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 #5**
Removal continuation
Villa Mobile Home Park Battery Dump Site
B4C3
Kannapolis, NC
Latitude: 35.4857860 Longitude: -80.6078920

To:
From: Alyssa Hughes, OSC
Date: 11/14/2012
Reporting Period: 11/5/12 - 11/9/12

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

Excavation continues to move from east to west towards Venice Street. By November 6th, excavation leading up to the stockpile and adjacent areas was complete. The results from the treatability study were received on November 5th. The initial 5-point composite sample, when analyzed using the toxic characteristic leaching procedure yielded a result of 46 mg/L of lead, which exceeds the regulatory limit of 5 mg/L. The manufacturer determined that a 3% blend of triple super phosphate (TSP) would be sufficient to meet the regulatory requirements for disposal as nonhazardous soil.

An estimated volume of 3500 cubic yards,which equates to approximately 5250 tons of material, would cost $320,590 when treated at a 3% blend and disposed as non-hazardous material. The same tonnage disposed as hazardous waste would cost approximately $918,750. Based on this quick cost comparison using the results of the treatability study, the material will be treated and disposed as non-hazardous soil at a subtitle C landfill.

The analytical results of the pit water identified elevated levels of several metals. The elevated levels could be due to the significant quantity of suspended particles in the sample since the water emanated from a freshly excavated pit. Based on these results, a surface water sample was collected downgradient at the outfall of the culvert.

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

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

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
- Arrange for the delivery of the treatment chemical
- Begin treating the material to stabilize the metals
- Relocate stockpile to access remaining area
- Identify a source for general backfill

2.2.2 Issues

An analysis run on water accumulated in the test pit indicates elevated metals content. Due to these results, a surface water sample will be collected down gradient.

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.