

### **3.8.4 HARRISON LANDFILL**

Facility Name: City of Harrison Municipal Landfill

A.K.A.: N/A

Location: 10999 Campbell Road.

Parcel #: 56100140013

Lat, Long: 39.244095 -84.805735

Region: Harrison, OH 45030

Owner: City of Harrison

Operation (yrs): Pre 1970 – 1985 (based on aerials and records)



#### **FACILITY OVERVIEW**

The former City of Harrison Municipal Landfill is located in Harrison Township, Hamilton County, Ohio 45206. The parcel is located south of Campbell Road and north of Lawrenceburg Road. The fill is bounded to the north by the City of Harrison's wastewater treatment plant, and the Whitewater River is approximately 400' west of the western edge of the fill. The former landfill covers approximately 16.5 acres.

Based on records, the landfill was operated by the City of Harrison. The date of initial waste placement at the landfill is unknown/unrecorded, however, Health District documentation dates back to 1969 and filling on the property is evident in 1970 aerials. Information included in the explosive gas monitoring plan indicates fill was



placed on existing grade with no excavation prior to fill placement. Topography of the former landfill is evident with a localized topographic high created in the area of waste placement; relief in the vicinity of waste placement is approximately twenty-two feet. Topography generally rises to the north and east of the landfill, and is relatively flat toward the south and west (along the Whitewater River flood plain). Figure 3.8.4-A illustrates the topography of the site:

**FIGURE 3.8.4-A**



In December of 1984 the City of Harrison was notified that the landfill’s license may not be renewed due to violations at the landfill which had gone uncorrected for the previous 6 months. The violations noted were for inadequate intermediate cover, use of unsuitable cover material (sand and gravel), and ponding/erosion. In a January 1985 letter, the City of Harrison was informed that the landfill would be licensed until July 1 of that year and at that time the license would be re-evaluated with regard to compliance. In a letter dated July 15, 1985, the city was notified that the landfill’s license had been suspended. The license was suspended for “repeated failure to correct violations”, “water samplings near the landfill showing increased amounts of contaminating substances”, and “geologically poor location of the landfill”. The landfill was closed per applicable Ohio EPA and Hamilton County Health District requirements on August 1, 1985, after which no additional waste was received.

The city was informed in June of 2001 that several issues needed addressing at the former landfill. The issues included bush hogging the landfill, cap maintenance, and cleaning up the surface waste items on and around the landfill. Per a September 27, 2001, inspection, the cap of the landfill was regraded around this time. According to the explosive gas monitoring plan the cap in the north-central portion of the landfill is approximately 12 – 13 ft. thick.

In a letter dated January 9, 2002, the city was granted a Rule 13 authorization to construct a concrete pad and access road within the limits of waste placement. The pad is used to dewater sludge generated from the adjacent waste water treatment plant.

## SAMPLING RESULTS

No surface water sampling or biological sampling is performed at this landfill.

The original explosive gas monitoring plan (EGMP) approved in 1998 included 15 sampling locations. In 2002 MP-1, MP-2, MP-3, TP-9, and TP-10 were removed due to construction. Three replacement gas monitoring probes (MP-4, MP-5, and MP-6) were installed in 2004 to replace these removed sampling locations. City of Harrison personnel monitored the closed landfill monthly through 2014. In 2015 the Ohio EPA authorized the city to reduce gas monitoring to semi-annually. The facility submitted a revised EGMP dated November 3, 2022. Ohio EPA approved the revised EGMP on December 16, 2022. Under the current EGMP, there are a total of thirteen monitoring locations (Figure 3.8.4-B).

The first semiannual monitoring event of 2023 was completed on June 7, 2023 (Table 3.8.4-A). During this event methane was detected in three of the monitoring points (PMP-4, PMP-5, PMP-6) at concentrations between 30% and 57% LEL. During the second monitoring event completed on December 6, 2023, there were no detections of methane (Table 3.8.4-B).

