5	2491.2	127.10	129.72	40.0	10	2	29.0 to 34.0	26.5 to 95.3	0.5 to 26.5
MW-21A	Silt-Clay	26-Sep-00	4645.5	1945.3	116.18	120.02	13.0	10	2	8.0 to 13.0	7.0 to 23.0	0.5 to 7.0
MW-21B	Sand-Gravel	26-Sep-00	4631.3	1941.6	116.56	119.53	34.0	10	2	21.0 to 26.0	18.5 to 27.0	0.5 to 18.5
MW-22A	Silt-Clay	23-Sep-10	4105.3	1578.5	123.50	125.38	22.5	10	2	10.0 to 20.0	8.0 to 21.0	2.0 to 8.0
MW-22B	Sand-Gravel	23-Sep-10	4110.8	1584.6	123.50	125.43	38.0	10	2	27.0 to 37.0	25.0 to 38.0	2.0 to 25.0
MW-23A	Silt-Clay	18-Aug-10	3281.9	1515.9	129.00	131.79	28.0	10	2	16.0 to 26.0	14.0 to 28.0	2.0 to 14.0
MW-23B	Sand-Gravel	17-Aug-10	3290.0	1516.5	129.00	131.60	42.0	10	2	36.5 to 41.5	34.5 to 42.0	2.0 to 34.5
MW-24A	Silt-Clay	20-Aug-10	2140.0	984.2	147.50	149.93	26.0	10	2	15.0 to 25.0	13.0 to 26.0	2.0 to 13.0
MW-25A	Silt-Clay	22-Jul-15	4218.8	4114.0	153.0	155.62	26.6	6	2	15.0 to 25.0	13.0 to 26.6	2.0 to 13.0
MW-25B	Sand-Gravel	22-Jul-15	4208.3	4114.6	152.8	155.54	90.0	6 and 7	2	75.0 to 85.0	73.0 to 86.0	2.0 to 73.0
Piezometers												
MW-3A	Silt-Clay	23-Jun-93	4430.9	2493.9	138.20	140.81	35.0	8	2	24.0 to 34.0	21.0 to 35.0	2.2 to 21.0
MW-3B	Sand-Gravel	28-Jun-93	4415.6	2496.3	137.80	140.57	63.5	10	2	45.0 to 55.0	42.0 to 56.0	36.8 to 42.0
MW-4A	Silt-Clay	25-May-93	4798.0	2238.7	139.46	142.31	36.0	8	2	26.0 to 36.0	22.5 to 36.0	2.0 to 22.5
MW-4B	Sand-Gravel	10-Jun-93	4805.5	2239.4	139.24	141.81	72.0	10	2	52.0 to 62.0	49.0 to 63.0	47.0 to 49.0
MW-6A	Silt-Clay	24-May-93	6043.5	2437.7	127.00	128.29 [b]	22.5	8	2	11.5 to 21.5	8.5 to 22.5	2.0 to 8.5
MW-6B	Sand-Gravel	9-Jun-93	6054.4	2443.0	127.00	128.59	56.0	8	2	36.0 to 46.0	34.2 to 47.0	2.5 to 34.2
P-01	Silt-Clay	21-Dec-92	5482.1	2038.3	123.20	126.02 [b]	19.0	8	2	8.0 to 18.0	5.9 to 19.0	2.0 to 5.9
P-02	Silt-Clay	22-Dec-92	5498.5	1994.0	121.10	124.02 [b]	18.0	8	2	6.8 to 16.8	5.0 to 18.0	1.0 to 5.0
P-03	Silt-Clay	23-Jun-93	5601.9	1754.2	120.90	123.89 [b]	19.5	8	2	9.0 to 19.0	7.3 to 19.5	2.0 to 9.3
P-05A	Silt-Clay	13-Oct-05	3612.4	2875.1	138.60	140.74	20.0	3.5	1	9.7 to 19.5	7.5 to 20.0	0.5 to 7.5
P-06A	Silt-Clay	13-Oct-05	3363.7	2566.2	129.30	131.58	20.0	3.5	1	9.7 to 19.5	7.5 to 20.0	0.5 to 7.5
P-07A	Silt-Clay	3-Feb-12	3804.2	2168.8	145.70	147.90	31.0	10	2	16.0 to 26.0	14.0 to 26.5	2.0 to 14.0
GT10-1	Silt-Clay	10-Sep-10	3444.2	3211.7	143.80	145.56	66.5	5.9	2	15.0 to 25.0	13.0 to 30.0	2.0 to 13.0/ 30.0 to 65.0
GT10-11	Silt-Clay	9-Sep-10	2518.1	1781.3	149.30	150.08	61.0	5.9	2	15.0 to 25.0	13.0 to 30.0	2.0 to 13.0 / 30.0 to 60.0
GT10-12	Silt-Clay	14-Sep-10	1736.5	1971.4	150.60	152.41	55.0	5.9	2	15.0 to 25.0	13.0 to 30.0	2.0 to 13.0/ 30.0 to 65.0

Table 3-1
Groundwater Monitoring Network Construction Information
Riverbend Landfill

Well Designation	Hydro-stratigraphic Unit Screened	Date Installation Completed	Eastings[a]	Northings[a]	Ground Elevation[a] (ft-msl)	TOC Elevation[a] (ft-msl)	Boring Depth (ft-bgs)	Boring Diameter (inches)	Well Diameter (inches)	Well Screen Interval (ft-bgs)	Sand Pack Interval (ft-bgs)	Well Seal Interval (ft-bgs)
Piezometers (Continued)												
SA-BH-1	Silt-Clay	24-Aug-10	716.6	3175.5	152.80	155.21	23.0	10	2	12.0 to 22.0	10.0 to 23.0	2.0 to 10.0
SA-BH-3	Silt-Clay	24-Aug-10	813.1	1679.7	152.80	155.07	26.5	10	2	12.0 to 22.0	10.0 to 23.5	2.0 to 10/ 23.5 to 25.0
SA-BH-5	Silt-Clay	23-Aug-10	1773.0	586.9	148.60	151.01	28.5	10	2	18.0 to 28.0	15.5 to 28.5	2.0 to 15.5
SA-BH-6	Silt-Clay	29-Sep-10	2895.0	597.7	123.80	125.93	25.0	10	2	14.0 to 24.0	12.0 to 25.0	2.0 to 12.0
Decommissioned Monitoring Wells and Piezometers												
MW-2[c]	Silt-Clay	26-Jan-81	5123.7	4126.2	146.30	148.30	40.0	NA	2	NA	NA	NA
MW-7A[d]	Silt-Clay	26-May-93	4359.8	3103.9	146.70	149.56	32.5	8	2	16.0 to 26.0	13.0 to 27.0	2.5 to 13.0
MW-7B[d]	Sand-Gravel	17-Jun-93	4369.0	3105.4	146.50	149.34	82.6	8	2	49.0 to 59.0	47.2 to 60.0	2.0 to 47.2
MW-8A[e]	Silt-Clay	20-Oct-93	6779.1	2982.3	124.10	126.01	24.5	8	2	13.3 to 22.8	10.2 to 23.5	3.0 to 10.2
MW-8B[e]	Sand-Gravel	25-Oct-93	6770.7	2979.2	124.30	126.81	49.5	8	2	29.3 to 38.8	27.0 to 40.0	2.0 to 27.0
MW-11A[f]	Silt-Clay	21-Oct-93	5340.9	3362.8	143.10	146.33	29.0	8	2	16.3 to 25.8	13.0 to 27.0	2.0 to 13.0
MW-11B[f]	Sand-Gravel	2-Nov-93	5330.6	3357.7	143.10	146.25	73.8	10	2	41.3 to 50.8	38.1 to 51.7	2.0 to 38.1
MW-13A[g]	Silt-Clay	17-Oct-96	4341.2	2093.9	146.60	149.66	44.0	10	2	33.7 to 43.2	31.5 to 44.0	2.0 to 31.5
MW-13B[g]	Sand-Gravel	17-Oct-96	4348.6	2089.7	146.50	149.45	65.5	10	2	55.2 to 64.7	52.1 to 65.5	2.0 to 52.1
P-04A[h]	Silt-Clay	28-Oct-93	4067.0	2530.1	139.00	141.15	32.5	8	2	19.3 to 28.8	15.9 to 29.8	2.0 to 15.9
P-04B[h]	Sand-Gravel	10-Nov-93	4078.5	2531.9	139.00	141.65	75.8	10	2	42.3 to 51.8	39.0 to 52.4	2.0 to 39.0

NOTE:

NA = not available; TOC = top of casing; ft-msl = feet mean sea level; ft-bgs = feet below ground surface.

[a] All monitoring wells and piezometers were re-surveyed in July 2013.

[b] MW-12A, MW-12B, MW-6A, P-01, P-02, and P-03 were re-surveyed in July 2017.

[c] MW-2 was decommissioned in July 2016 to accommodate construction of planned stormwater retention pond.

[d] MW-7A and MW-7B were decommissioned in June 2009 to accommodate construction of landfill Module 8D.

[e] MW-8A and MW-8B were decommissioned between May 1996 (when these wells were last sampled) and March 1997 to accommodate construction of Modules 6 and 7.

[f] MW-11A and MW-11B were decommissioned in May 2012 to accommodate construction of landfill Module 8A.

[g] MW-13A and MW-13B were decommissioned in May 2001 to accommodate construction of the leachate pond.

[h] P-04A and P-04B were decommissioned in June 2013 to accommodate construction of the mechanically stabilized earthen (MSE) berm.

Table 3-2
2020 Groundwater, Surface Water, and
Leachate Management Systems
Routine Semiannual and Annual Monitoring Schedule
Riverbend Landfill

Monitoring Location	Monitoring Function	Spring 2020 Semiannual [a]	Fall 2020 Semiannual [b]
Groundwater			
MW-12A	Compliance	X	X
MW-12B	Compliance	X	X
MW-14A	Compliance	X	X [c]
MW-14B	Compliance	X	X
MW-15A	Compliance	X	X [c]
MW-15B	Compliance	X	X
MW-16A	Compliance	X	X [c]
MW-16B	Compliance	X	X
MW-21A	Compliance	X	X [c]
MW-21B	Compliance	X	X
MW-5A	Detection	X	X
MW-5B	Detection	X	---
MW-19A	Detection	X	X
MW-20A	Detection	X	X
MW-20B	Detection	X	---
MW-22A [d]	Detection	X	---
P-05A	Detection	X	---
P-06A	Detection	X	---
P-07A	Detection	X	---
South Yamhill River Surface Water Samples			
SYR SW-1 (Upstream)	Informational	X	---
SYR SW-2 (Downstream)	Informational	X	---
SYR MW-12A	Informational	X	---
Leachate Management System Samples			
1/5 P	Detection	X	---
4/5 S	Detection	X	---
6/7 P	Detection	X	---
6/7 S	Detection	X	---
8 P	Detection	X	---
8 S	Detection	X	---
9 P	Detection	X	---
9 S	Detection	X	---
Leachate Pond	Detection	X	X
Leachate Pond Secondary	Detection	X	X

NOTES:
X = sampled; --- = not required to be sampled by the approved environmental monitoring plan;
P = primary leachate collection system; S = secondary leak detection system.
[a] Sampling performed from April 20 through April 28, 2020.
[b] Sampling performed from November 9 through November 11, 2020.
[c] MW-14A, MW-15A, MW-16A, and MW-21A could not be sampled during the Fall 2020 monitoring event because there was insufficient water present in the well to allow for purging and sampling. These wells were sampled in January 2021 when sufficient water was available for purging and sampling.
[d] MW-22A could not be sampled in spring 2020 due to insufficient water in well.

Table 5-1
Groundwater Monitoring
Schedule and Analytical Parameters
Riverbend Landfill

	Spring		Fall	
Well	**VOCs**	**Indicators, Cations, Anions**	**VOCs**	**Indicators, Cations, Anions**
MW-12A	X	X	X	X
MW-14A	X	X	X	X
MW-15A	X	X	X	X
MW-16A	X	X	X	X
MW-21A	X	X	X	X
MW-12B	X	X	X	X
MW-14B	X	X	X	X
MW-15B	X	X	X	X
MW-16B	X	X	X	X
MW-21B	X	X	X	X
MW-19A		X		
MW-20A		X		
MW-5A	X		X	
MW-5B	X			
P-05A		X		
P-06A		X		
P-07A		X		
MW-22A[1]	X	X		
MW-20B	X	X		

[1]Detection well MW-22A was not sampled in the Spring event due to insufficient water.

Table 5-2
2020 Analytical Parameter Schedule for the South Yamhill River Surface Water Monitoring
Riverbend Landfill

Parameter	Annual Monitoring[a] SYR MW- 12A (Midstream)	SYR SW-1 (Upstream)	SYR SW-2 (Downstream)
Group 1a: Field Indicators [b]	X	X	X
Group 1b: Laboratory and Supplemental Indicators			
Total Alkalinity	X	X	X
Total Hardness (as $CaCO_3$)	X	X	X
Laboratory pH	X	X	X
Specific Conductance	X	X	X
Chemical Oxygen Demand	X	X	X
Biological Oxygen Demand	X	X	X
Fecal Coliform	X	X	X
E. coli	X	X	X
Total Kjeldahl Nitrogen	X	X	X
Total Organic Halogens	X	X	X
Total Phosphorus	X	X	X
Orthophosphate	X	X	X
Total Organic Carbon	X	X	X
Total Dissolved Solids	X	X	X
Total Suspended Solids	X	X	X
Group 2a: Anions			
Ammonia	X	X	X
Bicarbonate	X	X	X
Carbonate	X	X	X
Chloride	X	X	X
Nitrate+Nitrite	X	X	X
Silicon	X	X	X
Sulfate	X	X	X
Group 2a: Cations			
Calcium	X	X	X
Iron	X	X	X
Magnesium	X	X	X
Manganese	X	X	X
Potassium	X	X	X
Sodium	X	X	X
Group 3: Volatile Organic Compounds (VOCs) [c]			
VOCs	X	X	X

NOTE:
SYR = South Yamhill River; X = parameter analyzed.
[a] Annual monitoring was performed in the second quarter (Spring) on April 23, 2020.
[b] Field indicators include: pH, temperature, specific conductance, dissolved oxygen, and oxidation-reduction potential.
[c] All VOCs include a library search to identify any unknown compounds.

Table 5-3
2020 Analytical Parameter Schedule for Leachate Management Systems Monitoring Riverbend Landfill

Parameter	Annual and Semiannual Monitoring[a]	
	Semiannual Leachate Pond and LPS	Annual LCRS and Secondary Sumps[b]
Group 1a: Field Indicators [c]	X	X
Group 1b: Laboratory Indicators		
Total Alkalinity	X	X
Total Hardness (as $CaCO_3$)	X	X
Laboratory pH	X	X
Specific Conductance	X	X
Chemical Oxygen Demand	X	X
Total Kjeldahl Nitrogen	X	---
Total Organic Carbon	X	X
Total Dissolved Solids	X	X
Total Suspended Solids	X	X
Group 2a: Anions		
Ammonia	X	X
Bicarbonate	X	X
Carbonate	X	X
Chloride	X	X
Nitrate+Nitrite	X	X
Silicon	X	X
Sulfate	X	X
Group 2a: Cations		
Calcium	X	X
Iron	X	X
Magnesium	X	X
Manganese	X	X
Potassium	X	X
Sodium	X	X
Group 2b: Trace Metals (Total) [d]	X	X
Group 3: Volatile Organic Compounds (VOCs) [e]		
VOCs	X	X

NOTE:

LPS = leachate pond secondary; LCRS = leachate collection and removal system;

X = parameter analyzed; --- parameter not required.

a Semiannual monitoring events were performed in the second quarter (Spring) on April 24-25, 2019 and in the fourth quarter (Fall) on November 20, 2019.

b Annual sump monitoring locations include: 1/5 P, 4/5 S, 6/7 P, 6/7 S, 8 P, 8 S, 9 P, and 9 S.

c Field indicators include: pH, temperature, specific conductance, dissolved oxygen, and oxidation-reduction potential.

d Group 2b trace metals include: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc.

e All VOCs include a library search to identify any unknown compounds.

Table 5-4
Cation-Anion Balances for
2020 Laboratory Analytical Data
Riverbend Landfill

Monitoring Location	Spring 2020 Event (%)	Fall 2020 Event (%)
Groundwater		
MW-12A	-6.2	-2.6
MW-12B	-6.9	-3.8
MW-14A	-5.1	-1.5
MW-14B	-1.5	0.4
MW-15A	-5.8	-2.8
MW-15B	-2.6	-0.67
MW-16A	-0.44	-2.3
MW-16B	-6.7	-6.0
MW-19A	-6.3	-3.6
MW-20A	-1.1	-2.9
MW-20B	2.9	---
MW-21A	-3.0	-1.8
MW-21B	-3.4	0.45
Surface Water Samples		
SYR MW-12A	13	---
SYR SW-1 (Upstream)	-1.4	---
SYR SW-2 (Downstream)	1.5	---
Leachate Management System Liquid Samples		
1/5 P	-0.05	---
4/5 S	2.8	---
6/7 P	2.0	---
6/7 S	8.3	---
8 P	4.5	---
8 S	4.2	---
9 P	-5.4	---
9 S	3	---
Leachate Pond	0.69	8
Leachate Pond Secondary	3.0	3.5

NOTE:
--- = not required to be sampled during monitoring event.
NS = not sampled.
Cation/anion balance data included in laboratory reports (see attached compact disc).

