



109717

**U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT**

I. HEADING

Date: April 13, 2009

Subject: Lightman Drum Company Site, Winslow Township, Camden County, New Jersey

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Removal Action Branch

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POLREP NO. : 8**II. BACKGROUND**

Site No:	MS
CERCLIS No:	NJD014743678
Response Authority:	CERCLA
Removal Type:	Time Critical
NPL Status:	Listed
ROD Signed:	N/A
State Notification:	NJDEP Notified
Start Date:	October 27, 2009
Completion Date:	N/A
Status of Action Memorandum:	N/A
Delivery Order Number:	N/A

III. SITE INFORMATION

A. Incident Category

CERCLA incident category: Soil contamination

B. Site Description

1. Site description

The Lightman Drum Company property (Property) covers approximately 15 acres and is located in Winslow Township, Camden County, New Jersey. The Property is narrow (approximately 300 feet wide) with access from Route 73. The majority of the Property is wooded. There is very little topographic relief across the Property with a maximum elevation range of 15 feet.

Historic waste storage areas on the Property include the former location of two 5,000 gallon underground storage tanks previously located in the north-central area of the Property (the former Waste Storage Tank Area). The tanks were reportedly used to store waste paint pigments, ink sludges, and thinners between November, 1978 and April, 1979. Reportedly, NJDEP observed the removal of the tanks in 1984.

A Remedial Investigation (RI) for the Lightman Drum Site (Site) was conducted between 2002 and 2007 and included a comprehensive soil and groundwater investigation. The results from the groundwater investigation indicate that groundwater has been impacted with chlorinated VOCs, namely trichloroethene (TCE) and tetrachloroethene (PCE), as well as aromatic (BTEX) compounds. There are two main plumes present, one originating from the former Waste Storage Tank Area, and a smaller plume from the former Unlined Waste Disposal Pit Area in the western part of the Property.

Source removal of saturated soils in the former Waste Storage Tank Area was addressed during a Removal Action (BB1) pursuant to an Administrative Settlement Agreement and Order on Consent (AOC) dated September 13, 2007 between USEPA and the Lightman Drum Source Removal Group (the Group) that became effective on September 17, 2007.

The removal action included the removal of 924 tons of soil and 28,050 gallons of water from the source area between October 2007 and March 2008.

During the source area removal, areas of un-naturally colored soils; primarily purple, yellow, green, blue and red were observed at the Site. Investigations were conducted in January and March 2008 to define the nature and extent of the colored soils. The investigations revealed that the un-naturally colored soils contained lead, and to a lesser frequency and degree other hazardous substances above risk-based levels. These soils were found near the surface in portions of a former drum storage and handling area on the Site (open area in the center of the Site).

Following the discovery of the unnaturally colored soil, EPA and the Group agreed to utilize the existing AOC to conduct the additional soil removal pursuant to Paragraph 93 of the AOC. This Pollution Report documents work done under the AOC to address the unnaturally colored soil to date.

2. Description of threat

The unnaturally colored soil contained lead, arsenic, hexavalent chromium and several pesticides. Lead was found in the most significant concentrations (up to 23,800 ppm).

The objective of the un-naturally colored soil removal was to remove soils at the Site that would pose an unacceptable risk to human or ecological receptors.

C. Preliminary Assessment Results

During the work to remove the Former Waste Storage Tank Source Area (Source Area Removal), the un-naturally colored soil was observed to be within several inches of ground surface in former drum storage and handling area, with the exception of the purple soil which was observed in and adjacent to the Source Area Removal excavation.

The purple stained soil was found to extend to a depth of approximately 6 feet and was partially removed and disposed during the Source Area Removal. Analysis of a sample of this purple stained soil taken in November 2007 revealed the presence of two tentatively-identified semi-volatile organic compounds that may account for the purple color: Cinnamyl cinnamate, at an estimated concentration of 9.5 ppm and bis (4-(dimethylamino)phenyl)-methanone, which is otherwise known as Michler's ketone at an estimated concentration of 0.48 mg/kg.

