U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Cline Ave Ditch Oil Sheen Site - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #2**
Cline Ave Ditch Oil Sheen Site

Gary, IN
Latitude: 41.6203911 Longitude: -87.4313772

To: Ryan Groves, IDEM

From:

Date: 5/20/2011

Reporting Period:

1. Introduction

1.1 Background

Site Number:	**Contract Number:**
D.O. Number:	**Action Memo Date:**
Response Authority:	**Response Type:**
Response Lead:	**Incident Category:**
NPL Status:	**Operable Unit:**
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

The Site consists of two vacant parcels (40-0150-002 and 40-0150-011). A roadway ditch runs along the west site of the site. The site is overgrown with vegetation and had areas of standing water. An approximately 24 acre area of the property was historically used to dispose of tank pit bottoms.

1.1.2.1 Location

The Site is located along a drainage ditch at the intersection of Gary Avenue and Cline Avenue in Gary, Lake County, Indiana. The Site is located in an industrial area and is bordered by an electrical substation and vacant lots (proposed Gary-Chicago Airport Expansion) to the north and east, Cline Avenue to the west, and Gary Avenue to the south.

1.1.2.2 Description of Threat

On January 10, 2011, the National Response Center (NRC) (Report No. 964208) received a call that oil sheen was observed in the Cline Avenue Ditch north of the intersection of Cline Avenue and Gary Avenue in Gary, Lake County, Indiana. British Petroleum (BP) investigated whether one of their pipelines underlying the Site was leaking. As a precaution, BP consultants, Heritage Environmental, placed absorbent boom in the ditch to remove the sheen and prevent contaminants from migrating to the nearby Grand Calumet River. Samples were collected of the spent absorbent boom from the ditch and analyzed for disposal parameters. Analytical results of the spent absorbent boom indicated Aroclor 1254 concentrations of 722 micrograms per kilogram (µg/kg). In addition, analytical results from a water sample collected by BP indicated that the sheen was not consistent with crude oil and is a mixture of components suspected to be a distillate and lube oil.

Oil is continuously releasing to a roadside ditch from the walls at multiple points and possibly from beneath, along Cline Ave. in Gary, IN. The sheen is visible for approximately 500 ft, at which point in enters a culvert underground. The sheen is once again visible in the Grand Calumet River at the point of discharge approximately, one half mile from the culvert. The Grand Calument flows into Lake Michigan approximately five miles from the discharge point.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On March 21, 2011, the United States Environmental Protection Agency (U.S. EPA) and their Emergency and Rapid Response Services (ERRS) contractor, Environmental Restoration, LLC (ER), mobilized to the Site to place absorbent boom in locations where sheen was observed in the ditch. Four areas were observed with oil sheen, with the most upstream location observed at approximately 41°37'13.76" north latitude and 87°25'52.84" west longitude and the furthest downstream location observed at two outfalls that discharge from the ditch into the Grand Calumet River.

On April 1, 2011, U.S. EPA, ERRS, and WESTON START, mobilized to the Site to replace used absorbent boom in the ditch and conduct sampling activities. A total of 7 sheen samples (SHN01 through SHN07) and 3 soil samples (SOIL02, SOIL05, and SOIL06) were collected in and along the ditch. The sheen and soil samples were submitted to the U.S. Coast Guard (USCG) Marine Safety Laboratory (MSL) for fingerprinting (forensic oil) analysis. In addition, the soil samples were submitted to STAT Analysis Corporation (STAT) for analyses of total petroleum hydrocarbons (TPH) as gasoline range organic (GRO), diesel range organic (DRO), and extended range organic (ERO).

The USCG MSL fingerprinting analysis was inconclusive. Per the Oil Sample Analysis Report dated April 21, 2011, the sheen samples SHN01, SHN02, SHN05, SHN06 and soil samples SOIL02, SOIL05, SOIL06 were representative of spilled oil. The analyses indicated that these samples contained an intermediate to heavy mixture of petroleum hydrocarbons. Volatile organic compounds (VOCs) were present in these samples, which indicate that the samples are only slightly to moderately evaporatively weathered. These samples are all related to each other through a common source of petroleum oil; however, each sample had a unique PAH fingerprint which indicates they are not all from the same exclusive chemical source. Sheen samples SHN03, SHN04, and SHN07 did not contain a quantity of petroleum oil sufficient for comparison purposes. The analytical results from STAT were as follows:

- TPH GRO results ranged from 0.72 to 110 milligrams per kilogram (mg/kg)
- TPH DRO results ranged from 42,000 to 80,000 mg/kg
- TPH ERO results ranged from 38,000 to 100,000 mg/kg

The source of the sheen remains unknown.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On May 17 and 18, 2011, U.S. EPA conducted a ground penetration radar (GPR) survey to determine the locations of abandoned underground pipelines at the Site. On May 18, 2011, WESTON START mobilized to the site to mark out the proposed soil boring locations based on the visual sampling plan (VSP) statistical software output to identify a hotspot with 95% confidence in the former tank bottoms pit. Some of the proposed locations were relocated due to the GPR survey results and physical obstructions on the property.

On May 23 and 24, 2011, U.S. EPA personnel operated a Geoprobe direct-push machine to advance 10 soil borings up to 10 feet below ground surface (bgs) in the area of the former tank bottoms pit. All of the actual soil boring locations were recorded with a GPS unit in the field. Nineteen (19) soil samples were collected based upon the physical observations and field screening made by the field geologist. The soil samples were submitted for fingerprinting (forensic oil), TPH GRO, TPH DRO, and TPH ERO analyses.

Comparison of the samples to a source sample will not be conducted because the source of the oil is unknown; however, the samples will be compared with each other and with the samples collected in April (MSL Case 11-181) to identify similar products. The TPH results will be compared with the IDEM RISC IDCL of 330 mg/kg for GRO and 1,000 mg/kg for DRO and ERO.

2.1.2 Response Actions to Date

The waterway has been boomed in four places.

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

Investigations are currently underway to identify responsible parties.

2.1.4 Progress Metrics

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

2.2 Planning Section

2.2.1 Anticipated Activities

The sampling conducted on May 23 and 24, 2011 will determine whether the contamination documented along Cline Ave Ditch during the initial site assessment (April 1, 2011) is related to the former disposal of tank bottoms in a pit on the Site.

2.2.1.1 Planned Response Activities

Continued boom maintenance is being scheduled, and will continue until an action plan is developed and executed.

2.2.1.2 Next Steps

Review the analytical data from teh sampling conducted on May 23 and 24, 2011 to determine whether the contamination documented along Cline Ave Ditch during the initial site assessment (April 1, 2011) is related to the former disposal of tank bottoms in a pit on the Site.

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

3.1 Unified Command

3.2 Cooperating Agencies

US EPA
Indiana Department of Environmental Management (IDEM)
Indiana Department of Transportation, Gary Sub-Division (INDOT)

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.