Table 6-1
Comparison of 2020 Groundwater Elevations and Vertical Gradients in Monitoring Well Pairs (Shallow and Deep Water Bearing Zones)
Riverbend Landfill

Sample Location	Date	Groundwater Elevation (feet-msl)	Gradient (feet)
MW-1B (Shallow)	20-Apr-20	147.81	15.98
MW-1A (Deep)	20-Apr-20	131.83	(Downward)
MW-1B (Shallow)	9-Nov-20	145.38	1.07
MW-1A (Deep)	9-Nov-20	144.31	(Downward)
MW-3A (Shallow)	20-Apr-20	122.92	1.00
MW-3B (Deep)	20-Apr-20	121.92	(Upward)
MW-3A (Shallow)	9-Nov-20	122.00	4.51
MW-3B (Deep)	9-Nov-20	117.49	(Downward)
MW-4A (Shallow)	20-Apr-20	116.14	1.73
MW-4B (Deep)	20-Apr-20	114.41	(Downward)
MW-4A (Shallow)	9-Nov-20	114.64	4.50
MW-4B (Deep)	9-Nov-20	110.14	(Downward)
MW-5A (Shallow)	20-Apr-20	117.63	7.48
MW-5B (Deep)	20-Apr-20	110.15	(Downward)
MW-5A (Shallow)	9-Nov-20	113.76	9.49
MW-5B (Deep)	9-Nov-20	104.27	(Downward)
MW-6A (Shallow)	20-Apr-20	121.56	8.24
MW-6B (Deep)	20-Apr-20	113.32	(Downward)
MW-6A (Shallow)	9-Nov-20	111.07	3.60
MW-6B (Deep)	9-Nov-20	107.47	(Downward)
MW-9A (Shallow)	20-Apr-20	118.30	-6.70
MW-9BR (Deep)	20-Apr-20	125.00	(Upward)
MW-9A (Shallow)	9-Nov-20	114.06	-8.25
MW-9BR (Deep)	9-Nov-20	122.31	(Upward)
MW-10A (Shallow)	20-Apr-20	146.53	12.38
MW-10B (Deep)	20-Apr-20	134.15	(Downward)
MW-10A (Shallow)	9-Nov-20	132.19	3.68
MW-10B (Deep)	9-Nov-20	128.51	(Downward)
MW-12A (Shallow)	20-Apr-20	113.73	7.16
MW-12B (Deep)	20-Apr-20	106.57	(Downward)
MW-12A (Shallow)	9-Nov-20	105.34	3.45
MW-12B (Deep)	9-Nov-20	101.89	(Downward)
MW-14A (Shallow)	20-Apr-20	104.40	-0.61
MW-14B (Deep)	20-Apr-20	105.01	(Upward)
MW-14A (Shallow)	9-Nov-20	100.27	-1.31
MW-14B (Deep)	9-Nov-20	101.58	(Upward)
MW-15A (Shallow)	20-Apr-20	120.42	8.46
MW-15B (Deep)	20-Apr-20	111.96	(Downward)
MW-15A (Shallow)	9-Nov-20	108.05	2.39
MW-15B (Deep)	9-Nov-20	105.66	(Downward)
MW-16A (Shallow)	20-Apr-20	112.51	0.18
MW-16B (Deep)	20-Apr-20	112.33	(Downward)
MW-16A (Shallow)	9-Nov-20	106.89	-0.35
MW-16B (Deep)	9-Nov-20	107.24	(Upward)

Table 6-1
Comparison of 2020 Groundwater Elevations and Vertical Gradients in Monitoring Well Pairs (Shallow and Deep Water Bearing Zones)
Riverbend Landfill

Sample Location	Date	Groundwater Elevation (feet-msl)	Gradient (feet)
MW-18A (Shallow)	20-Apr-20	134.30	1.03
MW-18B (Deep)	20-Apr-20	133.27	(Downward)
MW-18A (Shallow)	9-Nov-20	127.74	1.40
MW-18B (Deep)	9-Nov-20	126.34	(Downward)
MW-20A (Shallow)	20-Apr-20	125.34	-0.38
MW-20B (Deep)	20-Apr-20	125.72	(Upward)
MW-20A (Shallow)	9-Nov-20	121.61	0.89
MW-20B (Deep)	9-Nov-20	120.72	(Downward)
MW-21A (Shallow)	20-Apr-20	109.77	0.10
MW-21B (Deep)	20-Apr-20	109.67	(Downward)
MW-21A (Shallow)	9-Nov-20	105.67	0.11
MW-21B (Deep)	9-Nov-20	105.56	(Downward)
MW-22A (Shallow)	20-Apr-20	105.80	0.98
MW-22B (Deep)	20-Apr-20	104.82	(Downward)
MW-22A (Shallow)	9-Nov-20	103.23	2.07
MW-22B (Deep)	9-Nov-20	101.16	(Downward)
MW-23A (Shallow)	20-Apr-20	115.07	5.08
MW-23B (Deep)	20-Apr-20	109.99	(Downward)
MW-23A (Shallow)	9-Nov-20	110.48	4.00
MW-23B (Deep)	9-Nov-20	106.48	(Downward)
MW-25A (Shallow)	20-Apr-20	146.34	15.85
MW-25B (Deep)	20-Apr-20	130.49	(Downward)
MW-25A (Shallow)	9-Nov-20	144.74	13.39
MW-25B (Deep)	9-Nov-20	131.35	(Downward)

NOTE:
feet-msl = feet mean sea level.

Table 6-2
Comparison of the 2020 Compliance Groundwater Analytical Results and Groundwater Concentration Limits
Riverbend Landfill

	PSCL	AL	SSLs							
Monitoring Well	Vinyl Chloride[a] (mg/L)	VOCs[b]	Bicarbonate Alkalinity (mg/L)	Chloride (mg/L)	Magnesium Dissolved (mg/L)	Potassium Dissolved (mg/L)	Sodium Dissolved (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-12A Concentration Limits	*0.002*	*(see Note 1)*	*81.3*	*63.4*	*11.5*	*1.20*	*21.8*	---	*240*	*3.2*
MW-12A April 2020 Results	0.001 U	No Detections	71	56	8.6	0.54	**28**	16	210	1.5
MW-12A November 2020 Results	0.001 U	No Detections	71	54	**12**	0.50 U	20	21	210	1.3
MW-12B Concentration Limits	*0.002*	*(see Note 1)*	*291*	---	*38.8*	*1.27*	*67.8*	*6.8*	*1,020*	*1.9*
MW-12B April 2020 Results	0.001 U	No Detections	260	---	24	0.54	36	1.9	480	1.3
MW-12B April 2020 Results (DUP)	0.001 U	No Detections	240	---	23	0.50 U	36	1.9	450	1.2
MW-12B November 2020 Results	0.001 U	No Detections	270	---	25	0.61	42	1.5	570	1.2
MW-12B November 2020 Results (DUP)	0.001 U	No Detections	270	---	24	0.54	42	1.6	550	1.3
MW-14A Concentration Limits	*0.002*	*(see Note 1)*	*148*	*33.4*	*16.5*	*0.85*	*15.6*	---	*282*	*3.1*
MW-14A April 2020 Results	0.001 U	No Detections	**170**	13	16.0	0.50 U	12.0	---	240	1.0 U
MW-14A January 2021 Results[d]	0.001 U	No Detections	120	8.4	12.0	0.5 U	9.7	---	190	1.0 U
MW-14A January 2021 Results (DUP)[d]	0.001 U	No Detections	120	8.4	12.0	0.5 U	9.6	---	180	1.1
MW-14B Concentration Limits	*0.002*	*(see Note 1)*	*230*	---	*16.1*	*0.85*	*43.0*	*16.8*	*329*	*3.2*
MW-14B April 2020 Results	0.001 U	No Detections	200	---	14	0.50 U	20	2.9	260	1.8
MW-14B November 2020 Results	0.001 U	No Detections	220	---	14	0.50 U	34	4.6	310	1.4
MW-14B November 2020 Results (DUP)	0.001 U	No Detections	210	---	14	0.50 U	35	4.6	320	1.3
MW-15A Concentration Limits	*0.002*	*(see Note 1)*	*135*	*19.5*	*12.7*	*1.00*	*29.5*	---	*349*	*2.2*
MW-15A April 2020 Results	0.001 U	No Detections	48	1.8	2.7	0.50 U	23	---	**640**	1.3
MW-15A January 2021 Results[d]	0.001 U	No Detections	39	3.1	2.4	0.5 U	20	---	**350**	1.7

Table 6-2
Comparison of the 2020 Compliance Groundwater Analytical Results and Groundwater Concentration Limits
Riverbend Landfill

Monitoring Well	PSCL	AL	SSLs							
	Vinyl Chloride[a] (mg/L)	VOCs[b]	Bicarbonate Alkalinity (mg/L)	Chloride (mg/L)	Magnesium Dissolved (mg/L)	Potassium Dissolved (mg/L)	Sodium Dissolved (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-15B Concentration Limits	*0.002*	*(see Note 1)*	*372*	---	*36.3*	*0.68*	*42.2*	*10.7*	*543*	*2.1*
MW-15B April 2020 Results	0.001 U	No Detections	350	---	30	0.50 U	37	4.4	310	1.0 U
MW-15B April 2020 Results	0.001 U	No Detections	340	---	30	0.50 U	37	3.5	390	1.0 U
MW-15B November 2020 Results	0.001 U	No Detections	340	---	30	0.50 U	26	1.4	340	1.0
MW-16A Concentration Limits	*0.002*	*(see Note 1)*	*460*	*14.8*	*32.0*	*0.88*	*59.6*	---	*505*	*5.2*
MW-16A April 2020 Results	0.001 U	No Detections	120	9.2	9.3	0.50 U	31	---	180	1.8
MW-16A January 2021 Results [d]	0.001 U	No Detections	130	11	10	0.50 U	28	---	210	1.6
MW-16B Concentration Limits	*0.002*	*(see Note 1)*	*388*	---	*44.2*	*0.93*	*81.6*	*8.6*	*771*	*2.8*
MW-16B April 2020 Results	0.001 U	No Detections	**400**	---	34	0.50 U	63	5.9	580	1.5
MW-16B April 2020 Results (DUP)	0.001 U	No Detections	**410**	---	34	0.50 U	63	5.8	570 H	1.4
MW-16B November 2020 Results	0.001 U	No Detections	**390**	---	34	0.50	64	5.0	630	1.5
MW-21A Concentration Limits	*0.002*	*(see Note 1)*	*211*	*16.0*	*19.9*	*0.91*	*60.9*	---	*446*	*4.7*
MW-21A April 2020 Results	0.001 U	No Detections	120	5.0	10	0.50 U	15	---	180	1.5
MW-21A January 2021 Results [d]	0.001 U	No Detections	120	4.9	10	0.50 U	14	---	190	1.7
MW-21B Concentration Limits	*0.002*	*(see Note 1)*	*325*	---	*26.4*	*1.40*	*46.6*	*21.7*	*372*	*5.9*
MW-21B April 2020 Results	0.001 U	No Detections	250	---	17	0.84	33	4.0	270	2.6
MW-21B November 2020 Results	0.001 U	No Detections	220	---	15	0.78	37	1.1	280	2.0

NOTES:

mg/L = milligrams per liter; --- = not applicable; Re = resample; Dup = field duplicate sample.; --- not applicable; U = not detected at or above the practical quantitation limit (PQL);

NS = parameter not required to be sampled and analyzed during the event. H = Parameter was analyzed outside of the specified hold time. **Bold** denotes aresults above a concentration limit.

Note 1: Detection of a volatile organic compound (VOC) above the laboratory derived PQL.

PSCL: Permit-Specific Concentration Limit; concentration above a single PSCL not previously reported and explained to the DEQ will trigger verification resampling. Verification of a concentration above a PSCL would require follow-up actions, consistent with Section 11.5.3 of the Environmental Monitoring Plan (EMP).

AL: Action Limit; a concentration above a single AL not previously reported and explained to the DEQ will trigger verification resampling. Verification of a concentration above an AL would require follow-up actions, consistent with Section 11.5.3 of the EMP.

SSL: Site-Specific Limit (statistically-derived); detection above the limit of three or more SSLs in a single compliance monitoring well during a monitoring event not previously reported and explained to the DEQ will trigger verification resampling. Verification of concentrations above three or more SSLs would require follow-up actions consistent with Section 11.5.3 of the EMP.

[a] PSCL for vinyl chloride in all compliance wells established at the numerical groundwater quality reference level (NGWQRL) of 0.002 mg/L (specified in Table 2 of the OAR 340-40).

[b] VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B and 8011 except for vinyl chloride which was defined as a PSCL.

[c] Wells MW-14A, MW-15A, MW-16A, and MW-21A were "dry" at the time that the monitoring event was performed in November 2019. Consequently, MW-14A, MW-15A, MW-16A, and MW-21A were sampled in December 2019.

[d] Wells MW-14A, MW-15A, MW-16A, and MW-21A were "dry" at the time that the monitoring event was performed in November 2020. Consequently, MW-14A, MW-15A, MW-16A, and MW-21A were sampled in January 2021. (Wells were flooded in December 2020 and not accessible.)

Table 6-3
Statistical Trend Analysis Results Based on 2020 and Historical Groundwater Analytical Results
Riverbend Landfill

Sampling Location	Bicarbonate Alkalinity	Ammonia as Nitrogen	Dissolved Calcium	Chloride	Dissolved Iron	Dissolved Magnesium	Dissolved Manganese	Nitrate+ Nitrite	Dissolved Potassium	Dissolved Sodium	Sulfate	Total Dissolved Solids	Total Organic Carbon
Compliance Wells													
MW-12A	Increasing	---	Increasing	Increasing	---	Increasing	---	Increasing	---	Increasing	Increasing	Increasing	---
MW-12B	---	Increasing	Decreasing	Decreasing	Increasing	Decreasing	Increasing	---	---	Decreasing	---	Decreasing	---
MW-14A	Increasing	---	---	---	---	---	---	---	---	---	Decreasing	---	---
MW-14B	Increasing	---	Increasing	Increasing	---	Increasing	---	---	---	Increasing	---	Increasing	---
MW-15A	Decreasing	---	Decreasing	Decreasing	---	Decreasing	Decreasing	---	---	---	---	---	---
MW-15B	---	---	Decreasing	Decreasing	---	Decreasing	---	---	---	---	---	Decreasing	---
MW-16A	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	---	---	Decreasing	Increasing	Decreasing	Decreasing
MW-16B	Increasing	---	Decreasing	Decreasing	---	---	---	---	Decreasing	Decreasing	Decreasing	Decreasing	---
MW-21A	---	---	Decreasing	Decreasing	---	Decreasing	---	---	---	Decreasing	Decreasing	Decreasing	---
MW-21B	---	---	Decreasing	---	Decreasing	Decreasing	---	---	---	Increasing	Decreasing	---	---
Detection Wells and Piezometers													
MW-19A	---	---	Increasing	Increasing	Decreasing	Increasing	Decreasing	---	---	Increasing	Decreasing	Increasing	---
MW-20A	---	---	Increasing	Increasing	Increasing	Increasing	Increasing	---	---	Increasing	---	Increasing	Increasing
MW-20B	---	---	Increasing	Increasing	---	Increasing	---	---	---	Increasing	---	---	---
MW-22A	---	---	---	---	---	---	---	---	---	---	---	---	---
P-05A	Increasing	---	Increasing	Increasing	---	Increasing	---	---	---	Increasing	---	Increasing	---
P-06A	---	---	Increasing	---	---	---	---	---	---	---	---	---	---
P-07A	---	---	---	Decreasing	---	---	---	---	---	---	---	---	---

NOTE:
--- = no statistically significant trend identified by DUMPStat.
Indicates change in trend either decreasing, increasing or no trend identified in 2020 compared to 2019 and historical data.

Table 6-4
Volatile Organic Compounds Detected in Groundwater Samples Collected from MW-5A (µg/L)
Riverbend Landfill

Sample Location	Sample Date	Benzene	Chloro-benzene	Chloro-ethane	1,1-Di-chloro-ethane	Methylene Chloride	Tetra-chloro-ethene	Toluene	Tri-chloro-ethene	Vinyl chloride	Total Xylenes	1,4-Di-chloro-benzene	cis-1,2-Dichloro-ethene	Dichloro-difluoro-methane	trans-1,2-Dichloro-ethene	1,2-Di-chloro-benzene
MW-5A	17-Mar-94	**3.6**	0.5 U	**5.4**	**51**	1.0 U	**14**	0.5 U	**40**	**28**	**0.8**	0.5 U	**200**	**2.6**	**1.6**	0.5 U
MW-5A (Dup)	17-Mar-94	**3.8**	0.5 U	**5.6**	**47**	1.0 U	**14**	0.5 U	**38**	**28**	**0.8**	0.5 U	**190**	**2.6**	**1.9**	0.5 U
MW-5A	15-Jun-94	**3.0**	0.5 U	**5.2**	**63**	1.0 U	**8.2**	0.5 U	**50**	**16**	0.5 U	0.5 U	**230**	**0.6**	**1.2**	0.5 U
MW-5A (Dup)	15-Jun-94	**3.1**	0.5 U	**5.4**	**43**	1.0 U	**9.6**	0.5 U	**35**	**18**	**0.5**	0.5 U	**160**	**0.7**	**1.3**	0.5 U
MW-5A	22-Sep-94	**2.2**	0.5 U	**6.3**	**38 D**	1.0 U	**2.8**	0.5 U	**26**	**13**	0.5 U	0.5 U	**120 D**	**0.6**	**1.5**	0.5 U
MW-5A (Dup)	22-Sep-94	**2.1**	0.5 U	**6.4**	**39 D**	1.0 U	**2.5**	0.5 U	**25**	**13**	0.5 U	0.5 U	**130 D**	**0.7**	**0.9**	0.5 U
MW-5A	9-Dec-94	**2.2**	0.5 U	**2.1**	**35**	1.0 U	**2.4**	0.5 U	**13**	**13**	**0.5**	0.5 U	**170 D**	0.5 U	**0.9**	0.5 U
MW-5A (Dup)	9-Dec-94	**2.3**	0.5 U	**2.3**	**34**	1.0 U	**2.3**	0.5 U	**13**	**13**	**0.6**	0.5 U	**170 D**	0.5 U	**0.9**	0.5 U
MW-5A	28-Mar-95	**1.9**	0.5 U	**2.0**	**31**	1.0 U	**1.0**	0.5 U	**10**	**9.8**	0.5 U	0.5 U	**150 D**	0.5 U	**0.9**	0.5 U
MW-5A (Dup)	28-Mar-95	**1.8**	0.5 U	**2.2**	**31**	1.0 U	**1.2**	0.5 U	**11**	**9.5**	0.5 U	0.5 U	**150 D**	0.5 U	**1.3**	0.5 U
MW-5A	13-Sep-95	**2.2**	0.5 U	**4.0**	**36**	1.0 U	**0.5**	0.5 U	**9.9**	**12**	0.5 U	0.5 U	**210 D**	0.5 U	**1.1**	0.5 U
MW-5A	24-May-96	**1.9**	1.0 U	**2.3**	**26**	1.0 U	1.0 U	1.0 U	**4.2**	**10**	1.0 U	1.0 U	**230 E**	1.0 U	**2.5**	0.5 U
MW-5A (Dup)	24-May-96	**1.9**	1.0 U	**1.7**	**24**	1.0 U	**1.2**	1.0 U	**10**	**9.3**	1.0 U	1.0 U	**200 E**	1.0 U	**3.7**	0.5 U
MW-5A	18-Dec-96	3.1 U	2.5 U	5.9 U	**20**	16 U	10 U	2.5 U	**5.0**	**5.7**	10 U	4.3 U	**100**	6.5 U	4.5 U	0.5 U
MW-5A (Dup)	18-Dec-96	3.1 U	2.5 U	5.9 U	**19**	16 U	10 U	2.5 U	**5.1**	**6.4**	10 U	4.3 U	**110**	6.5 U	4.5 U	0.5 U
MW-5A	2-Apr-97	**2.4**	1.0 U	1.0 U	**18**	**3.3**	1.0 U	1.0 U	**3.8**	**10.0**	1.0 U	**4.9**	**140**	1.0 U	1.0 U	0.5 U
MW-5A (Dup)	2-Apr-97	**1.7**	1.0 U	1.0 U	**19**	1.0 U	1.0 U	1.0 U	**3.1**	**8.1**	1.0 U	**3.8**	**140**	1.0 U	1.0 U	0.5 U
MW-5A	21-May-97	3.1 U	2.5 U	5.9 U	**15**	4.1 U	1.2 U	2.5 U	**4.0**	**6.7**	10 U	4.3 U	**130**	6.5 U	4.5 U	0.5 U
MW-5A	10-Sep-97	1.0 U	1.0 U	1.0 U	1.0 U	**2.9**	1.0 U	1.0 U	**1.9**	**5.1**	1.0 U	1.0 U	**110**	1.0 U	1.0 U	0.5 U
MW-5A	22-Dec-97	**1.2**	1.0 U	1.0 U	**10**	1.0 U	1.0 U	1.0 U	**2.7**	**3.5**	1.0 U	**1.8**	**77**	1.0 U	1.0 U	0.5 U
MW-5A (Dup)	12-Jun-98	**1.1**	1.0 U	1.0 U	**11**	1.0 U	**1.0**	1.0 U	**4.5**	**2.2**	1.0 U	**2.3**	**68**	1.0 U	1.0 U	0.5 U
MW-5A	12-Jun-98	**1.2**	1.0 U	1.0 U	**10**	1.0 U	1.0 U	1.0 U	**4.1**	**2.4**	1.0 U	**2.7**	**69**	1.0 U	1.0 U	0.5 U
MW-5A	8-Jan-99	**1.1**	**0.5 J**	**0.8**	**8.3**	1.0 U	**1.1**	0.5 U	**1.6**	**2.1**	NT	**2.4**	**38**	0.5 U	**0.5**	0.5 U
MW-5A	18-Jun-99	**2.1**	**0.98**	**1.0**	**7.5**	**1.1 B**	0.5 U	0.5 U	0.5 U	**3.6**	0.5 U	**7.8**	**49**	0.5 U	0.5 U	0.5 U
MW-5A	16-Dec-99	**1.7**	**0.77**	**0.56**	**5.1**	0.5 U	0.5 U	0.5 U	0.5 U	**2.6**	0.5 U	**5.3**	**38**	0.5 U	0.5 U	0.5 U
MW-5A (Dup)	16-Dec-99	**1.8**	**0.8**	**0.66**	**5.4**	0.5 U	0.5 U	0.5 U	0.5 U	**2.8**	0.5 U	**5.8**	**40 E**	0.5 U	0.5 U	0.5 U
MW-5A	26-May-00	**1.6**	**0.68**	0.5 U	**6.3**	0.5 U	**0.92**	0.5 U	**2.4**	**1.2**	0.5 U	**5.4**	**33**	0.5 U	0.5 U	0.5 U
MW-5A	9-Nov-00	**1.2**	**0.93**	0.5 U	**3.6**	0.5 U	0.5 U	0.5 U	0.5 U	**1.4**	0.5 U	**7.6**	**21**	0.5 U	0.5 U	0.5 U
MW-5A	25-Apr-01	**1.2**	**0.59**	0.5 U	**3.3**	0.5 U	**0.73**	0.5 U	**1.1**	**0.96**	0.5 U	**5.7**	**20**	0.5 U	0.5 U	0.5 U
MW-5A	7-Nov-01	**1.8**	**0.79**	**0.55**	**3.6**	0.5 U	0.5 U	**0.82**	**0.59**	**0.97**	0.5 U	**5.2**	**25**	0.5 U	0.5 U	0.5 U
MW-5A	15-Apr-02	**1.7**	**0.96**	0.5 U	**2.8**	0.5 U	**0.57**	0.5 U	**0.66**	**0.62**	0.5 U	**7.4**	**18**	0.5 U	0.5 U	0.5 U
MW-5A	10-Oct-02	**1.4**	0.5 U	**0.55**	**2.7**	1.0 U	0.5 U	0.5 U	0.5 U	**0.87**	1.0 U	**5.6**	**17**	0.5 U	0.5 U	0.5 U
MW-5A	14-May-03	**1.5**	**0.95**	0.5 U	**1.7**	1.0 U	0.5 U	0.5 U	0.5 U	**0.94**	1.0 U	**8.0**	**11**	0.5 U	0.5 U	0.5 U
MW-5A	20-Nov-03	**1.7**	**1.2**	0.5 U	**2.1**	1.0 U	0.5 U	0.5 U	0.5 U	**1.4**	1.0 U	**7.7**	**13**	0.5 U	0.5 U	0.5 U
MW-5A	21-Apr-04	**1.2**	**1.0**	0.5 U	**1.6**	1.0 U	0.5 U	0.05 U	0.5 U	**0.77**	1.0 U	0.5 U	**10**	0.5 U	0.5 U	0.5 U
MW-5A	11-Nov-04	**2.5**	**2.0**	0.5 U	**1.0**	1.0 U	0.5 U	0.5 U	0.5 U	**1.2**	1.0 U	**12**	**7.1**	0.5 U	0.5 U	0.5 U
MW-5A	27-May-05	**1.9**	**3.1**	0.5 U	**0.94**	0.5 U	0.5 U	0.5 U	0.5 U	**0.81**	1.0 U	**18**	**6.5**	0.5 U	0.5 U	**0.85**
MW-5A	26-Oct-05	**1.2**	**1.3**	0.5 U	**0.85**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	**6.1**	**6.4**	0.5 U	0.5 U	0.5 U
MW-5A	12-May-06	**1.0**	**1.6**	0.5 U	**0.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	**7.9**	**3.7**	0.5 U	0.5 U	0.5 U
MW-5A	9-Oct-06	**0.93**	**1.4**	0.5 U	**0.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	**6.0**	**4.1**	0.5 U	0.5 U	0.5 U