Subsequent investigations were conducted in January and March 2008 to define the nature and extent of the other surficial colored soils. The investigations revealed that un-naturally colored soils are present in portions of the former drum storage and handling area of the Site. Lead was the primary contaminant of concern in colored soils and exceeded New Jersey's risk-based screening criteria in seven of nine samples. Arsenic and pesticides were each present in one sample

above New Jersey screening criteria and hexavalent chromium was detected in two samples above the preliminary inhalation criteria. The horizontal extent of these impacted areas encompassed approximately 2,250 square yards based on the investigation.

IV. RESPONSE INFORMATION

A. Response Actions

A soil Source Area Removal Action was implemented at the Lightman Drum Company Superfund Site (Site) pursuant to an Administrative Settlement Agreement and Order on Consent (AOC) dated September 13, 2007 between EPA and the Lightman Yard Source Removal Group (Group) for the localized removal of contaminated saturated soils in the vicinity of the former Waste Storage Tank Area. The soil Source Area Removal was performed at the Site between October 29, 2007 and March 27, 2008, pursuant to the AOC and the EPA approved Source Area Removal Work Plan dated October 30, 2007.

During the Source Area Removal, discrete areas of un-naturally colored soils; primarily purple, yellow, green, blue and red were observed at the Site. Subsequently, investigations were conducted by to define the nature and extent of the colored soils. The investigations revealed that un-naturally colored surface soils were present near or at the ground surface that contained elevated concentrations of lead and to a lesser frequency and degree other hazardous constituents. These soils were identified in portions of the former drum storage and handling area of the Site.

Addendum No. 1 to the Source Area Removal Work Plan addressed the removal of un-naturally colored soils and was approved by EPA on October 9, 2008. The Un-Naturally Colored Soil Removal commenced on October 27, 2008 and un-naturally colored soil was excavated from eight discrete areas identified in Addendum No. 1. During Site preparations, additional areas of un-naturally colored soil outside of the identified eight discrete areas were observed at several locations. Additionally, during the excavation of un-naturally colored (purple) colored soil east of the previous Soil Source Removal Excavation, significant levels of VOCs were identified in the soil. The vertical limits of the excavation in this area, required to remove purple soil, ranged from approximately 3.5-feet to 8-feet below the surface. Soils removed from this area were placed into a separate stockpile and covered for future characterization. Following completion of the purple soil excavation, headspace screening of soil samples taken from the excavation side walls and base was performed with a photoionization detector (PID) and elevated levels up to the limit of the instrument (199 units) were recorded. Strong organic odors associated with this area were also observed.

The discovery of the additional unnaturally colored soil and the VOC impacted soil resulted in the preparation of Addendum No. 2 to the Soil Source Removal Work Plan. Addendum No. 2 was prepared to investigate the remaining portions of the former drum storage and handling area that had not been previously evaluated by surface scraping for presence of un-naturally colored soil (Additional Un-Naturally Colored Soil Investigation); and investigate the extent of VOCs proximate to the purple colored soil area (Soil VOC Area Investigation).

Additional investigations in the western half of the drum storage and handling area were performed October 31 and November 3, 2008. The investigation areas extended from Grid Line 1 through Grid Line 11 of the Site map, to the tree line on the north and west sides of the former drum storage and handling area, and to the fence line along the southern property line, with the exception of a gravel roadway used for access and beneath the larger of the two stockpiles containing excavated un-naturally colored soil. The investigations were performed by scraping surface soils to a depth of approximately 2 to 6 inches in areas ranging from approximately 10 ft. by 20 ft. to 20 ft. by 20 ft. In performing the evaluations, surface soil scraping was undertaken using the bucket of a track excavator and followed by observation of the scraped soil and the exposed soil surface for un-natural color. Based on these observations, the following was conducted. If un-naturally colored soil was not observed in scraped soil, or on the exposed subgrade, the scraped soil was spread back on the surface from which it was scraped, and no further action was taken in that area. If un-naturally colored soil was observed in the scraped soil, or on the exposed subgrade, the scraped soil and any additional un-naturally colored soil observed on the exposed surface from the evaluation area was excavated and added to the soil stockpile for offsite disposal. Areas of additional un-naturally colored soil were demarcated and post excavation surface soils were sampled and tested in accordance with Addendum No. 1.

