

FEDERAL ON-SCENE COORDINATOR'S REPORT
COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION AND LIABILITY ACT
REMOVAL ACTION AT THE BAYCOTE METAL FINISHING SITE
MISHAWAKA, SAINT JOSEPH COUNTY, INDIANA
SITE ID: C5B2
REVISION: 1

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V Emergency Response Branch
77 W. Jackson Boulevard
Chicago, Illinois 60604

Prepared by:

WESTON SOLUTIONS, INC.
20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Date Prepared:	July 19, 2013
TDD Number:	S05-001-1205-001
Document Control Number:	1843-2A-BDQI
Contract Number:	EP-S5-06-04
WESTON START Project Manager:	Trenna Seilheimer
Telephone Number:	(312) 424-3314
EPA On-Scene Coordinator:	Paul Atkociunas

FEDERAL ON-SCENE COORDINATOR'S REPORT
COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION AND LIABILITY ACT
REMOVAL ACTION AT THE BAYCOTE METAL FINISHING SITE
MISHAWAKA, SAINT JOSEPH COUNTY, INDIANA
SITE ID: C5B2
REVISION: 1

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V Emergency Response Branch
77 W. Jackson Boulevard
Chicago, Illinois 60604

Prepared by:

WESTON SOLUTIONS, INC.
20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Prepared by:



Jon Colomb, START Member

Date: 7/19/13

Reviewed and

Approved by:



Trena Seilheimer, START Project Manager

Date: 7/19/13

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V**

DATE: July 19, 2013

SUBJECT: ON-SCENE COORDINATOR'S REPORT – CERCLA Removal Action at the Baycote Metal Finishing Site, Mishawaka, St. Joseph County, Illinois, Site ID# C5B2

FROM: Paul Atkociunas, On-Scene Coordinator
Emergency Response Branch 2, Section 4

TO: Samuel Borries, Chief
Emergency Response Branch 2

THROUGH: Charles Gebien, Chief
Emergency Response Branch 2, Section 4

Please find attached the United States Environmental Protection Agency (EPA) Federal On-Scene Coordinator's (OSC) Report for the removal action conducted at the Baycote Metal Finishing Site in Mishawaka, St. Joseph County, Illinois (the Site). This report follows the format outlined in the National Oil and Hazardous Substances Pollution Contingency Plan, Title 40 of the *Code of Federal Regulations*, Part 300.165. The removal was initiated on May 29, 2012, and was completed on May 10, 2013. The OSC for this Site was Mr. Paul Atkociunas.

EPA took the removal action to mitigate threats posed by the presence of wastes exhibiting the characteristics of ignitability, corrosivity, Toxicity Characteristic Leaching Procedure (TCLP) cadmium, and TCLP chromium, which posed an immediate threat to public health, welfare, and the environment. Total project costs under the control of the OSC are estimated at \$1,685,500 of which \$1,460,000 was for the Emergency and Rapid Response Services contractor.

In this report, any indications of specific costs incurred at the Site are only an approximation, subject to audit and final definitization by EPA. The OSC report is not a final reconciliation of costs.

Portions of this report's appendices may contain confidential business or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public. The Site is not on the National Priorities List.

Attachment

cc: Gail Stanuch – SE-5J

FEDERAL ON-SCENE COORDINATOR'S REPORT
COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION AND LIABILITY ACT
REMOVAL ACTION AT THE BAYCOTE METAL FINISHING SITE
MISHAWAKA, SAINT JOSEPH COUNTY, INDIANA
SITE ID: C5B2
NPL STATUS: NON-NPL
REVISION: 1

Removal Dates:
May 29 to November 29, 2012
March 18 to May 10, 2013

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
Region V
Superfund Division
Emergency Response Branch

