

ENVIRONMENTAL SAMPLING CORPORATION

Dedicated to Environmental Monitoring, Science & Technology

January 6, 2021

Mr. David Buser
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212-3128

**Re: October 2020 Monitoring Event
Emerald Park Landfill, LLC - WDNR License No. 03290
Waukesha County, Wisconsin**

Dear Mr. Buser:

On behalf of Emerald Park Landfill (EPL), Environmental Sampling Corporation (ESC) has prepared this environmental monitoring report in accordance with the June 9, 2011 Southwestern Expansion Plan of Operation approval. The report provides a preliminary analysis of the cause and significance of well specific and WI Adm. Code Ch. NR140 exceedances. The environmental monitoring data file and certification page for the October 2020 monitoring event are also provided to the GEMS Data Submittal Contact for upload to the GEMS database.

ESC personnel were on site October 16, 19-23, 2020 to conduct the following monitoring:

- Sample 44 groundwater monitoring wells including 8 subtitle D wells
- Measure 15 additional groundwater elevations
- Collect 5 gradient control sump samples
- Collect 13 surface water point samples
- Measure 25 staff gauge elevations
- Sample 11 private wells
- Collect 1 leachate sample
- Collect 1 gas condensate lift station sample

Additional monitoring was conducted during October 2020 by site personnel:

- Collect readings from 69 landfill gas extraction wells
- Collect readings from the gas blower
- Collect readings from 11 landfill gas monitoring probes.

Additional monitoring was conducted during October 2020 by Tetra Tech personnel:

- Record 16 leachate headwell elevations,

Information regarding the monitoring program conducted at ADS-EPL during the October 2020 event is provided in the following sections.

GROUNDWATER SAMPLING

Groundwater samples were collected from 42 of the 44 monitoring wells in October 2020. Two groundwater monitoring wells, MW-4AR and MW-4BR, were dry or had insufficient volume to sample during the October event and could not be sampled. These wells are typically dry during the semi-annual monitoring events. Pending Department concurrence, a Plan Modification will be submitted to the Department under separate cover to request a change to the current monitoring program.

All groundwater samples collected, including the eight subtitle D wells, were analyzed for: alkalinity, chloride, sulfate, hardness, sodium and VOCs. Groundwater samples were collected with dedicated bladder pumps, electronic submersible pumps with dedicated tubing, or dedicated bailers. Monitoring wells had a minimum of four well volumes purged or the wells were purged dry before sample collection. Samples for metals and inorganic analyses were field filtered using disposable 0.45-micron filters. All samples were placed on ice, chain-of-custody forms were established, and samples were sent to Pace Analytical Services laboratory (WI Certification #405132750) for analysis via Waltco courier service.

Field parameters, pH, specific conductivity and temperature, were measured using a Cole-Parmer dual pH/conductivity meter that was calibrated and checked in the field during the sampling event. ESC personnel also recorded groundwater elevation measurements, sample color, odor and turbidity.

ESC collected four duplicate samples DUP-01 (MW-4D), DUP-02 (MW-303C), DUP-03 (MW-106A) and DUP-04 (MW-5A) and one field blank (FB-01) for analysis. The inorganic and field parameter concentrations detected in the duplicate samples were consistent with the results from the original samples. FB-01 was collected near the MW-305 well nest using the distilled water utilized for equipment decontamination. Laboratory supplied trip blanks accompanied the samples collected during October 2020 event. The collection of the duplicate samples, the field blank and the accompanying trip blank follow both the WDNR and ESC's QA/QC procedures.

In addition to the groundwater elevations from the monitoring wells that were sampled, water elevations were recorded from an additional 15 wells at the site. Groundwater elevations varied across the site since the last sampling event and were generally similar to or lower than those observed during the previous October event. Groundwater elevation at groundwater monitoring well MW-4AR was unable to be measured because the well was dry during this semi-annual event. Based on elevations recorded during this event, groundwater flow in the deep wells is toward the east/northeast and in the shallow wells is toward the southwest, which are consistent with historic observations.

