

GREENACRES LANDFILL

BACKGROUND

The Greenacres Landfill is an approximately 58-acre inactive landfill located east of Spokane, Washington. The landfill operated as a disposal area for municipal wastes from 1950 to 1972, when it was filled to capacity and closed. The landfill was operated by Greenacres Township as an open burning dump. Spokane County assumed operation of the landfill in 1967 and converted the dump to a fill-and-cover landfill for the final five years of operation. The maximum thickness of refuse is estimated to be 22 feet, with an average thickness of 15 feet. The total volume of refuse is estimated to be approximately 1.2 million cubic yards. The landfill was closed in 1972. In 1984, the EPA placed the Site on the NPL under CERCLA because of contamination detected downgradient of the site in a private groundwater well. In 1985, the EPA and Ecology agreed that Ecology would assume lead agency status for the site and in 1989, a MOA gave Ecology authority over all aspects of the remediation process.

An RI/FS was conducted by URS Greiner Woodward Clyde from 1989 to 1991 and was used by Ecology to prepare the Final Cleanup Action Plan in 1992. The cleanup requirements specified in the main plan provide for a phased approach. Ecology completed the Cleanup Action Plan in 1992 and in 1997, a Consent Decree was issued. Construction of the landfill cap began and was completed in 1998.

- 1950: Greenacres Landfill, operated by Greenacres Township, begins accepting waste as an open burning landfill.
- 1967: Spokane County assumes operation of Greenacres and converts the landfill to a fill-and-cover operation.
- 1972: Greenacres fills to capacity and stops accepting waste.
- 1984: EPA places the Site on the NPL under CERCLA due to a contamination detection downgradient of the Site in a private groundwater well.
- 1989: MOA entered into by the EPA and Ecology gives Ecology authority for all aspects of the remedial investigation/feasibility study, remedial design, remedial action, and community relations.
- 1992: RI/FS is used to create the Final Cleanup Action Plan.
- 1998: Construction of the landfill cap was completed.

GEOLOGY/HYDROGEOLOGY

Two aquifers, an alluvial and deeper bedrock aquifer, were identified beneath the site. No leachate collection system is onsite. The bedrock aquifer underlies the weathered bedrock and is confined by unweathered bedrock. The weathered bedrock may act as an aquitard between the alluvial and bedrock aquifers. The majority of monitoring wells at the Site are bedrock aquifer wells. The alluvial aquifer is unsaturated and underlies the landfill and extends north. Sediments are generally silty sands and cobbly gravels which is indicative of glacial lake Missoula flooding deposition. There is no groundwater discharge onsite and therefore no leachate collection system.

LANDFILL GAS

Greenacres has a negative pressure gas collection system attached to a biofilter system with a propane-assisted flare station backup system. The gas system consists of 13 existing perimeter gas probes which are used to determine the degree of subsurface landfill gas migration into native soils surrounding the landfill footprint. Spaces along the perimeter of the landfill property boundary, gas probes installed in boreholes provide conduits to the subsurface soils, enabling measurement of landfill gas composition and pressure. This data is used to evaluate the gas system performance and to indicate any system operation adjustments.

CURRENT MONITORING

Currently, the Greenacres monitoring program includes nine wells that are sampled semi-annually. No domestic wells are included.

ANALYTE	CLEAN-UP CRITERIA
Volatile Organic Carbons (ug.L)	
1,2-DCA	5
1,2-DCE	50
PCE	5
TCE	5
VC	1
Semi-Volatile Organics (ug/L)	
BEHP	4
PCP	1
Metals (mg/L)	
Antimony	0.005
Arsenic	0.005
Lead	0.05
Manganese	0.05
Chromium	0.08

Table 1. Clean-up criteria for the Mica Landfill sampling program.

SURROUNDING AREAS

The Site is situated near Highway I-90 and has a substantially steep slope. Before it was a landfill, there was a ski slope. An apartment complex now sits at the base of the landfill and there are several subdivisions that have been constructed in recent years

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