Table 6-4
Volatile Organic Compounds Detected in Groundwater Samples Collected from MW-5A (µg/L)
Riverbend Landfill

Sample Location	Sample Date	Benzene	Chloro-benzene	Chloro-ethane	1,1-Di-chloro-ethane	Methylene Chloride	Tetra-chloro-ethene	Toluene	Tri-chloro-ethene	Vinyl chloride	Total Xylenes	1,4-Di-chloro-benzene	cis-1,2-Dichloro-ethene	Dichloro-difluoro-methane	trans-1,2-Dichloro-ethene	1,2-Di-chloro-benzene
MW-5A	8-May-07	**1.3**	**2.9**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**9.2**	**3.5**	2.0 U	1.0 U	1.0 U
MW-5A	7-Nov-07	**1.3**	**2.7**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**7.1**	**4.0**	2.0 U	1.0 U	1.0 U
MW-5A	22-May-08	**1.2**	**3.0**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**7.3**	**3.9**	2.0 U	1.0 U	1.0 U
MW-5A	12-Nov-08	**2.5**	**6.8**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**11**	**4.7**	2.0 U	1.0 U	1.0 U
MW-5A	6-May-09	**2.7**	**8.4**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**13**	**3.6**	2.0 U	1.0 U	1.0 U
MW-5A	18-Nov-09	**1.5**	**4.8**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**10**	**3.2**	2.0 U	1.0 U	1.0 U
MW-5A	21-Apr-10	**1.0**	**4.5**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**8.2**	**2.3**	2.0 U	1.0 U	1.0 U
MW-5A	6-Oct-10	**1.1**	**3.3**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**6.0**	**2.5**	2.0 U	1.0 U	1.0 U
MW-5A	15-Apr-11	1.0 U	**3.1**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**6.6**	**2.2**	2.0 U	1.0 U	1.0 U
MW-5A	2-Nov-11	1.0 U	**2.8**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**5.3**	**2.4**	2.0 U	1.0 U	1.0 U
MW-5A	1-May-12	1.0 U	**2.5**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**5.3**	**1.8**	2.0 U	1.0 U	1.0 U
MW-5A	15-Nov-12	1.0 U	**2.4**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**5.1**	**1.5**	2.0 U	1.0 U	1.0 U
MW-5A (Dup)	15-Nov-12	1.0 U	**2.4**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**5.2**	**1.5**	2.0 U	1.0 U	1.0 U
MW-5A	10-Apr-13	1.0 U	**2.8**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.4**	**1.7**	2.0 U	1.0 U	1.0 U
MW-5A	20-Nov-13	1.0 U	**1.8**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**4.5**	**1.3**	2.0 U	1.0 U	1.0 U
MW-5A	30-Apr-14	1.0 U	**1.6**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**3.5**	**1.1**	2.0 U	1.0 U	1.0 U
MW-5A	18-Nov-14	1.0 U	**2.0**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**3.6**	**1.2**	2.0 U	1.0 U	1.0 U
MW-5A	6-May-15	1.0 U	**2.1**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**4.8**	**1.3**	2.0 U	1.0 U	1.0 U
MW-5A	11-Nov-15	1.0 U	**3.2**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**8.5**	**1.5**	2.0 U	1.0 U	1.0 U
MW-5A	4-May-16	1.0 U	**1.9**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**3.6**	**1.1**	2.0 U	1.0 U	1.0 U
MW-5A	16-Nov-16	1.0 U	**2.8**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**5.8**	**1.3**	2.0 U	1.0 U	1.0 U
MW-5A	18-Apr-17	**1.1**	**3.1**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**6.0**	**1.8**	2.0 U	1.0 U	1.0 U
MW-5A	8-Nov-17	1.0 U	**3.3**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**6.9**	**1.3**	2.0 U	1.0 U	1.0 U
MW-5A	2-May-18	1.0 U	**2.7**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**4.0**	**1.2**	2.0 U	1.0 U	1.0 U
MW-5A	6-Nov-18	1.0 U	**3.7**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**7.0**	**2.0**	2.0 U	1.0 U	1.0 U
MW-5A	25-Apr-19	1.0 U	**3.2**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**5.7**	**1.1**	2.0 U	1.0 U	1.0 U
MW-5A	19-Nov-19	2.0 U	**3.2**	3.0 U	2.0 U	6.0 U	2.0 U	2.0 U	2.0 U	2.0 U	3.0 U	**5.2**	**1.4**	3.0 U	2.0 U	2.0 U
MW-5A	23-Apr-20	1.0 U	**2.6**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**3.9**	1.0 U	2.0 U	1.0 U	1.0 U
MW-5A	10-Nov-20	1.0 U	**4.0**	2.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**6.3**	**1.7**	2.0 U	1.0 U	1.0 U

NOTE:
D = compound identified in analysis at secondary dilution; E = estimated value; J = reported values above instrument detection limit and below reporting limit; U = not detected at or above the reporting limit.

Table 6-5
Field Parameters in Surface Water Samples
Riverbend Landfill

Sample Location	Date Collected	pH (S.U.)	ORP (mV)	Specific Conductance (µS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)
SYR MW-12A	22-Dec-16	7.31	169.6	92	4.3	11.45
SYR MW-12A	8-Feb-18	7.11	219.4	87	9.3	7.42
SYR MW-12A	3-May-18	7.08	61.9	96	19.8	7.75
SYR MW-12A	23-Apr-19	7.13	102.5	101	16.0	10.56
SYR MW-12A	23-Apr-20	7.54	146.4	102	17.0	7.18
SYR SW-1 (Upstream)	3-May-12	6.46	94.8	82	11.1	11.28
SYR SW-1 (Upstream)	17-Apr-13	6.17	153.0	96	8.7	12.13
SYR SW-1 (Upstream)	23-May-13	6.96	-70.9	106	14.8	8.81
SYR SW-1 (Upstream)	1-May-14	6.74	113.4	90	14.3	9.76
SYR SW-1 (Upstream)	11-May-15	7.42	92.3	91	16.5	8.37
SYR SW-1 (Upstream)	2-May-16	8.02	15.9	103	18.3	11.06
SYR SW-1 (Upstream)	19-Apr-17	5.83	125.7	89	11.6	11.43
SYR SW-1 (Upstream)	3-May-18	6.88	67.4	97	14.8	8.07
SYR SW-1 (Upstream)	23-Apr-19	6.76	116.3	101	14.9	10.50
SYR SW-1 (Upstream)	23-Apr-20	7.53	151.0	99	13.8	9.41
SYR SW-2 (Downstream)	3-May-12	7.04	65.2	82	11.1	11.28
SYR SW-2 (Downstream)	17-Apr-13	5.72	183.8	96	8.2	11.30
SYR SW-2 (Downstream)	23-May-13	6.35	-16.0	106	13.8	9.07
SYR SW-2 (Downstream)	1-May-14	5.82	160.5	90	14.0	8.98
SYR SW-2 (Downstream)	11-May-15	7.58	95.8	85	17.6	7.46
SYR SW-2 (Downstream)	2-May-16	7.94	-3.7	108	18.4	8.86
SYR SW-2 (Downstream)	19-Apr-17	6.55	115.1	79	10.6	10.71
SYR SW-2 (Downstream)	3-May-18	7.08	94.0	96	17.7	9.00
SYR SW-2 (Downstream)	23-Apr-19	6.83	105.0	99	14.5	10.91
SYR SW-2 (Downstream)	23-Apr-20	7.23	132.8	95.7	14.8	8.50

NOTE:
S.U. = standard pH units; mV = millivolts; µS/cm = microSiemens per centimeter; °C = degrees Celsius;
mg/L = milligrams per liter.

Table 6-6
Anions and Cations in Surface Water Samples
(mg/L)
Riverbend Landfill

Sample Location	Date Collected	Anions						Cations					
		Ammonia	Nitrate+Nitrite	Carbonate	Bicarbonate	Sulfate	Chloride	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium
SYR MW-12A	3-May-18	0.072	0.25	5.0 U	35	4.2	4.3	9.1	4.90	3.5	0.086	0.77	5.9
SYR MW-12A (Dup)	3-May-18	0.050 U	0.26	6.0 U	35	4.4	4.60	9.0	2.90	3.3	0.071	0.59	5.8
SYR MW-12A	23-Apr-19	0.087	0.62	10 U	32	5.6	5.0	12.0	16.0	6.7	0.420	0.96	6.3
SYR MW-12A	23-Apr-20	0.051	0.26	10 U	40	5.5	5.1	9.9	4.6	4.0	0.087	0.69	7.2
SYR SW-1 (Upstream)[a]	3-May-12	0.058	0.20	5.0 U	29	4.4	4.8	6.8	0.056	2.5	0.0140	0.50 U	5.3
SYR SW-1 (Upstream)[a]	17-Apr-13	0.050 U	0.28	5.0 U	27	4.8	5.1	6.9	0.037	2.4	0.0096	0.58	5.3
SYR SW-1 (Upstream)	1-May-14	0.050 U	0.36	5.0 U	28	6.2	5.2	6.8	1.100	2.7	0.0220	0.56	5.4
SYR SW-1 (Upstream)	11-May-15	0.050 U	0.17	5.0 U	35	4.3	5.4	8.5	0.440	2.8	0.0180	0.50	6.6
SYR SW-1 (Upstream)	2-May-16	0.050 U	0.19	5.0 U	33	4.5	4.4	8.1	0.520	2.8	0.0190	0.50 U	6.0
SYR SW-1 (Upstream)	19-Apr-17	0.050 U	0.34	5.0 U	26	4.5	4.4	6.7	1.100	2.3	0.0220	0.50 U	5.0
SYR SW-1 (Upstream)	3-May-18	0.053	0.30	6.0 U	35	4.3	4.3	8.2	0.600	2.7	0.0220	0.54	5.7
SYR SW-1 (Upstream)	23-Apr-19	0.050 U	0.63	10 U	32	5.0	5.0	8.4	1.300	2.9	0.0260	0.50	6.0
SYR SW-1 (Upstream)	23-Apr-20	0.050 U	0.26	10 U	39	5.2	5.0	8.9	0.500	3.0	0.0170	0.50 U	6.9
SYR SW-2 (Downstream)[a]	3-May-12	0.050 U	0.23	5.0 U	28	4.6	4.8	6.7	0.038	2.4	0.0120	0.50 U	5.0
SYR SW-2 (Downstream)[a]	17-Apr-13	0.053	0.30	5.0 U	27	4.8	4.9	6.9	0.035	2.4	0.0094	0.51	5.3
SYR SW-2 (Downstream)	1-May-14	0.120	0.43	5.0 U	26	5.1	4.6	6.7	1.200	2.6	0.0240	0.56	5.5
SYR SW-2 (Downstream)	11-May-15	0.050 U	0.17	5.0 U	36	4.3	5.5	8.6	0.540	2.8	0.0220	0.51	6.6
SYR SW-2 (Downstream)	2-May-16	0.050 U	0.05 U	5.0 U	33	4.6	4.5	8.2	0.440	2.8	0.0180	0.52	6.0
SYR SW-2 (Downstream)	19-Apr-17	0.050 U	0.33	5.0 U	26	4.3	3.6	6.4	1.200	2.2	0.0230	0.50 U	4.8
SYR SW-2 (Downstream)	3-May-18	0.059	0.29	6.0 U	35	4.2	4.1	8.9	2.600	3.2	0.0680	0.59	5.7
SYR SW-2 (Downstream)	23-Apr-19	0.051	0.63	10 U	32	5.0	5.0	8.1	1.100	2.7	0.0230	0.50 U	5.7
SYR SW-2 (Downstream)	23-Apr-20	0.050 U	0.19	10 U	39	5.2	5.0	9.0	1.300	3.1	0.0260	0.50 U	6.9

NOTE:

[a] Consistent with the site's updated environmental monitoring plan, laboratory analysis of dissolved-phase cations were replaced with total in 2014.

mg/L = milligrams per liter; U = not detected at or above the method reporting limit listed; Dup = duplicate sample.

Table 6-7
Laboratory Indicator Parameters in Surface Water Samples
Riverbend Landfill

Sample Location	Date Collected	Laboratory pH (S.U.)	Laboratory Specific Conductance (µmhos/cm)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Chemical Oxygen Demand (mg/L)	Total Organic Carbon (mg/L)	Hardness (Dissolved) (as $CaCO_3$) (mg/L)	Total Alkalinity (mg/L)
SYR MW-12A	3-May-18	7.6	110	51	180	10 U	1.4	43	35
SYR MW-12A (Dup)	3-May-18	7.7	100	51	230	10 U	1.2	46	35
SYR MW-12A	23-Apr-19	7.5	96	69	240	10 U	1.0	39	32
SYR MW-12A	23-Apr-20	7.4	100	66	44	20 U	1.2	38	40
SYR SW-1 (Upstream)	3-May-12	7.71	80	73	22	10 U	1.3	27	29
SYR SW-1 (Upstream)	17-Apr-13	7.49	84	33	9.2	10 U	1.5	34 B	27
SYR SW-1 (Upstream)	1-May-14	7.38	86	43	16	11	1.0 U	43	28
SYR SW-1 (Upstream)	11-May-15	7.56	120	59	6.8 H	10 U	1.0	53	35
SYR SW-1 (Upstream)	2-May-16	7.57	75	63	6.8	10 U	1.3	38	33
SYR SW-1 (Upstream)	19-Apr-17	7.6	78	71	16	10 U	1.2	22	26
SYR SW-1 (Upstream)	3-May-18	7.7	110	52	8.4	10 U	1.2	38	35
SYR SW-1 (Upstream)	23-Apr-19	7.4	94	74	15	10 U	1.1	27	32
SYR SW-1 (Upstream)	23-Apr-20	7.9	100	64	7.2	20 U	1.2	45	39
SYR SW-2 (Downstream)	3-May-12	7.65	82	68	31	10 U	1.5	27	28
SYR SW-2 (Downstream)	17-Apr-13	7.55	83	35	11	10 U	1.5	30 B	27
SYR SW-2 (Downstream)	1-May-14	7.36	85	50	18	14	1.0 U	41	26
SYR SW-2 (Downstream)	11-May-15	7.67	110	60	17 H	10 U	1.2	56	36
SYR SW-2 (Downstream)	2-May-16	7.54	72	73	7.2	10 U	1.3	34	33
SYR SW-2 (Downstream)	19-Apr-17	7.7	78	69	15	10 U	1.2	34	26
SYR SW-2 (Downstream)	3-May-18	7.7	110	58	24	10 U	1.1	39	35
SYR SW-2 (Downstream)	23-Apr-19	7.5	95	68	10	10 U	1.2	34	32
SYR SW-2 (Downstream)	23-Apr-20	6.7	100	61	42	20 U	1.2	43	39

NOTE:
S.U. = standard pH units; µmhos/cm = micromhos per centimeter; mg/L = milligrams per liter; U = not detected at or above the method reporting limit listed;
Dup = duplicate sample; B = compound was detected in the associated laboratory method blank sample; H = sample was prepped or analyzed past the analytical holding time.

