

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Bennett Landfill Fire - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #6
Continue Cap Installation
Bennett Landfill Fire
B44Y
Chester, SC
Latitude: 34.7874300 Longitude: -81.4502500

To:
From: Matthew Huyser, OSC
Date: 6/19/2015
Reporting Period: 6/13/2015-6/19/2015

1. Introduction

1.1 Background

Site Number:	B44Y	Contract Number:	EP-S4-07-02
D.O. Number:	0134	Action Memo Date:	4/30/2015
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	5/26/2015	Start Date:	5/26/2015
Demob Date:		Completion Date:	
CERCLIS ID:	SCN000402727	RCRIS ID:	
ERNS No.:	1100014	State Notification:	11/2/2014
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Time-critical removal action.

1.1.2 Site Description

The Bennett Landfill Fire Site is a former construction debris and nonhazardous industrial waste landfill (defined by state regulations as a Class II landfill) that was additionally permitted to accept certain types of asbestos waste.

The landfill ceased accepting waste in 2014. On November 2, 2014, the landfill was found to be on fire and was believed to have been extinguished by November 7th. Due to increasing smoke concentrations in January 2015, SCDHEC requested that the EPA conduct a Removal Site Evaluation (RSE). EPA signed an Action Memorandum on April 30, 2015 to conduct a Time-Critical Removal Evaluation and mobilized to the Site to begin removal activities on May 26.

Additional information for this section is available in POLREP #4 from 6/5/2015.

1.1.2.1 Location

The Site is located at 4399 Pinkney Road, Chester, Chester County, South Carolina. The geographic coordinates of the Site are 34.7874300 degrees north and 81.4502500 degrees west.

Additional information for this section is available in POLREP #4 from 6/5/2015.

1.1.2.2 Description of Threat

The fire at the Bennett Industrial Landfill is actively releasing chemical compounds into the air, including benzene and formaldehyde, which are measured near the fire at concentrations exceeding industrial RMLs for air and concentrations within the surrounding community that are greater than three times the residential RSL. Conditions at the Site, if not addressed, will continue to deteriorate over time and resulting in increasing quantities of exposed asbestos which are susceptible to transport by wind and other weather conditions to the nearby population.

Additional information for this section is available in POLREP #4 from 6/5/2015.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Additional information for this section is available in POLREP #4 from 6/5/2015.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Little to no smoke was observed from the burn area. Small seeps of shallow smoke, which appear barely visible, have been observed but air monitoring readings do not find elevated concentrations for carbon monoxide, carbon dioxide, or benzene (detection limits are 1-ppm, 1-ppm, and 0.1-ppm, respectively). Steam and heat has been observed in some areas but no odor indicating burning or smoldering material has been reported from operators. Temperature readings from the surface of the cover material indicates a general surface temperature of approximately 70°F with slightly increased temperature readings in a small zone near the center of the 3-acre cover area at 75-79°F. Temperature readings from the steam at the south side of the cover area is approximately 100-120°F but the size of the area generating steam was reduced from 400ft² to 25ft² from June 15 to June 19, 2015

Installation of initial cover soils along the graded burn area began on June 10 and continued through June 19. The first layer of cover soil was being taken from an existing stockpile at the top elevation and center of the Site which was exhausted by afternoon of June 15. The next borrow area for cover soil will be a berm ("Hilltop Borrow Zone") near the northeast side of the Site on which the landfill operator formerly staged equipment. Grade stakes have been installed along the slope to monitor fill depth. The stakes are marked with tape for visual identification by the operators and are recorded with high accuracy GPS to document changing elevation. By June 19, a cover layer of 12-18" has been placed on just less than 30% of the 3-acre targeted cover area. An additional layer of 6-12" has been placed on an additional 40% of the 3-acre targeted cover area.

An area of high quality clay has been identified between the waste zone and the sediment pond. This area will be referred to as "Bottom Hill Borrow Zone" and is being excavated to stage materials at the top of the hill to be used as final cover.