**TABLE 3.8.4-A (6/7/2023)**

PROBE DESIGNATION	EGTL 1	TIME OF SAMPLING	PRESSURE 2	% COMBUSTIBLE GAS INITIAL / SUSTAINED 3	WATER DEPTH 4	% LEL 5
PMP-4	100 %	1359 hrs	0.02	1.5 / 1.5	0	30.0
PMP-5	100 %	1354 hrs	0	3.3 / 3.3	0	57.0
PMP-6	100 %	1357 hrs	0.28	1.5 / 1.5	0	31.0
TP-1	100 %	1539 hrs	0.1	0.0 / 0.0	0	0
TP-2	100 %	1545 hrs	0.41	0.0 / 0.0	0	0
TP-3	100 %	1550 hrs	0	0.0 / 0.0	0	0
TP-4	100 %	1553 hrs	0	0.0 / 0.0	0	0
TP-5	100 %	1556 hrs	0.65	0.0 / 0.0	0	0
TP-6	100 %	1559 hrs	0.86	0.0 / 0.0	0	0
TP-7	100 %	1604 hrs	0	0.0 / 0.0	0	0
TP-8	100 %	1615 hrs	1.43	0.0 / 0.0	0	0
TP-11	100 %	1607 hrs	0.05	0.0 / 0.0	0	0
TP-12	100 %	1610 hrs	0.72	0.0 / 0.0	0	0

**TABLE 3.8.4-B (12/6/2023)**

PROBE DESIGNATION	EGTL 1	TIME OF SAMPLING	PRESSURE 2	% COMBUSTIBLE GAS INITIAL / SUSTAINED 3	WATER DEPTH 4	% LEL 5
PMP-4	100 %	1335	+0.04	0/0	0	0
PMP-5	100 %	1340	+0.02	0/0	0	0
PMP-6	100 %	1343	+0.03	0/0	0	0
TP-1	100 %	1252	+0.50	0/0	0	0
TP-2	100 %	1300	+0.38	0/0	0	0
TP-3	100 %	1303	+0.26	0/0	0	0
TP-4	100 %	1305	+0.23	0/0	0	0
TP-5	100 %	1308	+0.22	0/0	0	0
TP-6	100 %	1310	+0.44	0/0	0	0
TP-7	100 %	1313	+0.04	0/0	0	0
TP-8	100 %	1331	+0.23	0/0	0	0
TP-11	100 %	1325	+0.13	0/0	0	0
TP-12	100 %	1317	+0.08	0/0	0	0

Semiannual monitoring during 2022 was completed on January 4, 2022 and November 11, 2022. During the first event methane was detected in eleven of the monitoring points at concentrations between 2% and 4% LEL. During the second monitoring event there were two detections of methane (PMP-4 and TP-1) at 72% and 2% LEL respectively.

The first semiannual monitoring event of 2021 resulted in one detection of methane in PMP-4 at a concentration of 16.1% LEL. During the second monitoring event of 2021, there were three detections of methane (PMP-4, PMP-5, and PMP-6) ranging from 3.3% to 16.1% methane. Ohio EPA conducted an explosive gas investigation at the landfill on December 9, 2021. Gas monitoring was conducted at 9 punch bar locations around the former landfill. Methane was detected at 6 locations in concentrations ranging from 0.05 – 53% methane. Based on discussions with Ohio EPA, it was discovered that concentrations of methane may have been mis-reported prior to the December 2021 monitoring event. Therefore, prior to this date, actual methane concentrations may have been significantly higher than what was reported. Based on the results of the Ohio EPA explosive gas investigation the city performed increased monitoring of PMP-4, PMP-5, and PMP-6 twice each day from January 5 through January 8, 2022. All results were between 0% and 4% LEL. After review of results, the facility returned to semi-annual monitoring for explosive gas.

Methane has consistently been encountered in wells PMP-4, PMP-5, & PMP-6 since their installation. The landfill was monitored once during 2020 and this monitoring resulted in one detection of methane in MP-5 at a concentration of 56% LEL. Methane was detected in probes MP-4, MP-5, and MP-6 during both sampling events completed in 2019 at concentrations ranging from 4.8 to 44% LEL. There were six total detections of methane over 3 sampling events conducted in 2018. All detections in 2018 occurred in probes MP-4, MP-5, and MP-6 at concentrations ranging from 1% to 34% LEL. WM Staff will continue to monitor the data for trends in gas levels. *(Data for this landfill is in the files at Hamilton County Public Health).*

#### SITE INSPECTIONS

The site was last inspected by HCPH on December 22, 2023. No violations or nuisance conditions were observed during the inspection.

#### SITE PRESENT DAY



The above-mentioned wastewater treatment plant occupies the northern section of the parcel. The former landfill is covered with established and maintained grass. The areas surrounding the landfill are undeveloped wooded land with no current activities other than an ATV/Motocross trail park that borders the landfill to the southwest and south.







**Figure 3.8.4-B**  
Harrison Closed Landfill  
10999 Campbell Road

-  = Gas Monitoring Location
-  = Approximate Limits of Waste