Table 6-8
Supplemental Parameters in Surface Water Samples
Riverbend Landfill

Sample Location	Date Collected	Fecal Coliform (MPN/100mL)	E. coli (MPN/100mL)	Biochemical Oxygen Demand (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Ortho-phosphate (mg/L)	Total Phosphorus (mg/L)	Total Organic Halogens (ug/L)
SYR MW-12A	3-May-18	6	14	2.0 U	0.50 U	0.020 U	0.010	39 U
SYR MW-12A (Dup)	3-May-18	6	15	2.0 U	0.50 U	0.020 U	0.048	39 U
SYR MW-12A	23-Apr-19	24	60	2.0 U	1.0 U	0.020 U	0.050 U	39 U
SYR MW-12A	23-Apr-20	36	60	2.0 U	1.0 U	0.066	0.050 U	15 U
SYR SW-1 (Upstream)	3-May-12	300	460	2.4	0.89	0.020 U	0.028	15 U
SYR SW-1 (Upstream)	17-Apr-13	NS	NS	2.0 U	0.50 U	0.020 U	0.020 U	15 U
SYR SW-1 (Upstream)	23-May-13	365	1,046	NS	NS	NS	NS	NS
SYR SW-1 (Upstream)	1-May-14	23	41	2.0 U	0.50 U	0.020 U	0.021	15 U
SYR SW-1 (Upstream)	11-May-15	18	99	2.0 U	0.50 U	0.020 U	0.020 U	17
SYR SW-1 (Upstream)	2-May-16	11	23	2.0 U	2.6	0.020 U	0.020 U	15 U
SYR SW-1 (Upstream)	19-Apr-17	23	28	2.0 U	0.5 U	0.020 U	0.030	15 U
SYR SW-1 (Upstream)	3-May-18	10	16	2.0 U	0.5 U	0.020 U	0.020 U	39 U
SYR SW-1 (Upstream)	23-Apr-19	16	43	2.0 U	1.0 U	0.020 U	0.050 U	39 U
SYR SW-1 (Upstream)	23-Apr-20	20	67	2.0 U	0.3 U	0.020 U	0.050 U	15 U
SYR SW-2 (Downstream)	3-May-12	900	260	2.9	0.50 U	0.020 U	0.040	16
SYR SW-2 (Downstream)	17-Apr-13	NS	NS	2.0 U	0.50 U	0.020 U, H	0.020 U	15 U
SYR SW-2 (Downstream)	23-May-13	127	435	NS	NS	NS	NS	NS
SYR SW-2 (Downstream)	1-May-14	33	42	2.0 U	0.50 U	0.020 U	0.021	15 U
SYR SW-2 (Downstream)	11-May-15	11	40	2.0 U	0.50 U	0.020 U	0.020 U	15 U
SYR SW-2 (Downstream)	2-May-16	8.0	22	2.0 U	0.50 U	0.020 U	0.020 U	15 U
SYR SW-2 (Downstream)	19-Apr-17	24.0	27	2.0 U	0.50 U	0.020 U	0.032	15 U
SYR SW-2 (Downstream)	3-May-18	7	23	2.0 U	0.50 U	0.020 U	0.023	39 U
SYR SW-2 (Downstream)	23-Apr-19	14	20	2.0 U	1.0 U	0.020 U	0.050 U	39 U
SYR SW-2 (Downstream)	23-Apr-20	36	69	2.0 U	0.3 U	0.020 U	0.050 U	15 U

NOTE:
MPN/100mL = most probable number per 100 milliliters; mg/L = milligrams per liter; ug/L = micrograms per liter; U = not detected at or above the method reporting limit listed;
Dup = duplicate sample; NS = not sampled for or analyzed; H = sample was prepped or analyzed past the analytical holding time.

