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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: **POLREP #2**
Progress Report - RSE
11184 Bristol Air

Bristol, VA
Latitude: 36.6029424 Longitude: -82.1539850

To: Michael Towle, EPA
R3 RRC, US EPA R3
Crystal Bazyk, Virginia DEQ
Lora W, ATSDR
Melissa Linden, EPA
BIll Sorah, Bristol, Tennessee
Martie Carpenter, Tennessee DEC
Steve Spurlin, EPA R4
Randall Eads, Bristol, Virginia
Amanda Davis, Tennessee DEC

From: Myles Bartos, OSC
Date: 7/23/2021
Reporting Period: June 5th through June 30th, 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. Although low levels of benzene has been detected in the air, the source, magnitude and extent of potential contamination is not determined. Additionally, several other compounds typically related to odor haven't been monitored or sampled for.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

EPA and VADEQ began coordinating in January of 2021. EPA provided technical assistance related to the odor complaints and potential sampling options.

The Virginia Department of Environmental Quality (VADEQ) has collected numerous air samples related to the odor complaints. Volatile organic compounds have been detected in several of the samples collected. The samples were collected at a variety of locations. They vary in both duration and location.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

See above and below.

IMPORTANT UPDATE/CLARIFICATION: In POLREP #1 the site was incorrectly listed as "Time Critical". This term applies to Superfund (removal) cleanup actions. There are three designations: emergency response, time critical, and non-time critical. This "site" is not classified as a superfund cleanup site. It is being evaluated as part of a removal site evaluation (RSE) by the removal program which resides in the Superfund program. The "Time Critical" reference was a clerical error by the OSC.

2.1.2 Response Actions to Date

EPA mobilized to the Site during the week of June 7th to initiate the air monitoring within the communities. Air monitoring equipment was calibrated and the telemetry systems were connected for deployment. EPA and DEQ viewed several potential monitoring locations. The primary objective was to identify geographic locations where significant and frequent odors were reported. This data was gathered from a variety of sources including the "Smell my City" app, DEQ records, discussions with residents, and City officials. EPA also sought to identify specific locations within these areas that allowed for the monitors to be secured and powered with 120v power. Three initial locations were picked. EPA obtained written access from each of the salient property owners.

Location #1. Residential property. One Honeywell Single Point Monitor (SPM) with a (hydride family) Chemcassette® that detects H2S was installed. Additionally an AreaRAE with Volatile Organic Compound, Ammonia, and Oxygen sensors was installed. The monitoring was initiated on June 8th.

Location #2. Public Utility property. One Honeywell Single Point Monitor (SPM) with a (hydride family) Chemcassette® that detects H2S was installed. Additionally, an AreaRAE with Volatile Organic Compound (VOC), Ammonia, and Oxygen sensors was installed. The monitoring was initiated on June 8th.

Location #3. Commercial property. One Honeywell Single Point Monitor (SPM) with a (hydride family) Chemcassette® that detects H2S was installed. Additionally an AreaRAE with Volatile Organic Compound (VOC), Ammonia, and Oxygen sensors was installed. The monitoring was initiated on June 9th.

All of the monitoring locations included telemetry capability. This allowed remote monitoring of all data on a 24/7 timeline without continuous onsite presence of personnel. The monitors were observed and tested for functionality (bump tests and calibrations as necessary).

On June 10th, mobile air monitoring was conducted using a MultiRAE Pro with a VOC sensor. Monitoring occurred at several additional locations where high rates of odor complaints were documented. NOTE: This initial monitoring was not conducted during the evening hours when the majority of odors have been reported. It can be considered baseline with little to no odors present

The following geographic areas were monitored:

- The intersection of E. Mary Street and Delaney Street. All readings 0 ppb.

- Along Florida Avenue in Bristol, TN, between the intersections with Pine Street and Spruce Street. All readings 0 ppb.

- Along Meadowcrest Drive, Bristol, VA near the intersection of Independence Drive, A slight odor was observed in this area. All readings 0 ppb.

- Near the Dollar General Store at the intersection of Kings Mill Pike and East Valley Drive. All readings 0 ppb.

- Near Monarch Drive and Kings Mill Pike, along Monarch Drive southward to Iris Lane. Also westward along Kings Mill Pike for approximately 300 ft. from the intersection with Monarch Drive. All readings 0 ppb.

Remote air monitoring continued and, on June 10th, all parties left the site to return to their offices.