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
EXECUTIVE SUMMARY OF THE REMOVAL ACTIVITY	1
I. SUMMARY OF EVENTS	1
A. SITE CONDITIONS AND BACKGROUND	1
1. Initial Situation	1
2. Location of Hazardous Substance(s)	7
3. Cause of Release or Discharge	7
4. Efforts to Obtain Response by Responsible Party	8
B. ORGANIZATION OF RESPONSE	8
C. INJURY/ POSSIBLE INJURY TO NATURAL RESOURCES	8
1. Content and Time of Notice to Natural Resource Trustees	8
2. Trustee Damage Assessment and Restoration Activities	8
D. CHRONOLOGICAL NARRATIVE OF RESPONSE ACTIONS	8
1. Threat Abatement Actions Taken	8
2. Treatment/Disposal/Alternative Technology Approaches Pursued	33
3. Public Information and Community Relations Activity	45
E. RESOURCES COMMITTED	45
II. EFFECTIVENESS OF REMOVAL ACTIVITIES	45
A. ACTIONS TAKEN BY PRPs	45
B. ACTIONS TAKEN BY STATE AND LOCAL FORCES	45
C. ACTIONS TAKEN BY FEDERAL AGENCIES AND SPECIAL TEAMS	45
D. ACTIONS TAKEN BY CONTRACTORS, PRIVATE GROUPS, AND VOLUNTEERS	46
III. DIFFICULTIES ENCOUNTERED	46
A. ITEMS THAT AFFECTED THE RESPONSE	46
B. ISSUES OF INTERGOVERNMENTAL COORDINATION	46
C. DIFFICULTIES INTERPRETING, COMPLYING WITH, OR IMPLEMENTING POLICIES AND REGULATIONS	46
IV. RECOMMENDATIONS	46
A. MEANS TO PREVENT RECURRENCE OF THE DISCHARGE OR RELEASE	46
B. MEANS TO IMPROVE RESPONSE ACTIONS	46
C. PROPOSALS FOR CHANGES IN REGULATIONS AND RESPONSE PLANS	46

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
Figure 1	Site Location Map.....	2
Figure 2	Site Layout Map.....	3
Figure 3	Building Layout Map.....	4
Figure 4A	Sampling Location Map for Area W (above ground surface)	21
Figure 4B	Sampling Location Map for Area W (below ground surface)	22
Figure 5	Soil Sampling Location Map	28

LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 1 Organization of the Response	9
Table 2 Waste Materials Disposition Summary	35
Table 3 Waste Disposal Totals Summary	43

LIST OF ATTACHMENTS

Attachment

Attachment A Photographic Documentation

Attachment B Analytical Results

Attachment B1	12F0919
Attachment B2	12F0923
Attachment B3	12G0642
Attachment B4	12G0781
Attachment B5	12H0205
Attachment B6	12H0577
Attachment B7	12H1074
Attachment B8	12I0041
Attachment B9	12I0277
Attachment B10	12I0418
Attachment B11	12090610
Attachment B12	12I0923
Attachment B13	12I0947
Attachment B14	12J0242
Attachment B15	12J0479
Attachment B16	303662
Attachment B17	5070832
Attachment B18	5071213
Attachment B19	5071481
Attachment B20	5071484
Attachment B21	5071665
Attachment B22	5078039
Attachment B23	5078202
Attachment B24	5078528
Attachment B25	5078529
Attachment B26	5078790
Attachment B27	5079258
Attachment B28	5079489
Attachment B29	5079745

Note: Attachment B is presented on compact disk (CD).

**Emergency and Enforcement Response Branch
Office of Superfund, EPA, Region V**

OSC REPORT STANDARD APPENDICES LIST *

Site Name: Baycote Metal Finishing Site, Mishawaka, Saint Joseph County, Indiana
Site ID No.: C5B2
Task Order No.: 1843

1. Operational Files	<u>ID#</u>
- Action Memos/Additional Funding	1-A
- POLREPs	1-B
- Site Entry/Exit Log	1-C
- Hot Zone Entry/Exit Log	1-D
- Site Health and Safety Plan	1-E
- Equipment and Expendables Log	Not Applicable
- Site Logs	1-G
- Site Computer Disks	Not Applicable
- Daily Work Orders	1-I
- Site Monitoring Logs	1-J
- Site Maps	1-K
- Site Contacts/Business Cards	1-L
- Site Photos/Videos	1-M
- General Correspondence/Information	1-N
- Newspaper Articles	1-O
- Enforcement	Not Applicable
2. Financial Files	<u>ID#</u>
- Delivery Orders	Not Applicable
- START Technical Direction Documents	Not Applicable
- Daily Cost Reporting US EPA Form 1900-55s	2-C
- ERCS Invoices	Not Applicable
- RCMS Cost Estimates	Not Applicable
- Subcontractor Bid Sheets	Not Applicable
- START Cost Documentation	Not Applicable

