U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Chevy in the Hole Parcel A - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #6**
Final Report
Chevy in the Hole Parcel A
Z5KA
Flint, MI
Latitude: 43.0109900 Longitude: -83.7104816

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From: Brian Kelly, OSC
Date: 10/19/2013
Reporting Period:

1. Introduction

1.1 Background

Site Number:	Z5KA	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	9/1/2010	**Start Date:**	9/1/2010
Demob Date:		**Completion Date:**	10/17/2013
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	YES
FPN#:	E11508	**Reimbursable Account #:**	

Incident Category
OPA Removal Action

Site Description
The site was used to manufacture valves, camshafts, and cylinder cases between 1926 and 1984. During these processes hydraulic fluids constantly dripped from the milling machines to the concrete floors where the oil collected in concrete pits. Several hydraulic and gasoline tanks were also present. All structures on the property were demolished in 1995.

In June 2010, the city of Flint reported to the United States Environmental Protection Agency (EPA) oil discharging through the channelized concrete river wall into the Flint River from the Chevy in the Hole Parcel

A Site. EPA and the city of Flint Fire Department deployed boom to contain the oil.

Between June 2010 and April 2011, U.S. EPA investigated the cause and history of the site. Two rounds of assessment, September 2010 and April 2011, confirmed and delineated a discharge of oil from the site.

Location
The site is located at 300 South Chevrolet Avenue in Flint, Genesee County, Michigan, 48504, in a mixed residential/industrial/commercial area. The coordinates for the site are 43.009 degrees north and -83.709 degrees west. The site consists of a 13-acre parcel bordered by Chevrolet Avenue and industrial properties to the east, residential and commercial properties to the south, residential properties to the west, and the Flint River to the north. Kettering University lies on the opposite bank of the Flint River. In addition to being called Chevy in the Hole Parcel A, the site is also called former Building 5 and Flint West.

Description of Threat
The site slopes from the south to the adjacent Flint River, with an elevation drop of greater than 30 feet. The southern portion of the site is covered with thick, low-lying vegetation, and the northern portion next to the Flint River is covered by concrete slabs from former buildings.

During U.S. EPA's initial site assessment, oil was detected in 14 of the 18 site monitoring wells. The thickness of oil in the monitoring wells ranged from 0.38 feet to 14.53 feet. Based on the well gauging, the average oil plume could be as thick as 6 feet across 3 acres; however, capillary action is likely causing oil to accumulate in the wells disproportion to its actual thickness.

As documented by GM, the city of Flint, and U.S. EPA, oil from the Chevy in the Hole Parcel A Site was discharging to the Flint River. The Flint River is a navigable waterway of the United States.

Preliminary Removal Assessment/Removal Site Inspection Results
Site investigation activities were completed with the purpose of providing information and results for removal activities and were conducted in September 2010 and April 2011.

The results of these activities include estimated free product volume and extent, contaminated soil volume and extent, and soil and free product characteristics. The results are detailed in the Site Assessment Report (9-2011) and Data Gaps Assessment Technical Memorandum (5-2011).

Summary of the investigation results
The purpose of the preliminary investigation was to define the vertical and horizontal extent of Nonaqueous-Phase Liquid (NAPL) at the site, estimate aquifer properties, estimate NAPL recovery rates, refine existing volume and cost estimates, and determine the waste characterization of the NAPL, soil and groundwater for treatment and/or disposal.

To determine the horizontal and vertical extent of NAPL, NAPL and soil samples were collected, ultra-violet optical screen tool (UVOST®)-laser-induced fluorescence (LIF) was conducted at 25 locations, Roto-Sonic soil borings were conducted at 21 locations, OIL-IN-SOIL™ screening test kits were used, and visual observations and instrument results were collected. The results of the NAPL data were provided to the U.S. EPA ERT and was input into a three-dimensional model and a solid surface representing the possible shape and volume of the NAPL was created.

Two NAPL samples were collected and 24 soil samples were collected, analyzed, and the results were compared to NAPL sample results. This comparison was used to determine whether NAPL was present at the sampled locations based on constituent similarity and concentrations. A total of 25 UVOST® LIF borings were advanced on-site. Seven of the 25 UVOST® LIF had a response of greater than 150 percent (%) reference emitter indicated the potential for NAPL.

