

HOOD RIVER COUNTY PUBLIC WORKS



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ANNUAL LEACHATE IRRIGATION SYSTEM REPORT HOOD RIVER COUNTY LANDFILL, PERMIT #168 2019-2020 SEASON

This report describes the 2019-2020 leachate spray irrigation season, or more specifically, the time period between July 1, 2019 and June 30, 2020. Please note that the annual reporting period has been adjusted from prior reports, generally reported between August 1 and July 31 of the following year, in order to coincide with the reporting period of the Annual Environmental Monitoring Report as required by Solid Waste Disposal Site Closure Permit No. 168 issued by the State of Oregon Department of Environmental Quality (DEQ).

Site Conditions

Grassy vegetation continued to be generally well established on the landfill cover and no standing water was observed. No re-grading of the cover appears necessary. Surface runoff entering the leachate collection system continued to be held to a minimum and no failures were noted in the surface water diversion.

Signs and fencing continue to minimize trespassing and vandalism; however, there is evidence of prior vandalism to structures in the form of graffiti and minimal trespassing of vehicular traffic near the landfill cover. All signs previously marked with graffiti were replaced in 2020 and measures were taken to further limit vehicular trespassing. No vandalism to the spray irrigation system was observed.

Leachate Spray Irrigation

Leachate pumping started in December 2019 and continued thru June 2020. Both the landfill site and the leachate spray irrigation system were inspected regularly during normal work hours and the system was kept and maintained in working order. Flow meter readings indicate that during the 2019-2020 reporting season a total of 18.24337 acre-feet (5,944,620 gallons) of leachate was collected and sprinkled, while rainfall totals measured 22.7 inches during the same period. As indicated in the chart below, annual rainfall for the season was similar to that of the previous year yet generated less leachate pumped by approximately 0.4 million gallons. While this discrepancy may be attributed to a variety of factors, a similar discrepancy acknowledged in the 2018-2019 report lead to the installation of an analog flow meter in December, 2019. The improvement is expected to provide a more accurate reading of the volume of leachate distributed and result in consistent annual rainfall-to-leachate ratios over time.

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Season	Rainfall (Inches)	Total Pumped (Million Gallons)
2010-2011	37.0	14.2
2011-2012	30.6	12.0
2012-2013	24.3	5.6
2013-2014	29.5	12.7
2014-2015	23.4	12.6
2015-2016	32.5	25.7
2016-2017	33.2	20.1
2017-2018	30.2	22.7
2018-2019	21.7	6.3
2019-2020	22.7	5.9

Maintenance and Repairs

Dual pumps are in place for both the lower collection pond and the upper sprinkling system and configured so that one pump acts as a backup in the event the other fails. During normal use, the pumps alternate cycles in order to minimize wear and further extend pump life. In 2017 a pump-replacement program was started in which one lower-pump is replaced every year so neither pump is more than two seasons old. This practice continued through 2020. Additionally, a spare pump is kept at the County Public Works shop in the event of a pump failure and is part of the scheduled pump rotations. The replacement pump is typically installed at the end of the leachate collection season and includes annual maintenance work; such as cleaning the pump assembly, the lower-pump-house piping and the pond screenings.

No system repair work was necessary through the 2019-2020 season and all pumps and piping functioned as intended.

Potential Health Risk

Groundwater samples were collected from Monitoring Well No.3 (MW-3) in May 2020. Samples were attempted to be collected from MW-1 and MW-2 during the same vent, however similar to previous years both MW-1 and MW-2 were dry. The analysis results from MW-3 samples were mostly consistent with prior years with respect to Group 1a, 1b and 2a indicators. No Group 1a or Group 1b indicators were outside Maximum Containment Level (MCL) values; however it was noted that the Total Suspended Solids (TSS) concentration was 538 mg/L. Additionally, of the Group 2a indicators only iron exceeded an MCL value at 1.43 mg/L (MCL of 0.3 mg/L for iron).

Since the TSS concentration was above a threshold of 100 mg/L, an analysis of both total concentrations and dissolved concentrations of Group 2B trace metals would normally

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have been performed. However, due to low groundwater levels and insufficient recharge of MW-3 after purging additional samples were unable to be collected. Based on historical data and a reasonable assessment by the consultant that the relatively high level of TSS concentrations may have stemmed from additional sediment being drawn into the well during purging, it was determined that the lack of dissolved concentration values did not materially affect the sampling event and that there were no signs of relative concern.

At the time of the sampling event there was no leachate discharging from the landfill so no sample could be collected and analyzed.

Methane gas monitoring was performed in November 2019 and again in May, 2020. Detection levels were consistent with previous sample years, including minor levels detected in gas probes VP-1S and VP-2. No methane was detected in VP-1D during either event. Both VP-1 and VP-2 lie within the closed waste cell and no methane was detected on the east boundary of the cell or outside the cell boundary. However, probes VP-5 and VP-6 were discovered to be damaged during the November 2019 sampling but were repaired prior to the May 2020 event.

Please refer to the 2020 Annual Environmental Monitoring Report for specific leachate and methane test results and analysis.

The risk of exposure to leachate continues to be minimized by various security measures installed around the site. These measures include: a locked gate at the landfill entrance, the display of "Unauthorized Entry Prohibited" signage around the irrigation system, and the installation of fencing around both the upper pond and across the top of the lower pond dam. Fencing at the upper pond also includes a locked gate in order to limit access to authorized personnel only.

Landfill Closure

There has been no dumping or open burning at the site. On-site roads have been maintained to provide reasonable, all-weather vehicle access to monitoring locations and evidence of trespassing by ATV's and other vehicles has significantly decreased from prior years.

Landfill Budget

The County expended a total of \$31,185 on the landfill during its 2020 fiscal year (July 1, 2019 – June 30, 2020). This total includes all funding expended on leachate evaluation, consultation, repair and maintenance needs, general operations and staff services.