

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
REEF Environmental - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #7
Continuation of Emergency Action
REEF Environmental

Sylacauga, AL
Latitude: 33.1888040 Longitude: -86.2640480

To:
From: David Andrews, OSC
Date: 11/13/2012
Reporting Period:

1. Introduction

1.1 Background

Site Number:		Contract Number:	EP-S4-07-03
D.O. Number:	TO-0132	Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	10/2/2012	Start Date:	10/2/2012
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

The Reef LLC facility in Sylacauga, Alabama was a centralized waste treatment facility. The facility was permitted to accept industrial waste water (waste water and oily contact water) for treatment and discharge to the Sylacauga public operated treatment works (POTW) waste water treatment plant. Shortly after the first waste deliveries began, reports indicate that numerous odor complaints were received by the local and state government. Within the past few years, the facility has filed for bankruptcy. The State has taken various actions and had limited success in getting the wastes at the Site to be properly disposed.

On October 1, 2012, after receiving information that totes were being removed from the facility and numerous odor complaints, Alabama Department of Environmental Management (ADEM) personnel investigated the Site. ADEM personnel could not make entry into the facility but did observe an oily sheen in a stream near the facility as well as a large bulge in the tarp covering the Biological Treatment Basin at the facility. Later in the day on October 1, ADEM requested assistance from the Environmental Protection Agency to assess the Site and to assist with implementation of emergency stabilization measures. On the morning of October 2, 2012, OSCs Francendese and Harper were mobilized from Birmingham, Alabama to meet with ADEM and assess the situation. Upon initial assessment, OSC Francendese secured the Site and ceased removal of on-site totes by private party contractors. In addition, he verbally notified the PRPs of potential hazards which included the accumulation of hazardous substances (including hydrogen sulfide) under the tarps/liners covering the basins. While the PRP provided verbal access, he indicated that he was not able to perform the necessary stabilization actions required by EPA. OSC Francendese requested the dispatch of the on call responder. EPA OSC Neal was dispatched to the scene. Assessment activities continued throughout the day and evening of October 2, 2012.

1.1.2.1 Location

71 Twin Street, Sylacauga, AL

1.1.2.2 Description of Threat

The abandoned facility has several priority issues that will be addressed under a phased approach. This emergency response action is primarily addressing the trapped gases that exist under the 3 million gallon biological reactor tarp/liner. An additional basin called the equalization basin exists that is also holds approximately 3 million gallons. Trapped gases exist under this liner and will be addressed under this phase of the emergency response action. The trapped gases total approximately 175,000 cubic feet and evidence indicates elevated levels of volatile organics and hydrogen sulfide. This facility exists within 1000 feet of a residential neighborhood.

Additional threats exist in the form of an oily sheen release to the nearby creek as well as abandoned chemicals onsite.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The initial assessment identified the trapped gases under the tarp/liner as well as the oily sheen being released to the creek. The rotten egg odor was later identified to be both elevated volatile organics and hydrogen sulfide. Subsequent site walkthru identified abandoned hazardous substances at the facility both on the facility grounds proper and within the lab.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The facility is an abandoned former waste treatment facility that was referred to the EPA ERRB by ADEM. Subsequent assessments identified unstable conditions relating to accumulating gases (organic and hydrogen sulfide) under the tarp/liner. Additional assessments identified an oily sheen being released from the facility as well as abandoned hazardous chemicals both on the facility grounds and in the onsite facility lab.

2.1.2 Response Actions to Date

10/2/2012

EPA OSCs (Lead OSC Neal and supporting OSCs, Francendese, Harper and Ball) mobilized to assess the site and assume the lead OSC role. START and ERRS were also mobilized.

An initial exclusion zone was established at the fence line.

OSCs conducted initial Level B entry to collect air monitor data. MultiRae, TVA 1000 photoionization detector and flame ionization detector (PID/FID) Electronic Personnel Dosimeter (EPD), HCN monotox sensor and CH4 monitor were used to assess ambient and local air conditions.

Initial air monitoring results are follows:

- Biological Treatment Basin (approx 3 million gallon)
 - FID - sustained reading at surface of approximately 60 ppm and background in the breathing zone.
 - H2S - sustained reading of 10 - 20 ppm at the surface and 10 ppm in the breathing zone.
- Pump Station (approx 1000 gallons)
 - FID - sustained readings of 60 ppm total volatile organics at the surface with max of 2000 ppm and approx 50 ppm in the breathing zone.
 - Hydrogen sulfide (H2S) - sustained readings of 20 ppm with max of 125 ppm at the surface and 10 ppm in the breathing zone.
- No other parameters were detected.
- Air monitoring results outside the immediate area of the basins and within the property boundaries were at background.
- Air monitoring results outside the fenceline and at the closest residence were at background.

Additional actions:

- OSCs conducted an additional entry to collect samples for hazardous categorization as well as waste profiling.
- Liquid and sludge samples will be sent for 24 hours turn around analysis.

OSC Neal also conducted a scoping meeting with ERRS based on air monitoring data collected.

