LEACHATE MANAGEMENT SUMMARY
March 2024
Updated January 15, 2025

Leachate is a liquid generated when water comes into contact with waste placed in a landfill. Leachate flows down though the waste and is collected in a series of drainage layers and piping installed within the landfill as part of the lining system.

The proposed expansion area will not be open to waste placement at the same time that the existing landfill is accepting waste. When the expansion area is open, the leachate generation from waste disposal operations will most likely be less as it is smaller in size than the existing landfill area. Leachate generation from the existing landfill will decrease as waste placement operations cease. Furthermore, detailed calculations regarding leachate generation will be developed and submitted to the Oregon Department of Environmental Quality (ODEQ) during the solid waste permitting process.

When Coffin Butte Landfill (CBL) is ready to construct the expansion area, the new leachate storage ponds will be constructed and new leachate discharge piping will be installed and connected to the existing piping on the north side of Coffin Butte Road. Once the new leachate storage ponds are installed and operating correctly, the existing leachate ponds will be decommissioned and removed. Decommissioning might include, but will not be limited too, the removal of some sediments that would be disposed of in the existing landfill and the liner system will be removed and disposed of in the existing landfill. The design details for this will be submitted to the ODEQ during the solid waste permitting process.

Currently, 50% of the leachate is disposed of at the City of Corvallis wastewater treatment plant and the permit for that operation expires December 31, 2025. The remaining 50% is disposed of at the City of Salem wastewater treatment plant and the permit for that operation expires December 31, 2027.

At CBL, leachate is collected in the leachate collection sumps and is pumped via pipelines to the existing leachate storage ponds. CBL has an agreement with the Corvallis wastewater treatment plant (CWWTP) to dispose of its leachate at their plant. CBL also has an agreement with the City of Salem wastewater treatment plant (SWWTP) to dispose of its leachate at their plant.

CBL is focused on minimizing water entering the landfill and thus reducing leachate generation. CBL uses multiple methodologies to minimize inflow:

- Grading of landfill surfaces to promote runoff and minimize water entering the landfill;
- Grading areas surrounding the landfill to divert water before it enters the landfill;
- Installation of a synthetic covers over areas of the landfill to significantly reduce infiltration of stormwater into the landfill. The synthetic covers are held in place using both anchor trenches and a sand bag/rope ballast system.

Stormwater runoff at the facility is captured in multiple on-site stormwater management ponds.

The current methodology of filling areas in the landfill to grade, covering with soil (for short term inactive areas) or synthetic covers (for longer term inactive areas) will continue with the new cell. In addition, CBL

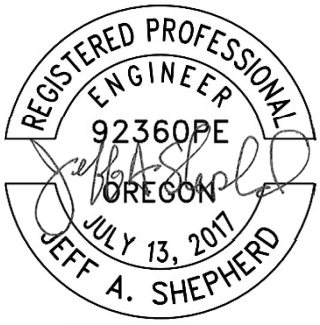
will formally close portions of the existing Coffin Butte Landfill that have reached final approved grades. By installing the ODEQ approved final cover system, stormwater infiltration will be negligible in those areas. In the short term, the leachate quantity will increase slightly with the additional liner system installed. However, CBL is currently evaluating potential closure activities on portions of the landfill and that will reduce the leachate quantity. Furthermore, as CBL continues to add final cover materials over the older parts of the landfill the leachate generation will continue to decrease.

Leachate from the new cell will be managed using similar collection systems (drainage layers and piping) as now implemented in the existing landfill. Leachate will be pumped to and stored in the new leachate storage ponds. The leachate will be transported by tanker truck to the CWWTP or SWWTP. It should be noted that CBL is limited to the amount of leachate that can be transported to the CWWTP and once that amount is reached, the remaining amount of leachate is transported to the SWWTP. Furthermore, if the CWWTP is phased out, the leachate will be transported to the SWWTP or other approved facility. Applicant must and will comply with all EPA and ODEQ regulations related to leachate management.

The US Environmental Protection Agency (EPA) defines hazardous waste as a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. The leachate produced by CBL is not a hazardous waste since the landfill does not accept hazardous waste and the leachate does not meet either of the two criteria used to classify a hazardous waste. A waste is determined to be a listed hazardous waste if it is specifically listed on one of four lists, the F, K, P and U lists found in Title 40 of the Code of Federal Regulations (CFR) part 261. Municipal Solid Waste (MSW) leachate is not found on any of the four lists. Since MSW leachate is not found on any of the four lists, it would not have to be characterized as a listed hazardous waste.

Currently, CBL does not test their leachate for the PFAS contaminates as they are currently not regulated by State of Oregon or the US EPA. However, once the State of Oregon and the US EPA establish the requirements for testing and reporting of the PFAS contaminates then CBL will comply with those requirements.

The federal regulation 40 CFR 261.24 defines the toxicity levels of characteristic hazardous waste. It specifies the test method and the contaminate levels that determine if a waste is toxic. Table 1 is the Maximum Concentration of Contaminates for the Toxicity Characteristic, from 40 CFR 261.24. If the leachate from CBL contains any of the contaminates listed in Table 1 at the concentration equal to or greater than the respective value given in Table 1, then it becomes a characteristic hazardous waste. The column titled VLF.L1 are the actual results from leachate sampled from the existing leachate storage pond dated August 30, 2023. As you can see, the results show that the leachate is not hazardous as none of the contaminates tested equaled or exceeded the regulatory level as shown in Table 1.



EXPIRES: **06/30/2026**

TABLE 1
MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC
From CFR 261.24

EPA HW No.*	Contaminant	Regulatory Level (mg/L)	VLF.L-1 (mg/L)
D004	Arsenic	5	0.13
D018	Benzene	0.5	ND
D006	Cadmium	1	0.00026
D019	Carbon tetrachloride	0.5	ND
D020	Chlordane	0.03	ND
D021	Chlorobenzene	100	ND
D022	Chloroform	6	ND
D007	Chromium	5	0.19
D027	1,4-Dichlorobenzene	7.5	ND
D028	1,2-Dichloroethane	0.5	ND
D030	2,4-Dinitrotoluene	0.13**	ND
D012	Endrin	0.02	ND
D031	Heptachlor (and its epoxide)	0.008	ND
D032	Hexachlorobenzene	0.13**	ND
D033	Hexachlorobutadiene	0.5	ND
D034	Hexachloroethane	3	ND
D008	Lead	5	ND
D013	Lindane	0.4	ND
D009	Mercury	0.2	ND
D036	Nitrobenzene	2	ND
D037	Pentachlorophenol	100	ND
D010	Selenium	1	ND
D011	Silver	5	ND
D015	Toxaphene	0.5	ND
D042	2,4,6-Trichlorophenol	2	ND
D043	Vinyl chloride	0.2	ND

VLF.L1 = Analytical test results from sampling leachate on August 29, 2023

ND = Non Detect

* Hazardous Waste Number

** Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.