**Emergency and Enforcement Response Branch
Office of Superfund, EPA, Region V**

OSC REPORT STANDARD APPENDICES LIST (cont'd)

3. Technical Files	<u>ID#</u>
- START Site Assessment	Not Applicable
- Analytical Results/QA/QC	3-B
- Manifests	3-C
- Disposal Information	3-D
- Drum/Vat/Sample Logs	3-E
- Compatibility Results	3-F
- Chains-of-Custody	3-G
- Waste Profile Sheets	3-H

- * All files are arranged in chronological order.
- * Portions of these OSC Report Appendices may contain confidential business information or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.
- * Note that certain files for this Site are maintained elsewhere by ERB; these appendices are those files maintained by the OSC during the removal action.

EXECUTIVE SUMMARY OF THE REMOVAL ACTIVITY

SITE: Baycote Metal Finishing Site

LOCATION: Mishawaka, Saint Joseph County, Indiana

PROJECT DATES: May 29 to November 29, 2012 and March 18 to May 10, 2013

INCIDENT DESCRIPTION: The Baycote Metal Finishing site (the Site) is located at 1302 Industrial Drive, Mishawaka, Saint Joseph County, Indiana. The meridian coordinates for the Site are 41°39'0.03" North latitude and 86°09'57.11" West longitude. The Site is bordered to the north and south by industrial properties; to the west by Industrial Drive, with industrial properties beyond; and to the east by a vacant lot, with industrial properties beyond. The nearest residential properties are located approximately 730 feet west of the Site. Seven churches and two schools are located within 1 mile of the Site.

The Site contains a large building divided into multiple areas. The Site is a former chrome plating shop and metal finishing facility. After closure of the facility, the Site owner began voluntary removal of on-site wastes. However, the removal was not completed. According to an Indiana Department of Environmental Management (IDEM) inspection report, approximately 52,000 gallons of hazardous waste still were present on site as of February 2010.

On November 18, 2011, the United States Environmental Protection Agency received a request from the Saint Joseph County Health Department (SJCHD) to mitigate imminent environmental threats at the Site. On November 21, 2011, the EPA and SJCHD conducted an initial Site walkthrough. During the Site walkthrough, the EPA observed numerous tanks, drums, and containers of various acids and caustics and spilled materials on the floor.

In December 2011, the EPA and Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) conducted a site assessment and identified over 332 drums, vats, and other miscellaneous containers throughout the Site. Most containers were labeled, but the volumes of the contents were unknown. Containers identified during the site assessment contained various materials, including the following: zinc cyanide solution, chloride zinc, yellow chromate, black hexavalent chromate post dip, sulfuric acid, hydrochloric acid, and unlabeled and unidentified materials. The site assessment documented the following conditions at the Site:

- Wastes exhibiting the characteristics of ignitability, corrosivity, and Toxicity Characteristic Leaching Procedure (TCLP) cadmium, and TCLP chromium
- Contaminants in open containers in poor condition
- Questionable integrity of building structures (collapsed roof in the wastewater treatment [WWT] room and flooding in the Line 4-7 Room)
- Close proximity of Site to residential properties and other sensitive receptors (including churches, schools, and waterways)
- Potential migration pathways from waste inside the on-site building to public areas

ACTIONS: The December 2011 site assessment indicated the Site was uncontrolled and contained wastes exhibiting the characteristics of ignitability, corrosivity, TCLP cadmium, and TCLP chromium at concentrations which exhibited the characteristics of a hazardous waste as outlined in 40 Code of Federal Regulations Part 261 Subpart C. On February 23, 2012, the EPA approved an Action Memorandum requesting a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) time-critical removal action to address hazardous wastes present at the Site. On April 6, 2012, the EPA issued a Unilateral Administrative Order to the potentially responsible parties (PRP) to conduct a removal action at the Site. The PRPs presented an inability-to-pay argument and indicated that they did not intend to conduct a removal action at the Site.

On May 29, 2012, the EPA; WESTON START; and Environmental Restoration, LLC (ER), the Emergency and Rapid Response Services (ERRS) contractor mobilized to the Site to remove hazardous materials from tanks, pits, drums, and miscellaneous containers.