Exceedances

Exceedances of well-specific Preventive Action Limits (PALs) and Alternative Concentration Limits (ACLs) were determined based on standards included in the Southwestern Expansion Plan of Operation approval dated June 9, 2011. The October 2020 groundwater analytical data has been compared to these well-specific PAL and ACL standards and the NR140 PALs and Enforcement Standards (ESs). A summary of the Groundwater Indicator PAL Exceedances is provided with this report as **Table 1**. A summary of the Groundwater Indicator ACL and NR 140 Public Welfare Groundwater Standard Exceedances is provided as **Table 2**. A summary of the NR140 Public Health Groundwater Standard Exceedances is provided as **Table 3**. Explanations of the NR140 PAL and ES exceedances, as well as the well-specific PAL and ACL exceedances are provided below.

Groundwater Indicator PAL Exceedances

Sodium

The sodium concentrations exceeded the well-specific PALs for the samples collected from groundwater monitoring wells MW-3B, MW-8AR, MW-107A, MW-115A, and MW-121A. The concentration of sodium in the sample collected from the upgradient well MW-3B is similar to historic data since 2017, but is increased from previous historic data. This may be as result of the proximity of MW-3B to the access road which can be a source of road dust and salt. The concentrations of sodium at MW-8AR, MW-115A, and MW-121A were consistent with data reported over the past five years and may be as result of the proximity of these wells to the haul roads and access roads which can be a source of road dust and salt. The reported concentrations of sodium in the sample collected from MW-107A is increased from typical historic data, but is similar to results since October 2018. This increase is likely due to this shallow well's proximity to the active construction area and new access and haul roads which can be a source of road dust and salt.

Alkalinity

Exceedances of the well-specific PALs for alkalinity were reported in samples collected from groundwater monitoring wells: MW-5A/Dup-04, MW-5B, MW-115A, and MW-120DR. The concentrations of alkalinity in the samples at MW-5A, MW-5B/Dup-02, and MW-115A were similar to historic data. The concentration of alkalinity in the sample collected from MW-120DR is increased from typical historic data, but is similar to results since October 2018. The alkalinity exceedances in the samples collected from monitoring wells MW-5A and MW-5B can be attributed to their location adjacent to a parking lot which can be the source of road dust and salt. The alkalinity concentrations reported in the samples collected from MW-115A and MW-120DR may be a result of the proximity of the well to the haul road which can be a source of road salt and dust.

Specific Conductance and Hardness

Exceedances of well-specific PALs for specific conductance and hardness were reported for samples collected from groundwater monitoring wells MW-3A, MW-5A/Dup-04, MW-5B, MW-8AR, MW-115A, and MW-121A. An exceedance of the well-specific PAL for hardness was also reported for the samples collected from groundwater monitoring wells MW-106B, MW-120A, and MW-120DR. Additionally, an exceedance of the well-specific PAL for specific conductance was reported for the samples collected from groundwater monitoring well MW-107A. The October 2020 hardness and specific conductance results for MW-3A, MW-5A/Dup-04, MW-5B, MW-8AR, MW-115A, MW-120A, MW-120DR, and MW-121A were consistent with historic data reported over the past five years. The hardness result for MW-115A was similar to historic data; but the conductivity result increased slightly. The increase in specific conductance at MW-115A is likely related to the decreased groundwater elevation during the October 2020 monitoring event. The hardness concentration in the sample collected from MW-106B was higher than historic data, which is typically less than the well-specific PAL, and may be an anomaly. Future monitoring will determine what, if any, trend exists.

Indicator parameter results for samples collected from site monitoring wells generally remained within the range of historic concentrations. The October 2020 water quality data was compared to well-specific PALs and any exceedances were summarized above and included on **Table 1**. Exceedances of sodium, alkalinity, specific conductance and hardness are not due to migration from the landfill but rather are likely a result of construction activities and road salt/dust or spatial and temporal fluctuations in groundwater quality due to changes in groundwater elevation. No additional groundwater indicator parameter exceedances of the water quality standards were observed for any of the remaining groundwater samples collected during the October 2020 sampling event.

