U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Markham Dump - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #1**
Initial POLREP Markham Dump
Markham Dump
B5WK
Markham, IL
Latitude: 41.5979794 Longitude: -87.6728209

To:
From: Steven Faryan, On-Scene Coordinator
Date: 4/21/2011
Reporting Period: 4/11/11 to 4/21/11

1. Introduction

1.1 Background

Site Number:	B5WK	**Contract Number:**	EP-S5-09-05
D.O. Number:	0061	**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	4/11/2011	**Start Date:**	4/11/2011
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

The US EPA intitiated a Time Critical Removal Action on April 1, 2011 at the Markham Dump. The removal action is a fund lead action utilizing the Region 5 emergeny removal funding. IEPA requested USEPA's assistance to remove drums, containers, totes and supersacs of chemicals that were illegally disposed of at this open dump. In addition, IEPA requested that US EPA remove the lead contaminated soil that was found on site from battery breaking operations.

1.1.2 Site Description

The Markham Dump is located at 160 th and Irving Road in Markham Illinois in Cook County.

USEPA and emergency response contractors began the time critical removal action at the Markham Dump in Markham, Illinois this Monday April 11, 2011. The scope of work includes staging, sampling and disposal of drums, totes, bags and containers. Approximately 75 drums, totes and smaller containers have been staged and will be sampled in Level B personnel protection. The samples will be Hazcatted to determine Hazard Category and a composite sample will be sent to the lab to set up disposal.

In addition, lead and chromium contaminated soil will be excavated, treated and disposed of off-site at an approved landfill. A treatability study was completed to test several fixation agents. Bids will be collected from the different vendors and a cost analysis will be completed to evaluate the selected fixation agent. A composite sample was collected from the excavation pile and will be sent to the lab to evaluate treatment alternatives

U.S. EPA's FIELDS group has been on site collecting surface concentrations with the XRF unit and GPS locations. Maps have been generated to outline the excavation areas and to estimate the volume of soil that will be excavated. In addition, the areas where elevated metals have been detected with the XRF have been mapped and the average concentrations calculated.

USEPA has been working with IEPA to address this illegal dump that operated for over 15 years. IEPA has spent over $1.1 million dollars to remove solid waste and tires from the property. IEPA also removed abandoned tires from the site.

Security at the site is being provided by the City of Markham under and order with the Illinois Attorney General's Office to prevent any further dumping on the property. Once the removal action is completed the City of Markham, who owns most of the parcels, plans to redevelop the property into commercial utilization.

1.1.2.1 Location
Markham, Illlinois Cook County

1.1.2.2 Description of Threat

The conditions remaining at the Markham Dump Site present a substantial threat to the public health or welfare, and the environment, and meet the criteria for a time-critical removal action as provided for in the NCP, 40 CFR 300.415(b)(2). These criteria include, but are not limited to, the following:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

High levels of lead were found at the surface from battery breaking and burning operations. Total Lead levels were determined through sampling to range from 2,800 mg/kg to as high as 10,000 mg/kg. TCLP concentrations of lead were found to be 8.6 mg/l which is above the 5 mg/l RCRA standard making the contaminated soil a characteristic waste. The potential exists for nearby human populations and animals to come in contact with these chemicals through direct contact or contact with the storm water.

The northeast portion of the Site contains white solid chunks of material believed to be pool and industrial chemicals. Field testing using pH paper of the storm water near these chemicals indicated a pH of 11 SUs, which indicates that the pool chemicals are leaching to soil. In addition, numerous other suspected pool chemicals were observed in 55-gallon poly drums open to the atmosphere. Bags labeled “Ammonium Sulfate” also were present on site, and a sample collected from one of the bags contained 2,800 mg/kg of ammonia (as nitrogen). Ammonium sulfate has a median lethal dose (LD50) of 2,840 mg/kg for rats. In addition, if the ammonium sulfate were to reach the Calumet Union Ditch, it could be potentially fatal to aquatic life. If the sodium tri poly phosphate were to reach the Calumet Union Ditch, this could result in excessive nutrient (phosphate) loading which would be harmful to aquatic life.

The Site is located in a mixed commercial, industrial, and residential area. A church is located on site, and dogs live on the property. The public continues to access the site to use the church and the site is not fenced. The potential exists for nearby human populations and animals to come in contact with these chemicals through direct contact or contact with the storm water.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.

The Site contains poly drums full of suspected pool and industrial chemicals. The chemicals are found in drums and bags labeled “Ammonium Sulfate,” totes containing oil, and numerous other small containers. Sample MD-C04-051010 from one of the drums had a pH of 12 SUs which is just under the RCRA corrosivity characteristic limit of 12.5 SUs. Sample MD-C01-051010 from the suspected pool chemicals contained 4.5 percent chlorine and had a pH of 9.4 SUs. Also, the northeast portion of the Site contains un-containerized white solid chunks lying on the ground. Field testing using pH paper and analysis of a sample from the storm water runoff near the chemicals indicate that the chemicals are leaching to soil and to the environment. In addition, some drums were open to the atmosphere or tipped over. The contents of the drums are spilling to the ground and releasing their contents to the soil and to the storm water and storm water runoff. The storm water drains to the Calumet Union Canal adjacent to the site which leads to the Little Calumet River which ultimately drains to Lake Michigan.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