EPA, ATSDR, START, and Virginia Department of Environmental Quality (DEQ) met via conference call on Monday June 14th to discuss the monitoring data to date. The original plan was to initiate collection of air samples when a "threshold" or "trigger" *concentration* was achieved. However, after evaluating the initial few days of data, a different strategy was agreed upon. It appeared, consistent with odor complaints, that the concentrations would begin to rise in the evening and peak at some point during the night then lower back down towards non detection in the later morning hours. When graphically presented, it looks like a bell curve. VOCs are the most visible and dramatic change each night, but hydrogen sulfide and ammonia show peaks during these timeframes. Instead of waiting to collect a sample when a predetermined concentration was reached, perhaps missing the peak concentration timeframe for air sample collection, a sampling canister would be deployed after a trend had been observed. During the overnight period, DEQ would collect an air sample for laboratory analysis via EPA method TO15. The samples would be either an 8-hr or 24-hr sample. Sample start times would be collected beginning when the readings started to elevate. The 8 hr sample would typically represent the worst case scenario and the 24 hr samples would represent a complete day. As previously noted, hydrogen sulfide and ammonia were detected, but VOCs were the primary driver in triggering TO15 analysis. TO15 will speciate the VOCs while the monitors only detect total VOCs.

To the extent practicable, all parties will confer prior to DEQ collecting a sample, but the bias will be to collecting rather than not. The purpose for the collaboration is based on sampler capacity. DEQ has several devices available, but once used, they are out of service until cleaned and recertified for use. The group does not want to burn all samples in one night and be left without sampling ability for the next night. The goal will be to collect samples at "worst case" conditions.

The following air samples were collected by DEQ during the reporting period:

<u>Location 1</u>

06/14/2021, 8 hour sampler (Canister # S236) - Sample start time 2315 hours. Sample stop time 2330 hours. This was supposed to be an 8 hours sample but lost vacuum. Instantaneous sample instead (15 minute total run time) **NOTE:** This sample was collected but not analyzed;

06/15/2021, 8 hour sampler (Canister # S215) - Sample start time 0100 hours. Sample stop time 1122 hours. Total run time 11 hours 22 minutes;

06/15/2021, 8 hour sampler (Canister # S158) - Sample start time 2025 hours. Sample stop time 0720 hours on 06/16. Total run time 8 hours 55 minutes;

06/18/2021, 24 hours sampler (Canister # S213). Sample start time 2100 hours. Sample stop time 0045 hours on 06/20. Total run time 27 hours 45 minutes;

06/27/2021, 8 hours sampler (Canister # 524) - Sample start time 2145 hours. Sample stop time 0632 on 06/28/21. Total run time 8 hours and 47 minutes.

Location 2:

06/20/2021, 8 hour sampler (Canister # 521) - Sample start time 2000 hours. Sample stop time 0522 hours. Total run time 9 hours 22 minutes.

06/25/2021, 8 hours sampler (Canister # S172) - Sample start time 2115 hours. Sample stop time 0523 on 06/26/21. Total run time 8 hours and 8 minutes.

06/29/2021, 24 hour sampler (Canister # S150), Sample Start time 1845 hours. Sample stop time 0025 on 07/01/21. Total run tine 29 hours 40 minutes

Location 3:

06/18/2021, 24 hours sampler (Canister # 533) - Sample start time 2200 hours. Sample stop time 0250 hours on 06/20. Total run time 28 hours 50 minutes.

START visited the Site routinely throughout the reporting period to perform routine maintenance on the monitors. This included "bump" testing the monitors (except the SPM flex monitors that don't have that option) to ensure the monitor responds to a known concentration of chemical. If a monitor failed the bump test , the monitor is re-calibrated using appropriate span gases and zeroing techniques. The monitor is then retested. If it fails again, the sensor is replaced or inactivated (if a new sensor is not available at the time).

Additionally, DEQ would often attend while collecting air samples.

The following is a summary of the routine checks and conditions observed during the visits.

June 15, 2021

START arrived at Location #2 and downloaded weather data from weather station. Temperature data downloaded but not wind speed and direction. Re-attempted download with manufacturer tech support. Manufacturer suspected a corrupt file. START dismantled the weather station and moved it to Location #1.

START arrived at Location #1 and met VDEQ who was initiating collection of an air sample. START set up the weather station. The AreaRAE readings were 80-90 ppb VOC.

MultiRAE Pro VOC readings of approximately 200 ppb were observed inside the shed near the equipment. A slight gasoline odor was observed which appeared to be due to a small boat parked in the shed.

START bump tested the AreaRAE at Location #1 with 10 ppm isobutylene (VOC sensor) and 50 ppm NH_3. The VOC test passed but the NH_3 test failed, reading 0 ppm.

