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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: **POLREP #6**
Progress Report - RSE Data Review
11184 Bristol Air
B3AR
Bristol, VA
Latitude: 36.6029424 Longitude: -82.1539850

To: Michael Towle, EPA
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From: Myles Bartos, OSC
Date: 2/15/2022
Reporting Period: December 1st through December 31st, 2021

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:**	
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 event occurred in October of 2021.

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 and below.

2.1.2 Response Actions to Date

The OSC continues 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 continued communications with a consultant for the City of Bristol, Tennessee regarding data collected during the events. The consultant plans on doing an independent evaluation (including sampling) with a focus on the landfill itself.

The OSC maintained communication with the community and its leadership. The community group has has continued its surveys. This includes driving around and noting where odors were present. Two in particular have been in use for monitoring. The first is a Forensics Detector model FD-4A, basic 4 gas detector. The second is a Klein Tools Combustible Gas Leak Detector, model ET120. Additionally, they have acquired colormetric tubes for a variety of chemicals that are being used to monitor ambient air.

The community leaders provided the OSC with a table summarizing air data to date.

The landfill has taken steps to implement engineering controls including the installation of 21 additional gas wells. The engineering controls including flare operation, gas well installation and operation, well monitoring, and other operational tasks are not under the authority of the OSC or the removal program. However, the OSC is aware of the general operations and progress being made. The OSC routinely coordinates with EPA staff and VADEQ staff who have authorities and first hand knowledge regarding landfill operations and management.

The OSC reviewed the data from the realtime monitoring and the laboratory analytical collected by VADEQ. Two chemicals are candidates for additional clarification.

The first is benzene The original benzene result from the VADEQ grab sample (December 2020) was 44.8 ppbV and represents a brief (1-2 minutes) moment in time. This sample was collected at the road near the landfill, public works, and the juvenile detentions center. Location #9 had a result of 9.52 ppbV and represented a 24 hours sampling time frame.

In general, the longer sample collection time, the less influence short term peak concentrations will have on the overall time-weighted exposure concentration. A sample collected for a short duration may have collected a short term peak contaminant concentration and that peak level may not be present for more than a few minutes at that location.

Also, exposure concentration limits vary with the duration of exposure. Generally, as the concentration of a chemical increases, the acceptable duration of exposure is reduced. The lower the concentration, the acceptable duration to the chemical would increase. For example, exposure to a chemical for 24 hrs a day 7 days a week for 30 years may have a value of 10 ppbV. Exposure to the same chemical for only 15 minutes may have a limit of 100 ppbV. It is not linear and is dependent on the chemical. It is more appropriate to make long term health evaluations utilizing 24hr samples.

The location of the grab sample collection (near the road and the public works property) is subject to influence by vehicle traffic or other items (a passing or parked car during sample collection could raise concentrations). This sample was collected prior to EPA's involvement in conducting a removal site evaluation (RSE) but was used as a driving factor in what chemicals would be monitored for during EPA's RSE. The collection of additional data in this general area for lengthier sampling times (24 hrs) will produce a more representative set of conditions for receptors in the area.

Location #9 is in close proximity and while no values exceeded values that may trigger and action in the EPA removal program, there were several instances where benzene was higher that at the other 8 sampling and monitoring locations utilized during the RSE. The highest concentration of Benzene was reported at a concentration of 9.52 ppbV. The OSC plans on collecting additional samples at or around this location.

The second is the chemical acrolein. Acrolein is typically used in biocides for control of plants and algae. Acrolein can be produced by burning of fats such as in a deep fryer at a fast food restaurant. There is a potato chip factory in the area, however, the OSC does not believe that it is a primary source of the results. Acrolein produces a strong pungent and irritating odor that can be consistent with what the public has described at times.

Acrolein was detected at location #9 at 2.05 ppbV and at several other locations below 1 ppbV (all specific values will be available in the EPA Data Summary Report). There is a known issue for acrolein in analytical equipment. In short, it can actually "grow" in the sampling canisters if certain steps (which are above the standard operating procedure requirements) aren't taken. This results in higher than actual concentrations. Used canisters are more likely to have a growth issue than brand new (unused) canisters.

Other factors include the length of time from cleaning to sample analysis. VADEQ followed EPA standard protocols for canister handling.

The OSC consulted the EPA Region III laboratory in Ft Meade, Maryland for technical advice. The laboratory indicated it could obtain brand new (unused) canisters for TO15 analysis. The laboratory also described additional steps they take to ensure that every canister is clean. This includes certifying every canister as clean instead of the minimum required 1 in 20.

In order to understand what the collected acrolein data represents (i.e., ambient air concentrations or laboratory issues), EPA and VADEQ will conduct collocated sampling using EPA's new canisters and VADEQ's previously-used canisters. Any difference in results can then be used to assess previously collected acrolein data for their representativeness. This will be done using brand new canisters from the EPA Region III lab. By using brand new canisters from the EPA Region III lab, the possibility of growth/contamination in these follow up sampling events will be eliminated. EPA approached VADEQ about collecting simultaneous samples with their canisters co-located with EPA canisters. The data will be compared to see if there is a delta in the results. VADEQ has agreed to this approach.

EPA OSC informally discussed the results with ATSDR who had similar questions regarding the two sets of compounds. On December 29th, ATSDR provided EPA with a letter of recommendations that were consistent with the OSCs general plan moving forward.

EPA was copied on a letter from the City of Bristol, Tennessee (via counsel) to the City of Bristol, Virginia regarding the landfill situation. The letter was dated December 8th and processed at EPA on December 22nd.

The consultant for the City of Bristol, Tennessee provided the OSC with a copy of their health assessment report on December 17th, 2021.

Sampling will be coordinated and scheduled moving forward. Due to the public concern that the landfill may be operating differently during periods of EPA's presence (flare and/or other operations are being changed to reduce the odor intensity and frequency), EPA will not announce specific dates or timeframes when the additional sampling will occur. EPA anticipates 3 or 4 locations and at least 2 samples from each location over a period of time. Up to 12 discrete samples will be collected and analyzed by EPA method TO15 for volatile organic analysis. Field decisions will be made at the time of sampling and will be based on the conditions encountered at the time.

At the conclusion of the sampling time frame, EPA will provide details of the sampling effort.

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

EPA will continue coordination with the community.

The EPA will continue to engage the various agencies and programs that are salient to the site. Specifically, EPA OSC will continue to coordinate with the EPA Enforcement and Compliance Assurance Division (ECAD) and VADEQ.

EPA will continue evaluation of laboratory data received from the EPA lab as well as VADEQ and provide all data to ATSDR for further evaluation.

2.2.1.1 Planned Response Activities

EPA will evaluate sampling results and determine if additional ambient air sampling is necessary.

2.2.1.2 Next Steps

Finalize the RSE and determine if any further action is necessary within the EPA removal program under CERCLA (Superfund).

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

No information available at this time.

7. Situational Reference Materials

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

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