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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region II

Subject: **POLREP #1**
Initial and Final - PJ1
Barth Smelting Facility
A22L
Newark, NJ
Latitude: 40.7361892 Longitude: -74.1402096

To:
From: Kimberly Staiger, OSC
Date: 7/21/2014
Reporting Period: July 7, 2014 to July 18, 2014

1. Introduction

1.1 Background

Site Number:	A22L	**Contract Number:**	EP-S2-10-03
D.O. Number:	TO 76	**Action Memo Date:**	7/23/2013
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	7/8/2014	**Start Date:**	7/8/2014
Demob Date:	7/18/2014	**Completion Date:**	7/18/2014
CERCLIS ID:	NJN008010373	**RCRIS ID:**	
ERNS No.:		**State Notification:**	10/31/2013
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Emergency PRP Removal Action without an enforcement instrument - partial takeover of RV3

1.1.2 Site Description
Barth Smelting Corp. operated on Block 2442, Lots 10, 11, 12 of the 99 Chapel Street property from at least 1946 until approximately 1982, and produced brass and bronze ingots and also worked with non-ferrous metals. Prior operators included the New Jersey Zinc & Iron Company, a former zinc smelter, and General Lead Batteries, a manufacturer of lead acid batteries. The New Jersey Zinc & Iron Company, also known as Newark Zinc Works, formerly operated on Block 2442, Lots 10-12 of the 99 Chapel Street property, as well as the property currently occupied by the Terrell Homes housing complex (Block 2442, Lot 1).

The Site was included on a list of hundreds of locations nationwide where secondary lead smelting or alloying may have been conducted according to entries in historical trade publications. The list was originally compiled by William P. Eckel in a doctoral dissertation for George Mason University, and the research was summarized in the article "Discovering Unrecognized Lead-Smelting Sites by Historical Methods" (Eckel et al, 2001).

1.1.2.1 Location
The Site is located in a mixed residential/industrial neighborhood within the Ironbound section of Newark, Essex County, New Jersey. The Site is bounded to the north by the Passaic River, to the south by Chapel Street and Lister Avenues, to the east by the 99 Chapel Street property, and to the west by the Terrell Homes.

The Site includes the historic footprint of the former Barth facility (Block 2442, Lots 10-12) and the extent of lead contamination adjacent to the former facility, including the former playground and grassy areas on the Newark Housing Authority's Millard E. Terrell Homes property (Terrell Homes). The Terrell Homes are a residential multi-family public housing complex owned by the Newark Housing Authority.

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 two feet of soil along the 99 Chapel Street property line on the Terrell Homes side of a newly constructed cinder block security wall, with the highest concentration of lead detected in the top one inch of soil at 15,787 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. 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.

Long-term exposure of adults to lead has resulted in decreased performance in some tests that measure functions of the nervous system, and may also cause weakness in fingers, wrists, or ankles. 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 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

Soil borings were installed throughout the Terrell Homes property to determine if historic operations conducted on this property and adjacent properties had impacted the soils. A total of thirty soil borings were installed throughout the property. Twenty-four soil borings were installed in unpaved areas, and six soil borings were installed in an asphalted area located on the northern corner of the Terrell Homes property. Each soil boring was completed to a depth of two feet.

Soil samples were collected from each soil 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 below ground surface (bgs). For the borings installed within the asphalted area, the 0 to 1 inch depth interval was not collected (asphalt is one inch thick). An additional six locations where bare soil was present in a high use area were sampled to a depth of 6 inches. A hand auger was used to collect soil samples from the 0 to 1 inch and 1 to 6 inch depth intervals in an additional six locations where bare soil was present within high use areas (ie - front entrances, walkways, etc). All soil samples collected were submitted for laboratory analysis for TAL Metals plus tin and mercury.

Two of the soil borings were installed in a grassy area adjacent the Community Building. The Community Building serves as a recreational area for the residents and contains a water park area (sprinklers) for children to play outdoors and a basketball court. Elevated levels of lead, which pose a significant threat to the local residents, were detected in the grassy area immediately adjacent the water park area.

Additional soil sampling along the property line determined that elevated concentrations of lead are present along the 99 Chapel Street property line on the residential side of a cinder block security wall. Concentrations of lead along the property line range from 158 mg/kg to 15,787 mg/kg, with the highest concentration of lead detected in the top one inch of soil .