June 16, 2021

06:15 START received a call from VDEQ reporting strong chemical odors at Location #3. ,

06:49 START arrived at Location #3 and conducted mobile air monitoring with a MultiRAE Pro (VOC), TVA 2020 (FID VOCs), and UltraRAE 3000 with a benzene tube. No noticeable odors were observed.

The AreaRAE VOC readings were fluctuating around 100 ppb. MultiRAE VOC readings near the AreaRAE intake fluctuated between 80-100 ppb.

TVA FID reading was 1.9-2.5 ppm (cal gas and zero were not delivered prior to mobilization, so no calibration or zero was performed. **NOTE:** this data was collected, but do to the calibration gas not arriving, it cannot be relied on).

UltraRAE 3000 with a benzene tube was used to monitor for benzene, with all readings at 0.00 ppm (<10 ppb).

At the request of VDEQ, START used MultiRAE to screen near the manhole in the street in front of location #3. VOC readings were 40-50 ppb, approximately the same as at the air monitoring station.

START bump tested the AreaRAE at Location 3 using 100 ppm and 10 ppm isobutylene, and 50 ppm NH_3. VOC NH_3 sensors passed the test.

08:40 START arrived at Location 1. The AreaRAE was reading 280 ppb VOCs. START conducted mobile air monitoring with the MultiRAE. MultiRAE VOC readings approximately 75 ft. from the shed were 70-80 ppb. Readings inside the shed were 100-300 ppb and gasoline odors were observed. VOC readings outside the shed near the intake tubing was 30-40 ppb.

START bump-tested the AreaRAE at Location 1 – passed. Attempts to re-calibrate the NH_3 sensor failed. The O_2 sensor was reading high (~24%). START unsuccessfully attempted to re-calibrate the O_2. The O_2 sensor were turned off.

10:28 START arrived at Location 2, pumping station. The AreaRAE displayed a 'Lamp Error'. START attempted bump test of the NH_3 sensor but readings were 0 ppm. START re-started the AreaRAE. After restarting, the 'Lamp error' was cleared and the AreaRAE passed bump testing for VOC and NH_3.

11:33 START returned to Location 1 to re-start the AreaRAE to determine if that would fix the NH_3 sensor problem. After re-starting the AreaRAE, START bump tested for VOCs and NH_3. The VOC bump test was successful but NH_3 failed, with an instrument reading of 0. START turned off the NH3 sensor.

June 21, 2021

17:47 START arrived at Location #1 and conducted mobile air monitoring with a MultiRAE Pro. AreaRAE and MultiRAE readings for VOCs were 0 ppb.

START replaced the O_2 and NH_3 sensors. The new O_2 sensor was successfully calibrated but the NH_3 could not successfully be calibrated. The sensor remained deactivated. START completed a successful bump test of AreaRAE VOC sensor.

19:32 START arrived at Location #2 and conducted mobile monitoring using a MultiRAE Pro and observed VOC readings between 100-120 ppb. The AreaRAE was reading 170 ppb VOCs.

START successfully bump tested the AreaRAE VOC and NH_3 sensors.

START zeroed the UltraRAE 3000 and conducted air monitoring for benzene. All readings were non-detect at 0.00 ppm benzene. At 20:07, VOC readings on both the AreaRAE and MultiRAE were 0 ppb.

20:25 START arrived at Location #3 and conducted mobile monitoring with the MultiRAE which indicated 0 ppb VOCs. The AreaRAE was also reading 0 ppb VOCs and 0 ppm NH3. The AreaRAE was successfully bump tested for VOCs and NH_3.

June 22, 2021

6:55 START arrived at Location #1 and conducted mobile air monitoring with a MultiRAE Pro outside and inside the shed and observed VOC readings of 30-40 ppb in the shed and 20-30 ppb outside at the intake tubing.

START also conducted monitoring with a TVA 2020 with an FID detector. No FID readings above background were detected. . AreaRAE VOC readings were 160 ppb.

7:13 While onsite at Location #1, the winds shifted to northerly at 1 mph and START observed landfill odors. The AreaRAE readings remained at approximately 160 ppb. START again conducted air monitoring with a MultiRAE Pro and observed VOC readings of 40-60 ppb outside the shed and 280 ppb inside the shed near the equipment staging area.

7:50 START arrived at Location #2 and AreaRAE VOC readings were 0 ppb.

7:56 START arrived at Florida Avenue, off Spruce Street and conducted air monitoring with the MultiRAE along Florida Avenue and observed VOC readings between 60-80 ppb. It was raining lightly when START began air monitoring and then began to rain heavily. START discontinued air monitoring activities.