Groundwater ACL and NR 140 Public Welfare Groundwater Standard Exceedances

Chloride

Concentrations of chloride exceeded the NR140 PAL in the samples collected from MW-3A, MW-5A/Dup-04, and MW-303A and exceeded the NR140 ES in the sample collected from MW-115A. The chloride concentrations in the samples collected from these wells were consistent with or slightly reduced from historic data. The chloride concentrations in the samples collected from MW-3A, MW-5A/Dup-04, and MW-115A may be attributed to road salt and dust as MW-3A is close in proximity to the access road, MW-5A is adjacent to a parking lot and MW-115A is located adjacent to the entrance road to the site. The chloride concentrations at MW-303A may be related to winter salt used on the nearby 8 Mile Road/ Union Church Drive.

Sulfate

Concentrations of sulfate exceeded the NR140 PAL in the sample collected from MW-313D and exceeded the NR140 ES in the samples collected from MW-19AR and MW-120C. Concentrations of sulfate exceeded the well-specific ACLs in the samples collected from MW-3A, MW-8AR, MW-117C, and MW-305C. The concentrations of sulfate in the samples collected from these wells are consistent with data reported over the past five years. Sulfate is naturally occurring and is found in the glacial till of Southeastern Wisconsin. Dissolution of anhydrite, or gypsum, or the oxidation of pyrite can result in natural sulfate concentrations above the NR140 standards.

Exceedances of sulfate and chloride concentrations during the October 2020 sampling event have been attributed to road salt and dust or natural occurring sulfate and are not related to any migration from the landfill. There were no other ACL or PAL/ES exceedances for public welfare parameters for any of the remaining groundwater samples collected during the October 2020 sampling event. A summary of the ACL and NR 140 PAL/ES exceedances is included with this report in **Table 2**.

Volatile Organic Compounds

During the October 2020 event, all of the groundwater monitoring wells that were sampled were analyzed for volatile organic compounds (VOCs). A low-level acetone concentration less than NR140 standards was reported in the sample collected from groundwater monitoring well MW-106B. The concentration of acetone was reported between the laboratory Limit of Detection (LOD) and Limit of Quantitation (LOQ). This concentration between the LOD and LOQ cannot be confirmed by the laboratory and should be considered an estimate. Acetone is a common laboratory contaminant; the presence of acetone in this sample is likely a result of laboratory or sample bottle contamination.

Groundwater Conclusions

Results from the October 2020 groundwater sampling were generally consistent with historic data and exceedances of standards are not due to migration from the landfill but may be related to spatial and temporal fluctuations in the groundwater quality due to a change in groundwater elevation. Slight variations in the concentrations of sodium, alkalinity, hardness, specific conductance, sulfate and chloride have been observed during the past several events in samples collected from select monitoring wells and may be related to changes in groundwater elevation that has likely altered the general chemistry of the groundwater. These changes may also be related to the proximity of many of these wells to road salt and dust from the haul road, access roads, and the active construction area. In general, the parameters that exceeded well-specific and NR 140 standards were consistent with previous data.

PRIVATE WELL MONITORING

Samples were collected from ten of the 11 private well samples (PW-1R, PW-B, PW-D, PW-E, PW-F, PW-G, PW-H, PW-I, PW-K and PW-L) during the October 2020 event. The homeowner of PW-C has declined involvement in the routine and baseline monitoring programs. Samples at the remaining ten private wells were collected after the wells had been purged for 15 minutes. One of the private wells sampled is the EPL office/shop well (PW-1R); the remaining wells are all located adjacent to the site on 8 Mile Road. All of the private well samples were analyzed for concentrations of total alkalinity, total hardness, chloride, and VOCs. In addition to these parameters, PW-E was also sampled for the fourth and final round of baseline parameters (arsenic, boron, iron, fluoride, nitrogen, manganese, sulfate, and molybdenum) during the October 2020 event.