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

An Action Memorandum was signed on September 26, 2013 authorizing EPA to conduct a time-critical removal action to address the threats posed by lead contaminated soil on the Terrell Homes property. Soil sampling data has identified elevated levels of lead within recreational areas on the Terrell Homes property that pose a significant threat to residents in the Terrell Homes.

The removal action includes the removal of lead contaminated soil located along the northern boundary of the Terrell Homes property, and design and construction of erosion control measures from 99 Chapel Street along the property line to prevent the migration of lead contaminated soil onto the adjacent residential property.

2.1.2 Response Actions to Date

On July 8, 2014, PennJersey Environmental Consulting (PEC), a consulting firm for 99 Chapel, began removal activities on the Site property to address elevated levels of soil located along the former fence line. During excavation activities to construct the erosion control measures, a building footing was located directly below the newly erected security wall that runs approximately 200' along the length of the property line. The building footing extends to a depth of 4' below the security wall and acts as a barrier to prevent the migration of potentially contaminated soils onto the residential property. The construction of erosion control measures are not necessary along this 200' section of the former fence line.

PEC excavated soils along the building footing to 1' below the current grade present on the Terrell Homes property and placed geotextile fabric within the excavation prior to backfilling with clean fill material. All excavated soils were staged on the 99 Chapel Street property for placement into UST excavations in accordance with the NJDEP Alternative and Clean Fill Guidance for SRP Sites. Clean fill material was placed within the excavation area up to 1' below the current security wall, providing a 1' or greater soil barrier between any potential contaminated soil present along the property boundary.

A deteriorated concrete apron was located along the remaining section of the former fence line where a building footing was not present. Concrete was placed around the apron to level and repair the deteriorated apron. All exposed lead contaminated soils located along the former fence line have been addressed by 99 Chapel.

Air monitoring conducted by RST during the soil excavation and backfilling confirmed that particulate dust levels did not exceed the action levels established in the EPA Community Air Monitoring Plan. When necessary, dust suppression was conducted by PEC.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)
99 Chapel St., LLC performed a portion of the removal action located on the 99 Chapel Street property. No parties have been Noticed to date and a PRP search will continue.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Lead	Soil	~210 tons	N/A	None	Alternate fill material in UST excavations at 99 Chapel Street in accordance with NJDEP's Alternative and Clean Fill Guidance for SRP Sites (December 29, 2011)

2.2 Planning Section

2.2.1 Anticipated Activities
A public availability session will be held with residents to discuss the work completed at the Barth Smelting Site and restoration activities at a later date.

2.2.1.1 Planned Response Activities
EPA will return to the Terrell Homes portion of the Site the week of September 15, 2014 to place up to 6" of top soil on the excavated area and plant grass seed.

2.2.1.2 Next Steps
- Complete restoration of Site property
- Hold a public availability session
- Remove temporary chain link fencing

2.2.2 Issues
The Terrell Homes is located in the Ironbound section of Newark, a recognized Environmental Justice community that has many disadvantages. The Terrell Homes property is a low-income public housing development with 275-units. Occupance of public housing at Newark Housing Authority properties is dictated by income, with preferences for elderly, disabled and DYFS (Division of Youth and Family Services) referrals.

2.3 Logistics Section

Prepare for mobilization to the Terrell Homes portion of the Site to complete restoration activities the week of September 15, 2014.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

Not Applicable

3. Participating Entities

Newark Housing Authority
99 Chapel Street, LLC

4. Personnel On Site

1 EPA OSC
1 RST - Weston Solutions

5. Definition of Terms

CERCLA - *Comprehensive Environmental Response, Compensation and Liability Act of 1980*
EMC - *Environmental Management Consulting*
ERRS - *Emergency and Rapid Response Services*
NHA - *Newark Housing Authority*
NJDEP - *New Jersey Department of Environmental Protection*
OSC - *On-Scene Coordinator*
PEC - *PennJersey Environmental Consulting*
RST - *Removal Support Team*
SRP - *Site Remediation Program*
TAL - *Target Analyte List*
UST - *Underground Storage Tank*

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.epaosc.org/Barthsmelting.

7. Situational Reference Materials

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
NJDEP Alternative and Clean Fill Guidance for SRP Sites, Chapter 5