



Ground Water Monitoring Groundwater Monitoring Well #33

The landfill is constructed with a liner system designed to collect any liquid (leachate) that is generated when rainwater percolates through the waste in the landfill. The leachate is collected in sumps at the bottom of the landfill cells and pumped to the leachate treatment plant.

There are 40 groundwater monitoring wells on site that are evaluated on a quarterly basis by Chester County Solid Waste Authority staff and contractors to make sure the landfills are not impacting the groundwater. There are also samples collected from 12 leachate collection sumps, 3 additional sump locations, and the 3 locations in the Conestoga River.

The samples are collected and analyzed by an environmental testing laboratory licensed by the Pennsylvania Department of Environmental Protection (PADEP) to perform that type of work. The water elevations that are taken quarterly indicate MW-33 is up gradient to the Lanchester Landfill and is used to represent background conditions.

Groundwater Monitoring Well #33 Sampling Results

Location	Date	Chloride (mg/l)	COD (mg/l)	Total Iron (ug/l)	H2O Elevation
MW-33	08/15/2019	2.0	<15	380	898.75
MW-33	11/7/2019	2.4	<15	75	889.82
MW-33	2/5/2020	2.8	<15	320	888.80
MW-33	5/11/2020	2.3	<15	76	896.53

- < – Less than symbol – indicates the measurement was under the detection limit for that parameter
- mg/l - milligrams per liter (usually thought of as parts per million)
- ug/l - micrograms per liter (usually thought of as parts per billion)
- Chloride - is an inorganic element that travels quickly in an aquifer; in leachate chloride concentrations are usually in the 1,000's of mg/l
- COD – Chemical Oxygen Demand – a measure of organic compounds; leachate COD is in the 1,000's of mg/l range
- Total Iron - The quantity of iron suspended and dissolved in the water collected. The rocks in this aquifer are mainly Chickies Quartzite and are naturally high in iron and other minerals
- H2O Elevation – Elevation above mean sea level of the water surface in Well #33