Additional surface soil scraping investigation was also initiated on November 3, 2008 in the eastern half of the former drum handling and storage area. Two transect scraping evaluations were performed in the area east of Grid Line 11. Un-naturally colored soil was observed from each transect scraping at depths of 2 to 4 inches. As a result, additional scraping of the entire eastern half of the drum storage and handling area was planned. At that time the area east of Grid Line 11 contained equipment and approximately 30 box trailers for storage of materials by the current property owner. Prior to performing a scraping evaluation of the soil surface in the eastern area of the site, equipment and trailers needed to be relocated to the portions of the site west of Grid Line 11 where un-naturally colored soil had previously been removed and backfilled. The backfilling of the western half of the drum storage and handling area was completed on March 24th, 2009. Equipment and trailers were moved in early April and the scraping of the eastern half of the drum storage and handling area began on April 13, 2009. The

scraping evaluation is being conducted in approximately 20 ft by 20 ft areas. Un-naturally colored soil located beneath the soil stockpile areas will also be investigated similarly in approximate 20 ft by 20 ft areas. Un-naturally colored soil observed during these evaluations will be added to the existing stockpile for off-site disposal. In areas of any additional un-naturally colored soil removal, post excavation confirmatory soil samples will be collected for analysis in accordance with Addendum No. 1.

B. Situation

1. Response activities:

Between May 3, 2008 and April 12, 2009

- June 5, 2008 - the Draft Final Construction Completion Report for the Soil Source Removal was submitted to EPA.
- July 8, 2008 - a revised Draft Final Construction Completion Report for the Soil Source Removal addressing EPA's comments was submitted to EPA and was ready for EPA approval at that time.
- July 10, 2008 - a letter requesting the AOC remain in effect for the removal of un-naturally colored soil was submitted to EPA.
- The final Revised Addendum No. 1 to the Work Plan for soil Source Removal for the removal of un-naturally colored soil was approved by EPA in a letter dated October 9, 2008
- The Group's Contractor mobilized to the Site on October 27, 2008. Un-naturally colored soil was removed from the six (6) discrete areas and the two (2) areas of purple colored soil near the previous soil source removal excavation as specified in Revised Addendum No. 1 to the Work Plan for Soil Source Removal. Excavation depths in the six (6) discrete areas generally ranged between 4 and 12 inches. Excavation depths in the two areas of purple colored soil were between 3.5 and 8 feet. Excavation areas were expanded based on observations of additional un-naturally colored soil. Excavated soils were placed into a stockpile and covered for future waste characterization.
- Un-naturally colored soil was observed in localized areas between the initially proposed excavation areas in western portion of the former drum storage and handling area (i.e. west of Grid Line 11). An amendment to the Revised Addendum No. 1 to the Work Plan submitted by the Group to EPA on October 30, 2008 to address these areas. Based on the amendment to the work plan, additional surface soil scraping was performed. Un-naturally colored soils that were encountered were excavated and placed in the main stockpile and covered for waste characterization and off-site disposal.
- Surface soil was also scraped in two transects in the eastern portion of the former drum storage and handling area (i.e. east of Grid Line 11) in accordance with the amendment to

the work plan. Localized areas of un-naturally colored soils were observed in each transect. The un-naturally colored soil was excavated and placed in the main stockpile and covered for waste characterization and off-site disposal.