10/3/2012

The following actions were conducted:

1. Continuous, 24 hour, perimeter air monitoring was established using AreaRaes and MultiRaes coupled with the VIPER telemetry system to generate real time remote air monitoring. The perimeter was established around the two basins of concern to monitor primarily for VOCs and hydrogen sulfide. Periodic air monitoring was also established in the nearby community.
2. IC coordinated with various participating agencies concerning the threats and potential actions being considered.
3. Operational tactics were evaluated with the ERRS contractor and acquisition of resources were initiated to safely access the trapped gases and treat them thru a mobilized scrubber.

10/4/2012

The following actions were conducted:

1. VIPER perimeter monitoring was maintained. Periodic air monitoring was also established in the nearby community.
2. Lab results for the sludges indicate elevated disulfides, hydrocarbons and BTEXs.
3. Operations continued as the site was prepped for the acquired scrubber as it was en route. These actions included:
 - Setup of water suppression system to act as a protective tactic during gas treatment. The water suppression system has access to a sequestering agent to mitigate any unintentional releases of hydrogen sulfide. The delivery system was tested and also acted to reduce the growing pressure and size of the bulge by cooling the tarp. Elevated atmospheric temperatures had increased the rate of the exothermic reaction.

- Preparation and execution of methods to safely access the gases either thru the existing pipeworks of the scrubber which is in disrepair or thru a PVC 'under the tarp/liner' access system.
- Soft boom was placed in the creek at effective locations to minimize the effect of the ongoing oily discharge.
- Staging and setup area for arrival of the mobile scrubber which was temporarily delayed in transport.
- Upon arrival late in the afternoon, the mobile scrubber was staged and hooked up to necessary power sources.

10/05/2012

1. VIPER perimeter monitoring was maintained. Periodic air monitoring was also established in the nearby community.
2. Operations continued till approximately midnight to mitigate the bulge in the biological treatment basin. Approximately 165,000 cubic feet of gases (hydrogen sulfide and organic vapors, including BTEXs) were successfully treated via the mobile scrubber supported by water suppression activities.
3. An inventory of the additional hazardous substances was completed.
4. EPA and ADEM continued coordination and outreach with local media outlets and the EMA community.

10/06/2012 thru 10/7/2012

1. VIPER perimeter monitoring was maintained. Periodic air monitoring was also established in the nearby community.
2. Operations for the 6th and 7th were as follows:

- Remaining bulges in tarp/liners for both the equalization basin and the biological treatment basin were processed via fire suppression rain curtain with sequestering agent to minimize hydrogen sulfide migration. This operation was assisted via long reach excavator tarp/liner manipulation.
- Tarps/liners in both basins were gathered via long reach to appropriate locations along the inner edge of the ponds for removal in later stages. The tarp were left in the ponds to prevent liner contamination and allows residual contaminant drainage.
- Hydrated lime stabilization and mixing was initiated in both ponds on the evening of the 6th. The intent of this operation was to increase the pH in both ponds to short circuit the hydrogen sulfide gaseous releases.
- Hydrated lime stabilization continued throughout the day on the 7th. The equalization basin received approximately 75 tons. The biological basin received approximately 50 tons.
- Overflow containment measures were constructed in the low spot of the adjacent road to the basins to mitigate and capture potential oil releases from the basins thus preventing discharge to the storm sewer.

10/08/2012 thru 10/09/2012

1. VIPER perimeter monitoring was discontinued after completion of basin stabilization by early afternoon of the 8th.
2. Operations for the 8th were as follows:

- Final application and mixing of approximately 25 tons of lime was completed by early on the afternoon of the 8th.
- Both basins were stabilized at an approximate pH of 10.
- Power panel shutdown was completed at all relevant buildings including aeration, discharge stations, sludge press and laboratory.
- Decontamination and demobilization of equipment and contractor personnel began during the afternoon of the 8th.

3. OSCs Neal, Francendese and Ball demobed during the afternoon of the 8th and facility gate was secured.

4. Remaining equipment was demobilized on the morning of the 9th.

10/15/2012

1. Site operations continues as an emergency action pending a ceiling increase in funding under a time-critical action memorandum. A verbal increase for an additional \$200,000 was approved by the Superfund Division Director to support operations at the Site.
2. Periodic air monitoring continues in the neighboring community.

10/17/2012

- ERRS and START conducted a joint sampling event to collect waste water to support future treatment and disposal operations from Equalization Basin No. 2 (3-million gal capacity) and the Aeration Basin (7-million gal capacity).
- EPA OSC collected documents from the Laboratory building to support enforcement and cost recovery.
- Periodic air monitoring continues in the neighboring community.

10/23/2012

- ERRS remobilizes to prepare for extended operations and to set up field offices.
- Periodic air monitoring continues in the neighboring community.
- EPA conducts public meeting in Sylacauga, Alabama at the Cromer Recreation Center. EPA, ATSDR, ADEM & Talledega EMA fielded questions from an estimated 200 attendees. EPA OSCs David Andrews and Timothy Neal discussed EPA's response efforts and future goals regarding the ongoing removal operations. ATSDR addressed questions concerning health concerns pertaining to the persistent odor from the site. ADEM outlined Reef's regulatory history.