Elevated lead levels were detected during the initial site assessment and samples collected and verified during a supplemental assessment with samples and analytical results showing levels of lead ranging from 2,800 mg/kg to 10,000 mg/kg. TCLP levels for lead were documented at 8.6 mg/l which is above the standard of 5 mg/l making the waste characteristic hazardous waste according to Resource Conservation and Recovery Act. The lead contamination has been documented at or near the surface and can migrate through dust dispersion and through storm water runoff into the adjacent Calumet Union Ditch which leads to the Little Calumet River which drains to Lake Michigan.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

High lead levels documented in surface soils were found to be characteristic waste according to TCLP testing and can migrate via wind and dust dispersion and through storm water runoff.

The drums, totes and super sacs that are found along Leavitt Street are open to the elements. Samples and analytical results have shown high pH levels, high ammonia levels and chlorine levels in samples collected of the wastes. The drainage of the site leads to the Calumet Union Ditch which leads to the Little Calumet River.

The Bags labeled “Ammonium Sulfate” were sampled and contained 2,800 mg/kg of ammonia (as nitrogen). Ammonium sulfate has a median lethal dose (LD50) of 2,840 mg/kg for rats. In addition, if the ammonium sulfate were to reach the Calumet Union Ditch, it could be potentially fatal to aquatic life. If the sodium tripoly phosphate were to reach the Calumet Union Ditch, this could result in excessive nutrient (phosphate) loading which would be harmful to aquatic life.

Threat of fire or explosion.

Garbage fires and tire fires have historically been set at the site. The totes, drums, cylinders and bags and super sacks of chemical have been highly impacted from the previous fires causing a greater potential to release their contents. The liquids in the totes are combustible liquids which compounds the threat of fire.

The availability of other appropriate federal or state response mechanisms to respond to the release.

As indicated in their June 17, 2010 referral letter, Illinois EPA has been working to remove the non-hazardous items from the dump. However, due to funding and statutory limitations, Illinois EPA has requested U.S. EPA assistance for the disposal of the hazardous substances that may be present at the site.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On April 7, 2010, Illinois EPA responded to a tire fire at an open dump on the south side of Markham, Illinois. On April 28th, U.S. EPA conducted a site walk through with representatives from the Illinois Attorney General Office and Illinois EPA.

On May 10, 2010 U.S. EPA personnel and Superfund Technical Assistance and Response Team (START) contract personnel conducted a removal site assessment.

Four samples were collected from totes and drums and super sacs found on site, four soil samples were collected from the burned tire area and 2 bulk samples were collected for asbestos analytical.

- The following potentially hazardous materials and containers were observed at the Markham Dump:

  - White solid material lying on the ground and in 55-gallon poly drums suspected to contain pool chemicals (analytical results indicated a pH of 9.4 SUs and 4.5 percent chlorine for a sample from one of these drums);
  - 2000-pound super sacks labeled “Sodium Tripoly Phosphate;
  - 300 gallon totes partially filled with a combustible liquid;
  - Several 50-pound bags labeled “Ammonium Sulfate”;
  - One partially (one-quarter) full drum of “Pyrazol Yellow BG Powder” (analytical results revealed that a sample from this drum had a pH of 12 SUs);
  - Several gas cylinders (suspected to be empty). Thousands of empty containers including poly, steel, and fiberboard 55-gallon drums; 5-gallon buckets;
  - Broken battery casings were observed in several areas and XRF and analytical samples confirmed highly elevated l ead levels in the surface soils;

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

IEPA has spent over $1.1 Million to remove solid waste and tires from the property.

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

2.1.4 Progress Metrics

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

2.2 Planning Section

2.2.1 Anticipated Activities

Continue sampling activities, setting up disposal, and excavation of contaminated soils.

2.2.1.1 Planned Response Activities

The scope of work includes staging, sampling and disposal of drums, totes, bags and containers.The scope of work includes staging, sampling and disposal of drums, totes, bags and containers.

2.2.1.2 Next Steps

Continue Excavation of contaminated soils.
Utilize XRF to determine depth of excavation.
Sample Drums and run HAZCAT analysis.
Analyze waste streams and set up disposal.
Transport and Dispose of Waste off-site at a facility in CERCLA off-site compliance
Demobilize

2.2.2 Issues
None

2.3 Logistics Section
NA

2.4 Finance Section
No information available at this time.

2.5 Other Command Staff
2.5.1 Safety Officer
A site HASP is signed and on-site. Daily tailgate safety meetings are held in the morning.

2.6 Liaison Officer
NA

2.7 Information Officer
2.7.1 Public Information Officer

IEPA has issued two fact sheets to residents and local citizens and community leaders. Ginny Narsette of USEPA is the public affairs contact.

2.7.2 Community Involvement Coordinator

3. Participating Entities
3.1 Unified Command
NA

3.2 Cooperating Agencies
IEPA
Village of Markham

4. Personnel On Site
ER is the on-site contractor and there are two clean up techs, two operators, one accountant, one Response Manager, one OSC, and one START.

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.