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Compliance Boundary Landfill Gas Probes		
CGP-09R	8-Oct-97	0.1
CGP-09R	17-Oct-97	0.0
CGP-09R	25-Nov-97	0.0
CGP-09R	15-Dec-97	0.0
CGP-09R	2-Jan-98	0.0
CGP-09R	23-Feb-98	0.0
CGP-09R	5-Mar-98	0.0
CGP-09R	7-Apr-98	0.0
CGP-09R	6-May-98	0.0
CGP-09R	5-Jun-98	0.0
CGP-09R	7-Jul-98	0.0
CGP-09R	4-Aug-98	0.0
CGP-09R	8-Sep-98	0.0
CGP-09R	13-Oct-98	0.0
CGP-09R	10-Nov-98	0.0
CGP-09R	9-Dec-98	0.0
CGP-09R	5-Jan-99	0.0
CGP-09R	4-Feb-99	0.0
CGP-09R	5-Mar-99	0.0
CGP-09R	7-Apr-99	0.0
CGP-09R	13-May-99	0.0
CGP-09R	22-Jun-99	0.0
CGP-09R	9-Jul-99	0.0
CGP-09R	4-Aug-99	0.0
CGP-09R	9-Sep-99	0.0
CGP-09R	8-Oct-99	0.0
CGP-09R	10-Nov-99	0.0
CGP-09R	3-Dec-99	0.0
CGP-09R	6-Jan-00	0.0
CGP-09R	7-Feb-00	0.0
CGP-09R	6-Mar-00	0.0
CGP-09R	7-Apr-00	0.0
CGP-09R	18-May-00	0.0
CGP-09R	6-Jun-00	0.0
CGP-09R	20-Jul-00	0.0
CGP-09R	8-Aug-00	0.0
CGP-09R	7-Sep-00	0.0
CGP-09R	4-Oct-00	0.0
CGP-09R	22-Nov-00	0.0
CGP-09R	8-Dec-00	0.0
CGP-09R	10-Jan-01	0.0
CGP-09R	9-Feb-01	0.0
CGP-09R	1-Mar-01	0.0
CGP-09R	5-Apr-01	0.0
CGP-09R	4-May-01	0.0
CGP-09R	7-Jun-01	0.0
CGP-09R	12-Jul-01	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-09R	7-Aug-01	0.0
CGP-09R	6-Sep-01	0.0
CGP-09R	5-Oct-01	0.0
CGP-09R	1-Nov-01	0.0
CGP-09R	4-Dec-01	0.0
CGP-09R	16-Jan-02	0.0
CGP-09R	5-Feb-02	0.0
CGP-09R	12-Mar-02	0.0
CGP-09R	4-Apr-02	0.0
CGP-09R	2-May-02	0.0
CGP-09R	4-Jun-02	0.0
CGP-09R	5-Jul-02	0.0
CGP-09R	6-Aug-02	0.0
CGP-09R	5-Sep-02	0.0
CGP-09R	10-Oct-02	0.0
CGP-09R	7-Nov-02	0.0
CGP-09R	3-Dec-02	0.0
CGP-09R	9-Jan-03	0.0
CGP-09R	5-Feb-03	0.0
CGP-09R	13-Mar-03	0.0
CGP-09R	3-Apr-03	0.0
CGP-09R	2-May-03	0.0
CGP-09R	4-Jun-03	0.0
CGP-09R	8-Jul-03	0.0
CGP-09R	5-Aug-03	0.0
CGP-09R	16-Sep-03	0.0
CGP-09R	2-Oct-03	0.0
CGP-09R	5-Nov-03	0.0
CGP-09R	4-Dec-03	0.0
CGP-09R	12-Jan-04	0.0
CGP-09R	5-Feb-04	0.0
CGP-09R	5-Mar-04	0.0
CGP-09R	8-Apr-04	0.0
CGP-09R	4-May-04	0.0
CGP-09R	2-Jun-04	0.0
CGP-09R	8-Jul-04	0.0
CGP-09R	4-Aug-04	0.0
CGP-09R	2-Sep-04	0.0
CGP-09R	6-Oct-04	0.0
CGP-09R	1-Nov-04	0.0
CGP-09R	6-Dec-04	0.0
CGP-09R	7-Jan-05	0.0
CGP-09R	7-Feb-05	0.0
CGP-09R	8-Mar-05	0.0
CGP-09R	1-Apr-05	0.0
CGP-09R	5-May-05	0.0
CGP-09R	10-Jun-05	0.0
CGP-09R	1-Jul-05	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-09R	4-Aug-05	0.0
CGP-09R	2-Sep-05	0.0
CGP-09R	3-Oct-05	0.0
CGP-09R	3-Nov-05	0.0
CGP-09R	5-Dec-05	0.0
CGP-09R	26-Jan-06	0.0
CGP-09R	23-Feb-06	0.0
CGP-09R	1-Mar-06	0.0
CGP-09R	5-Apr-06	0.0
CGP-09R	18-May-06	0.0
CGP-09R	2-Jun-06	0.0
CGP-09R	7-Jul-06	0.0
CGP-09R	1-Aug-06	0.0
CGP-09R	12-Sep-06	0.0
CGP-09R	3-Oct-06	0.0
CGP-09R	16-Nov-06	0.0
CGP-09R	12-Dec-06	0.0
CGP-09R	17-Jan-07	0.0
CGP-09R	7-Feb-07	0.0
CGP-09R	2-Mar-07	0.0
CGP-09R	3-Apr-07	0.0
CGP-09R	3-May-07	0.0
CGP-09R	1-Jun-07	0.0
CGP-09R	17-Jul-07	0.0
CGP-09R	21-Aug-07	0.0
CGP-09R	10-Sep-07	0.0
CGP-09R	3-Oct-07	0.0
CGP-09R	1-Nov-07	0.0
CGP-09R	13-Dec-07	0.0
CGP-09R	8-Jan-08	0.0
CGP-09R	25-Feb-08	0.0
CGP-09R	5-Mar-08	0.0
CGP-09R	24-Apr-08	0.0
CGP-09R	2-May-08	0.0
CGP-09R	2-Jun-08	0.0
CGP-09R	15-Jul-08	0.0
CGP-09R	4-Aug-08	0.0
CGP-09R	5-Sep-08	0.0
CGP-09R	21-Oct-08	0.0
CGP-09R	26-Nov-08	0.0
CGP-09R	1-Dec-08	0.0
CGP-09R	14-Jan-09	0.0
CGP-09R	2-Feb-09	0.2
CGP-09R	12-Mar-09	0.0
CGP-09R	10-Apr-09	0.0
CGP-09R	8-May-09	0.2
CGP-09R	8-Jun-09	0.0
CGP-09R	24-Jul-09	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-09R	17-Aug-09	0.0
CGP-09R	24-Sep-09	0.0
CGP-09R	12-Oct-09	0.0
CGP-09R	10-Nov-09	0.0
CGP-09R	28-Dec-09	0.0
CGP-09R	21-Jan-10	0.0
CGP-09R	11-Feb-10	0.0
CGP-09R	10-Mar-10	0.0
CGP-09R	9-Apr-10	0.0
CGP-09R	7-May-10	0.0
CGP-09R	2-Jun-10	0.0
CGP-09R	9-Jul-10	0.0
CGP-09R	4-Aug-10	0.0
CGP-09R	14-Sep-10	0.0
CGP-09R	11-Oct-10	0.0
CGP-09R	5-Nov-10	0.0
CGP-09R	8-Dec-10	0.0
CGP-09R	10-Jan-11	0.0
CGP-09R	17-Feb-11	0.0
CGP-09R	10-Mar-11	0.0
CGP-09R	30-Mar-11	0.0
CGP-09R	21-Apr-11	0.0
CGP-09R	4-May-11	0.0
CGP-09R	11-May-11	0.0
CGP-09R	9-Jun-11	0.0
CGP-09R	8-Jul-11	0.0
CGP-09R	28-Jul-11	0.0
CGP-09R	10-Aug-11	0.0
CGP-09R	9-Sep-11	0.0
CGP-09R	14-Oct-11	0.0
CGP-09R	3-Nov-11	0.0
CGP-09R	9-Nov-11	0.0
CGP-09R	13-Dec-11	0.0
CGP-09R	12-Jan-12	0.0
CGP-09R	4-May-12	0.0
CGP-09R	23-Aug-12	0.0
CGP-09R	15-Nov-12	0.0
CGP-09R	21-Mar-13	0.0
CGP-09R	12-Apr-13	0.0
CGP-09R	12-Jul-13	0.0
CGP-09R	25-Oct-13	0.0
CGP-09R	13-Mar-14	0.0
CGP-09R	2-Jun-14	0.0
CGP-09R	31-Jul-14	0.0
CGP-09R	15-Dec-14	0.0
CGP-09R	4-Mar-15	0.0
CGP-09R	14-May-15	0.0
CGP-09R	16-Jul-15	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-09R	12-Nov-15	0.0
CGP-09R	22-Mar-16	0.0
CGP-09R	7-Apr-16	0.0
CGP-09R	9-Sep-16	0.0
CGP-09R	15-Nov-16	0.0
CGP-09R	1-Mar-17	0.0
CGP-09R	17-Apr-17	0.0
CGP-09R	13-Sep-17	0.0
CGP-09R	8-Nov-17	0.0
CGP-09R	14-Mar-18	0.0
CGP-09R	24-Apr-18	0.0
CGP-09R	2-Aug-18	0.0
CGP-09R	5-Nov-18	0.0
CGP-09R	25-Jan-19	0.2
CGP-09R	29-Apr-19	0.0
CGP-09R	1-Aug-19	0.0
CGP-09R	21-Nov-19	2.6
CGP-09R	19-Feb-20	1.2
CGP-09R	29-May-20	0.5
CGP-09R	21-Sep-20	0.0
CGP-09R	9-Nov-20	0.0
CGP-10R	26-Nov-08	0.0
CGP-10R	1-Dec-08	0.0
CGP-10R	14-Jan-09	0.0
CGP-10R	2-Feb-09	0.0
CGP-10R	12-Mar-09	0.0
CGP-10R	10-Apr-09	0.0
CGP-10R	8-May-09	0.0
CGP-10R	8-Jun-09	0.0
CGP-10R	24-Jul-09	0.0
CGP-10R	17-Aug-09	0.0
CGP-10R	24-Sep-09	0.0
CGP-10R	12-Oct-09	0.0
CGP-10R	10-Nov-09	0.0
CGP-10R	28-Dec-09	0.0
CGP-10R	21-Jan-10	0.0
CGP-10R	11-Feb-10	0.0
CGP-10R	10-Mar-10	0.0
CGP-10R	9-Apr-10	0.0
CGP-10R	7-May-10	0.0
CGP-10R	2-Jun-10	0.0
CGP-10R	9-Jul-10	0.0
CGP-10R	4-Aug-10	0.0
CGP-10R	14-Sep-10	0.0
CGP-10R	11-Oct-10	0.0
CGP-10R	5-Nov-10	0.0
CGP-10R	8-Dec-10	0.0
CGP-10R	10-Jan-11	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-10R	17-Feb-11	0.0
CGP-10R	10-Mar-11	0.0
CGP-10R	30-Mar-11	0.0
CGP-10R	21-Apr-11	0.0
CGP-10R	4-May-11	0.0
CGP-10R	11-May-11	0.0
CGP-10R	9-Jun-11	0.0
CGP-10R	8-Jul-11	0.0
CGP-10R	28-Jul-11	0.0
CGP-10R	10-Aug-11	0.0
CGP-10R	9-Sep-11	0.0
CGP-10R	14-Oct-11	0.0
CGP-10R	3-Nov-11	0.0
CGP-10R	9-Nov-11	0.0
CGP-10R	13-Dec-11	0.0
CGP-10R	12-Jan-12	0.0
CGP-10R	4-May-12	0.0
CGP-10R	23-Aug-12	0.0
CGP-10R	15-Nov-12	0.0
CGP-10R	21-Mar-13	0.0
CGP-10R	12-Apr-13	0.0
CGP-10R	12-Jul-13	0.0
CGP-10R	25-Oct-13	0.0
CGP-10R	13-Mar-14	0.0
CGP-10R	2-Jun-14	0.0
CGP-10R	31-Jul-14	0.0
CGP-10R	15-Dec-14	0.0
CGP-10R	4-Mar-15	0.0
CGP-10R	14-May-15	0.0
CGP-10R	16-Jul-15	0.0
CGP-10R	12-Nov-15	0.0
CGP-10R	22-Mar-16	0.0
CGP-10R	7-Apr-16	0.0
CGP-10R	9-Sep-16	0.0
CGP-10R	15-Nov-16	0.0
CGP-10R	1-Mar-17	0.0
CGP-10R	17-Apr-17	0.0
CGP-10R	13-Sep-17	0.0
CGP-10R	8-Nov-17	0.0
CGP-10R	14-Mar-18	0.0
CGP-10R	24-Apr-18	0.0
CGP-10R	2-Aug-18	0.0
CGP-10R	5-Nov-18	0.0
CGP-10R	25-Jan-19	0.0
CGP-10R	29-Apr-19	0.0
CGP-10R	1-Aug-19	0.0
CGP-10R	21-Nov-19	0.0
CGP-10R	19-Feb-20	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-10R	29-May-20	0.0
CGP-10R	21-Sep-20	0.0
CGP-10R	9-Nov-20	0.0
CGP-11	8-Oct-97	0.1
CGP-11	17-Oct-97	0.0
CGP-11	25-Nov-97	0.0
CGP-11	15-Dec-97	0.0
CGP-11	2-Jan-98	0.5
CGP-11	23-Feb-98	0.0
CGP-11	5-Mar-98	0.0
CGP-11	7-Apr-98	0.0
CGP-11	6-May-98	0.0
CGP-11	5-Jun-98	0.0
CGP-11	7-Jul-98	0.0
CGP-11	4-Aug-98	0.0
CGP-11	8-Sep-98	0.0
CGP-11	13-Oct-98	0.0
CGP-11	10-Nov-98	0.0
CGP-11	9-Dec-98	0.0
CGP-11	5-Jan-99	0.0
CGP-11	4-Feb-99	0.1
CGP-11	5-Mar-99	0.0
CGP-11	7-Apr-99	0.0
CGP-11	13-May-99	0.0
CGP-11	22-Jun-99	0.0
CGP-11	9-Jul-99	0.0
CGP-11	4-Aug-99	0.0
CGP-11	9-Sep-99	0.0
CGP-11	8-Oct-99	0.0
CGP-11	10-Nov-99	0.0
CGP-11	3-Dec-99	0.0
CGP-11	6-Jan-00	0.0
CGP-11	7-Feb-00	0.0
CGP-11	6-Mar-00	0.0
CGP-11	7-Apr-00	0.0
CGP-11	18-May-00	0.0
CGP-11	6-Jun-00	0.0
CGP-11	20-Jul-00	0.0
CGP-11	8-Aug-00	0.0
CGP-11	7-Sep-00	0.0
CGP-11	4-Oct-00	0.0
CGP-11	22-Nov-00	0.0
CGP-11	8-Dec-00	0.0
CGP-11	10-Jan-01	0.0
CGP-11	9-Feb-01	0.0
CGP-11	1-Mar-01	0.0
CGP-11	5-Apr-01	0.0
CGP-11	4-May-01	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-11	7-Jun-01	0.0
CGP-11	12-Jul-01	0.0
CGP-11	7-Aug-01	0.0
CGP-11	6-Sep-01	0.0
CGP-11	5-Oct-01	0.0
CGP-11	1-Nov-01	0.0
CGP-11	4-Dec-01	0.0
CGP-11	16-Jan-02	0.0
CGP-11	5-Feb-02	0.0
CGP-11	12-Mar-02	0.0
CGP-11	4-Apr-02	0.0
CGP-11	2-May-02	0.0
CGP-11	4-Jun-02	0.0
CGP-11	5-Jul-02	0.0
CGP-11	6-Aug-02	0.0
CGP-11	5-Sep-02	0.0
CGP-11	10-Oct-02	0.0
CGP-11	7-Nov-02	0.0
CGP-11	3-Dec-02	0.0
CGP-11	9-Jan-03	0.0
CGP-11	5-Feb-03	0.0
CGP-11	13-Mar-03	0.0
CGP-11	3-Apr-03	0.0
CGP-11	2-May-03	0.0
CGP-11	4-Jun-03	0.0
CGP-11	8-Jul-03	0.0
CGP-11	5-Aug-03	0.0
CGP-11	16-Sep-03	0.0
CGP-11	2-Oct-03	0.0
CGP-11	5-Nov-03	0.0
CGP-11	4-Dec-03	0.0
CGP-11	12-Jan-04	0.0
CGP-11	5-Feb-04	0.0
CGP-11	5-Mar-04	0.0
CGP-11	8-Apr-04	0.0
CGP-11	4-May-04	0.0
CGP-11	2-Jun-04	0.0
CGP-11	8-Jul-04	0.0
CGP-11	4-Aug-04	0.0
CGP-11	2-Sep-04	0.0
CGP-11	6-Oct-04	0.0
CGP-11	1-Nov-04	0.0
CGP-11	6-Dec-04	0.0
CGP-11	7-Jan-05	0.0
CGP-11	7-Feb-05	0.0
CGP-11	8-Mar-05	0.0
CGP-11	1-Apr-05	0.0
CGP-11	5-May-05	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-11	10-Jun-05	0.0
CGP-11	1-Jul-05	0.0
CGP-11	4-Aug-05	0.0
CGP-11	2-Sep-05	0.0
CGP-11	3-Oct-05	0.0
CGP-11	3-Nov-05	0.0
CGP-11	5-Dec-05	0.0
CGP-11	26-Jan-06	0.0
CGP-11	23-Feb-06	0.0
CGP-11	1-Mar-06	0.0
CGP-11	5-Apr-06	0.0
CGP-11	18-May-06	0.0
CGP-11	2-Jun-06	0.0
CGP-11	7-Jul-06	0.0
CGP-11	1-Aug-06	0.0
CGP-11	12-Sep-06	0.0
CGP-11	3-Oct-06	0.0
CGP-11	16-Nov-06	0.0
CGP-11	12-Dec-06	0.0
CGP-11	17-Jan-07	0.0
CGP-11	7-Feb-07	0.0
CGP-11	2-Mar-07	0.0
CGP-11	3-Apr-07	0.0
CGP-11	3-May-07	0.0
CGP-11	1-Jun-07	0.0
CGP-11	17-Jul-07	0.0
CGP-11	21-Aug-07	0.0
CGP-11	10-Sep-07	0.0
CGP-11	3-Oct-07	0.0
CGP-11	1-Nov-07	0.0
CGP-11	13-Dec-07	0.0
CGP-11	8-Jan-08	0.0
CGP-11	25-Feb-08	0.0
CGP-11	5-Mar-08	0.0
CGP-11	24-Apr-08	0.0
CGP-11	2-May-08	0.0
CGP-11	2-Jun-08	0.0
CGP-11	15-Jul-08	0.0
CGP-11	4-Aug-08	0.0
CGP-11	5-Sep-08	0.0
CGP-11	21-Oct-08	0.0
CGP-11	26-Nov-08	0.0
CGP-11	1-Dec-08	0.0
CGP-11	14-Jan-09	0.0
CGP-11	2-Feb-09	0.0
CGP-11	12-Mar-09	0.0
CGP-11	10-Apr-09	0.0
CGP-11	8-May-09	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-11	8-Jun-09	0.0
CGP-11	24-Jul-09	0.0
CGP-11	17-Aug-09	0.0
CGP-11	24-Sep-09	0.0
CGP-11	12-Oct-09	0.0
CGP-11	10-Nov-09	0.0
CGP-11	28-Dec-09	0.0
CGP-11	21-Jan-10	0.0
CGP-11	11-Feb-10	0.0
CGP-11	10-Mar-10	0.0
CGP-11	9-Apr-10	0.0
CGP-11	7-May-10	0.0
CGP-11	2-Jun-10	0.0
CGP-11	9-Jul-10	0.0
CGP-11	4-Aug-10	0.0
CGP-11	14-Sep-10	0.0
CGP-11	11-Oct-10	0.0
CGP-11	5-Nov-10	0.0
CGP-11	8-Dec-10	0.0
CGP-11	10-Jan-11	0.0
CGP-11	17-Feb-11	0.0
CGP-11	10-Mar-11	0.0
CGP-11	30-Mar-11	0.0
CGP-11	21-Apr-11	0.0
CGP-11	4-May-11	0.0
CGP-11	11-May-11	0.0
CGP-11	9-Jun-11	0.0
CGP-11	8-Jul-11	0.0
CGP-11	28-Jul-11	0.0
CGP-11	10-Aug-11	0.0
CGP-11	9-Sep-11	0.0
CGP-11	14-Oct-11	0.0
CGP-11	3-Nov-11	0.0
CGP-11	10-Nov-11	0.0
CGP-11	13-Dec-11	0.0
CGP-11	12-Jan-12	0.0
CGP-11	4-May-12	0.0
CGP-11	23-Aug-12	0.0
CGP-11	15-Nov-12	0.0
CGP-11	21-Mar-13	0.0
CGP-11	12-Apr-13	0.0
CGP-11	12-Jul-13	0.0
CGP-11	25-Oct-13	0.0
CGP-11	13-Mar-14	0.0
CGP-11	2-Jun-14	0.0
CGP-11	31-Jul-14	0.0
CGP-11	15-Dec-14	0.0
CGP-11	4-Mar-15	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-11	14-May-15	0.0
CGP-11	16-Jul-15	0.0
CGP-11	12-Nov-15	0.0
CGP-11	22-Mar-16	0.0
CGP-11	7-Apr-16	0.0
CGP-11	9-Sep-16	0.0
CGP-11	15-Nov-16	0.0
CGP-11	1-Mar-17	0.0
CGP-11	17-Apr-17	0.0
CGP-11	13-Sep-17	0.0
CGP-11	8-Nov-17	0.0
CGP-11	14-Mar-18	0.0
CGP-11	24-Apr-18	0.0
CGP-11	2-Aug-18	0.0
CGP-11	5-Nov-18	0.0
CGP-11	25-Jan-19	0.0
CGP-11	29-Apr-19	0.0
CGP-11	1-Aug-19	0.0
CGP-11	21-Nov-19	0.0
CGP-11	19-Feb-20	0.0
CGP-11	29-May-20	0.0
CGP-11	21-Sep-20	0.0
CGP-11	9-Nov-20	0.0
CGP-12	8-Oct-97	0.0
CGP-12	17-Oct-97	0.0
CGP-12	25-Nov-97	0.0
CGP-12	15-Dec-97	0.0
CGP-12	2-Jan-98	0.0
CGP-12	23-Feb-98	0.0
CGP-12	5-Mar-98	0.0
CGP-12	7-Apr-98	0.0
CGP-12	6-May-98	0.0
CGP-12	5-Jun-98	0.0
CGP-12	7-Jul-98	0.0
CGP-12	4-Aug-98	0.0
CGP-12	8-Sep-98	0.0
CGP-12	13-Oct-98	0.0
CGP-12	10-Nov-98	0.0
CGP-12	9-Dec-98	0.0
CGP-12	5-Jan-99	0.0
CGP-12	4-Feb-99	0.0
CGP-12	5-Mar-99	0.0
CGP-12	7-Apr-99	0.0
CGP-12	13-May-99	0.0
CGP-12	22-Jun-99	0.0
CGP-12	9-Jul-99	0.0
CGP-12	4-Aug-99	0.0
CGP-12	9-Sep-99	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-12	8-Oct-99	0.0
CGP-12	10-Nov-99	0.0
CGP-12	3-Dec-99	0.0
CGP-12	6-Jan-00	0.0
CGP-12	7-Feb-00	0.0
CGP-12	6-Mar-00	0.0
CGP-12	7-Apr-00	0.0
CGP-12	18-May-00	0.0
CGP-12	6-Jun-00	0.0
CGP-12	20-Jul-00	0.0
CGP-12	8-Aug-00	0.0
CGP-12	7-Sep-00	0.0
CGP-12	4-Oct-00	0.0
CGP-12	22-Nov-00	0.0
CGP-12	8-Dec-00	0.0
CGP-12	10-Jan-01	0.0
CGP-12	9-Feb-01	0.0
CGP-12	1-Mar-01	0.0
CGP-12	5-Apr-01	0.0
CGP-12	4-May-01	0.0
CGP-12	7-Jun-01	0.0
CGP-12	12-Jul-01	0.0
CGP-12	7-Aug-01	0.0
CGP-12	6-Sep-01	0.0
CGP-12	5-Oct-01	0.0
CGP-12	1-Nov-01	0.0
CGP-12	4-Dec-01	0.0
CGP-12	16-Jan-02	0.0
CGP-12	5-Feb-02	0.0
CGP-12	12-Mar-02	0.0
CGP-12	4-Apr-02	0.0
CGP-12	2-May-02	0.0
CGP-12	4-Jun-02	0.0
CGP-12	5-Jul-02	0.0
CGP-12	6-Aug-02	0.0
CGP-12	5-Sep-02	0.0
CGP-12	10-Oct-02	0.0
CGP-12	7-Nov-02	0.0
CGP-12	3-Dec-02	0.0
CGP-12	9-Jan-03	0.0
CGP-12	5-Feb-03	0.0
CGP-12	13-Mar-03	0.0
CGP-12	3-Apr-03	0.0
CGP-12	2-May-03	0.0
CGP-12	4-Jun-03	0.0
CGP-12	8-Jul-03	0.0
CGP-12	5-Aug-03	0.0
CGP-12	16-Sep-03	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-12	2-Oct-03	0.0
CGP-12	5-Nov-03	0.0
CGP-12	4-Dec-03	0.0
CGP-12	12-Jan-04	0.0
CGP-12	5-Feb-04	0.0
CGP-12	5-Mar-04	0.0
CGP-12	8-Apr-04	0.0
CGP-12	4-May-04	0.0
CGP-12	2-Jun-04	0.0
CGP-12	8-Jul-04	0.0
CGP-12	4-Aug-04	0.0
CGP-12	2-Sep-04	0.0
CGP-12	6-Oct-04	0.0
CGP-12	1-Nov-04	0.0
CGP-12	6-Dec-04	0.0
CGP-12	7-Jan-05	0.0
CGP-12	7-Feb-05	0.0
CGP-12	8-Mar-05	0.0
CGP-12	1-Apr-05	0.0
CGP-12	5-May-05	0.0
CGP-12	10-Jun-05	0.0
CGP-12	1-Jul-05	0.0
CGP-12	4-Aug-05	0.0
CGP-12	2-Sep-05	0.0
CGP-12	3-Oct-05	0.0
CGP-12	3-Nov-05	0.0
CGP-12	5-Dec-05	0.0
CGP-12	26-Jan-06	0.0
CGP-12	23-Feb-06	0.0
CGP-12	1-Mar-06	0.0
CGP-12	5-Apr-06	0.0
CGP-12	18-May-06	0.0
CGP-12	2-Jun-06	0.0
CGP-12	7-Jul-06	0.0
CGP-12	12-Sep-06	0.0
CGP-12	3-Oct-06	0.0
CGP-12	16-Nov-06	0.0
CGP-12	12-Dec-06	0.0
CGP-12	17-Jan-07	0.0
CGP-12	7-Feb-07	0.0
CGP-12	2-Mar-07	0.0
CGP-12	3-Apr-07	0.0
CGP-12	3-May-07	0.0
CGP-12	1-Jun-07	0.0
CGP-12	17-Jul-07	0.0
CGP-12	21-Aug-07	0.0
CGP-12	10-Sep-07	0.0
CGP-12	3-Oct-07	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-12	1-Nov-07	0.0
CGP-12	13-Dec-07	0.0
CGP-12	8-Jan-08	0.0
CGP-12	25-Feb-08	0.0
CGP-12	5-Mar-08	0.0
CGP-12	24-Apr-08	0.0
CGP-12	2-May-08	0.0
CGP-12	2-Jun-08	0.0
CGP-12	15-Jul-08	0.0
CGP-12	4-Aug-08	0.0
CGP-12	5-Sep-08	0.0
CGP-12	21-Oct-08	0.0
CGP-12	26-Nov-08	0.0
CGP-12	1-Dec-08	0.0
CGP-12	14-Jan-09	0.0
CGP-12	2-Feb-09	0.0
CGP-12	12-Mar-09	0.0
CGP-12	10-Apr-09	0.0
CGP-12	8-May-09	0.0
CGP-12	8-Jun-09	0.0
CGP-12	24-Jul-09	0.0
CGP-12	17-Aug-09	0.0
CGP-12	24-Sep-09	0.0
CGP-12	12-Oct-09	0.0
CGP-12	10-Nov-09	0.0
CGP-12	28-Dec-09	0.0
CGP-12	21-Jan-10	0.0
CGP-12	11-Feb-10	0.0
CGP-12	10-Mar-10	0.0
CGP-12	9-Apr-10	0.0
CGP-12	7-May-10	0.0
CGP-12	2-Jun-10	0.0
CGP-12	9-Jul-10	0.0
CGP-12	4-Aug-10	0.0
CGP-12	14-Sep-10	0.0
CGP-12	11-Oct-10	0.0
CGP-12	5-Nov-10	0.0
CGP-12	8-Dec-10	0.0
CGP-12	10-Jan-11	0.0
CGP-12	17-Feb-11	0.0
CGP-12	10-Mar-11	0.0
CGP-12	30-Mar-11	0.0
CGP-12	21-Apr-11	0.0
CGP-12	4-May-11	0.0
CGP-12	11-May-11	0.0
CGP-12	9-Jun-11	0.0
CGP-12	8-Jul-11	0.0
CGP-12	28-Jul-11	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-12	10-Aug-11	0.0
CGP-12	9-Sep-11	0.0
CGP-12	14-Oct-11	0.0
CGP-12	3-Nov-11	0.0
CGP-12	10-Nov-11	0.0
CGP-12	13-Dec-11	0.0
CGP-12	12-Jan-12	0.0
CGP-12	4-May-12	0.0
CGP-12	23-Aug-12	0.0
CGP-12	15-Nov-12	0.0
CGP-12	21-Mar-13	0.0
CGP-12	12-Apr-13	0.0
CGP-12	12-Jul-13	0.0
CGP-12	25-Oct-13	0.0
CGP-12	13-Mar-14	0.0
CGP-12	2-Jun-14	0.0
CGP-12	31-Jul-14	0.0
CGP-12	15-Dec-14	0.0
CGP-12	4-Mar-15	0.0
CGP-12	14-May-15	0.0
CGP-12	16-Jul-15	0.0
CGP-12	12-Nov-15	0.0
CGP-12	22-Mar-16	0.0
CGP-12	7-Apr-16	0.0
CGP-12	9-Sep-16	0.0
CGP-12	15-Nov-16	0.0
CGP-12	1-Mar-17	0.0
CGP-12	17-Apr-17	0.0
CGP-12	13-Sep-17	0.0
CGP-12	8-Nov-17	0.0
CGP-12	14-Mar-18	0.0
CGP-12	24-Apr-18	0.0
CGP-12	2-Aug-18	0.0
CGP-12	5-Nov-18	0.0
CGP-12	25-Jan-19	0.0
CGP-12	29-Apr-19	0.0
CGP-12	1-Aug-19	0.0
CGP-12	21-Nov-19	0.0
CGP-12	19-Feb-20	0.0
CGP-12	29-May-20	0.0
CGP-12	21-Sep-20	0.0
CGP-12	9-Nov-20	0.0
CGP-13	12-Jul-13	0.0
CGP-13	25-Oct-13	0.0
CGP-13	13-Mar-14	0.0
CGP-13	2-Jun-14	0.0
CGP-13	31-Jul-14	0.0
CGP-13	15-Dec-14	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
CGP-13	4-Mar-15	0.0
CGP-13	14-May-15	0.0
CGP-13	16-Jul-15	0.0
CGP-13	12-Nov-15	0.0
CGP-13	22-Mar-16	0.0
CGP-13	7-Apr-16	0.0
CGP-13	9-Sep-16	0.0
CGP-13	15-Nov-16	0.0
CGP-13	1-Mar-17	0.0
CGP-13	17-Apr-17	0.0
CGP-13	13-Sep-17	0.0
CGP-13	8-Nov-17	0.0
CGP-13	14-Mar-18	0.0
CGP-13	24-Apr-18	0.0
CGP-13	2-Aug-18	0.0
CGP-13	5-Nov-18	0.0
CGP-13	25-Jan-19	0.0
CGP-13	29-Apr-19	0.0
CGP-13	1-Aug-19	0.0
CGP-13	21-Nov-19	0.0
CGP-14	13-Mar-14	0.0
CGP-14	2-Jun-14	0.0
CGP-14	31-Jul-14	0.0
CGP-14	15-Dec-14	0.0
CGP-14	4-Mar-15	0.0
CGP-14	14-May-15	0.0
CGP-14	16-Jul-15	0.0
CGP-14	12-Nov-15	0.0
CGP-14	22-Mar-16	0.0
CGP-14	7-Apr-16	0.0
CGP-14	9-Sep-16	0.0
CGP-14	15-Nov-16	0.0
CGP-14	1-Mar-17	0.0
CGP-14	17-Apr-17	0.0
CGP-14	13-Sep-17	0.0
CGP-14	8-Nov-17	0.0
CGP-14	14-Mar-18	0.0
CGP-14	24-Apr-18	0.0
CGP-14	2-Aug-18	0.0
CGP-14	5-Nov-18	0.0
CGP-14	25-Jan-19	0.0
CGP-14	29-Apr-19	0.0
CGP-14	1-Aug-19	0.0
CGP-14	21-Nov-19	0.0
CGP-14	19-Feb-20	0.0
CGP-14	29-May-20	0.0
CGP-14	21-Sep-20	0.0
CGP-14	9-Nov-20	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Facility Structures		
Office	8-Oct-97	0.0
Office	17-Oct-97	0.0
Office	25-Nov-97	0.0
Office	15-Dec-97	0.0
Office	2-Jan-98	0.0
Office	23-Feb-98	0.0
Office	5-Mar-98	0.0
Office	7-Apr-98	0.0
Office	6-May-98	0.0
Office	5-Jun-98	0.0
Office	7-Jul-98	0.0
Office	4-Aug-98	0.0
Office	8-Sep-98	0.0
Office	13-Oct-98	0.0
Office	10-Nov-98	0.0
Office	9-Dec-98	0.0
Office	5-Jan-99	0.0
Office	4-Feb-99	0.0
Office	5-Mar-99	0.0
Office	7-Apr-99	0.0
Office	13-May-99	0.0
Office	22-Jun-99	0.0
Office	9-Jul-99	0.0
Office	4-Aug-99	0.0
Office	9-Sep-99	0.0
Office	8-Oct-99	0.0
Office	10-Nov-99	0.0
Office	3-Dec-99	0.0
Office	6-Jan-00	0.0
Office	7-Feb-00	0.0
Office	6-Mar-00	0.0
Office	7-Apr-00	0.0
Office	18-May-00	0.0
Office	6-Jun-00	0.0
Office	20-Jul-00	0.0
Office	8-Aug-00	0.0
Office	7-Sep-00	0.0
Office	4-Oct-00	0.0
Office	22-Nov-00	0.0
Office	8-Dec-00	0.0
Office	10-Jan-01	0.0
Office	9-Feb-01	0.0
Office	1-Mar-01	0.0
Office	5-Apr-01	0.0
Office	4-May-01	0.0
Office	7-Jun-01	0.0
