Region 2 Enforcement & Compliance Assurance Division
Air Compliance Branch

CAA Inspection Report

Inspection Date:	5/9/2023
Facility Name:	Atlantic County Utilities Authority Landfill
Facility Address:	6700 Delilah Road, Egg Harbor Township, NJ 08232
ICIS-Air ID #:	NJ0000003400100209
Facility Contact:	Greg Seher, Director, Solid Waste Operations, 609-272-6935, gseher@acua.com
EPA Lead Inspector:	Joseph Cardile, Environmental Engineer, ECAD-ACB, 212-637-4054
EPA Asst. Inspector:	Victor Tu, Environmental Scientist, ECAD-ACB, 212-637-3476
Other Inspector(s):	Supriya Rao, EPA Environmental Engineer, LSASD-MAB, 732-321-3622
State Inspector(s):	None

I. Facility Background:

Atlantic County Utilities Authority Landfill, which is owned and operated by the Atlantic County Utilities Authority (ACUA), is located at 6700 Delilah Road in Egg Harbor, New Jersey. ACUA landfill began accepting construction and demolition waste as well as yard waste in 1992. The landfill was approved to accept municipal solid waste in 2000. The landfill is separated into 11 cells, which contain solid waste generated from Atlantic County homes and businesses. In 2014, ACUA landfill completed construction of its final cell. In an effort to increase the disposal capacity at the landfill, ACUA constructed an earthen berm that wraps around the exterior of the landfill. The space between the newly constructed berm and the slope of the existing landfill is used to deposit additional solid waste. In addition to the construction of the berm, ACUA installed a "litter fence" on top of the landfill. The fence wraps around the perimeter of the landfill and catches litter that blows away during landfilling operations. The fence consists of 40-foot-tall posts and netting.

II. Pertinent Regulatory Requirements

ACUA landfill is subject to the new Federal Plan Requirements for Municipal Solid Waste Landfills, 40 CFR 62 Subpart OOO (Federal Plan, Subject OOO) and the National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills (MACT, Subpart AAAA). ACUA landfill is no longer subject to NSPS Subpart WWW.

III. List of Attendees

Gary Conover – ACUA, Vice President, Solid Waste Operations
Greg Seher – ACUA, Director, Solid Waste Operations
Sam Nutile – ACUA, System Manager, Solid Waste Operations
Alvaro Alvarez – ACUA, Landfill Technician
Joseph Cardile - EPA Environmental Engineer
Victor Tu - EPA Environmental Engineer
Supriya Rao - EPA Environmental Engineer

IV. Pre-Inspection Notification

On May 3, 2023, Inspector Cardile contacted Mr. Gary Conover, Vice President, ACUA Solid Waste Operations, by telephone and subsequent email to confirm that EPA planned to conduct a Clean Air Act (CAA) inspection of the ACUA landfill on May 8-9, 2023. EPA explained that the inspection would primarily consist of surface emission monitoring (SEM) for methane leaks following EPA's leak detection and repair (LDAR) requirements applicable to this landfill. Inspector Cardile further explained that EPA was planning to conduct its own SEM during its inspection of the landfill using appropriate SEM equipment. Inspector Cardile also requested that ACUA landfill have available its staff and/or contractor who conduct SEM at the landfill at the time of EPA's inspection because EPA would like to observe ACUA and/or its contractor perform routine calibration of their monitoring equipment and conduct comparative SEM alongside the EPA inspectors. On May 3, 2023, Mr. Conover confirmed in an email sent to Inspector Cardile that representatives from his staff would be available for EPA's inspection.