No VOCs were detected in the samples from nine of the private well samples (PW-1R, PW-B, PW-D, PW-E, PW-F, PW-G, PW-H, PW-I and PW-L). Three VOCs, acetone, 2-butanone (methyl ethyl ketone (MEK)), and tetrahydrofuran, were detected in the sample collected PW-K in October 2020. These VOC detections were not consistent with typical historic data. The VOC concentrations were compared with the WDNR NR140 PALs and ESs and the EPA Maximum Contaminant Levels (MCLs). The concentrations of 2-butanone (MEK) and acetone were less than the ES; there are no MCLs established for these parameters. The concentration of 2-butanone (MEK) was between the laboratory Limit of Detection (LOD) and the laboratory Limit of Quantitation (LOQ), which cannot be confirmed by the laboratory and should be considered an estimate. Acetone is a common laboratory contaminant; the presence of acetone in the sample is likely a result of laboratory or sample bottle contamination and does not represent the actual drinking water quality. The concentration of tetrahydrofuran exceeded the ES; there are no EPA MCLs established for this parameter. This exceedance is included in **Table 3**. Tetrahydrofuran has been previously detected in the samples collected from PW-K, but at significantly lower concentrations.

In order to provide more information regarding the October 2020 monitoring results, an additional sample was collected from PW-K on November 20, 2020. The VOC tetrachloroethene was reported in the sample at a concentration that was less than the NR140 PAL and ES and more consistent with historic results for PW-K. Therefore, the November 2020 results did not confirm the October 2020 ES exceedance for tetrahydrofuran. Acetone was reported at a reduced concentration, likely due to laboratory or sample bottle contamination, and 2-butanone (MEK) was not detected. The November 2020 concentrations of tetrahydrofuran and acetone were reported at concentrations between the laboratory LOD and LOQ, which cannot be confirmed by the laboratory and should be considered estimates. Samples will continue to be collected from PW-K on an annual basis in October.

There were no other exceedances during the October 2020 sampling event. Private well letters were submitted to the WDNR and homeowners under separate cover.

GRADIENT CONTROL SYSTEM MONITORING

Samples were collected from four of the five gradient control sumps (GSUMP-6E, GSUMP-6W, GSUMP-7N, GSUMP-7SE, and GSUMP-7SC) in October 2020. All gradient control sump samples collected in October 2020 were analyzed for field parameters, chloride, sulfate, hardness, alkalinity, sodium and VOCs. ESC also collected one duplicate sample (GSUMP-DUP) and one field blank (GSUMP-Field Blank) for analysis. GSUMP-DUP was collected at GSUMP-6W. The results from GSUMP-DUP were consistent with the results of the original sample. One trip blank provided by the laboratory accompanied the GSUMP VOC samples from their collection back to the laboratory.

All five of the gradient control samples and the duplicate sample collected in October 2020 had reported concentrations of sulfate above the ES. The reported concentration of sulfate in the sample collected from GSUMP-6E was increased from typical historic data. The remaining sulfate concentrations were consistent with historic data. Sulfate is naturally occurring and is found in the glacial till of Southeastern Wisconsin. Dissolution of anhydrite, or gypsum, or the oxidation of pyrite can result in natural sulfate concentrations above the NR140 standards. A summary of exceedances is provided as **Table 2**.

No VOCs were detected in the samples collected from GSUMP-6E, GSUMP-6W/GSUMP-DUP, GSUMP-7N, or the trip blank that accompanied the samples from and to the laboratory. Two VOCs, cis-1,2-dichloroethene and tetrahydrofuran, were detected in the samples collected from GSUMP-7SE at concentrations less than NR140 standards and between the laboratory LOD and LOQ. Concentrations between the LOD and LOQ cannot be confirmed by the laboratory and should be considered estimates.

Two VOCs, benzene and vinyl chloride, were detected in the samples collected from GSUMP-7SC. The VOC benzene was detected at GSUMP-7SC at a concentration less than NR140 standards and between the laboratory LOD and LOQ. Concentrations between the laboratory LOD and LOQ cannot be confirmed by the laboratory and should be considered estimates. The VOC vinyl chloride was detected at GSUMP-7SC at a concentration between the laboratory LOD and LOQ. The concentration of vinyl chloride reported in the sample collected from GSUMP-7SC exceeded the NR140 ES; however, estimated concentrations below the LOQ are not considered exceedances in accordance with NR140.14(c).