Office	12-Jul-01	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Office	7-Aug-01	0.0
Office	6-Sep-01	0.0
Office	5-Oct-01	0.0
Office	1-Nov-01	0.0
Office	4-Dec-01	0.0
Office	16-Jan-02	0.0
Office	5-Feb-02	0.0
Office	12-Mar-02	0.0
Office	4-Apr-02	0.0
Office	2-May-02	0.0
Office	4-Jun-02	0.0
Office	5-Jul-02	0.0
Office	6-Aug-02	0.0
Office	5-Sep-02	0.0
Office	10-Oct-02	0.0
Office	7-Nov-02	0.0
Office	3-Dec-02	0.0
Office	9-Jan-03	0.0
Office	5-Feb-03	0.0
Office	13-Mar-03	0.0
Office	3-Apr-03	0.0
Office	2-May-03	0.0
Office	4-Jun-03	0.0
Office	8-Jul-03	0.0
Office	5-Aug-03	0.0
Office	16-Sep-03	0.0
Office	2-Oct-03	0.0
Office	5-Nov-03	0.0
Office	4-Dec-03	0.0
Office	12-Jan-04	0.0
Office	5-Feb-04	0.0
Office	5-Mar-04	0.0
Office	8-Apr-04	0.0
Office	4-May-04	0.0
Office	2-Jun-04	0.0
Office	8-Jul-04	0.0
Office	4-Aug-04	0.0
Office	2-Sep-04	0.0
Office	6-Oct-04	0.0
Office	1-Nov-04	0.0
Office	6-Dec-04	0.0
Office	7-Jan-05	0.0
Office	7-Feb-05	0.0
Office	8-Mar-05	0.0
Office	1-Apr-05	0.0
Office	5-May-05	0.0
Office	10-Jun-05	0.0
Office	1-Jul-05	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Office	4-Aug-05	0.0
Office	2-Sep-05	0.0
Office	3-Oct-05	0.0
Office	3-Nov-05	0.0
Office	5-Dec-05	0.0
Office	26-Jan-06	0.0
Office	23-Feb-06	0.0
Office	1-Mar-06	0.0
Office	5-Apr-06	0.0
Office	18-May-06	0.0
Office	2-Jun-06	0.0
Office	7-Jul-06	0.0
Office	1-Aug-06	0.0
Office	12-Sep-06	0.0
Office	3-Oct-06	0.0
Office	16-Nov-06	0.0
Office	17-Jan-07	0.0
Office	7-Feb-07	0.0
Office	2-Mar-07	0.0
Office	3-Apr-07	0.0
Office	3-May-07	0.0
Office	1-Jun-07	0.0
Office	17-Jul-07	0.0
Office	21-Aug-07	0.0
Office	10-Sep-07	0.0
Office	3-Oct-07	0.0
Office	1-Nov-07	0.0
Office	13-Dec-07	0.0
Office	8-Jan-08	0.0
Office	25-Feb-08	0.0
Office	5-Mar-08	0.0
Office	24-Apr-08	0.0
Office	2-May-08	0.0
Office	2-Jun-08	0.0
Office	15-Jul-08	0.0
Office	4-Aug-08	0.0
Office	5-Sep-08	0.0
Office	21-Oct-08	0.0
Office	26-Nov-08	0.0
Office	1-Dec-08	0.0
Office	14-Jan-09	0.0
Office	2-Feb-09	0.0
Office	12-Mar-09	0.0
Office	10-Apr-09	0.0
Office	8-May-09	0.0
Office	8-Jun-09	0.0
Office	24-Jul-09	0.0
Office	17-Aug-09	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Office	24-Sep-09	0.0
Office	12-Oct-09	0.0
Office	10-Nov-09	0.0
Office	28-Dec-09	0.0
Office	21-Jan-10	0.0
Office	11-Feb-10	0.0
Office	10-Mar-10	0.0
Office	9-Apr-10	0.0
Office	7-May-10	0.0
Office	2-Jun-10	0.0
Office	9-Jul-10	0.0
Office	4-Aug-10	0.0
Office	14-Sep-10	0.0
Office	11-Oct-10	0.0
Office	5-Nov-10	0.0
Office	8-Dec-10	0.0
Office	10-Jan-11	0.0
Office	17-Feb-11	0.0
Office	10-Mar-11	0.0
Office	30-Mar-11	0.0
Office	21-Apr-11	0.0
Office	4-May-11	0.0
Office	11-May-11	0.0
Office	9-Jun-11	0.0
Office	8-Jul-11	0.0
Office	28-Jul-11	0.0
Office	10-Aug-11	0.0
Office	9-Sep-11	0.0
Office	14-Oct-11	0.0
Office	3-Nov-11	0.0
Office	9-Nov-11	0.0
Office	13-Dec-11	0.0
Office	12-Jan-12	0.0
Office	4-May-12	0.0
Office	23-Aug-12	0.0
Office	15-Nov-12	0.0
Office	21-Mar-13	0.0
Office	12-Apr-13	0.0
Office	12-Jul-13	0.0
Office	25-Oct-13	0.0
Office	13-Mar-14	0.0
Office	2-Jun-14	0.0
Office	31-Jul-14	0.0
Office	15-Dec-14	0.0
Office	4-Mar-15	0.0
Office	14-May-15	0.0
Office	16-Jul-15	0.0
Office	12-Nov-15	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Office	22-Mar-16	0.0
Office	7-Apr-16	0.0
Office	9-Sep-16	0.0
Office	15-Nov-16	0.0
Office	1-Mar-17	0.0
Office	17-Apr-17	0.0
Office	13-Sep-17	0.0
Office	8-Nov-17	0.0
Office	14-Mar-18	0.0
Office	24-Apr-18	0.0
Office	2-Aug-18	0.0
Office	5-Nov-18	0.0
Office	25-Jan-19	0.0
Office	29-Apr-19	0.0
Office	1-Aug-19	0.0
Office	21-Nov-19	0.0
Office	19-Feb-20	0.0
Office	29-May-20	0.0
Office	21-Sep-20	0.0
Office	9-Nov-20	0.0
Scale House	8-Oct-97	0.0
Scale House	17-Oct-97	0.0
Scale House	25-Nov-97	0.0
Scale House	15-Dec-97	0.0
Scale House	2-Jan-98	0.0
Scale House	23-Feb-98	0.0
Scale House	5-Mar-98	0.0
Scale House	7-Apr-98	0.0
Scale House	6-May-98	0.0
Scale House	5-Jun-98	0.0
Scale House	7-Jul-98	0.0
Scale House	4-Aug-98	0.0
Scale House	8-Sep-98	0.0
Scale House	13-Oct-98	0.0
Scale House	10-Nov-98	0.0
Scale House	9-Dec-98	0.0
Scale House	5-Jan-99	0.0
Scale House	4-Feb-99	0.0
Scale House	5-Mar-99	0.0
Scale House	7-Apr-99	0.0
Scale House	13-May-99	0.0
Scale House	22-Jun-99	0.0
Scale House	9-Jul-99	0.0
Scale House	4-Aug-99	0.0
Scale House	9-Sep-99	0.0
Scale House	8-Oct-99	0.0
Scale House	10-Nov-99	0.0
Scale House	3-Dec-99	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Scale House	6-Jan-00	0.0
Scale House	7-Feb-00	0.0
Scale House	6-Mar-00	0.0
Scale House	7-Apr-00	0.0
Scale House	18-May-00	0.0
Scale House	6-Jun-00	0.0
Scale House	20-Jul-00	0.0
Scale House	8-Aug-00	0.0
Scale House	7-Sep-00	0.0
Scale House	4-Oct-00	0.0
Scale House	22-Nov-00	0.0
Scale House	8-Dec-00	0.0
Scale House	10-Jan-01	0.0
Scale House	9-Feb-01	0.0
Scale House	1-Mar-01	0.0
Scale House	5-Apr-01	0.0
Scale House	4-May-01	0.0
Scale House	7-Jun-01	0.0
Scale House	12-Jul-01	0.0
Scale House	7-Aug-01	0.0
Scale House	6-Sep-01	0.0
Scale House	5-Oct-01	0.0
Scale House	1-Nov-01	0.0
Scale House	4-Dec-01	0.0
Scale House	16-Jan-02	0.0
Scale House	5-Feb-02	0.0
Scale House	12-Mar-02	0.0
Scale House	4-Apr-02	0.0
Scale House	2-May-02	0.0
Scale House	4-Jun-02	0.0
Scale House	5-Jul-02	0.0
Scale House	6-Aug-02	0.0
Scale House	5-Sep-02	0.0
Scale House	10-Oct-02	0.0
Scale House	7-Nov-02	0.0
Scale House	3-Dec-02	0.0
Scale House	9-Jan-03	0.0
Scale House	5-Feb-03	0.0
Scale House	13-Mar-03	0.0
Scale House	3-Apr-03	0.0
Scale House	2-May-03	0.0
Scale House	4-Jun-03	0.0
Scale House	8-Jul-03	0.0
Scale House	5-Aug-03	0.0
Scale House	16-Sep-03	0.0
Scale House	2-Oct-03	0.0
Scale House	5-Nov-03	0.0
Scale House	4-Dec-03	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Scale House	12-Jan-04	0.0
Scale House	5-Feb-04	0.0
Scale House	5-Mar-04	0.0
Scale House	8-Apr-04	0.0
Scale House	4-May-04	0.0
Scale House	2-Jun-04	0.0
Scale House	8-Jul-04	0.0
Scale House	4-Aug-04	0.0
Scale House	2-Sep-04	0.0
Scale House	6-Oct-04	0.0
Scale House	1-Nov-04	0.0
Scale House	6-Dec-04	0.0
Scale House	7-Jan-05	0.0
Scale House	7-Feb-05	0.0
Scale House	8-Mar-05	0.0
Scale House	1-Apr-05	0.0
Scale House	5-May-05	0.0
Scale House	10-Jun-05	0.0
Scale House	1-Jul-05	0.0
Scale House	4-Aug-05	0.0
Scale House	2-Sep-05	0.0
Scale House	3-Oct-05	0.0
Scale House	3-Nov-05	0.0
Scale House	5-Dec-05	0.0
Scale House	26-Jan-06	0.0
Scale House	23-Feb-06	0.0
Scale House	1-Mar-06	0.0
Scale House	5-Apr-06	0.0
Scale House	18-May-06	0.0
Scale House	2-Jun-06	0.0
Scale House	7-Jul-06	0.0
Scale House	1-Aug-06	0.0
Scale House	12-Sep-06	0.0
Scale House	3-Oct-06	0.0
Scale House	16-Nov-06	0.0
Scale House	12-Dec-06	0.0
Scale House	17-Jan-07	0.0
Scale House	7-Feb-07	0.0
Scale House	2-Mar-07	0.0
Scale House	3-Apr-07	0.0
Scale House	3-May-07	0.0
Scale House	1-Jun-07	0.0
Scale House	17-Jul-07	0.0
Scale House	21-Aug-07	0.0
Scale House	10-Sep-07	0.0
Scale House	3-Oct-07	0.0
Scale House	1-Nov-07	0.0
Scale House	13-Dec-07	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Scale House	8-Jan-08	0.0
Scale House	25-Feb-08	0.0
Scale House	5-Mar-08	0.0
Scale House	24-Apr-08	0.0
Scale House	2-May-08	0.0
Scale House	2-Jun-08	0.0
Scale House	15-Jul-08	0.0
Scale House	4-Aug-08	0.0
Scale House	5-Sep-08	0.0
Scale House	21-Oct-08	0.0
Scale House	26-Nov-08	0.0
Scale House	1-Dec-08	0.0
Scale House	14-Jan-09	0.0
Scale House	2-Feb-09	0.0
Scale House	12-Mar-09	0.0
Scale House	10-Apr-09	0.0
Scale House	8-May-09	0.0
Scale House	8-Jun-09	0.0
Scale House	24-Jul-09	0.0
Scale House	17-Aug-09	0.0
Scale House	24-Sep-09	0.0
Scale House	12-Oct-09	0.0
Scale House	10-Nov-09	0.0
Scale House	28-Dec-09	0.0
Scale House	21-Jan-10	0.0
Scale House	11-Feb-10	0.0
Scale House	10-Mar-10	0.0
Scale House	9-Apr-10	0.0
Scale House	7-May-10	0.0
Scale House	2-Jun-10	0.0
Scale House	9-Jul-10	0.0
Scale House	4-Aug-10	0.0
Scale House	14-Sep-10	0.0
Scale House	11-Oct-10	0.0
Scale House	5-Nov-10	0.0
Scale House	8-Dec-10	0.0
Scale House	10-Jan-11	0.0
Scale House	17-Feb-11	0.0
Scale House	10-Mar-11	0.0
Scale House	30-Mar-11	0.0
Scale House	21-Apr-11	0.0
Scale House	4-May-11	0.0
Scale House	11-May-11	0.0
Scale House	9-Jun-11	0.0
Scale House	8-Jul-11	0.0
Scale House	28-Jul-11	0.0
Scale House	10-Aug-11	0.0
Scale House	9-Sep-11	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Scale House	14-Oct-11	0.0
Scale House	3-Nov-11	0.0
Scale House	9-Nov-11	0.0
Scale House	13-Dec-11	0.0
Scale House	12-Jan-12	0.0
Scale House	4-May-12	0.0
Scale House	23-Aug-12	0.0
Scale House	15-Nov-12	0.0
Scale House	21-Mar-13	0.0
Scale House	12-Apr-13	0.0
Scale House	12-Jul-13	0.0
Scale House	25-Oct-13	0.0
Scale House[a]	13-Mar-14	0.0
Scale House	2-Jun-14	0.0
Scale House	31-Jul-14	0.0
Scale House	15-Dec-14	0.0
Scale House	4-Mar-15	0.0
Scale House	14-May-15	0.0
Scale House	16-Jul-15	0.0
Scale House	12-Nov-15	0.0
Scale House	22-Mar-16	0.0
Scale House	7-Apr-16	0.0
Scale House	9-Sep-16	0.0
Scale House	15-Nov-16	0.0
Scale House	1-Mar-17	0.0
Scale House	17-Apr-17	0.0
Scale House	13-Sep-17	0.0
Scale House	8-Nov-17	0.0
Scale House	14-Mar-18	0.0
Scale House	24-Apr-18	0.0
Scale House	2-Aug-18	0.0
Scale House	5-Nov-18	0.0
Scale House	25-Jan-19	0.0
Scale House	29-Apr-19	0.0
Scale House	1-Aug-19	0.0
Scale House	21-Nov-19	0.0
Scale House	19-Feb-20	0.0
Scale House	29-May-20	0.0
Scale House	21-Sep-20	0.0
Scale House	9-Nov-20	0.0
Maintenance Building	8-Oct-97	0.0
Maintenance Building	17-Oct-97	0.0
Maintenance Building	25-Nov-97	0.0
Maintenance Building	15-Dec-97	0.0
Maintenance Building	2-Jan-98	0.0
Maintenance Building	23-Feb-98	0.0
Maintenance Building	5-Mar-98	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Maintenance Building	7-Apr-98	0.0
Maintenance Building	6-May-98	0.0
Maintenance Building	5-Jun-98	0.0
Maintenance Building	7-Jul-98	0.0
Maintenance Building	4-Aug-98	0.0
Maintenance Building	8-Sep-98	0.0
Maintenance Building	13-Oct-98	0.0
Maintenance Building	10-Nov-98	0.0
Maintenance Building	9-Dec-98	0.0
Maintenance Building	5-Jan-99	0.0
Maintenance Building	4-Feb-99	0.0
Maintenance Building	5-Mar-99	0.0
Maintenance Building	7-Apr-99	0.0
Maintenance Building	13-May-99	0.0
Maintenance Building	22-Jun-99	0.0
Maintenance Building	9-Jul-99	0.0
Maintenance Building	4-Aug-99	0.0
Maintenance Building	9-Sep-99	0.0
Maintenance Building	8-Oct-99	0.0
Maintenance Building	10-Nov-99	0.0
Maintenance Building	3-Dec-99	0.0
Maintenance Building	6-Jan-00	0.0
Maintenance Building	7-Feb-00	0.0
Maintenance Building	6-Mar-00	0.0
Maintenance Building	7-Apr-00	0.0
Maintenance Building	18-May-00	0.0
Maintenance Building	6-Jun-00	0.0
Maintenance Building	20-Jul-00	0.0
Maintenance Building	8-Aug-00	0.0
Maintenance Building	7-Sep-00	0.0
Maintenance Building	4-Oct-00	0.0
Maintenance Building	22-Nov-00	0.0
Maintenance Building	8-Dec-00	0.0
Maintenance Building	10-Jan-01	0.0
Maintenance Building	9-Feb-01	0.0
Maintenance Building	1-Mar-01	0.0
Maintenance Building	5-Apr-01	0.0
Maintenance Building	4-May-01	0.0
Maintenance Building	7-Jun-01	0.0
Maintenance Building	12-Jul-01	0.0
Maintenance Building	7-Aug-01	0.0
Maintenance Building	6-Sep-01	0.0
Maintenance Building	5-Oct-01	0.0
Maintenance Building	1-Nov-01	0.0
Maintenance Building	4-Dec-01	0.0
Maintenance Building	16-Jan-02	0.0
Maintenance Building	5-Feb-02	0.0
Maintenance Building	12-Mar-02	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Maintenance Building	4-Apr-02	0.0
Maintenance Building	2-May-02	0.0
Maintenance Building	4-Jun-02	0.0
Maintenance Building	5-Jul-02	0.0
Maintenance Building	6-Aug-02	0.0
Maintenance Building	5-Sep-02	0.0
Maintenance Building	10-Oct-02	0.0
Maintenance Building	7-Nov-02	0.0
Maintenance Building	3-Dec-02	0.0
Maintenance Building	9-Jan-03	0.0
Maintenance Building	5-Feb-03	0.0
Maintenance Building	13-Mar-03	0.0
Maintenance Building	3-Apr-03	0.0
Maintenance Building	2-May-03	0.0
Maintenance Building	4-Jun-03	0.0
Maintenance Building	8-Jul-03	0.0
Maintenance Building	5-Aug-03	0.0
Maintenance Building	16-Sep-03	0.0
Maintenance Building	2-Oct-03	0.0
Maintenance Building	5-Nov-03	0.0
Maintenance Building	4-Dec-03	0.0
Maintenance Building	12-Jan-04	0.0
Maintenance Building	5-Feb-04	0.0
Maintenance Building	5-Mar-04	0.0
Maintenance Building	8-Apr-04	0.0
Maintenance Building	4-May-04	0.0
Maintenance Building	2-Jun-04	0.0
Maintenance Building	8-Jul-04	0.0
Maintenance Building	4-Aug-04	0.0
Maintenance Building	2-Sep-04	0.0
Maintenance Building	6-Oct-04	0.0
Maintenance Building	1-Nov-04	0.0
Maintenance Building	6-Dec-04	0.0
Maintenance Building	7-Jan-05	0.0
Maintenance Building	7-Feb-05	0.0
Maintenance Building	8-Mar-05	0.0
Maintenance Building	1-Apr-05	0.0
Maintenance Building	5-May-05	0.0
Maintenance Building	10-Jun-05	0.0
Maintenance Building	1-Jul-05	0.0
Maintenance Building	4-Aug-05	0.0
Maintenance Building	2-Sep-05	0.0
Maintenance Building	3-Oct-05	0.0
Maintenance Building	3-Nov-05	0.0
Maintenance Building	5-Dec-05	0.0
Maintenance Building	26-Jan-06	0.0
Maintenance Building	23-Feb-06	0.0
Maintenance Building	1-Mar-06	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Maintenance Building	5-Apr-06	0.0
Maintenance Building	18-May-06	0.0
Maintenance Building	2-Jun-06	0.0
Maintenance Building	7-Jul-06	0.0
Maintenance Building	1-Aug-06	0.0
Maintenance Building	12-Sep-06	0.0
Maintenance Building	3-Oct-06	0.0
Maintenance Building	16-Nov-06	0.0
Maintenance Building	12-Dec-06	0.0
Maintenance Building	17-Jan-07	0.0
Maintenance Building	7-Feb-07	0.0
Maintenance Building	2-Mar-07	0.0
Maintenance Building	3-Apr-07	0.0
Maintenance Building	3-May-07	0.0
Maintenance Building	1-Jun-07	0.0
Maintenance Building	17-Jul-07	0.0
Maintenance Building	21-Aug-07	0.0
Maintenance Building	10-Sep-07	0.0
Maintenance Building	3-Oct-07	0.0
Maintenance Building	1-Nov-07	0.0
Maintenance Building	13-Dec-07	0.0
Maintenance Building	8-Jan-08	0.0
Maintenance Building	25-Feb-08	0.0
Maintenance Building	5-Mar-08	0.0
Maintenance Building	24-Apr-08	0.0
Maintenance Building	2-May-08	0.0
Maintenance Building	2-Jun-08	0.0
Maintenance Building	15-Jul-08	0.0
Maintenance Building	4-Aug-08	0.0
Maintenance Building	5-Sep-08	0.0
Maintenance Building	21-Oct-08	0.0
Maintenance Building	26-Nov-08	0.0
Maintenance Building	1-Dec-08	0.0
Maintenance Building	14-Jan-09	0.0
Maintenance Building	2-Feb-09	0.0
Maintenance Building	12-Mar-09	0.0
Maintenance Building	10-Apr-09	0.0
Maintenance Building	8-May-09	0.0
Maintenance Building	8-Jun-09	0.0
Maintenance Building	24-Jul-09	0.0
Maintenance Building	17-Aug-09	0.0
Maintenance Building	24-Sep-09	0.0
Maintenance Building	12-Oct-09	0.0
Maintenance Building	10-Nov-09	0.0
Maintenance Building	28-Dec-09	0.0
Maintenance Building	21-Jan-10	0.0
Maintenance Building	11-Feb-10	0.0
Maintenance Building	10-Mar-10	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Maintenance Building	9-Apr-10	0.0
Maintenance Building	7-May-10	0.0
Maintenance Building	2-Jun-10	0.0
Maintenance Building	9-Jul-10	0.0
Maintenance Building	4-Aug-10	0.0
Maintenance Building	14-Sep-10	0.0
Maintenance Building	11-Oct-10	0.0
Maintenance Building	5-Nov-10	0.0
Maintenance Building	8-Dec-10	0.0
Maintenance Building	10-Jan-11	0.0
Maintenance Building	17-Feb-11	0.0
Maintenance Building	10-Mar-11	0.0
Maintenance Building	30-Mar-11	0.0
Maintenance Building	21-Apr-11	0.0
Maintenance Building	4-May-11	0.0
Maintenance Building	11-May-11	0.0
Maintenance Building	9-Jun-11	0.0
Maintenance Building	8-Jul-11	0.0
Maintenance Building	28-Jul-11	0.0
Maintenance Building	10-Aug-11	0.0
Maintenance Building	9-Sep-11	0.0
Maintenance Building	14-Oct-11	0.0
Maintenance Building	3-Nov-11	0.0
Maintenance Building	9-Nov-11	0.0
Maintenance Building	13-Dec-11	0.0
Maintenance Building	12-Jan-12	0.0
Maintenance Building	4-May-12	0.0
Maintenance Building	23-Aug-12	0.0
Maintenance Building	15-Nov-12	0.0
Maintenance Building[b]	21-Mar-13	0.0
Maintenance Building	12-Apr-13	0.0
Maintenance Building	12-Jul-13	0.0
Maintenance Building	25-Oct-13	0.0
Maintenance Building	13-Mar-14	0.0
Maintenance Building	2-Jun-14	0.0
Maintenance Building	31-Jul-14	0.0
Maintenance Building	15-Dec-14	0.0
Maintenance Building	4-Mar-15	0.0
Maintenance Building	14-May-15	0.0
Maintenance Building	16-Jul-15	0.0
Maintenance Building	12-Nov-15	0.0
Maintenance Building	22-Mar-16	0.0
Maintenance Building	7-Apr-16	0.0
Maintenance Building	9-Sep-16	0.0
Maintenance Building	15-Nov-16	0.0
Maintenance Building	1-Mar-17	0.0
Maintenance Building	17-Apr-17	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Maintenance Building	13-Sep-17	0.0
Maintenance Building	8-Nov-17	0.0
Maintenance Building	14-Mar-18	0.0
Maintenance Building	24-Apr-18	0.0
Maintenance Building	2-Aug-18	0.0
Maintenance Building	5-Nov-18	0.0
Maintenance Building	25-Jan-19	0.0
Maintenance Building	29-Apr-19	0.0
Maintenance Building	1-Aug-19	0.0
Maintenance Building	21-Nov-19	0.0
Maintenance Building	19-Feb-20	0.0
Maintenance Building	29-May-20	0.0
Maintenance Building	21-Sep-20	0.0
Maintenance Building	9-Nov-20	0.0
LFGTE Plant Building	13-Mar-14	0.0
LFGTE Plant Building	2-Jun-14	0.0
LFGTE Plant Building	31-Jul-14	0.0
LFGTE Plant Building	15-Dec-14	0.0
LFGTE Plant Building	4-Mar-15	0.0
LFGTE Plant Building	14-May-15	0.0
LFGTE Plant Building	16-Jul-15	0.0
LFGTE Plant Building	12-Nov-15	0.0
LFGTE Plant Building	22-Mar-16	0.0
LFGTE Plant Building	7-Apr-16	0.0
LFGTE Plant Building	9-Sep-16	0.0
LFGTE Plant Building	15-Nov-16	0.0
LFGTE Plant Building	1-Mar-17	0.0
LFGTE Plant Building	17-Apr-17	0.0
LFGTE Plant Building	13-Sep-17	0.0
LFGTE Plant Building	8-Nov-17	0.0
LFGTE Plant Building	14-Mar-18	0.0
LFGTE Plant Building	24-Apr-18	0.0
LFGTE Plant Building	2-Aug-18	0.0
LFGTE Plant Building	5-Nov-18	0.0
LFGTE Plant Building	25-Jan-19	0.0
LFGTE Plant Building	29-Apr-19	0.0
LFGTE Plant Building	1-Aug-19	0.0
LFGTE Plant Building	21-Nov-19	0.0
LFGTE Plant Building	19-Feb-20	0.0
LFGTE Plant Building	29-May-20	0.0
LFGTE Plant Building	21-Sep-20	0.0
LFGTE Plant Building	9-Nov-20	0.0
Operations Building	4-Mar-15	0.0
Operations Building	14-May-15	0.0
Operations Building	16-Jul-15	0.0
Operations Building	12-Nov-15	0.0
Operations Building	22-Mar-16	0.0