V. Entrance Conference

On May 8, 2023, EPA Inspectors Joseph Cardile, Victor Tu, and Supriya Rao ("EPA Inspectors") arrived at ACUA's administrative facility building in Egg Harbor, NJ at approximately 9:30 AM. EPA Inspectors displayed their credentials, explained they were here to conduct a CAA inspection, and were directed to a facility conference room which was located on the first floor of the building. In the conference room, EPA inspectors were joined by several ACUA representatives including Gary Conover, ACUA's Vice President of Solid Waste Operations and Greg Seher, ACUA Director of Solid Waste Operations. EPA inspectors explained that the primary purpose of EPA's inspection was to conduct SEM of the landfill following Method 21 to monitor for methane emissions from the landfill surface and conduct a review of the facility's records related to leak detection and repair. In addition, EPA inspector planned to also observe ACUA staff and/or contractor conducting monitoring equipment calibration and performing comparative LDAR alongside EPA staff during SEM. EPA Inspectors also indicated they planned to use a Forward Looking Infrared (FLIR) Camera and a Toxic Vapor Analyzer (TVA) during the inspection. EPA inspectors were informed that SCS Engineers staff that normally perform monitoring equipment calibrations and conduct routine LDAR/SEM at this landfill were not available and would not participate on this inspection. In response, the EPA inspectors explained that since neither ACUA nor its contractor, SCS, would be conducting comparative LDAR/SEM as requested by EPA, any methane leaks identified by the EPA inspectors would be required to be repaired by ACUA staff or its contractor, as if those leaks had been discovered during the routine quarterly SEM conducted by the landfill.

ACUA representatives indicated the waste footprint of the landfill is comprised of 102 acres with 21 acres under final cap/cover. The landfill consists of 11 cells in total and, at current/projected filling rates, it is anticipated that the landfill will reach capacity in October 2028. The landfill is open from 7AM to 4PM, employs approximately 250 employees, and operates 107 vertical collection wells. Due to its proximity to a local airport, ACUA implemented a nighttime landfilling operation. The landfill operates an enclosed flare that is capable of handling gas flows up to 4,000 SCFM but currently flares approximately 2,000 SCFM of gas. The landfill shut down its gas-to-energy facility and is implementing a renewable natural gas (RNG) program which would process/convert the landfill natural gas (LNG) to pipeline quality. This project is expected to be completed sometime in 2024.

VI. Summary of Observations

On May 8, 2023, the EPA inspectors along with ACUA landfill technician Alvaro Alvarez, began conducting SEM on ACUA landfill which lasted for two days. The EPA inspection team performed SEM and recorded leak monitoring data on the landfill. The EPA team detected and identified many methane leaks (i.e., leaks in excess of 500 ppm) throughout the landfill including several readings that exceeded 8,000 ppm. Leaks were found at the bases of wellheads, flanges, covers, vents, and pipe protrusions from the top of the rain tarps covering approximately half of the landfill surface including side slopes. The tarps, which were installed for erosion control, also act to collect, and contain landfill gas which sometimes funnels out through small tears and openings

in the tarps. Many of the tarps had leaks in excess of 500 ppm from various holes and opening and sections of the tarp were loose and ballooning in the wind.

Overall, EPA inspectors completed SEM over a significant portion of the landfill's surface area and surface penetrations over the two-day timeframe. EPA Inspectors discovered 29 methane leaks in excess of 500 ppm out of 69 points sampled on the landfill. This equates to a methane leak hit rate in excess of 42%. A comprehensive list, which includes the names, locations, and the methane amounts measured at each sampled point, is included in EPA's LDAR Inspection Report (attached).

VII. Closing Conference:

At the closing conference, EPA inspectors explained to ACUA representatives that EPA does not provide compliance determinations on its inspections because all CAA compliance determinations required EPA supervisory review/approval. However, EPA inspectors discussed the number of methane leaks they had identified and documented while conducting their SEM. EPA inspectors also pointed out that ACUA reported only a few methane leaks in the last four calendar quarters while conducting SEM of the entire landfill in each of those quarters. EPA inspectors re-stated that the leaks they had identified during SEM would need to be repaired and re-monitored as required by the regulations and the list of leaks identified by EPA would be provided to ACUA via email within the next few days. The leak information was sent to ACUA via email on May 19, 2023. It was also agreed at the closing meeting that the required timeframe to repair these leaks would start upon ACUA's receipt of EPA's leak results. This concluded EPA's inspection and the EPA inspectors left the landfill at approximately 5 PM EST on May 9, 2023.