A small amount of soil dug out of an older stock pile of cover soil which is staged on the south border of the Site and is undisturbed in several old aerial images. The soil appears to be consistent with cover material found elsewhere on the Site and will be utilized when it becomes convenient.

By June 13, a path was cleared around the west and south property line borders. The ridge located at the west border of the Site between the asbestos cell and the property line will likely be utilized for borrow soil. This ridge will be re-graded which will provide a shallower contour and will also redirect storm water from the Site, some of which is currently washing out across the western border, down to the sedimentation pond.

Monitoring Wells were sampled on June 15 and 16. All four existing monitoring wells yielded little water and a full sample collection was not possible. Total volumes obtained from each well were generally less than 2 liters.

Representatives from Chester County Emergency Management Division visited the Site on June 16. On-Scene Coordinator, Matthew Huyser, visited the South Carolina Department of Health and Environmental Control field office in Lancaster, South Carolina on June 16 to provide a Site status update. Community Involvement Coordinator, Kerisa Coleman, was at the Site on June 18. CIC Coleman and OSC Huyser met with the Lockhart Mayor to discuss Site conditions and current plans for a community availability session on July 9. CIC Coleman additionally visited representatives from Lockhart Power on June 18.

The OSC continues to coordinate site activities with local and county officials as well as South Carolina Dept Health and Environmental Control.

2.1.2 Response Actions to Date

- May 25-29: ERRS mobilization, site preparation (access roads, entrance, trailer, work zones)
- June 1-2: Grading and wetting burned area
- June 3: First record of no morning smoke observed
- June 3-5: Continue grading and wetting burned area. Moved cover soils from borrow area to burned area
- June 5-19: Continue grading and covering operations.
- June 16: Exhausted stockpile of cover soil at top center of Site

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

Information for this section is available in POLREP #4 from 6/5/2015.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Start Date</i>	<i>Treatment</i>	<i>Est. % Complete</i>
Burning Area	Debris	Approx 0.5 acres	6/1/2015	Cover	70% initial soil cover has been completed
Asbestos Cell	Debris	Approx 19,500 CY	n/a	Regrade & Cover	n/a

2.2 Planning Section

2.2.1 Anticipated Activities

The first priority of the removal action will be to address the burning debris pile by installing a soil cover. Isolation of the burning material and reduction of oxygen supply will significantly reduce emissions from the smoldering fire. The second priority of the removal action will be to address the eroding asbestos disposal cell by re-grading and covering the area.

Air sampling and monitoring activities will be conducted on-site for worker health and safety and continued site investigation purposes. Air monitoring for respirable particulate matter (PM_{2.5}) will continue off-site outside the fence line and in downtown Lockhart, SC for the duration of the action.

Soil for cover and encapsulation will be obtained from on-site sources to the greatest extent possible. The disturbed areas of the Site will be secured with vegetation to provide a stable erosion-resistant surface. Total project time is estimated at approximately 3 months.

2.2.1.1 Planned Response Activities

- Isolation of burning material by removal and relocation of available fuel path and installation of earthen cover; **(ONGOING)**
- Isolation of designated asbestos disposal cell through the installation of earthen cover;
- Re-grading waste materials and native soils for purpose of cover installation; **(ONGOING)**
- Installation of temporary measures to prevent off-site migration of dust or contaminants as removal operations are conducted; and, **(ONGOING)**
- Continue sampling and monitoring, as needed, for site safety purposes and to further delineate or identify contaminants. **(ONGOING)**

2.2.1.2 Next Steps

- Continue landfill slope grading and cover operations
- Finalize landfill design plans
- Begin evaluating extent of asbestos cell for covering operations