June 30, 2021

20:08 START conducted mobile air monitoring along Florida Ave, between Spruce and Pine Streets, in Bristol, VA. Monitoring was conducted using MultiRAE Pro and TVA 2020 (FID). All TVA FID readings were at background levels. MultiRAE VOC readings were all 0 ppb and methyl mercaptan readings were all 0.0 ppm. No odors were observed.

20:22 START arrived at Location #2 and conducted mobile air monitoring using a MultiRAE Pro and FID. All MultiRAE VOC readings were 0 ppb and methyl mercaptan readings were all 0.0 ppm. FID monitoring results were all at background. AreaRAE reading was 140 ppb VOCs.

20:43 START conducted mobile air monitoring near the Dollar General Store, located at the intersection of Kings Mill Pike and East Valley Drive, Bristol, VA. MultiRAE Pro VOC readings were all 0 ppb and methyl mercaptan readings were all 0.0 ppm. FID readings were all at background.

20:55 START conducted mobile air monitoring along Meadowcrest Drive in Bristol, VA. MultiRAE VOC readings were all 0 ppb and methyl mercaptan readings were all 0.0 ppm. FID readings were all at background levels.

21:05 START conducted mobile air monitoring near the intersection of Monarch Drive and Kings Mill Pike in Bristol, VA. MultiRAE VOC readings were all 0 ppb and methyl mercaptan readings were all 0.0 ppm. FID readings were all at background levels.

Note: OSC took down/retrieved the MultiRAE and SPM at Location #3 at approximately 20:15.

GENERAL:

EPA, VADEQ, ATSDR, TDEC, and both cities of Bristol routinely communicated regarding the status of the monitoring and sampling. All parties looked for anomalies and concentrations of concern.

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 plans on moving the monitors from locations #2 and #3 to new areas. This will increase the geographic footprint of monitoring coverage. DEQ will also move its sampling locations in accordance with the monitoring locations and will continue to coordinate sample collection based on real-time monitoring data trends.

2.2.1.1 Planned Response Activities

EPA plans to continue monitoring at the identified locations and DEQ will continue collection of air samples for TO15 analysis.

EPA will also add an Honeywell SPM with a Chemcassette® (Amine family) to detect Ammonia at location #1. This will provide detection down to 10 ppb for ammonia.

2.2.1.2 Next Steps

Continued evaluation of realtime data and analytical data. EPA will review the data against various reference values that are salient to the removal program.

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

EPA
Superfund Technical Assistance and Response Team (START)
VADEQ

5. Definition of Terms

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

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

Commonwealth of Virginia

Blalock, Susan <susan.blalock@deq.virginia.gov>

Fwd: FW: Pollution Report #2 11184 Bristol Air - Progress Report - RSE

1 message

Blalock, Susan <susan.blalock@deq.virginia.gov> Thu, Oct 7, 2021 at 8:39 AM
To: Susan Blalock <susan.blalock@deq.virginia.gov>

From: 11184BristolAir@response.epa.gov <11184BristolAir@response.epa.gov>
Sent: Wednesday, October 6, 2021 1:19 PM
To: Bartos.Myles@epa.gov; towle.michael@epa.gov; r3_rrc@epa.gov; crystal.bazyk@deq.virginia.gov; stacy.bowers@deq.virginia.gov; jeff.hurst@deq.virginia.gov; james.stanley@deq.virginia.gov; charles.turner@deq.virginia.gov; Gene.Nance@tetratech.com; lkw9@cdc.gov; linden.melissa@epa.gov; gfu6@cdc.gov; kvm4@cdc.gov; bsorah@bristoltn.org; wwitcher@bristoltn.org; mquickel@bristoltn.org; Alvin.Pratt@tn.gov; Martie.Carpenter@tn.gov; Spurlin.Steve@epa.gov; CityManager@bristolva.org; wallace.mcculloch@bristolva.org; Soscia.Gina@epa.gov; Amanda.L.Davis@tn.gov; cole.devine@tetratech.com; Joseph.George@tn.gov
Subject: Pollution Report #2 11184 Bristol Air - Progress Report - RSE

Attached is a Pollution Report (POLREP) regarding:

USEPA Region III
11184 Bristol Air
Shakesville Rd, Bristol, VA

To view this POLREP, please open the attachment.

For additional information regarding this site,
please visit the website by clicking on this link:
http://response.epa.gov/11184BristolAir

11184BristolAir_polrep_2.pdf
161K