Enclosure: EPA's LDAR Inspection Report with attachments, dated July 6, 2023

Lead Inspector's Name: Joseph Cardile

Cardile, Joseph

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Digitally signed by Cardile, Joseph
Date: 2023.07.10 15:57:33 -04'00'

Lead Inspector

Assisting Inspector's Name: Victor Tu

VICTOR TU

X

Digitally signed by VICTOR TU
Date: 2023.07.10 15:43:46 -04'00'

Assisting Inspector

Supervisor's Name: Francesco Maimone

FRANCESCO MAIMONE

X

Digitally signed by FRANCESCO MAIMONE
Date: 2023.07.10 16:19:38 -04'00'

Supervisor

Leak Detection and Repair
(LDAR) Inspection Report

Atlantic County Utilities Authority Landfill
6700 Delilah Road
Egg Harbor Township, NJ 08232

AIRS ID: NJ0000003400100209

Inspection Date: May 8-9, 2023

Participating Personnel:

US Environmental Protection Agency
Supriya Rao, PE, Environmental Engineer
Victor Tu, Environmental Engineer
Joseph Cardile, Environmental Engineer

Report Prepared by:

Supriya Rao 07/05/23

Supriya Rao, PE Environmental Engineer
Monitoring and Assessment Branch

Lead Inspector:

Supriya Rao 07/05/23

Supriya Rao, PE Environmental Engineer
Monitoring and Assessment Branch

Approved by:

CAROL LYNES

Digitally signed by CAROL LYNES
Date: 2023.07.06 15:35:11 -04'00'

Carol Lynes, Chief
Monitoring and Assessment Branch

LDAR Inspection of Atlantic County Utilities Authority Landfill, NJ

Table of Contents:

Attachments

Inspection Date:

May 8-9, 2023

Introduction:

The Atlantic County Utilities Authority Landfill (ACUA) in Egg Harbor Township, New Jersey is owned and operated by ACUA. The landfill accepts predominantly municipal solid waste, construction debris, and bulk waste. ACUA has placed waste in eleven cells, Cells 1 and 2 are closed with final cover. Cells 5, 6, 7, 8, 9 are being actively filled. Cells 3, 4, 10, 11 have temporary cover/cap in place. ACUA continues to conduct the operation of placing waste in the active landfill cells during nighttime. This unique nighttime operation is conducted due to its proximity to the local airport. There are various horizontal and vertical gas collectors in Cells 1 to 11 in the landfill. ACUA owns and operates the Gas Collection and Control System (GCCS) system onsite, maintains the well heads, and controls the flare. ACUA's contractor, SCS Field Services performs all of the quarterly surface emissions monitoring at the landfill.

ACUA is subject to 40 CFR 62, Subpart OOO, Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction on or before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014, and 40 CFR 63 Subpart AAAA, National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills

As per 40 CFR 62 Subpart OOO (§62.16716(d)) and 40 CFR 63 Subpart AAAA (§63.1958(d)), the landfill is required to develop and implement a surface emissions monitoring plan in which testing is conducted around the perimeter with a pattern that traverses the landfill at 30-meter intervals.

Management System Review:

Objective: A management system review consists of an evaluation of the facility's current Leak Detection and Audit Review (LDAR) program, which includes interviews with staff responsible for overseeing the program and any staff or contractors who perform routine monitoring and data management. Documents reviewed by EPA Region 2 inspectors (hereafter referred to as inspectors) include, but are not limited to past reports, monitoring data, component leak histories, calibration gas certificates of analysis, calibration logs, calibration precision testing, and calibration response time testing.

Observations: ACUA's contractor, SCS Field Services, performs all surface emissions monitoring at the landfill. Any instrument reading greater than 500 ppm is considered an exceedance. If an exceedance is found by SCS Field Services, a GPS location is taken, the area is flagged, and the landfill management is notified. ACUA is responsible for cover maintenance and will add dirt or clay to the surface if necessary.

According to ACUA, re-monitoring is performed by SCS Field Services within 10 days. If the area passes re-check, follow-up monitoring is performed within 30 days. If the area does not pass the re-check, another attempt at repair is made, and re-monitoring is performed within 10 days.

EPA Inspectors reviewed the quarterly surface emissions monitoring reports from June 2022 to March 2023.

Technical System Audit:

Objective: A Technical System Audit (TSA) consists of an audit of the instrumentation and calibration gases being used for routine LDAR monitoring. Calibration gases will be checked, and the inspector will observe the facility LDAR technician or contractor performing a routine calibration. The procedure used to perform a calibration precision test and response time test will also be observed. This portion of the audit evaluates conformance to Method 21 of 40 CFR Part 60, Appendix A.

