U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
11184 Bristol Air - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: **POLREP #8**
Completion of RSE - Final POLREP
11184 Bristol Air
B3AR
Bristol, VA
Latitude: 36.6029424 Longitude: -82.1539850

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From: Myles Bartos, OSC
Date: 12/16/2022
Reporting Period: June 1st through December 1st, 2022

1. Introduction

1.1 Background

Site Number:	B3AR	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	
Response Lead:	EPA	**Incident Category:**	Removal Assessment
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	6/7/2021	**Start Date:**	5/25/2021
Demob Date:		**Completion Date:**	12/1/2022
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

This incident is a removal site evaluation at the location continued and numerous odor complaints are occurring. The complaints include a description of various chemical smells and related health effects.

1.1.2 Site Description

The Site currently includes a large geographic area at/near the Virginia and Tennessee border. Both Virginia and Tennessee have a City of Bristol which are immediately adjacent to each other across the border. Both cities are experiencing significant odor complaints from both residential, commercial, and government property owners.

1.1.2.1 Location

The Site is located in the Cities of Bristol, Virginia and Bristol, Tennessee

1.1.2.2 Description of Threat

The potential threats posed by this Site are currently unknown. Several compounds (odor causing compounds and volatile organic compounds have been identified to be in the air at low levels during various periods of the day. Typically the levels have risen at night. Initial review of the monitoring data and sampling data does not show duration or concentrations that would trigger a removal action. Six weeks of monitoring and sampling have previously been completed during June and July of 2021. A subsequent monitoring and sampling events occurred in October of 2021, January into February 2022, and April 2022. Various chemicals have been detected at the various locations.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

See previous POLREPs

2. Current Activities

2.1 Operations Section

2.1.1 Narrative
See Above.

As noted in the previous sections of this POLREP. EPA mobilized and conducted several sampling and monitoring events for the Site. All effort were conducted in close coordination with the Virginia DEQ.

The events conducted in 2021 and 2022 included both fixed and mobile air monitoring utilizing a variety of air meters and sensors. Detection limits, resolution, and other details can be found in the data summary reports. The fixed locations monitored ambient air 24/7 for the designated period of time. (NOTE: sensor and/or telemetry issues were resolved as quickly as possible). The mobile monitoring was typically conducted in the late hours of the evening or early hours of the morning when odors were reported to be the most significant.

The results of the fixed monitors would initiate the collection of an air sample for laboratory analysis at the Virginia State Lab. Details of the strategy can be found in previous POLREPS (see #2).

The initial locations for all monitoring points were chosen first by the frequency of complaints received. The specific location (exact address was refined by other circumstances such as power availability, security, etc). Additional locations were chosen from direct public input. The OSC continued outreach with several community leaders who provided "target areas", 5 in total. The OSC requested that they be prioritized and the top 3 would be monitored.

EPA adjusted strategy based on the scientific data it was receiving in order to answer any pending questions. For instance, one contaminant, Acrolein, was detected in the Virginia DEQ samples. Acrolein is known to show residual concentrations that can increase if equipment isn't cleaned above and beyond standard protocols. To verify if the concentrations were accurate, EPA acquired brand new, never used canisters to collect samples co-located with Virginia DEQ samples. Additionally, benzene was a contaminant that was detected frequently. The concentrations and locations helped determine additional sampling.

2.1.2 Response Actions to Date

The OSC began receiving validated data and initiated a review. Monitoring and sampling results were evaluated both individually and as part of the entire datasets. As previously explained, singular results from a single point in time were observed and evaluated with all other data as it relates to exposure. A single non-detect result does not mean there was never the presence of a hazardous substance. Similarly, a single instantaneous result above a reference value may not warrant initiating a response action.

The OSC continued to coordinate and maintain communication with stakeholders that include, but are not limited to the following: Cities of Bristol Virginia and Tennessee, Virginia DEQ, Tennessee DEC, ATSDR, elected officials, consultants, and the public. Internally, the OSC has continued coordination with various EPA programs that may be salient to the Site including the Enforcement and Compliance Assurance Division (ECAD) and Office of Public Affairs.

The OSC maintained communication with the community and its leadership, albeit on a lesser frequency since there was no longer field work occurring.

The OSC reviewed the entire dataset which includes 24/7 monitoring data, laboratory analyzed air samples (ranging from approximately 8-24 hrs in duration), and weather data. The timing of the events resulted in data being collected during all four seasons and spanned approximately a year in time. During the majority of the evenings in which data was collected, the public was reporting severe odors, sometimes indicating "the worst yet".

There were several air monitoring results that were proven to be errant due to circumstances such as a failed sensor, sensor drift, or disconnected hose were not utilized as part of the removal site evaluation. These instances were rare and and are documented in previous POLREPS when they occurred .

