

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Barth Smelting Facility - Removal Polrep  
Initial and Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region II

**Subject:** POLREP #1  
Initial and Final - RV1  
Barth Smelting Facility  
A22L  
Newark, NJ  
Latitude: 40.7361892 Longitude: -74.1402096

**To:**  
**From:** Kimberly Staiger, OSC  
**Date:** 2/26/2013  
**Reporting Period:** February 15 - February 26, 2013

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	A22L	<b>Contract Number:</b>	EP-S2-10-03
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	2/20/2013
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Emergency
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	2/21/2013	<b>Start Date:</b>	2/21/2013
<b>Demob Date:</b>	2/21/2013	<b>Completion Date:</b>	2/21/2013
<b>CERCLIS ID:</b>		<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Emergency Removal Action

#### 1.1.2 Site Description

Barth Smelting Corp. operated on Block 2442, Lots 10, 11, 12 from at least 1946 until approximately 1982, and produced brass and bronze ingots and also worked with non-ferrous metals. Prior operators include General Lead Batteries, a manufacturer of lead acid batteries, and the New Jersey Zinc Company, a former zinc smelter. Barth was listed as an unrecognized Battery Lead Smelter site with a paper titled "Discovering Unrecognized Lead Smelting Sites by Historical Methods" written by William Eckel et al, and published in the American Journal of Public Health, April 2001, however, several resources exist labeling Barth Smelting as a secondary copper smelting facility.

The New Jersey Zinc and Iron Company, also known as the Newark Zinc Works, formerly operated on the property now occupied by the Newark Housing Authority's Terrell Homes. The Zinc Works was one of the first commercial zinc oxide plants in the United States and operated on this location from 1848 to 1910. In 1946, the Millard E. Terrell Homes, a family development with 275 units, was constructed on the property formerly occupied by the New Jersey Zinc and Iron Company.

A small recreational playground utilized by the Terrell Homes residents is located immediately adjacent the former Barth Smelting facility on the northeastern portion of the Terrell Homes adjacent a concrete wall seated on the property line. Soil samples were collected from the playground area of the Terrell Homes on December 3 - 4, 2012. Elevated levels of lead were found to be present in the surface soils (0-2' depth interval) of the playground and the residential properties.

##### 1.1.2.1 Location

The Terrell Homes are located in a mixed residential/industrial neighborhood within the Ironbound Section of Newark, Essex County, New Jersey. The property was formerly home to the New Jersey Zinc and Iron Company from 1848 to 1910. The property is bounded to the west by the Passaic River and the Essex County Riverfront Park, to the east by Chapel Street, to the north by the former Barth Smelting Corp. property, and to the west by a large commercial property.

##### 1.1.2.2 Description of Threat

Lead concentrations have been detected exceeding the EPA residential soil screening level of 400 mg/kg within the top one inch of soil within the playground area at the Terrell Homes. The highest concentration of lead contamination in the top one inch of soil in the playground is 6,030 mg/kg.

Direct contact with the elevated levels of lead within the top one inch of soil may occur through common outdoor activities that occur in the play area, or by tracking lead contaminated dirt inside the home. Contact with the lead contaminated soils may present a health risk to residents, particularly young children.

The effects of exposure to lead are the same whether it enters the body through breathing or swallowing. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults to lead has resulted in decreased performance in some tests that measure functions of the nervous system. Lead exposure may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people, and may also cause anemia.

Lead is a cumulative poison where increasing amounts can build up in the body eventually reaching a point where symptoms and disability occur. Particularly sensitive populations are women of child-bearing age, due to the fetal transfer of lead, and children. Cognitive deficits are associated with fetal and childhood exposure to lead. An increase in blood pressure is the most sensitive adverse health effect from lead exposure in adults. Effects on the kidney, nervous system and heme-forming elements are associated with increasing blood lead concentrations, both in children and adults. Other symptoms include: decreased physical fitness, fatigue, sleep disturbance, aching bones, abdominal pains, and decreased appetite.

The Department of Health and Human Services (DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens based on limited evidence from studies in humans and sufficient evidence from animal studies, and the EPA has determined that lead is a probable human carcinogen.

### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Twenty-two soil borings were installed in the playground area at the Terrell Homes on December 3 - 4, 2012. Each soil boring was completed to a depth of two feet or refusal. Soil samples were collected from each boring at the following depth intervals: 0 to 1 inches, 1 to 6 inches, 6 to 12 inches, 12 to 18 inches and 18 to 24 inches bgs. All soil samples were submitted for laboratory analysis for Target Analyte List (TAL) Metals plus tin and mercury.

Elevated levels of lead are present in the top two feet of soils within the playground at concentrations exceeding the EPA residential soil screening level of 400 mg/kg. The average concentration of lead in the soils at the one inch depth is 1,127 mg/kg. Lead concentrations within the playground ranged from 103 mg/kg to 8,920 mg/kg, with the highest lead concentration detected in the 12-18" bgs depth interval located in the western grassy area behind the dumpsters. Lead was detected in the 0-1" bgs depth interval as high as 6,030 mg/kg within the eastern playground area in a patch of bare soil.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

On February 19, 2013, EPA met with representatives from the Newark Housing Authority (NHA) to discuss actions to be taken to restrict access to the playground area. NHA indicated that funds were low for the Terrell Homes property due to the recent Hurricane Sandy cleanup efforts, but indicated that playground equipment within the playground would be removed on February 20, 2013. Terrell Homes suffered significant water damage during the storm surge associated with Hurricane Sandy. Subsequent cleanup of the property depleted the funds available for this property. EPA assistance was requested to install a temporary chain link fence to restrict access after the playground equipment was removed.

On February 20, 2013 EPA received verbal authorization to conduct an emergency removal action to install a temporary chain link fence around the playground area at the Terrell Homes.

#### 2.1.2 Response Actions to Date

EPA mobilized to the Terrell Homes with ERRS on February 21, 2013 to install the fencing and restrict access to the playground portion of the property. A temporary chain link fence standing 6' high was installed on February 21, 2013. A swing gate was installed on the fencing near the dumpster area to allow access for maintenance of the playground. A key to the chained gate was provided to the NHA property manager for Terrell Homes.

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

PRPs have not been identified to date, but a PRP search will continue.

#### 2.1.4 Progress Metrics

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

### 2.2 Planning Section

#### 2.2.1 Anticipated Activities

EPA will be holding a public availability session on March 6, 2013 to discuss the soil sampling results with the residents of the Terrell Homes. Additional soil sampling will be performed late March to characterize the nature and extent of the lead contamination present at the Terrell Homes property.

#### **2.2.1.1 Planned Response Activities**

EPA plans to take a removal action within the playground area of the Terrell Homes in the near future. Additional soil sampling is required throughout the unpaved portions of the Terrell Homes property to fully characterize the nature and extent of the release before determining the appropriate removal action to be taken on this property.

#### **2.2.1.2 Next Steps**

- Hold a public availability session
- Conduct additional soil sampling
- Determine the appropriate removal action for the playground area

#### **2.2.2 Issues**

None

### **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**

Newark Housing Authority

## **4. Personnel On Site**

No information available at this time.

## **5. Definition of Terms**

No information available at this time.

## **6. Additional sources of information**

### **6.1 Internet location of additional information/report**

Additional information on the Barth Smelting site can be found at <http://www.epa.gov/region2/superfund/removal/barth/index.html> and at [www.epaossc.org/Barthsmelting](http://www.epaossc.org/Barthsmelting).

## **7. Situational Reference Materials**

No information available at this time.