Table 6-9
Summary of Landfill Gas Monitoring Data
Riverbend Landfill

Sample Location	Date Measured	Methane (Percent)
Operations Building	7-Apr-16	0.0
Operations Building	9-Sep-16	0.0
Operations Building	15-Nov-16	0.0
Operations Building	1-Mar-17	0.0
Operations Building	17-Apr-17	0.0
Operations Building	13-Sep-17	0.0
Operations Building	8-Nov-17	0.0
Operations Building	14-Mar-18	0.0
Operations Building	24-Apr-18	0.0
Operations Building	2-Aug-18	0.0
Operations Building	5-Nov-18	0.0
Operations Building	25-Jan-19	0.0
Operations Building	29-Apr-19	0.0
Operations Building	1-Aug-19	0.0
Operations Building	21-Nov-19	0.0
Operations Building	19-Feb-20	0.0
Operations Building	29-May-20	0.0
Operations Building	21-Sep-20	0.0
Operations Building	9-Nov-20	0.0

NOTE:

LFGTE = landfill gas to energy.

[a] A new scale house was constructed in 2014 as part of front entrance site development activities.

[b] The former maintenance building (and the former gas collection and control system [GCCS] building) was demolished in 2013 to accommodate construction of Phase IA of the mechanically stabilized earthen (MSE) berm. A new maintenance building was constructed in 2013.

Table 7-1
Summary of 2020 Monthly Pumping and Disposal Volumes of Leachate and LDS Liquid
Riverbend Landfill

Monitoring Location	Landfill Module or Area	2020 Monthly Liquid Pumping and Disposal Volumes (Gallons)												2020 Liquid Volume Totals (Gallons)
		January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	
LCRS Pumping Volumes[a]														
1/5 P	Modules 1 through 5	1,163,288	620,260	427,652	434,488	359,728	226,488	201,172	188,688	223,692	205,052	456,320	343,268	**4,850,096**
6/7 P[b]	Modules 6 and 7	42,740	37,912	40,936	38,800	38,364	36,904	36,480	36,180	30,172	35,080	31,884	32,232	**437,684**
8 P[c]	Module 8	675,164	241,628	223,224	226,984	205,368	173,336	181,192	165,788	140,100	146,696	267,928	761,072	**3,408,480**
9 P	Module 9	1,624,098	13,260	8,604	24,684	80,712	49,374	41,844	38,496	42,030	45,096	204,528	468,612	**2,641,338**
Total Module Sump Volumes		**3,505,290**	**913,060**	**700,416**	**724,956**	**684,172**	**486,102**	**460,688**	**429,152**	**435,994**	**431,924**	**960,660**	**1,605,184**	**11,337,598**
LDS Liquid Pumping Volumes														
4/5 S	Modules 4 and 5	12,796	16,966	15,701	17,085	13,991	10,081	8,399	7,138	5,996	5,020	4,796	8,663	**126,632**
6/7 S	Modules 6 and 7	2,184	1,312	1,738	1,772	1,937	1,797	1,706	1,538	1,202	1,062	1,064	1,769	**19,081**
8 S	Module 8	7,516	4,237	2,488	2,391	2,377	2,203	2,349	2,222	2,281	1,792	2,424	6,299	**38,579**
9 S	Module 9	105	38	2,605	1,189	2,691	4	0	0	4	1,203	970	1	**8,810**
Total Module LDS Sump Volumes		**22,601**	**22,553**	**22,532**	**22,437**	**20,996**	**14,085**	**12,454**	**10,898**	**9,483**	**9,077**	**9,254**	**16,732**	**193,102**
Leachate Pond	LDS	283	285	0	285	280	0	0	0	0	280	0	280	**1,693**
GCCS Liquid Pumping Volumes[d]														
North Tanks	GCCS	823,130	399,440	275,379	260,956	223,127	161,120	121,219	108,509	111,097	130,712	374,628	450,744	**3,440,061**
Con. Sumps	GCCS	81,078	34,269	41,085	36,400	49,750	133,495	270,384	264,890	178,739	55,738	33,950	23,714	**1,203,492**
Total Volumes		**904,208**	**433,709**	**316,464**	**297,356**	**272,877**	**294,615**	**391,603**	**373,399**	**289,836**	**186,450**	**408,578**	**474,458**	**4,643,553**
Disposal Volumes[e]														
Leachate Pond	**Total Site Disposal Volumes**	**1,163,199**	**1,005,683**	**1,556,131**	**1,468,463**	**1,191,329**	**1,233,323**	**1,511,812**	**1,455,660**	**378,451**	**0**	**0**	**1,544,029**	**12,508,080**

NOTES:

LCRS = leachate collection and removal system; LDS = secondary leak detection system; P = primary; S = secondary; GCCS = gas collection and control system; Con. = GCCS condensate.

[a] Volume of leachate pumped from each LCRS includes the volume of liquids pumped from its corresponding secondary leak detection sump.

[b] Volume of liquid pumped from the 6/7 P sump also includes liquid from the GCCS Con. Sump #2 that is conveyed to 6/7 P sump.

[c] Volume of liquid pumped from the 8 P sump also includes liquid from the GCCS Con. Sumps #1, 6, 7, and 8 that is conveyed to 8 P sump.

[d] Volume of liquid pumped from the GCCS directly to the leachate pond.

[e] Volume of leachate and liquid disposed of off-site at approved treatment facilities in the truck haul program.

Table 7-2
VOCs Detected in Landfill Leachate and LDS Sump Liquid Samples (µg/L)
Riverbend Landfill

Sample Location	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon Disulfide	Chloroethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Ethylbenzene	2-Hexanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Total Xylenes	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Naphthalene	4-Methyl-2-pentanone
1/5 P	30-Dec-97	1,600	ND	2,900	ND	ND	ND	ND	ND	ND	15	ND	ND	ND	ND	11	ND	ND	ND	36	ND	ND	ND	ND	ND	4.0	ND	ND	ND	ND	ND	ND
1/5 P	17-Jun-98	540 D	ND	900 D	ND	ND	ND	ND	ND	ND	18 D	ND	ND	ND	ND	27 D	ND	ND	ND	35 D	ND	ND	ND	ND	ND	4.9 D	ND	ND	ND	ND	ND	ND
1/5 P	8-Jan-99	190	0.2 J	150	ND	ND	ND	0.5 J	ND	ND	1.3	ND	ND	ND	ND	1.0	ND	ND	ND	8.3	ND	ND	2.0 J	0.6 J	ND	3.3	0.4 J	ND	ND	ND	ND	ND
1/5 P	21-Jun-99	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.5	ND	ND	ND	ND	ND	ND
1/5 P	6-Oct-99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.1 D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1/5 P	15-Dec-99	250	2.8	420	ND	ND	ND	ND	ND	ND	28	ND	ND	ND	ND	5.9	ND	ND	ND	38	ND	ND	6.9	3.5	ND	6.6	ND	ND	ND	ND	ND	ND
1/5 P	26-May-00	150	4.2	250	ND	ND	ND	ND	ND	ND	33	ND	3.8	ND	ND	9.8	ND	ND	2.2	56	ND	ND	8.5	3.0	ND	9.0	ND	2.4	ND	7.5	ND	ND
1/5 P	8-Nov-00	ND	ND	ND	ND	ND	ND	ND	ND	ND	30	ND	5.7	ND	ND	8.5	ND	ND	ND	40	ND	ND	6.7	ND	ND	ND	ND	ND	ND	ND	10	ND
1/5 P	26-Apr-01	670	ND	840	5.9	ND	ND	ND	ND	ND	8.8	ND	ND	ND	ND	9.1	ND	ND	ND	16	ND	ND	ND	ND	ND	4.6	ND	ND	ND	ND	5.8	ND
1/5 P (Dup)	26-Apr-01	720	ND	950	4.5	ND	ND	ND	ND	ND	7.0	ND	ND	ND	ND	7.2	ND	ND	ND	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.5	ND
1/5 P	15-Apr-02	1,900	ND	3,600	ND	ND	ND	ND	ND	ND	36	ND	7.9	ND	ND	22	ND	ND	ND	66	ND	ND	9.5	ND	ND	11	ND	ND	ND	ND	11	ND
1/5 P (Dup)	15-Apr-02	1,200	ND	2,200	ND	ND	ND	ND	ND	ND	34	ND	6.8	ND	ND	17	ND	ND	ND	54	ND	ND	9.3	ND	ND	11	ND	ND	ND	ND	12	ND
1/5 P	15-May-03	86	3	79	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	18	ND	ND	1.0	36	ND	ND	4.5	1.7	ND	3.2	1.7	1.1	5.0	ND	7.1	ND
1/5 P	23-Apr-04	190	2.7	280	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	20	ND	ND	0.92	41	ND	ND	5.9	1.7	ND	3.8	1.3	1.1	5.3	ND	8.5	ND
1/5 P	26-May-05	150	1.8	190	ND	ND	ND	ND	ND	ND	11	ND	ND	0.7	ND	10	ND	ND	ND	23	ND	ND	3.6	1.1	ND	2.6	0.97	0.88	2.4	0.51	6.9	27
1/5 P	15-May-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150	ND	ND	ND	21	ND	ND	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1/5 P	11-May-07	1,500	ND	3,100	ND	ND	ND	ND	ND	ND	6.3	ND	ND	ND	ND	24	ND	ND	ND	18	ND	ND	2.2	ND	3.4	ND	ND	ND	ND	ND	23	72
1/5 P (Dup)	11-May-07	1,500	ND	3,100	ND	ND	ND	ND	ND	ND	5.5	ND	ND	ND	ND	24	ND	ND	ND	16	ND	ND	ND	ND	3.4	ND	ND	ND	ND	ND	ND	73
1/5 P	22-May-08	220	ND	450	ND	ND	ND	ND	ND	ND	17	260	ND	ND	ND	13	ND	ND	ND	45	ND	ND	9.4	ND	ND	ND	ND	ND	ND	ND	6.7	ND
1/5P	8-May-09	360	ND	580	ND	ND	ND	ND	ND	ND	15	350	ND	ND	ND	11	ND	ND	ND	36	ND	ND	5.3	ND	ND	5.9	ND	ND	ND	ND	9.4	38
1/5 P	23-Apr-10	310	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND
1/5 P	11-Apr-11	390	ND	520	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	11	ND	ND	ND	27	ND	ND	6.0	ND	ND	3.8	ND	ND	ND	ND	7.1	30
1/5 P	1-May-12	1,300	ND	1,400	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	4.8	ND	ND	ND	28	ND	ND	6.5	ND	ND	3.5	ND	ND	ND	ND	ND	21
1/5 P	10-Apr-13	71	2.6	64	ND	ND	ND	ND	ND	ND	9.5	ND	ND	ND	ND	6.2	ND	ND	ND	21	ND	ND	5.1	2.5	ND	2.7	ND	ND	1.5	ND	6.2	11
1/5 P	5-May-14	370	2.0	220	ND	ND	ND	ND	ND	ND	9.9	ND	ND	ND	ND	5.6	ND	ND	ND	18	ND	ND	4.4	1.6	ND	4.2	1.4	ND	1.5	ND	8.4	20
1/5 P	8-May-15	740	2.8	370	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	7.0	ND	ND	ND	19	ND	ND	4.6	1.4	ND	4.9	1.4	1.8	1.6	ND	8.2	27
1/5 P	6-May-16	43	3.7	ND	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	7.3	ND	ND	ND	28	ND	ND	5.0	1.8	ND	3.5	1.4	1.3	3.1	ND	4.7	ND
1/5 P (Dup)	6-May-16	41	3.0	ND	ND	ND	ND	ND	ND	ND	9.7	ND	ND	ND	ND	7.0	ND	ND	ND	21	ND	ND	3.5	1.4	ND	2.0	1.7	ND	2.5	ND	4.3	ND
1/5 P	18-Apr-17	36	3.3	17	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	7.4	ND	ND	ND	26	ND	ND	4.9	18	ND	3.5	2.8	1.2	3.3	ND	5.9	6.2
1/5 P	12-Sep-17	52	3.1	13	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	9.3	ND	ND	ND	26	ND	ND	3.8	1.4	ND	3.0	1.7	1.2	2.3	ND	6.3	7.7
1/5 P	9-Nov-17	220	2.4	160	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	5.6	ND	ND	ND	28	ND	ND	6.0	2.0	ND	3.2	ND	ND	1.3	ND	4.0	8.9
1/5 P	2-May-18	41	2.4	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	5.9	ND	ND	ND	27	ND	ND	6.2	2.4	ND	2.5	ND	1.2	2.3	ND	4.0	ND
1/5 P	24-Apr-19	34	2.1	ND	ND	ND	ND	ND	ND	ND	6.1	ND	ND	ND	ND	3.0	ND	ND	ND	12	ND	ND	2.4	ND	ND	2.3	ND	ND	ND	ND	2.7	ND
1/5 P	22-Apr-20	23	4.5	12	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	7.4	ND	ND	ND	25	ND	ND	5.0	ND	ND	3.3	1.3	1.3	2.2	ND	4.7	6.4
4/5 S	30-Dec-97	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	17-Jun-98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	8-Jan-99	ND	0.4 J	ND	ND	0.5	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2 J	0.6	ND	ND	ND	ND	ND
4/5 S	21-Jun-99	ND	ND	ND	8.1	ND	ND	0.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S (Dup)	21-Jun-99	ND	ND	ND	10	ND	ND	0.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	6-Oct-99	ND	ND	ND	ND	ND	ND	0.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	15-Dec-99	ND	ND	ND	0.57	ND	ND	0.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	26-May-00	ND	ND	ND	0.81	ND	ND	0.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53	ND	ND	ND	ND	ND
4/5 S	8-Nov-00	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	26-Apr-01	ND	ND	ND	ND	ND	ND	0.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND	ND	ND	ND
4/5 S	15-Apr-02	ND	0.58	ND	ND	ND	ND	0.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.73	ND	ND	ND	ND	ND
4/5 S	15-May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.79	ND	ND	ND	ND	ND
4/5 S	23-Apr-04	ND	0.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.74	ND	ND	ND	ND	ND
4/5 S	26-May-05	ND	0.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.67	ND	ND	ND	1.3	ND
4/5 S	15-May-06	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	11-May-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	22-May-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	8-May-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	23-Apr-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S (Dup)	23-Apr-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	11-Apr-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	1-May-12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	11-Apr-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	5-May-14	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	8-May-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	6-May-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	18-Apr-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	12-Sep-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	9-Nov-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	3-May-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 7-2
VOCs Detected in Landfill Leachate and LDS Sump Liquid Samples (µg/L)
Riverbend Landfill

