

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Villa Mobile Home Park Battery Dump Site - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #4
Removal Excavation Activities Begin
Villa Mobile Home Park Battery Dump Site
B4C3
Kannapolis, NC
Latitude: 35.4857860 Longitude: -80.6078920

To:
From: Alyssa Hughes, OSC
Date: 11/6/2012
Reporting Period: 10/29/2012 - 11/02/2012

1. Introduction

1.1 Background

Site Number:	B4C3	Contract Number:	EP-S4-07-04
D.O. Number:	155	Action Memo Date:	9/12/2012
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	10/29/2012	Start Date:	10/22/2012
Demob Date:		Completion Date:	
CERCLIS ID:	NCN000410983	RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Time- Critical Removal Action

1.1.2 Site Description

A Removal Site Evaluation (RSE) was conducted in response to a request from the North Carolina Department of Environment and Natural Resources (DENR). The Villa Mobile Home Park Battery Dump Site (the Site) is isolated to a small portion of the Villa Mobile Home Park located in Kannapolis, Cabarrus County, North Carolina. The mobile home park is comprised of several parcels over 10 acres of land containing approximately 54 mobile homes. It is bound to the north and west by Verona Street, to the south by Irene Street and to the east by McLain Road. The primary area of concern is located to the southeast of the intersection of Verona and Venice Streets. The extent of the buried battery casings and associated contamination is unknown at this time, although estimated to be contained within three parcels of the property.

According to residents at the Villa Mobile Home Park, during periods of heavy precipitation, the current piped stream cannot contain the water flow and the stream overflows from the headwall located on the north side of Venice Street and flows overland to the open area approximately 100 feet downstream. This overland flow is estimated to be partially responsible for the erosion of the stream, causing the battery casings to be exposed.

1.1.2.1 Location

The Villa Mobile Home Park (the Site) is located near the intersection of Venice Street and Verona Street in Kannapolis, Cabarrus County, North Carolina. The geographic coordinates are 35.485786 ° N, -80.607892 ° W. The surrounding land use to the north, south and west is residential. The area to the east is wooded. Groundwater is expected to flow to the stream channel that transects the Site, which then flows east approximately 500 feet through piping where it discharges to Coldwater Creek, which ultimately flows into Lake Concord approximately ½ mile from the boundary of the mobile home park.

1.1.2.2 Description of Threat

Lead is a hazardous substance as listed in 40CFR302.4, and referred to in Section 101(14) of CERCLA, as amended. Human exposure to lead contaminated soil at the Site poses a significant threat to public health. Direct contact, ingestion and inhalation are the primary pathways of exposure. Continued exposure

to the soil contaminated with concentrations of lead exceeding the Removal Management Level (RML) of 400 ppm of lead may pose chronic health effects to persons living nearby. During a demographic survey conducted in July 2012, NCDENR IHSB discovered approximately 70 adults and 70 children reside in the mobile home park.

Analytical results reveal that elevated lead levels are present in surface soils and in the open channel creating a potential for downstream migration. Visual inspection indicates battery casings throughout the banks of the drainage ditch. The presence of battery chips in the vicinity of the McLain Road outfall supports the possibility of contaminant migration through the culvert due to high flow rate following periods of heavy precipitation. Lead concentrations in samples collected from the drainage ditch exceed the residential RML by an order of magnitude.

The neighboring City of Concord utilizes Lake Concord as a source for its municipal water supply. Potential contamination of this water body exists due to the possibility that lead could migrate via the piped channel into Coldwater Creek which ultimately discharges into Lake Concord. Coldwater Creek is designated WS-IV; CA (Water Supply-IV/Highly developed; Critical Area).