Continuous monitoring readings and analytic results from samples collected over periods of time (e.g.; 8-24 hrs in duration) were compared to a variety of reference values relating to health risk as it pertains to the removal program within the Superfund program. As stated previously, it's important to know that the presence of a hazardous substance doesn't automatically or immediately require an action. Each chemical has it's own attributes and level of toxicity. Concentration of the specific chemical, duration of actual exposure, and frequency of exposure all play a critical role in evaluating the need for a response.

The purpose of EPA's effort in sampling was to conduct a removal site evaluation (RSE) as described in 40 CFR part 300.410. Other programs within EPA, using their own authorities, have been coordinating with stakeholders including the City of Bristol and VADEQ.

The EPA and VADEQ samples often had different duration of collections. This delta in collection times were the result of differences in the flow controllers for the canisters. Each laboratory calculated the results based on the flow rates of the controller used for the sample.

Certain chemicals may cause a physical reaction when exposed to them. The OSC acknowledges that many community members have reported physical effects of the odors. These include headaches and nausea, to name a few. Physical reactions are not part of the evaluation criteria used to determine the need for a response within the removal program.

Findings:

Several chemicals were identified in both the continuous monitoring and analytical samples. Most notably were a range of volatile organic compounds (VOCs) including benzene, toluene, xylene(s), ethylbenzene, hexane, and 1,2,4-trimethlbenzene. Benzene was detected at concentrations ranging up to 27 ppbv, however, most results were below 10 ppbv. The highest concentrations were observed during the period of line flushing at the landfill. The results for the following day at the same locations dropped down to less than 1 ppbv.

Acrolein, another contaminant of interest based on previous sampling, was non-detect for the EPA sampling. The use of new canisters versus used canisters indicates the previous results were legacy contamination as initially believed.

Specific results from the monitoring and sampling events can be found in the data summary reports. A link is provided at the end of this report in the "Additional Sources of Information" section.

The EPA OSC continually coordinated with the Agency for Toxic Substances and Disease Registry (ATSDR) and provided them a full data set on the sampling and monitoring.

The data set indicates a variety of detectable chemicals in and around the Cities of Bristol (Virginia and Tennessee). Many of the concentrations are similar to typical concentrations found in urban areas. There are individual results, ranging from a few minutes to 24 hours that have elevated concentrations. However, as a whole, there are no duration of concentrations that meet the criteria to initiate a removal action. The OSC performed the RSE in compliance with 40 CFR 300.410 and evaluated the site against considerations described in 40 CFR 300.415(b)(2) to determine the appropriateness of a removal action.

Statutory authorities to manage landfills in Virginia are primarily delegated to DEQ and local governments.

The City of Bristol, owner and operators of the landfill, ceased waste acceptance in September 2022. The facility currently has among other things added additional wells, placed additional cover on the landfill, is conducting weekly surface emissions monitoring, installed settlement plates, conducted an aerial survey, conducted dual phase leachate sampling and are installing thermocouples . The facility is/has taken bids for addressing the chimneys along the sidewalls and made plans to implement other recommendations of the expert panel.

All of these actions are outside the authorities of the OSC and are being worked on with VADEQ and the City of Bristol, Virginia, among others.

The City of Bristol has published a website to inform the public of it's actions. The link can be found below:

https://bristolvalandfill.org/

The OSC recently began receiving numerous emails requesting further assistance. The OSC responded to each email and explained that landfill operations are outside of the authorities of the removal program. All emails were forwarded to VADEQ, ATSDR, and salient regional contacts at EPA.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

None identified.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

2.2.1 Anticipated Activities

No further action expected by EPA removal program. The OSC will continue to answer questions from the public that are salient to the program.

ATSDR is expected to publish their final report.

2.2.1.1 Planned Response Activities

No further action.

2.2.1.2 Next Steps

The OSC will provide data and reports to all salient programs and agencies.

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

United States Environmental Protection Agency (EPA)
Agency for Toxic Substance and Disease Registry (ATSDR)
Virginia Department of Environmental Quality (VADEQ)

3.2 Cooperating Agencies

City of Bristol Virginia
City of Bristol Tennessee

Tennessee Department of Environment and Conservation (TDEC)

4. Personnel On Site

No information available at this time.

5. Definition of Terms

VOC: Volatile Organic Compound
PID: Photo Ionization Detector
FID: Flame Ionization Detector
SPM: Single Point Monitor.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

6. Additional sources of information

6.1 Internet location of additional information/report

Data Summary Reports and Fact Sheets can be found here:

https://response.epa.gov/site/doc_list.aspx?site_id=15220

6.2 Reporting Schedule

7. Situational Reference Materials

https://www.forensicsdetectors.com/products/basic-multigas-detector

https://www.kleintools.com/catalog/gas-detectors/combustible-gas-leak-detector