The parameters detected in the samples collected from the gradient control sumps in October 2020 were generally consistent with historic data.

SURFACE WATER MONITORING

Surface water samples were collected from six of the 13 of the surface water points in October 2020. Samples were not collected from SW-1, SW-2, SW-3, SW-4, SW-5, SB-1, and SB-6 because the locations were dry. Samples collected from the sedimentation basins (SB-2, SB-3, SB-5, and SB-7) were analyzed for field parameters and total suspended solids. Samples collected from surface water points SW-22 and SW-35 were analyzed for field parameters, TSS, BOD, potassium, sodium, chloride, hardness, sulfate, and alkalinity. All surface water samples were collected with a polyethylene dipper. In addition to the surface water samples collected, 26 staff gauge elevations were also measured in October 2020. Analytical data for the samples collected from the surface water locations were generally consistent with historic data; there is no indication that the landfill has affected surface water quality.

LEACHATE SAMPLE

One leachate sample was collected in October 2020. A grab sample was collected using a Hach Autosampler. One trip blank prepared by the laboratory accompanied the leachate VOC samples from collection back to the laboratory. No VOCs were detected in the trip blank. Leachate analytical results from the monitoring conducted during the October 2020 event were generally consistent with historical data. A discussion of leachate quality and trends can be found in the annual report submitted in April each year.

GAS CONDENSATE LIFT STATION SAMPLE

One gas condensate lift station sample was collected during the October 2020 sampling event. The gas condensate sample was collected with dedicated sampling equipment. Results from the sample collected at the gas condensate lift station in October 2020 were generally consistent with historic data. One trip blank prepared by the laboratory accompanied the gas condensate VOC sample from their collection back to the laboratory. No VOCs were detected in the trip blank. A discussion of gas condensate quality can be found in the annual report submitted in April each year.

LEACHATE HEAD WELL ELEVATIONS

Leachate head elevation measurements are required to be monitored monthly at 16 leachate head wells. As indicated in prior communication with the Department, it was determined in May 2020 that several leachate headwell levels exceeded the regulatory requirements. Since that time, weekly headwell readings have been taken by ESC and/or Tetra Tech personnel. These additional readings, beyond the scope of the monthly permit requirement, were discussed with the Department during weekly conference calls. Leachate headwells have been decreasing since the issue was first identified in May 2020. During the October 2020 monitoring events, there were four leachate headwells (LH-12, LH-14, LH-15, and LH-17) that had levels greater than one foot during one or more of the weekly readings. Average liquid levels across the facility have also been decreasing and averaged 0.36 ft. to 0.62 ft. in October 2020. Currently, as of December 27, 2020 the average liquid level across the site has been reduced to 0.29 ft. and only one leachate headwell (LH-14) indicates liquid levels greater than one foot. The leachate head elevation data is submitted to the WDNR quarterly under separate cover for upload to the GEMS database. Additional information will be provided in the fourth quarter GEMS data submittal.

GAS EXTRACTION WELL AND BLOWER MONITORING

The monitoring of the landfill gas blower for percent methane, oxygen, gas temperature, flow, and header pressure was conducted twice monthly during this reporting period by EPL personnel. Percent methane, oxygen, gas temperature, flow, well head pressure, and valve % open were measured in the headspace of 69 gas extraction wells by EPL personnel using an Envision gas meter. The landfill gas blower and gas extraction well data are submitted to the WDNR quarterly under separate cover.

GAS PROBE MONITORING

Eleven gas monitoring probes were measured by EPL personnel in October 2020 for percent methane, oxygen, carbon dioxide, ambient air temperature, barometric pressure, trend in barometric pressure, ground conditions and gas pressure using an Envision gas meter. No methane was detected at the gas monitoring probes during the monitoring event in October 2020. The gas probe data are submitted to the WDNR quarterly under separate cover.