On June 16, a test trench was dug near the top of the landfill at a 50-foot offset from the burning area to determine if a fire break trench would be possible. Excavation into the waste was sufficiently unproblematic for the equipment and a soil layer was encountered at 8 to 10 feet. However, further excavation revealed buried waste below the soil layer and the excavator reached a capability limit of 18 feet (below ground surface) without encountering a second soil layer. On June 18, the test trench was filled in and compacted with waste along with a temporary air monitoring well consisting of 4" PVC pipe, manually perforated with drill holes and protected from infiltration with a surrounding layer of silt fence fabric, and rising 20' from the bottom of the test trench to a head approximately 2' above ground surface. On June 19, gases within the air monitoring well were measured at approximately 85°F with an ambient air temperature of approximately 73°F. Air monitoring instruments also found reduced oxygen at the wellhead, increased carbon monoxide, and elevated levels of potentially flammable gas which may indicate the presence of methane. Material that was excavated from the pit was visibly blackened with decay but was not burned by smoldering or fire. Conceptually, a fire break trench would be approximately 25' deep, 560' long, and 4-8' wide. Alternatively, air monitoring wells would be installed at 75-100' intervals along the proposed fire break line. Options and the necessity for installing a fire break trench are being evaluated.

2.3 Logistics Section

Equipment needs are being evaluated for potential fire break or air monitoring well installations.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

OSC Matthew Huyser
OSC Perry Gaughan

3. Participating Entities

SCDHEC continues to provide technical assistance and information regularly

South Carolina Forestry Commission has offered to provide assistance with tree removal, if necessary

Chester County EMA and Union County EMA will provide technical assistance and information, as needed

4. Personnel On Site

EPA (1)
SCDHEC (varies)
County EMA (varies)
ERRS (10)
START (2)

5. Definition of Terms

µg/m³ Micrograms per cubic meter (= 0.001 mg/m³)
AEGL Acute Exposure Guideline Levels
AQI Air Quality Index

C	Celsius
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Conc	Concentration
ConcHR	Hourly (HR) average value recorded by an EBAM instrument
ConcRT	Real time (RT) concentration recorded by an EBAM instrument based on a rolling four-minute average
DHEC	South Carolina Department of Health and Environmental Control
EMA	Emergency Management Agency
EPA	U.S. Environmental Protection Agency
ERRS	Emergency and Rapid Response Services
mg/kg	Milligram per kilogram (= 1 ppm)
mg/L	Milligram per liter
mg/m ³	Milligram per cubic meter (= 1000 µg/m ³)
NAAQS	National Ambient Air Quality Standard (primary and secondary NAAQS for PM _{2.5} 24-hour average is 35 µg/m ³)
NPL	National Priorities List
OAQPS	EPA Office of Air Quality Planning and Standards
OSC	On-Scene Coordinator
PM _{2.5}	Airborne particulate matter with particle diameters below 2.5 microns
ppb	Part per billion (cannot be used to describe a mass per volume unit such as µg/m ³)
ppm	Part per million (cannot be used to describe a mass per volume unit such as mg/m ³)
RML	Removal Management Level
RSL	Regional Screening Level
SCDHEC	South Carolina Department of Health and Environmental Control
START	Superfund Technical Assessment and Response Team
TWA	Time-weighted average

5.1 Regional Screening Levels (RSL) and Removal Management Levels (RML)

Regional Screening Levels (RSL) are conservative risk-based screening values developed by the U.S. EPA to help identify contaminants of potential concern. Contaminants that exceeded a RSL in at least one sample are then screened against industrial air Removal Management Levels (RML) that were calculated for this evaluation. RMLs are risk-based screening values developed by the U.S. EPA to determine whether sample concentrations are sufficiently elevated that they may warrant a removal action. Exceedance of a RML by itself does not require a removal action, nor does it imply that adverse health effects will occur.

6. Additional sources of information

6.1 Internet location of additional information/report

Site updates will be provided to the "[Bulletins](#)" section of epaosc.org/bennettlandfill

Documents, reports, and videos for public release will be posted to the "[Documents](#)" section of epaosc.org/bennettlandfill

6.2 Reporting Schedule

New POLREPS will be issued weekly on Fridays for the duration of on-site activities.

Daily photos of site conditions and progress are being posted to the "[Images](#)" section of epaosc.org/bennettlandfill. These photos are collected from the same general locations each day.

7. Situational Reference Materials

No pertinent information to report at this time.