10/24/2012 thru 10/26/2012

- ERRS utilized a 100-ft extended man-lift to inventory 8 above ground bulk storage tanks located in the loading bay where inbound tanker truck deliveries were off loaded.
- Periodic air monitoring continues in the neighboring community.
- ERRS begins grubbing the site.
- Office trailers to accommodate EPA, ERRS & START were delivered. Utility installation is being coordinated.
- Subcontractor for odor control/elimination conducted initial site-walk to discuss with EPA chlorine dioxide treatment for the site's waste water basins.
- ERRS continues to monitor seepage and maintains soft boom in Shirtee Creek.

10/29/2012 thru 10/30/2012

- EPA's Environmental Response Team (ERT) mobilized to the site to conduct air sampling to assess low level concentration of sulfur compounds that may compose the nuisance odor emitting from the site waste water basins. This sampling event supplements the ongoing air monitoring by START. ERT will collect grab samples over the next 4 to 6 weeks at established sampling locations during the early morning (pre-sunrise) hours that has been identified as the peak time when odor complaints have taken place.
- Periodic air monitoring continues in the neighboring community.

10/31/2012

- ERRS identifies "lime" (from Equalization Basin No. 2) at the seepage point on the bank of Shirtee Creek and excavates a portion of the bank to better reflect the seepage and control the discharge.
- Periodic air monitoring continues in the neighboring community.

11/5/2012 thru 11/9/2012

- As an ongoing and weekly event, EPA's Environmental Response Team (ERT) mobilized to the site to collect air samples to assess low level concentration of sulfur compounds that may compose the nuisance odor emitting from the site waste water basins. ERT collected air samples, in canisters, at five locations off site within the neighboring community to the southeast of the site and three on site next to the basins which are the source of the odors. Samples are collected at daybreak which has been the highest period of reported odor complaints.
- Periodic air monitoring continues in the community by the Superfund Technical Assessment and Response Team (START) contractor in the early morning and late afternoon hours.
- The Emergency and Rapid Response Services (ERRS) contractor has completed installation of site office trailers and utilities connection to the trailers. ERRS also completed detailed grubbing the site to permit safe access to major site features or structures and identify areas of concern. ERRS continues maintenance of the seepage from Basin 2 that impacted the bank of Shirtee Creek.
- START mobilized a waste water treatment (WWT) engineer to consult with the OSC and ERT Technical Support and ERRS over treatment issues for the odor and treatment and discharge options of the 13-million gallons of waste water. At this time, the OSC has reconsidered the use of chlorine dioxide (ClO₂) gas as an oxidative treatment for the odor and is considering the use of hydrogen peroxide (H₂O₂) which may be an equally effective, cheaper and safer oxidative treatment option for this project.
- The OSC is drafting a scope of work and Action Memorandum and will brief the Superfund Division Director on the first week of December to address the health threat, odor control, treatment and disposal for the 13+ million gallons of waste water.

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

The Office of Environmental Accountability (OEA) is pursuing enforcement.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
Aeration Basin	Water	7-mil gal	N/A	TBA	TBA
Equalization Basin No. 2	Water	3-mil gal	N/A	TBA	TBA
Equalization Basin No. 1	Water	3-mil gal	N/A	TBA	TBA

2.2 Planning Section

2.2.1 Anticipated

Continue coordination with State and Local officials.

2.2.1.1 Planned Response Activities

The post-emergency response actions will be focused on chemically treating Equalization Basins No. 1 & 2 and the Aeration Basin to kill the anerobic activity that is generating the hydrogen sulfide gas plus the co-emitting sulfur gas compounds. The purpose of this measure will provide a safe work environment for the responding personnel and render relief to community from the nuisance odor.

The second phase of the removal action will be to evaluate further treatment and disposal for the 13-million

gallons of waste water that is in various stages of treatment. Additionally, there are eight (8) above ground storage tanks/silos in the plant's receiving area totalling approximately 100,000 gallons of waste water/oil that have not been pre-treated..

There are also a number of chemical containers (acid, caustic, oxidizers and bio-remedial chemicals) throughout the site that were used in the operations of the plant.

2.2.1.2 Next Steps

The OSC is finalizing a draft Ceiling Increase Action Memorandum outlining the continuing threat to public health and environmental and cost for eliminating/ controlling the off-gas of hydrogen sulfide.

2.2.2 Issues

- After two meeting with EPA, discharge to the Sylacauga Utilities Board (SUB) municipal waste water treatment has not been approved. Acceptable treatability standards will have to be accomplished prior to discharge approval by SUB.
- ERRS continues control measures to control and contain the seep from Equalization Basin No. 2.
- The OSC is coordinating efforts by ERT and waste water engineers with ERRS and START to evaluate treatment options for the three basins of waste water. H2O2 shows promise as the oxidation treatment solution for the odor and will not compromise future treatment steps.

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

EPA
ADEM

3.2 Cooperating Agencies

City of Sylacauga
Talladega County EMA
Alabama EMA

4. Personnel On Site

- EPA (OSC) - 1
- START (Tetra Tech) - 1
- ERRS (WRS Compass)- 6
- ADEM - 1

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

None available at this time