CONCLUSIONS AND RECOMMENDATIONS

Results from the groundwater, gradient control, leachate, gas condensate, surface water, and private well samples collected during the October 2020 event were generally consistent with historic data. There is no indication that the landfill has affected the environment and the site should remain in detection monitoring.

This information satisfies the reporting requirements for the October 2020 environmental monitoring. If you have any questions or comments regarding this submittal, please contact Dan Otzelberger, General Manager of Emerald Park Landfill at (414) 788-1281 or the undersigned at (414) 427-5033.

Sincerely,
Environmental Sampling Corporation



Tracy Ipavec
Sr. Environmental Specialist

Attachments

cc: GEMS Data Submittal Contact: WDNR (w/CD)
Ann Bekta: WDNR (electronic copy)
WDNR Waukesha: File Copy
Tim Curry: GFL Environmental-Midwest (electronic copy)
Randy Frank: GFL Environmental-Midwest (electronic copy)
Kari Rabideau: GFL Environmental-Midwest (electronic copy)
EPL File Copy
Dan Otzelberger: EPL (electronic copy)
Chad Siegle: EPL (electronic copy)
Scott Croft: EPL (electronic copy)
Mark Torresani: Tetra Tech (electronic copy)
Nick Dykstra: Tetra Tech (electronic copy)
Jo Spear: JSA Environmental (electronic copy)
Sherren Clark: SCS Engineers (electronic copy)
EPL Standing Committee (electronic copy)
Frank Perugini: ESC

Table 1

**Groundwater Indicator Parameter Preventative Action Limits (PAL) Summary
Emerald Park Landfill
License #03290
October 2020**

WDNR WELL ID#	CLIENT ID	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
018	MW-3A	Hardness	22413	10/21/20	1,050	mg/L	Well-specific PAL (780)
018	MW-3A	Specific Conductance	00094	10/21/20	1,612	umhos/cm	Well-specific PAL (1300)
020	MW-3B	Sodium	00930	10/21/20	98.2	mg/L	Well-specific PAL (66)
030	MW-5A	Alkalinity	39036	10/21/20	495	mg/L	Well-specific PAL (400)
030	MW-5A	Hardness	22413	10/21/20	912	mg/L	Well-specific PAL (470)
030	MW-5A	Specific Conductance	00094	10/21/20	1,584	umhos/cm	Well-specific PAL (870)
030	MW-5A (Dup-04)	Alkalinity	39036	10/21/20	488	mg/L	Well-specific PAL (400)
030	MW-5A (Dup-04)	Hardness	22413	10/21/20	963	mg/L	Well-specific PAL (470)
030	MW-5A (Dup-04)	Specific Conductance	00094	10/21/20	1,584	umhos/cm	Well-specific PAL (870)
032	MW-5B (Dup-02)	Alkalinity	39036	10/21/20	279	mg/L	Well-specific PAL (260)
032	MW-5B (Dup-02)	Hardness	22413	10/21/20	538	mg/L	Well-specific PAL (160)
032	MW-5B (Dup-02)	Specific Conductance	00094	10/21/20	1,043	umhos/cm	Well-specific PAL (430)
048	MW-8AR	Hardness	22413	10/21/20	1,040	mg/L	Well-specific PAL (680)
048	MW-8AR	Sodium	00930	10/21/20	27.5	mg/L	Well-specific PAL (23)
048	MW-8AR	Specific Conductance	00094	10/21/20	1,444	umhos/cm	Well-specific PAL (1,300)
122	MW-106B	Hardness	22413	10/23/20	447	mg/L	Well-specific PAL (280)
128	MW-107A	Sodium	00930	10/21/20	61.6	mg/L	Well-specific PAL (31)
128	MW-107A	Specific Conductance	00094	10/21/20	889	umhos/cm	Well-specific PAL (840)
144	MW-115A	Alkalinity	39036	10/20/20	697	mg/L	Well-specific PAL (550)
144	MW-115A	Hardness	22413	10/20/20	1,050	mg/L	Well-specific PAL (690)
144	MW-115A	Sodium	00930	10/20/20	178	mg/L	Well-specific PAL (160)
144	MW-115A	Specific Conductance	00094	10/20/20	2,320	mg/L	Well-specific PAL (1,400)
156	MW-120A	Hardness	22413	10/20/20	674	mg/L	Well-specific PAL (500)
161	MW-120DR	Alkalinity	39036	10/22/20	345	mg/L	Well-specific PAL (300)
161	MW-120DR	Hardness	22413	10/22/20	444	mg/L	Well-specific PAL (430)
162	MW-121A	Hardness	22413	10/20/20	657	mg/L	Well-specific PAL (550)
162	MW-121A	Specific Conductance	00094	10/20/20	1,030	umhos/cm	Well-specific PAL (980)
162	MW-121A	Sodium	00930	10/20/20	63.4	mg/L	Well-specific PAL (36)