Sample Location	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon Disulfide	Chloroethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Ethylbenzene	2-Hexanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Total Xylenes	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Naphthalene	4-Methyl-2-pentanone
4/5 S	24-Apr-19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/5 S	22-Apr-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 P	30-Dec-97	**900**	ND	**1,600**	ND	ND	ND	ND	ND	ND	ND	**340**	**16**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 P	17-Jun-98	**9,100 D,E**	**5.7 D**	**22,000 D,E**	ND	**4.8 D**	ND	**15 D**	ND	ND	**10 D**	**62 D**	**77 D**	ND	ND	**620 D,E**	ND	**2.6 D**	ND	**36 D**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 P	8-Jan-99	**3,800**	**2.2**	**8,800**	**1.4**	**0.5**	ND	**3.8**	**0.4 J**	ND	**8.8**	**650**	**4.0**	**1.3**	**0.3 J**	**86**	ND	**0.8**	**0.9**	**24.3**	ND	ND	**2 J**	**0.8 J**	ND	ND	**1.6**	**3.0 J**	ND	**0.3 J**	**2.0 J**	ND
6 P	22-Jun-99	**20**	**3.1**	ND	ND	ND	ND	**4.7**	ND	ND	**17**	ND	**8.3**	ND	ND	**62**	ND	ND	ND	**31**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 P	6-Oct-99	**620 D**	ND	ND	ND	ND	ND	**4.0 D**	ND	ND	**5 D**	ND	**9.6 D**	ND	ND	ND	ND	ND	ND	**51 D**	ND	ND	ND	**2.8 D**	ND	**3.8 D**	ND	ND	ND	ND	ND	ND
6 P	15-Dec-99	**590**	**2.3**	**1,500**	ND	ND	ND	ND	ND	ND	**24**	ND	ND	ND	ND	**17**	ND	ND	ND	**37**	ND	ND	**6.4**	**3.4**	ND	**2.4**	ND	ND	ND	ND	ND	ND
6 P (Dup)	15-Dec-99	**580**	**2.14**	**1,500**	ND	ND	ND	ND	ND	ND	**22**	ND	ND	ND	ND	**17**	ND	ND	ND	**36**	ND	ND	**6.0**	**2.8**	ND	**2.4**	ND	ND	ND	ND	ND	ND
6 P	26-May-00	**41**	ND	ND	ND	ND	ND	ND	ND	ND	**17**	ND	**3.6**	ND	ND	ND	ND	ND	ND	**43**	ND	ND	**6.4**	**2.3**	ND	**3.2**	ND	**3.4**	ND	ND	**4.4**	ND
6/7 P	8-Nov-00	ND	**4.4**	ND	ND	ND	ND	ND	ND	ND	**24**	ND	**4.8**	ND	ND	**12**	ND	ND	ND	ND	ND	ND	**6.5**	ND	ND	ND	ND	**4.2**	ND	ND	**4.2**	ND
6/7 P	26-Apr-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	ND	ND	ND	ND	**23**	ND	ND	ND	**29**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 P	15-Apr-02	**2,200**	ND	**3,700**	ND	ND	ND	ND	ND	ND	**22**	ND	**12**	ND	ND	**35**	ND	ND	ND	**56**	ND	ND	**5.8**	ND	ND	ND	ND	ND	ND	ND	**7.5**	ND
6/7 P	15-May-03	**15**	**2.7**	ND	ND	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	**12**	ND	ND	ND	**53**	ND	ND	**7.4**	**2.4**	ND	**2.7**	**1.5**	**1.7**	**4.8**	ND	**7.7**	ND
6/7 P	22-Apr-04	**88**	**2.8**	**22**	ND	ND	ND	ND	ND	ND	**16**	ND	**5.4**	ND	ND	**4.9**	ND	ND	ND	**37**	ND	ND	**6.8**	**2.1**	ND	**2.7**	ND	ND	**2.2**	ND	**6.7**	ND
6/7 P	26-May-05	**11,000**	ND	**15,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 P	12-May-06	**2,800**	ND	**2,500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 P (Dup)	12-May-06	**2,300**	ND	**2,200**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 P	11-May-07	**13,000**	ND	**14,000**	ND	ND	ND	ND	ND	ND	ND	ND	**78**	ND	ND	**37**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**300**
6/7 P	22-May-08	ND	**1.6**	ND	ND	ND	ND	ND	ND	ND	**5.7**	ND	ND	ND	ND	**2.1**	ND	ND	ND	**7.7**	ND	ND	**3.4**	ND	ND	**2.0**	ND	**1.1**	ND	ND	**4.2**	ND
6/7 P	8-May-09	ND	ND	**6.1**	ND	ND	ND	ND	ND	ND	**6.3**	**180**	ND	ND	ND	**1.6**	ND	ND	ND	**7.1**	ND	ND	**2.3**	ND	ND	**1.6**	ND	**1.2**	ND	ND	**3.6**	ND
6/7 P	22-Apr-10	**2,200**	ND	**1,800**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**57**
6/7 P	11-Apr-11	**14,000**	ND	**21,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**180**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,700**
6/7 P	1-May-12	**5,800**	ND	**8,600**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**17**	ND	ND	ND	**44**	ND	ND	**36**	ND	ND	ND	ND	ND	ND	ND	ND	**290**
6/7 P	10-Apr-13	**34,000**	ND	**26,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**69**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**690**
6/7 P (Dup)	10-Apr-13	**34,000**	ND	**27,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**75**	ND	ND	ND	**38**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**720**
6/7 P	5-May-14	**55**	**1.8**	**32**	ND	ND	ND	ND	ND	ND	**2.7**	ND	ND	ND	ND	**3.2**	ND	ND	ND	**8.4**	ND	ND	**1.5**	**1.3**	ND	**1.9**	ND	ND	**1.4**	ND	**4.2**	ND
6/7 P	8-May-15	**2,000**	ND	**1,100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.3**	ND	ND	ND	**13**	ND	ND	**3.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 P	28-Apr-16	**960**	**1.7**	**370**	ND	ND	ND	ND	ND	ND	**6.7**	ND	ND	ND	ND	**4.4**	ND	ND	ND	**8.3**	ND	ND	**2.0**	ND	ND	**2.4**	ND	ND	ND	ND	**5.5**	**17**
6/7 P	18-Apr-17	**33**	**1.5**	**17**	ND	ND	ND	ND	ND	ND	**1.6**	ND	ND	ND	ND	ND	ND	ND	ND	**2.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.8**	ND
6/7 P	12-Sep-17	**310**	**2.4**	**150**	ND	ND	ND	ND	ND	ND	**7.2**	ND	ND	ND	ND	**2.6**	ND	ND	ND	**12**	ND	ND	**3.0**	ND	ND	**1.9**	ND	**1.4**	ND	ND	**11**	**5.8**
6/7 P	9-Nov-17	**1,100**	**1.9**	**870**	ND	ND	ND	ND	ND	ND	**3.6**	ND	**7.6**	ND	ND	**4.5**	ND	ND	ND	**4.8**	ND	ND	ND	ND	ND	**1.7**	ND	ND	ND	ND	**12**	**33**
6/7 P	1-May-18	**84**	**1.2**	**45**	ND	ND	ND	ND	ND	ND	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	**4.0**	ND	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	**8.0**	ND
6/7 P	24-Apr-19	**40**	ND	**8.6**	ND	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	**2.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.7**	ND
6/7 P	22-Apr-20	**800**	**2.4**	**610**	ND	ND	ND	ND	ND	ND	**7.6**	ND	ND	ND	ND	**3.7**	ND	ND	ND	**11**	ND	ND	**3.9**	ND	ND	**1.7**	ND	**1.2**	**1.0**	ND	**27**	**26**
6 S	22-Jun-99	**8.1**	ND	ND	**4.1**	**0.64**	ND	**0.81**	ND	ND	ND	ND	**3.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 S	6-Oct-99	ND	ND	ND	ND	ND	**0.75**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 S (Dup)	6-Oct-99	ND	ND	ND	ND	ND	**0.76**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6 S	15-Dec-99	ND	ND	ND	ND	**0.5**	ND	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	15-Apr-02	**10**	**1.5**	ND	ND	ND	ND	**0.54**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.8**	ND	ND	ND	ND	ND	ND	ND	**0.62**	ND	ND	ND	ND	ND
6/7 S	15-May-03	ND	**0.58**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	23-Apr-04	ND	ND	ND	ND	ND	ND	**0.51**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	26-May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	12-May-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	11-May-07	**21**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	22-May-08	ND	**1.2**	ND	ND	**7.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S (Dup)	22-May-08	ND	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.8**	ND
6/7 S	8-May-09	**32**	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	28-Apr-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	13-Apr-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	1-May-12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	10-Apr-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	5-May-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	8-May-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/7 S	28-Apr-16	**13**	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	ND
6/7 S (Dup)	28-Apr-16	**14**	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	ND
6/7 S	18-Apr-17	**15**	**2.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.9**	ND
6/7 S	12-Sep-17	ND	**1.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.1**	ND
6/7 S	9-Nov-17	**15**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.3**	ND
6/7 S	1-May-18	**23**	**3.5**	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.0**	ND
6/7 S	24-Apr-19	**26**	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.4**	ND
6/7 S	22-Apr-20	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.1**	ND

Table 7-2
VOCs Detected in Landfill Leachate and LDS Sump Liquid Samples (µg/L)
Riverbend Landfill

Sample Location	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon Disulfide	Chloroethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Ethylbenzene	2-Hexanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Total Xylenes	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Naphthalene	4-Methyl-2-pentanone
8 P	26-Jun-03	**460**	ND	**1,300**	ND	ND	ND	**7.3**	ND	ND	**55**	ND	ND	ND	ND	**66**	ND	ND	**5.7**	**160**	ND	ND	**27**	**12**	ND	**7.6**	**5.6**	ND	**20**	ND	**16**	ND
8 P	23-Apr-04	**3,600**	ND	**11,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**340**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	27-May-05	**220**	**2.5**	**300**	ND	ND	ND	ND	ND	ND	**6.1**	ND	ND	ND	ND	**3.9**	ND	ND	ND	**20**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	15-May-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	11-May-07	**270**	ND	**200**	ND	ND	ND	ND	ND	ND	**11**	ND	ND	ND	ND	**9.0**	ND	ND	ND	**17**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	22-May-08	**11,000**	ND	**12,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	8-May-09	ND	ND	**610**	ND	ND	ND	ND	ND	ND	ND	**46**	ND	ND	ND	**9.6**	ND	ND	ND	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**47**
8 P	22-Apr-10	**150**	ND	**74**	ND	ND	ND	ND	ND	ND	**4.9**	ND	ND	ND	ND	**4.5**	ND	ND	ND	**13**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	11-Apr-11	**870**	ND	**830**	ND	ND	ND	ND	ND	ND	**6.1**	ND	ND	ND	ND	**6.4**	ND	ND	ND	**16**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 P	1-May-12	**5,100**	ND	**9,700**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**290**
8 P	10-Apr-13	**3,700**	ND	**2,600**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**19**	ND	ND	ND	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**90**
8 P	5-May-14	**15,000**	ND	**6,700**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**37**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**26**	ND	ND	**160**
8 P	8-May-15	**2,700**	**25**	**1,600**	ND	ND	ND	ND	ND	ND	**10**	ND	ND	**5.0**	ND	**19**	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	ND	ND	**4.8**	ND	**29**	**43**
8 P	28-Apr-16	**25,000**	ND	**1,800**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**86**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**470**
8 P	18-Apr-17	**14,000**	ND	**13,000**	ND	ND	ND	ND	ND	ND	**21**	ND	**40**	ND	ND	**64**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**	ND	ND	**360**
8 P	2-May-18	**12,000**	ND	**8,300**	ND	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	**63**	ND	ND	ND	**55**	ND	ND	**15**	ND	ND	ND	ND	ND	**35**	ND	ND	**320**
8 P	24-Apr-19	**7,500**	ND	**6,700**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**39**	ND	**24**	ND	**23**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**200**
8 P	22-Apr-20	**11,000**	**13**	**8,500**	ND	ND	ND	ND	ND	ND	**23**	ND	ND	ND	ND	**55**	ND	**24**	ND	**60**	ND	ND	**10**	**6.1**	ND	**5.9**	ND	ND	**24**	ND	**12**	**280**
8 S	26-Jun-03	ND	ND	ND	ND	ND	ND	ND	ND	**0.69**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	23-Apr-04	ND	**1.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S (Dup)	23-Apr-04	ND	**1.5**	ND	ND	ND	ND	**0.51**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	12-May-06	ND	**1.3**	ND	ND	ND	ND	**0.64**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,400**	ND	ND	ND	ND	ND	ND	ND	**1.1**	ND	ND	ND	ND	ND
8 S	11-May-07	ND	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	22-May-08	ND	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	8-May-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S (Dup)	8-May-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	22-Apr-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	11-Apr-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S (Dup)	11-Apr-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	1-May-12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	11-Apr-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	5-May-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S (Dup)	5-May-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	8-May-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S (Dup)	8-May-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	28-Apr-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	18-Apr-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	3-May-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	24-Apr-19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8 S	22-Apr-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 P	8-May-15	**3,900**	ND	**7,200**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**360**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**140**
9 P	6-May-16	**31**	ND	ND	ND	ND	ND	ND	ND	ND	**3.7**	ND	ND	ND	ND	**1.4**	ND	ND	ND	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 P	18-Apr-17	**7,600**	ND	**9,300**	ND	ND	ND	ND	ND	ND	ND	ND	**18**	ND	ND	**20**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**33**	ND	ND	**130**
9 P	2-May-18	**620**	ND	**1,000**	ND	ND	ND	ND	ND	ND	**1.7**	ND	ND	ND	ND	**30**	ND	ND	ND	**7.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**
9 P	24-Apr-19	**250**	ND	**660**	ND	ND	ND	ND	ND	ND	**3.8**	ND	ND	ND	ND	**4.9**	ND	ND	ND	**10**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 P	22-Apr-20	**28**	**2.7**	ND	ND	ND	ND	ND	ND	ND	**17**	ND	ND	ND	ND	**7.5**	ND	ND	**3.5**	**44**	ND	ND	**3.6**	**2.3**	ND	**3.2**	ND	ND	**10**	ND	ND	ND
9 S	8-May-15	**13**	ND	ND	ND	ND	ND	**5.6**	**1.3**	ND	ND	ND	ND	ND	ND	**2.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 S	6-May-16	**1,500**	ND	**950**	ND	ND	ND	ND	ND	ND	ND	ND	**230**	ND	ND	**9,500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 S	18-Apr-17	**12**	**2.1**	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 S (Dup)	18-Apr-17	**30**	**1.6**	**12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 S	2-May-18	ND	**1.7**	ND	ND	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND	ND	**1.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 S (Dup)	2-May-18	ND	**1.7**	ND	ND	ND	ND	ND	ND	ND	**1.3**	ND	ND	ND	ND	**1.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9 S	24-Apr-19	**100**	**2.1**	**94**	**5.7**	ND	ND	ND	**1.1**	ND	**1.9**	ND	ND	ND	ND	**11**	ND	ND	**1.6**	**5.3**	ND	ND	ND	ND	ND	ND	**1.0**	ND	ND	ND	ND	**7.2**
9 S	22-Apr-20	ND	**2.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	8-Apr-13	**230**	ND	**110**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	21-Nov-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	5-May-14	**1,100**	ND	**580**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	20-Nov-14	**1,400**	ND	**460**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	11-May-15	**910**	ND	**630**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	11-Nov-15	**850**	ND	**250**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	28-Apr-16	**230**	ND	**180**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11**
Leachate Pond	17-Nov-16	**25**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	ND	ND	ND	ND	**1.7**	**1.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	18-Apr-17	**2,000**	ND	**950**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 7-2
VOCs Detected in Landfill Leachate and LDS Sump Liquid Samples (µg/L)
Riverbend Landfill

Sample Location	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon Disulfide	Chloroethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Ethylbenzene	2-Hexanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Total Xylenes	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Naphthalene	4-Methyl-2-pentanone
Leachate Pond	9-Nov-17	**900**	ND	**470**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11**
Leachate Pond	3-May-18	**1,000**	ND	**530**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	6-Nov-18	**290**	ND	**200**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	25-Apr-19	**1,100**	ND	**570**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.9**
Leachate Pond	20-Nov-19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	22-Apr-20	**230**	ND	**43**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond	11-Nov-20	ND	ND	**87**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	11-Apr-13	**230**	ND	**570**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	21-Nov-13	**12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	5-May-14	**1,000**	ND	**660**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.8**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.0**
Leachate Pond LDS	20-Nov-14	**110**	**1.2**	**34**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	11-May-15	**13**	ND	**18**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**14**
Leachate Pond LDS	11-Nov-15	ND	**1.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	28-Apr-16	**860**	ND	**400**	ND	ND	ND	ND	ND	ND	ND	**31**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.5**
Leachate Pond LDS	17-Nov-16	**200**	ND	**150**	ND	ND	ND	ND	ND	ND	**9.1**	ND	ND	ND	ND	**7.4**	ND	ND	ND	**24**	ND	ND	**3.7**	ND	ND	ND	ND	ND	ND	ND	**6.8**	ND
Leachate Pond LDS	18-Apr-17	**1,400**	ND	**790**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11**
Leachate Pond LDS	9-Nov-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	3-May-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	28-Apr-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Leachate Pond LDS	11-Nov-20	**27**	ND	**150**	ND	ND	ND	ND	ND	ND	ND	ND	**4.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTE:
Detections are in **bold** type; LDS = secondary leak detection system; NT = not tested; ND = not detected at or above the practical quantitation limit; D = compounds identified in analysis at a secondary dilution factor;
J = indicates an estimate value; E = compounds whose concentrations were above the calibration range of the GC/MS instrument for that analysis; µg/L = micrograms per liter.