- Sixty-five (65) exposed subgrade soil samples were collected and analyzed for lead on-site using a field portable XRF in accordance with Addendum No. 1 to the Work Plan. XRF screening results for the 65 samples were below the 600 ppm action level. 10-percent of the XRF samples, a minimum of one per excavation area, were selected for confirmatory soil samples analysis at fixed laboratory for lead. Thirteen (13) soil samples plus three quality control/quality assurance samples were shipped to CompuChem, Inc. for analyses for lead. Additional soil sample volume was collected from the locations selected for the XRF confirmatory analysis for analysis at a fixed laboratory for TCL SVOCs, TCL pesticides, TAL metals (excluding lead), and hexavalent chromium. Thirteen (13) soil samples were collected and shipped to CompuChem, Inc. for analyses. Composite soil samples were collected from the un-naturally colored soil stockpiles for waste characterization analyses at a fixed laboratory in accordance with Addendum No. 1 to the Work Plan.
- VOC impacts were observed during the removal of un-naturally colored purple soil at the southeast corner of the previous soil source removal excavation. Soils removed from this area were placed into a separate stockpile and covered for future characterization. Headspace PID screening of bag samples from sidewalls and the base of the excavation were performed. Readings ranged from 8.3 parts per million (ppm) to greater than 199 ppm.
- Analytical results of the confirmatory soil samples collected for lead analysis were received. Thirteen (13) soil samples plus three quality control/quality assurance samples were analyzed by CompuChem, Inc. All lead confirmatory soil samples were below the 600 ppm action level.
- Analytical results of the confirmatory soil samples for TCL SVOCs, TCL pesticides, TAL metals (excluding lead), and hexavalent chromium analyses were received. Thirteen (13) soil samples plus three quality control/quality assurance samples were analyzed by CompuChem, Inc. All confirmatory soil sample results for TCL SVOCs, TCL pesticides, TAL metals (excluding lead), and hexavalent chromium were below the New Jersey Non-Residential Soil Cleanup Criteria with the exception of one exceedance of hexavalent chromium.
- A Transportation & Disposal Plan was submitted by the Group to EPA on December 11, 2008. Based on the results of the waste characterization analyses, the excavated soil could be disposed of as non-hazardous.
- Re-mobilization of the Group's Contractor for load out of un-naturally colored soil occurred on December 16, 2008. Approximately 1,014 tons of soil generated during un-naturally colored soil removal was loaded out between December 17, 2008 and

December 18, 2008 for transport to and disposal at Gloucester County Improvement Authority (GCIA) Landfill in Swedesboro, New Jersey;

- An additional 6-inches of soil were excavated from a localized area where confirmatory soil sampling indicated an exceedance of hexavalent chromium. An additional confirmatory sample collected following excavation revealed levels of hexavalent chromium below the New Jersey Non-Residential Soil Cleanup Criteria.
- Preparation and submittal of Addendum No. 2 to the Work Plan (Addendum No. 2) for Soil Source Removal to the EPA on February 4, 2009. Addendum No. 2 was approved by the USEPA in a letter dated February 5, 2009.
- Implementation and performance of the field portion of the VOC Area Investigation between February 9 and February 11, 2009 in accordance with Addendum No. 2. Nine soil borings and an additional 15 step-out soil borings were advanced for investigation of the VOC area in accordance with Addendum No. 2.
- Backfill of the area west of grid line 11 took place on March 23rd and 24th, 2009. Equipment and tractor trailers were moved from the eastern half of the former drum storage and handling area to that backfilled area in early April 2009.

2. Enforcement

The Administrative Settlement Agreement and Order on Consent USEPA Index No. CERCLA-02-2007-2007 between EPA and the Group for the performance of this removal action was executed on September 13, 2007.

C. Next Steps

Scraping investigation and excavation of the unnaturally colored soil on the surface of the eastern half of the drum storage and handling area began on April 13th, 2009.

D. Key Issues

The Group is preparing a data report for the VOC Area Investigation performed between February 9 and February 11, 2009 in accordance with Addendum No. 2. This report is expected to make recommendations for a remediation approach for this area.

V. COST INFORMATION

N/A

VI. DISPOSITION OF WASTES

See attached table