Table 2

**Groundwater Alternative Concentration Limits (ACL), NR 140 Preventative Action Limits (PAL), and NR 140 Enforcement Standards (ES) Summary for Public Welfare Parameters
Emerald Park Landfill
License #03290
October 2020**

WDNR WELL ID#	CLIENT ID	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
018	MW-3A	Chloride	00941	10/21/20	176	mg/L	NR140 PAL (125)
018	MW-3A	Sulfate	00946	10/21/20	428	mg/L	Well-specific ACL (220)
030	MW-5A	Chloride	00941	10/21/20	227	mg/L	NR140 PAL (125)
030	MW-5A (Dup-04)	Chloride	00941	10/21/20	241	mg/L	NR140 PAL (125)
048	MW-8AR	Sulfate	00946	10/21/20	442	mg/L	Well-specific ACL (210)
091	MW-19AR	Sulfate	00946	10/21/20	486	mg/L	NR140 ES (250)
144	MW-115A	Chloride	00941	10/20/20	395	mg/L	NR140 ES (250)
152	MW-117C	Sulfate	00946	10/22/20	562	mg/L	Well-specific ACL (550)
158	MW-120C	Sulfate	00946	10/22/20	304	mg/L	NR140 ES (250)
196	MW-303A	Chloride	00941	10/22/20	142	mg/L	NR140 PAL (125)
212	MW-305C	Sulfate	00946	10/23/20	329	mg/L	Well-specific ACL (190)
217	MW-313D	Sulfate	00946	10/19/20	182	mg/L	NR140 PAL (125)
516	GSUMP-6E	Sulfate	00946	10/29/20	1010	mg/L	NR140 ES (250)
517	GSUMP-6W	Sulfate	00946	10/19/20	1090	mg/L	NR140 ES (250)
517	GSUMP-6W (GSUMP-DUP)	Sulfate	00946	10/19/20	996	mg/L	NR140 ES (250)
518	GSUMP-7N	Sulfate	00946	10/19/20	525	mg/L	NR140 ES (250)
519	GSUMP-7SE	Sulfate	00946	10/19/20	722	mg/L	NR140 ES (250)
521	GSUMP-7SC	Sulfate	00946	10/19/20	595	mg/L	NR140 ES (250)

Notes:

MW-120C currently has a groundwater exemption under review.

Table 3

**NR 140 PAL and NR 140 Enforcement Standards (ES) Summary for Public Health Parameters
Emerald Park Landfill
License #03290
October 2020**

WDNR WELL ID#	CLIENT ID	ANALYTE	WDNR CODE	SAMPLE DATE	RESULT	UNITS	EXCEEDS
224	PW-K	Tetrahydrofuran	81607	10/28/20	56.6	ug/L	NR140 ES (50)

Notes:

The following analyte was reported at a concentration greater than NR140 standard, but less than the LOQ during the October 2020 event. This estimated concentration below the LOQ is not considered an exceedance in accordance with NR140.14(c) and is not included on the exceedance summary above.

Vinyl Chloride (ES = 0.2 ug/L): GSUMP-7SC (0.42 ug/L) on 10/19/2020.