The NAPL properties are consistent with mineral oils and hydraulic oils that are stable in high temperature and pressure environments. The NAPL exists throughout the property in the small pore spaces of the predominant sandy silt and appears at different elevations and locations within these tight formations.

Ten of the soil boring/UVOST® LIF locations indicated the presence of NAPL. NAPL appears to be present throughout the site with the greatest extent and thicknesses located in the center to the northwest section of the site. NAPL thickness ranged between 2 to 5 feet across the Site with the greatest NAPL thickness located near the center of the Site at boring SB28.

A total of eight slug tests, three NAPL recovery tests, a single well pumping test, and a single step-drawdown test were completed as part of this field effort to evaluate removal options involving NAPL recovery and groundwater extraction. The aquifer testing results indicate that the hydraulic conductivities and transmissivities on-site range from low to very low. Therefore, NAPL recovery will be slow.

The investigation results show that a zone of higher hydraulic conductivity exists along the northern portion of the site and lower hydraulic conductivity soils are present throughout the rest of the site and to the south as indicated in historical reports. However, the higher hydraulic conductivity soils to the north are still lower permeability soils consisting of variable sands, gravels, and silts.

2. Current Activities

2.1 Operations Section

Response Actions to Date

See POLREP #1-5 for previous activities.

LATA-KEMRON submitted a Work Plan in March 2013 to U.S. EPA documenting the field activities to be conducted during Summer 2013 (see documents).

Between August 5 and October 17, 2013, U.S. EPA completed the excavation and disposal of 7,000 tons of oil saturated soil directly surrounding the sanitary sewer vault bypass line; collected and treated 2,000 gallons of oil/water; abandoned and sealed the 48in vault bypass line leading to outfall #70; installed a 6in groundwater relief line running parallel to the Flint River; and finished sealing the flood wall joints.

Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

U.S. EPA is unable to use the GM settlement funds under OPA. Funding for the project will rely on the OSLTF.

Miles of river systems cleaned and/or restored	2
Cubic yards of contaminated sediments removed and/or capped	0
Gallons of oil/water recovered	2000
Acres of soil/sediment cleaned up in floodplains and riverbanks	2
Acres Protected	20
Number of contaminated residential yards cleaned up	0
Human Health Exposures Avoided	100
Number of workers on site	9
Hydraulic oil, disiel, and Gasoline	
Initial amount released: Unknown	
Final amount collected: 7,000 tons and 2,000 gallons	
FPN Ceiling Amount: 1,975,000	
FPN Number: E11508	
Body of Water affected: Flint River, Flint, Michigan	

2.2 Planning Section

Anticipated Activities

Removal complete. No further action is anticipated on Parcel A.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

FPN Ceiling

$1,975,000

OPA Project Plan Estimate

$4,083,000

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	$1,310,000.00	$1,106,000.00	$204,000.00	15.57%
TAT/START	$226,500.00	$210,000.00	$16,500.00	7.28%
Intramural Costs				
USEPA - Direct	$25,000.00	$24,000.00	$1,000.00	4.00%
USEPA - InDirect	$204,000.00	$204,000.00	$0.00	0.00%

Total Site Costs	$1,765,500.00	$1,544,000.00	$221,500.00	12.55%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

Unified Command is not being utilized during this response.

3.2 Cooperating Agencies

City of Flint

4. Personnel On Site

U.S.EPA
START - Weston Solutions Inc.
ERRS - Lata Kemron, Marine Pollution Control (MPC)

5. Definition of Terms

U.S.EPA (EPA) - United States Environmental Protection Agency
START - Superfund Technical Assessment & Response Team
ERRS - Emergency & Rapid Response Service
GM - General Motors Company
HDPE - High Density Polyethylene
LIF - Laser Induced Fluorescence
NAPL - Non-Aqueous Phase Liquid
OPA - Oil Pollution Act
OSLTF - Oil Spill Liability Trust Fund
POLREP - Pollution Report

6. Additional sources of information

6.1 Internet location of additional information/report

Site website - http://www.epaosc.org/site/site_profile.aspx?site_id=6896

6.2 Reporting Schedule

7. Situational Reference Materials

No information available at this time.