Observations: ACUA's surface monitoring contractor, SCS Field Services, was not present during EPA's inspection. Therefore, there are no observations to report about the instrumentation/calibration procedures and calibration gases used by SCS Field Services.

Compliance Monitoring:

Objective: Inspectors perform all compliance monitoring with the facility technician or contractor present to provide confirmation of any leaks detected by EPA. The inspection will consist of side-by-side monitoring where the inspector will monitor several components immediately after the facility technician or contractor has monitored the same component. This is done to verify monitoring technique, ability to find leaks, and performance of the facility's instrument. All monitoring data are summarized and provided as Attachment 1 to this report.

Observations: Side by side surface monitoring could not be conducted as SCS Field Services was not present during EPA's inspection; however, EPA did continue its own LDAR monitoring of the landfill. All results were relayed verbally in the field to ACUA's Mr. Alvaro Alvarez and by email afterwards on. Monitoring results are included in Attachment 1 to this report.

Calibration of the TVA2020 was completed in the field prior to starting the surface emissions monitoring. The following calibration gases were used in the daily calibration: Zero Air, Methane 505 ppm, Methane 1025 ppm, and Methane 1% volume. Background concentrations were determined both upwind and downwind of the landfill, with results included in Attachment 1. A total of 69 points were monitored over the two-day period. Any reading above 500 ppm is considered a leak ((§62.16716(d)) and (§63.1958(d)). As shown in

Attachment 1, EPA detected 29 leaks, which equates to a leak rate of 42%. A majority of the leaks found were located at base of the wells, located in the landfill section covered with the black tarp.

Region 2 inspectors used ArcGIS Maps on iPhone XR to record the coordinates of each point monitored at ACUA. Coordinates for each point monitored can be found in Attachment 1.

Follow-Up:

At the closing conference held on May 9, 2023, Region 2 inspectors reviewed all the findings of the inspection with ACUA personnel (Gary Conover, Greg Seher, Sam Nutile and Alvaro Alvarez). On May 20, 2023, Joseph Cardile forwarded Mr. Gary Conover the requested exceedances table with all exceedances locations and requested follow-up repair and monitoring data for all leaks found during the inspection. ACUA sent the initial 10-day monitoring data on May 31, 2023. On June 1, 2023, Joseph Cardile acknowledged receipt of the data as well as requested that supporting documentation of repairs to be included with the 30 days recheck monitoring and submittal.

ACUA provided the 30-day re-monitoring data and pictures of the repairs conducted on June 20, 2023.

Areas of Concern:

During EPA's Surface Emission Monitoring, a total of 29 locations with gas readings exceeding 500 ppm were identified. During the last quarterly gas monitoring completed by SCS Field Services in March 2023, six penetration locations were identified with readings above 500 ppm. SEM reports were reviewed from the time period of June 2022 to March 2023. The second quarter 2022 SEM report listed exceedances at seven penetration monitoring points. The third quarter 2022 SEM report listed exceedances at thirteen penetration monitoring points. The fourth quarter 2022 SEM report listed exceedances at three penetration monitoring points. EPA has detected a significantly greater number of exceedances during the surface emission monitoring. Despite EPA's request, SCS Field Services did not have a monitoring technician or monitoring equipment available during EPA's inspection. It is recommended that ACUA's surface emissions monitoring contractor, SCS Field Services, reevaluate the requirements of Method 21 to ensure proper monitoring techniques are being utilized during the quarterly monitoring in order to correctly identify the number of gas exceedances over 500 ppm methane.

ATTACHMENT 1
TVA READINGS

United States Environmental Protection Agency
2890 Woodbridge Avenue, Edison, NJ 08837
Monitoring and Assessment Branch
Surface Emissions Monitoring - Leak Detection and Repair

Atlantic County Landfill/Atlantic County Utility Authority
6700 Delilah Road, Egg Harbor Twp, Atlantic County, NJ

Date of Inspection: May 8 -9, 2023
Weather: 70^0 F, Sunny, Wind 8 MPH, Visibility - Clear

