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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #1**
Initial
Chevy in the Hole Parcel A
Z5KA - FPN E11508
Flint, MI
Latitude: 43.0109900 Longitude: -83.7104816

To:
From: Brian Kelly, OSC
Date: 6/20/2011
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 Assessment
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	9/1/2010	**Start Date:**	9/1/2010
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	YES
FPN#:	E11508	**Reimbursable Account #:**	

1.1.1 Incident Category

OPA Removal Action

1.1.2 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.

1.1.2.1 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.

1.1.2.2 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 Building 5.

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 is discharging to the Flint River. The Flint River is a navigable waterway of the United States. Based on site conditions and the estimated volume of oil on the site, oil will continue to discharge to the Flint River unless a removal action is taken.

1.1.3 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

2.1.1 Narrative

2.1.2 Response Actions to Date

GM installed an LNAPL recovery system that operated from 1980 to 1995, which was dismantled during building demolition.

Between 1995 and 1998, several investigations were conducted by CRA and Blasland, Bouck &

Lee on behalf of GM. The investigations found a one-foot thick slab of concrete across most of the site. Beneath the concrete was 2-6 feet of sandy gravel. Below the fill materials was a second one-foot think concrete slab. This was followed by a clay to silty sand 20 feet below ground surface. These investigations installed 17 monitoring wells and measured oil as thick as 15.91 feet. In 2002, CRA on behalf of Delphi proposed an Interim Remedial Action Plan to extract LNAPL. A limited extraction system was installed, but was discounted following Delphi's bankruptcy.

The preferred method of recovery developed during these previous investigations included installation of a cut-off trench, installation of drain tiles, and installation of a well recovery system. These conclusions are similar to EPA's results.

In a May and June 2011, EPA tasked LATA-Kemron as the primary contractor to design and perform the removal action. LATA-Kemron's subcontractor Marine Pollution Control will be perform oil booming and collection in the Flint River.

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

In 2011, Motors Liquidation Company, the company left to settle past liability from GM, settled with the U.S. Department of Justice on behalf of U.S. EPA for $4.2 million. As this is a bankruptcy settlement, the actual recovered funds will be significantly less. Settlement funds will be set-aside in a special account for use in funding the removal action or reimbursing the Oil Spill Liability Trust Fund (OSLTF). At this time, no funds have been collected and the removal action will rely on the OSLTF.

2.2 Planning Section

2.2.1 Anticipated Activities

An OPA90 Removal Project Plan has been submitted to the USCG for concurrence.

2.2.1.1 Planned Response Activities

The removal action will stop oil from discharging to the Flint River by physically removing oil and oil-saturated oils from the areas near the river with the highest levels of oil-saturated soils, using the excavated areas as collection trenches, backfilling the areas with a barrier wall, and installing an extraction system that will operate for several years.

2.2.1.2 Next Steps

Site work will be limited pending concurrence of the Project Plan.

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.