

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
National Fireworks Operable Unit 2 - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #1
National Fireworks Operable Unit 2
A4EQ
Cordova, TN
Latitude: 35.1620360 Longitude: -89.7460040

To:
From: Keriema Newman, RPM
Date: 5/20/2010
Reporting Period:

1. Introduction

1.1 Background

Site Number:	A4EQ	Contract Number:	
D.O. Number:		Action Memo Date:	6/7/2010
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	PRP	Incident Category:	Removal Assessment
NPL Status:	Non NPL	Operable Unit:	2
Mobilization Date:		Start Date:	
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

1.1.2 Site Description

From 1941 to 1945, National Fireworks (NF) manufactured various munitions for the U.S. Departments of the Army and Navy. The munitions included flares, grenades, smoke pots, 20-mm and 40-mm rounds, and incendiary bombs. Possible compounds that were mixed and used in the ordnance production at the Site were trinitrotoluene (TNT); hexahydro-1,3,5-trinitro-1,3,5 triazine (RDX); tetryl; ammonium nitrate; fulminated mercury; and white phosphorus. Also, located on the property are areas formerly used for testing flares, a former burn pit used for building materials, and areas formerly used for disposal.

Over the past 15 years, there have been several environmental investigations conducted at the National Fireworks Site. Most recently a Site Inspection (SI) was conducted in 2001, an Expanded Site Inspection (ESI) in 2004, and an ongoing Remedial Investigation (RI) in 2008. Results of those investigations indicated the following: metals, pesticides, polychlorinated biphenyls (PCBs), and explosives were detected in surface and subsurface soil; metals, dichloroethene (DCE), trichloroethene (TCE), tetrachloroethene (PCE), and perchlorate were detected in groundwater; and metals and TCE were detected in surface water and sediment.

The NF Site is currently called the Cordova Industrial Park (CIP). The industrial park is subdivided industrial lots with numerous property owners. The site encompasses an area of about 260 acres of subdivided land. Land use at the site consists of distributors, office space, sales, storage, repair and production facilities. Suburban residential developments are present within 0.25 miles of the Site. Before the industrial park was constructed in 1986, the property's natural topography consisted of rolling hills. The NF site has been graded to produce a leveled property using soil and concrete slabs from former NF buildings. Creeks and drainage pathways were diverted through culverts during

grading and construction. Dirt and paved roads provide access to the property. Most of the businesses currently operating at the industrial park consist of distributors, office spaces, sales, storage repair, and production facilities.

1.1.2.1 Location

The former NF Site is an active industrial park located off Macon Road in Cordova, Shelby County, Tennessee. The NF site is bounded on the north of Macon Road, on the east by Grays Creek, on the south by forested property, on the west by a Tennessee Valley Authority (TVA) easement, and on the northwest by railroad tracks. The geographic coordinates at the western entrance to the NF site are latitude 35° 09' 27.06" north and longitude 89° 45' 41.63" west. The NF site is located east of Memphis, Tennessee, and is zoned for industrial uses. The NF parcel is surrounded by land that is zoned for industrial, residential, agricultural, and commercial uses.

1.1.2.2 Description of Threat

According to the criteria listed in Section 300.415 of the NCP, the Site meets the requirements for initiating a Time-Critical Removal Action. Specifically, the following criteria were included in making the determination:

A. Threats to Public Health or Welfare

Section 300.415(b)(2)(ii) - *actual or potential contamination of drinking water supplies or sensitive ecosystems*. Volatile organic compounds exist at concentrations in the soil above regional screening levels (RSLs) in the suspected metal shop waste area that may potentially migrate vertically and pose a threat to groundwater. A municipal water supply well field is present within 1-2 miles from the Site.

Section 300.415(b)(2)(iv) - *"soil with high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate"*. Volatile organic compounds exist at concentrations in the soil above regional screening values in the suspected metal shop waste area that exceed soil regional screening levels that are protective of groundwater. The soil regional screening levels that are protective of groundwater are derived from fate and transport mechanisms that are dependent on 1) the release of contaminant in soil leachate and 2) transport of the contaminant through the underlying soil and an aquifer to a receptor well. Therefore, subsurface soil concentrations exist at levels that may potentially migrate vertically and pose a threat to groundwater. Table 1 is a summary table of the analytical results for all media sampled. Table 1 is attached in the documents section of the site website @www.epaosc.net/nationalfireworksou2.

Section 300.415(b)(2)(vi) - *"threat of fire or explosion"*. Magnesium pin flares were uncovered at Anomaly B2. Detected concentrations in soil at B2 are also shown on Table 1 and is attached in the documents section of the site website @www.epaosc.net/nationalfireworksou2. Based on information compiled by the PRP, (Security Signals Inc.) which included the purchasing agent buy cards and the historical bill of sale for the MK134 pin flare, each signal was composed of specific materials including gun powder, barium nitrate, magnesium, and strontium nitrate. The buried pin flares were discovered intact and in good condition. Therefore, the flares are ignitable or live and pose an immediate threat of fire or explosion at the Site.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The Site is undergoing a RI and being managed by the PRP. Phase II of the RI included excavating anomalies identified previously during the geophysical survey of Screening Area A. Three of the anomalies proved benign and un-remarkable. One trench located an area of shop waste with strong organic chemical odors, heavily stained soil and metal fragments. The other trench uncovered an ordnance disposal area. The ordnance consists of small, two-inch long, live magnesium flares manufactured for the US Navy in 1987.

2.1.2 Response Actions to Date

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

This Site is not listed on the NPL, but the Site is being managed as a Superfund Alternative Site. The PRP, Security Signals Inc. signed an Administrative Order on Consent (AOC) to conduct a Remedial Investigation / Feasibility Study (RI/FS) at OU2. The AOC was effective May 2007. The AOC allows for the removal activities to be completed under the current AOC.

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 proposed action is designed to address two areas, buried live pin flares (Anomaly B2) and suspected waste shop disposal area (Anomaly B1), identified at the Security Signals facility. The removal action and disposal of materials will be conducted in a manner that complies with all state, local, and federal regulations including established quality assurance/quality control protocols.

The proposed removal actions consist of excavation and off-site disposal of approximately 190 in-place cubic yards of materials. The suspected metal shop waste excavation is estimated at 20 feet by 20 feet by 6 feet. The pin flare removal area is estimated at 25 feet by 25 feet by 4 feet. Actual excavation depths will be determined in the field, and will be based on analytical results from the confirmation sampling. Photographs that were taken of these two removal areas when the test pit excavations were conducted are attached in the images section of the site website @www.epaosc.net/nationalfireworksou2.

2.2.1.2 Next Steps

2.2.2 Issues

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

No information available at this time.

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

No information available at this time.

7. Situational Reference Materials

No information available at this time.