Sample ID	Concentration (ppm)	Latitude	Longitude	Notes/Comments
Downwind	1.0	39.425808	-74.539584	Near lookout tower
Upwind	1.5	39.423720	-74.542271	
Upwind	1.5	39.423715	-74.542269	
Pump station # 6	24	39.424377	-74.535899	
Pump Station # 5	57	39.424471	-74.537221	
Pump Station # 4	2	39.424579	-74.538426	
Runoff opposite to Pump station #4	1.8	39.424646	-74.538613	
Pump Station # 2	6.8	39.424236	-74.539494	
Manhole 1557-2013	1.8	39.424611	-74.542927	
Well 58A	4.6	39.425855	-74.538761	
Well # 11	15.6	39.426053	-74.539519	
Well # 58	4.8	39.425662	-74.539273	
Penetration #1	6346	39.426572	-74.539255	
Penetration #2	1153	39.426563	-74.539248	
Penetration #3	16.8	39.426532	-74.539254	
Horizontal collector @ flange	587	39.426388	-74.539532	
Penetration # 4	10100	39.426324	-74.539651	
Penetration # 5	10600	39.426280	-74.539680	
Horizontal collector off well 121	804	39.426205	-74.539967	C&D meets MSW area
Well 121	1.8	39.426166	-74.540323	
Horizontal collector close to well 125	508	39.429423	-74.538780	
Horizontal collector close to well 100	2.8	39.429476	-74.538189	
Well 100 @base	23	39.429583	-74.537843	
Well 99 @ base	142	39.430116	-74.537889	
Well 105 @ base	4.8	39.429971	-74.538390	
Well 106 @header	6002	39.430069	-74.538893	
Horizontal collector near well 112	17.8	39.429918	-74.539375	
H51 @ header	824	39.430028	-74.539432	
H48 @bottom of header pipe	10100	39.429908	-74.539640	
Well 113 @jacket sleeve	17400	39.429558	-74.539838	

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Date of Inspection: May 8 -9, 2023
Weather: 70^0 F, Sunny, Wind 8 MPH, Visibility - Clear

Sample ID	Concentration (ppm)	Latitude	Longitude	Notes/Comments
H53 @sleeve near header	6834	39.429487	-74.539529	
H54 @sleeve near header	4436	39.429272	-74.539653	
Well 108	238	39.429167	-74.539674	
Well 109@base	2067	39.428759	-74.539793	
Horizontal on top of well 109 @sleeve of bottom	2896	39.428807	-74.539338	
Well 18R @ header	118	39.427014	-74.537444	
Well 16R	24	39.426936	-74.537732	
Well 17R	14.5	39.427976	-74.537971	
Well 123 @base	2067	39.428137	-74.538502	
Well 124 @flange	8.8	39.428474	-74.538655	
Well 89 @base	1252	39.428638	-74.538356	
Well 95 @flange	34.5	39.428880	-74.537873	
Well 91 @flange	8.5	39.428891	-74.537868	
Well 90	5.5	39.428914	-74.537851	
Protrusion near header elbow pipe	10100	39.429185	-74.537482	
Well 94 @base	1767	39.428583	-74.537442	
Header for well 95 @base	508	39.428876	-74.536831	
Well 21A	1357	39.427176	-74.536446	
Well 130 @base	148	39.426783	-74.536138	
Well 132	7.8	39.426632	-74.536125	
Header for Well 132	1630	39.426682	-74.535692	
Header for well 133	6897	39.426457	-74.535342	
Dirt mound near Well 129	1020	39.426331	-74.535979	
Well 154R	323	39.426155	-74.534704	
Well 136R	249	39.426152	-74.534692	
Well 153R	316	39.426167	-74.534682	
Header for Well 153R	17.5	39.426594	-74.534635	
Well 137R	626	39.426472	-74.534259	
Well 155R	412	39.426267	-74.534088	
Soil near Well 155R	599	39.426265	-74.534081	
Well 138R @base	54	39.425874	-74.533775	
Well 139R	11.2	39.425432	-74.533961	

