ENVIRONMENTAL SAMPLING CORPORATION

Dedicated to Environmental Monitoring, Science & Technology

March 31, 2021

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

Re: January 2021 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) is submitting the environmental monitoring data for the January 2021 monitoring event. A CD containing analytical results is also being submitted to the GEMS Data Submittal Contact at the WDNR Central Office. The quarterly monitoring conducted in January 2021 was performed by EPL and ESC personnel.

The January 2021 quarterly event includes the following monitoring:

- Collect one leachate sample,
- Record 16 leachate headwell elevations,
- Collect 13 surface water point samples,
- Measure 26 staff gauge elevations,
- Collect five gradient control sump samples,
- Collect readings from 66 landfill gas extraction wells,
- Collect readings from 11 landfill gas monitoring probes.

Information regarding the monitoring program conducted at EPL during the January 2021 event is provided in the following sections.

LEACHATE SAMPLE

One leachate sample was collected in January 2021 by ESC personnel. A grab sample was collected using a Hach Autosampler. One trip blank prepared by the laboratory accompanied the leachate sample from the collection back to the laboratory. Leachate analytical results from the monitoring conducted during the January 2021 event was generally consistent with historical data, with the exception of an increase in the concentration of total fatty acids. Fatty acids analysis is conducted on a quarterly basis; future monitoring will help evaluate what, if any, trend exists. A discussion of leachate quality and trends 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

January 2021 monitoring events, there was one leachate headwell, LH-14, 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 0.28 ft. to 0.30 ft. in January 2021. Currently, as of March 26, 2021 the average liquid level across the site has been reduced to 0.22 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.

SURFACE WATER MONITORING

Samples are collected quarterly from seven surface water locations and six sedimentation basins. Two additional surface water locations and three additional sedimentation basin will be added to the monitoring program following construction. No surface water samples could be collected from the 13 surface water locations and sedimentation basins in January 2021. The sampling points were either frozen, dry, or contained an insufficient volume to collect a representative surface water sample.

Staff gauge readings are recorded quarterly at the seven surface water locations required by the facility permit. Staff gauge readings are also recorded at an additional 19 surface water locations beyond the scope of the permit as an internal request. During January 2021, staff gauge readings were recorded at 25 of the 26 locations. Staff gauge SG-4 was removed from the surface water location (SW-4/SB-1) for maintenance of the sedimentation basin during 2020; no staff gauge reading could be obtained during the January 2021 event. The staff gauge was replaced in March 2021 and will be monitored during the next quarterly event.

GRADIENT CONTROL SYSTEM MONITORING

Samples were collected from four of the five gradient control sumps (GSUMP-6W, GSUMP-7N, GSUMP-7SE, and GSUMP-7SC) in January 2021. As required, only field parameters (pH, conductivity, temperature, color, odor and turbidity) were collected. The field readings collected from the gradient control system sample locations in January 2021 were consistent with historic data; there is no indication that the landfill has affected the water quality in the gradient control system.

During the January 2021 event, GSUMP-6E was in low level alarm and no sample could be obtained. The precision digital readout at GSUMP-6E was replaced in February 2021 and the quarterly field parameter readings were obtained on March 2, 2021.

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 at least twice monthly during the reporting period by EPL personnel. Percent methane, oxygen, gas temperature, flow, well head pressure, and valve settings were measured in the headspace of 66 gas extraction wells using an Envision gas meter in January 2021 by EPL personnel. The landfill gas blower and gas extraction well data are submitted to the WDNR quarterly under separate cover for upload to the GEMS database.

GAS PROBE MONITORING

Eleven gas monitoring probes were measured by EPL personnel in January 2021 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 in any of the gas probes during the reporting period. The gas probe monitoring results are submitted to the WDNR quarterly under separate cover for upload to the GEMS database.

CONCLUSIONS AND RECOMMENDATIONS

Results from the gradient control and leachate samples collected during the January 2021 event were generally consistent with historic data. There was no methane detected in any of the gas probes and no deviations of the solid waste permit monitoring requirements for the vertical gas extraction wells or the gas blower during the January 2021 monitoring event. Any deviations of the air permit requirements during the reporting period, if applicable, are addressed under separate cover and provided to the WDNR Air Management Division.

This letter satisfies the reporting requirements for the January 2021 monitoring event. If you have any questions or comments regarding this submittal, please contact me at 414-427-5033.

Sincerely,

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)
John Paczkowski: 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 (electronic copy)