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

In July 2012, EPA ERRB, START contractor OTIE and DENR IHSB met on-site to perform X-Ray Fluorescent (XRF) screening and lab analysis of samples at several locations in the vicinity of the test pits excavated during the S&ME investigation. Ten locations were screened at the surface, near surface (0-6"), and subsurface (ranging from 1-3' below ground surface). Of the ten locations, five samples were collected for lab analysis. Elevated lead concentrations for near surface screening ranged from 478 mg/kg to 5,940 mg/kg. Five out of seven locations where subsurface screening was performed indicate lead concentrations that exceed the residential RML for lead. Values range from 597 to 3,451 mg/kg of lead.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The Villa Mobile Home Park Battery Dump consists of an area containing exposed and buried battery casings. The area of the footprint is estimated to be approximately 20,000 square feet, with casings extending to various depths. The buried battery casings are exposed due to significant gully erosion. Several factors contribute to the severe erosion that has occurred in this open channel area between the two piped portions of the culvert. According to residents, during periods of heavy precipitation water flows in sheets across the property, which slopes down to the outfall at McLain Road. The culvert to the west of Venice Street is improperly sized which causes an increase in sheet flow and an increase in velocity of the water through the pipe which leads to substantial scouring in this open area. The continuing erosion increases the surface area of the exposed battery casings. For these reasons, the entire source of buried battery casings will be removed.

2.1.2 Response Actions to Date

EPA, ERRS Contractor and START contractor mobilized to the Site on October 29th. The location of the culvert to the east of the open area was identified prior to beginning excavation activities. At this time, efforts will be isolated to the north of the pipe in an attempt coordinate with DENR and their consultant on the redesign of the drainage system. Using the plume size estimates generated from the geoprobe transects, the crew excavated test pits to more precisely define the northern and eastern boundaries of the buried casings. Once the limits of the plume were identified, excavation began from the northeast to the southeast proceeding westward. The excavation was performed in a gridded system with each grid approximately 100 square feet. Battery casings in this portion of the dump ranged from 2 to 6 feet below ground surface. The general lithology encountered consists of a layer of silty sand fill material, followed by a layer of fine to coarse sand to clayey sand in which the battery casings are observed, and then a silty clay containing no casing fragments. The clean overburden is being segregated from the contaminated soil and placed back in the excavation. A composite sample of this backfill was screened with the XRF to confirm no contaminant levels above the RML were present. The floor of the excavation was also screened with an XRF to document lead levels. The depths and screening values throughout the excavation are documented in the site log book. Contaminated soil is being temporarily stockpiled on-site in preparation for disposal.

October 31st thru November 2nd removal efforts proceeded in the same manner. As excavation moved from north to south, water began to fill the pits from the side walls. It is unknown if this is groundwater or a perched water table potentially caused by stormwater traveling through the voids of the sandy layer of battery casings. Samples of this water were sent to the laboratory for analysis.

Based on a wider footprint than previously estimated, the volume of soil being generated is more than expected. For this reason, a cost analysis will be run to determine if it is more cost effective to treat the soil with triple super phosphate (TSP) in order to stabilize the metals so it can be characterized as nonhazardous; or alternatively, dispose of the contaminated soil as hazardous. A sample of the contaminated soil was sent to a manufacturer so that a pilot study could be performed to determine if treatment is an option and if so, at what ratio suitable to meet regulatory requirement for non hazardous disposal.

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

The Villa Mobile Home Park was owned by the Wyrick Estate. Mr. Wyrick filed for bankruptcy in 2010 and shortly thereafter passed away. The property is now held by the bankruptcy court.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

The following removal activities are expected to take place:

- Excavate soil in which battery casings are observed
- Evaluate the need to remove soil from the drainage pathway exceeding the residential removal management level for lead of 400 ppm
- Provide temporary on-site storage of contaminated soils generated during removal activities
- Conduct in-situ and ex-situ screening and/or collect samples at the floor of the excavation
- Arrange for off-site transportation and disposal/treatment of hazardous substances according to applicable regulations

2.2.1.2 Next Steps

- Continue excavating
- Begin preparation for disposal
- Evaluate the potential for treatment with non hazardous disposal
- Identify a source for general backfill

2.2.2 Issues

Water accumulating in excavation pits is being tested for metals content.

2.3 Logistics Section

Not applicable

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

N/A

2.5.2 Liaison Officer

N/A

2.5.3 Information Officer

The community involvement coordinator for this site is Angela Miller.

3. Participating Entities

DENR IHSB

4. Personnel On Site

EPA - 1
START - 1
ERRS - 5

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

No information available at this time.