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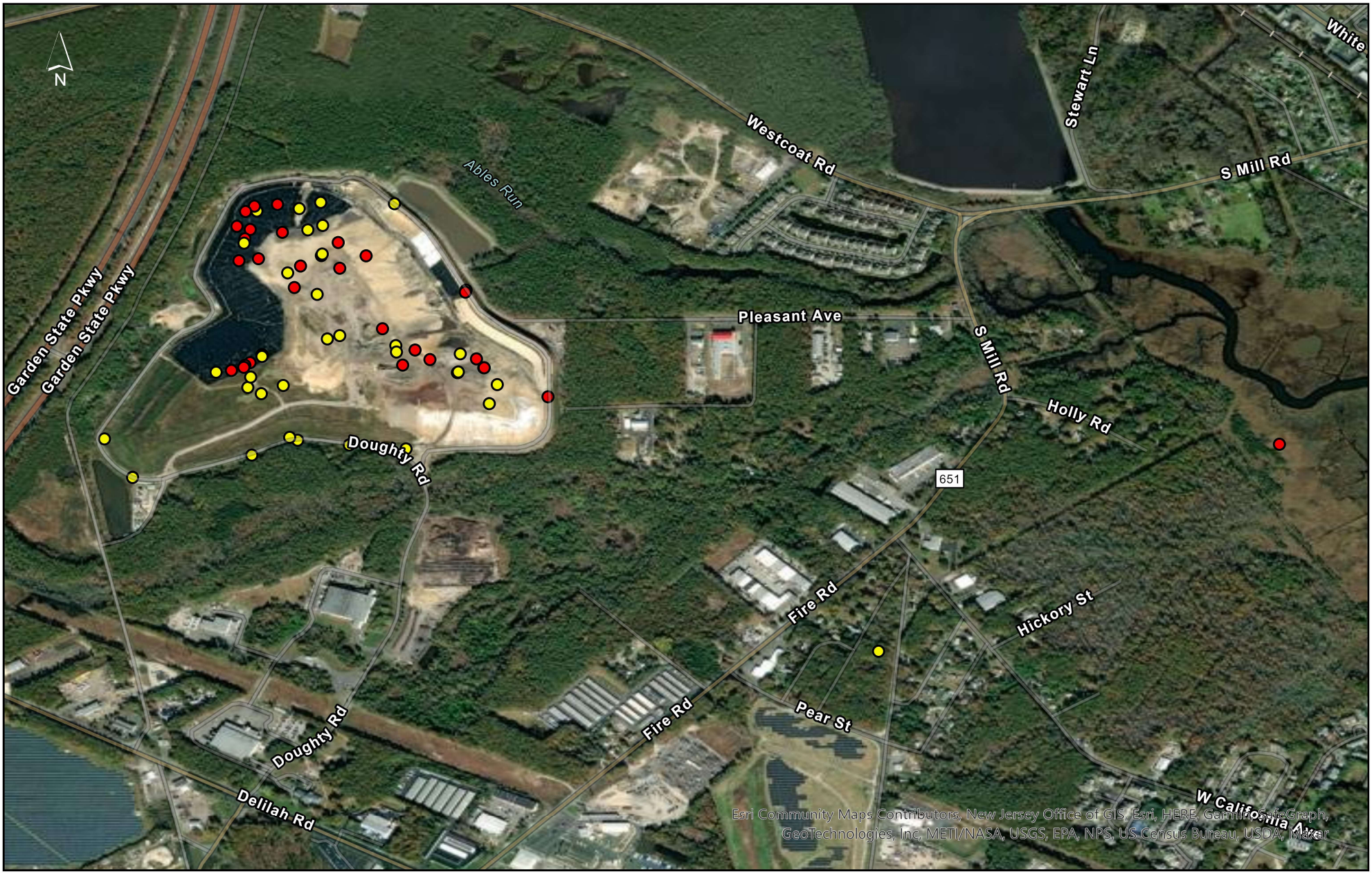
Sample ID	Concentration (ppm)	Latitude	Longitude	Notes/Comments
Well 152	389	39.419666	-74.524878	
Leachate clean out pump station # 9	599	39.424488	-74.515547	
Base of pipe at back of pump station # 9	8899	39.425589	-74.532592	
Flange at Pump Station 8S	4.6	39.428076	-74.534504	
Pipe behind Pump Station 8S @base	566	39.428028	-74.534519	
Flange at Pump Station 10	3.4	39.430084	-74.536170	

ATTACHMENT 2
ARCGIS MAP

ACUA Landfill TVA Readings



TVA Readings ACUA
Concentration (ppm)
- 1.0 - 500.0
- 500.01 - 17400.0

0 1,000 2,000 Feet

Descriptive Information