The ERRS contractor arranged for the transportation, recycling, and disposal of the following:

- 6,995 gallons of acid liquid waste
- 190 gallons of ammonia solution
- 1 gallon of ammonium sulfide
- 20 pounds of aerosol containers
- 150 pounds of barium compounds
- 4 batteries*
- 3,940 pounds of calcium hydroxide
- 155 pounds of calcium hypochlorite
- 6,616 gallons of chromic acid liquid waste
- 3,200 gallons of corrosive liquid waste, acidic
- 8,884 gallons of corrosive liquid waste, basic
- 1 gallon of corrosive, flammable, liquid waste
- 7,500 pounds of corrosive solid waste, acidic
- 7,313 gallons of cyanide waste
- 3 pounds of cyanide waste
- 4 cylinders of compressed argon non-flammable gas
- 5 cylinder of acetylene dissolved flammable gas
- 2 cylinder of helium/argon compressed non-flammable gas
- 5 cylinders of compressed oxygen non-flammable gas
- 1 cylinder of liquefied petroleum flammable gas
- 555 pounds of environmentally hazardous substances
- 3 gallons of flammable liquid waste
- 85 pounds of flammable liquid waste
- 1 liter of fluoroboric acid
- 1 gallon of glacial acetic acid
- 2 pounds of clear glass*
- 36,547 gallons of hazardous waste liquid
- 500 pounds of hazardous waste liquid
- 111 gallons of hydrogen peroxide
- 1 liter of mercury thiocyanate
- 10.5 pounds of metal (aluminum, steel/bimetal cans)*
- 70,553 gallons of non-hazardous liquid waste
- 4,890 gallons of non-hazardous regulated sludge
- 700 pounds non-regulated material

- 4,811 gallons of non-RCRA material
- 20 gallons of paint waste material
- 71.5 pounds of paper (office, newspaper quality, corrugated cardboard)*
- 1 gallon of perchloric acid
- 16 pounds of plastic (water bottles, polyethylene terephthalate (PETE) #1, high-density polyethylene (HDPE) #2)*
- 203 kilograms of polychlorinated biphenyl solids
- 850 pounds of potassium hydroxide
- 350 pounds of potassium permanganate
- 2 pounds of propane waste
- 60,640 pounds of scrap metal
- 95 gallons of sodium hydroxide
- 55 gallons of sodium hypochlorite
- 5 25-yd³ roll-off boxes solid hazardous waste
- 1 22-yd³ roll-off box solid hazardous waste
- 3 15-yd³ roll-off box solid hazardous waste
- 1 18-yd³ roll-off box solid hazardous waste
- 10 20-yd³ roll-off boxes solid hazardous waste
- 22,450 pounds of solid hazardous waste
- 385 gallons of solid hazardous waste
- 21 30-yd³ roll-off boxes of solid waste debris
- 17.5 tons of solid waste debris
- 1 25-yd³ roll-off box of solid waste debris
- 1 20-yd³ roll-off box of solid waste debris
- 1 10-yd³ roll-off box of non-hazardous solid waste debris, RCRA empty aerosol cans/cylinders
- 18 gallons of toxic liquid waste
- 8,800 pounds of toxic solid waste
- 12 pounds of universal waste

* Items were recycled at the Lake County Center #7, located in Highland, Indiana and therefore, not presented on Table 2.

Removal activities were completed on May 10, 2013.

Paul Atkociunas, On-Scene Coordinator
EPA, Region V
Chicago, Illinois

I. SUMMARY OF EVENTS

A. SITE CONDITIONS AND BACKGROUND

1. Initial Situation

The Baycote Metal Finishing Site is located at 1302 Industrial Drive in Mishawaka, Saint Joseph County, Indiana (the Site; **Figure 1**). The Site is bordered to the north and south by industrial properties; to the west by Industrial Drive, with industrial properties beyond; and to the east by a vacant lot, with industrial properties beyond (**Figure 2**). The Site's meridian coordinates are 41°39'0.03" North latitude and 86°09'57.11" West longitude. The nearest residential properties are located approximately 730 feet west of the Site. Seven churches and two schools are located within 1 mile of the Site.

The Site contains a large building divided into multiple areas (**Figure 3**). The Site is a former chrome plating shop and metal finishing facility. The facility ceased operations in January 2008. However, according to facility records, 110,953 gallons of waste remained on site at the time operations ceased.

On July 10, 2008, the Indiana Department of Environmental Management (IDEM) conducted a Site inspection and documented the following violations: failure to conduct waste determinations; failure to conduct weekly inspections; failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents; and failure to have a contingency plan.

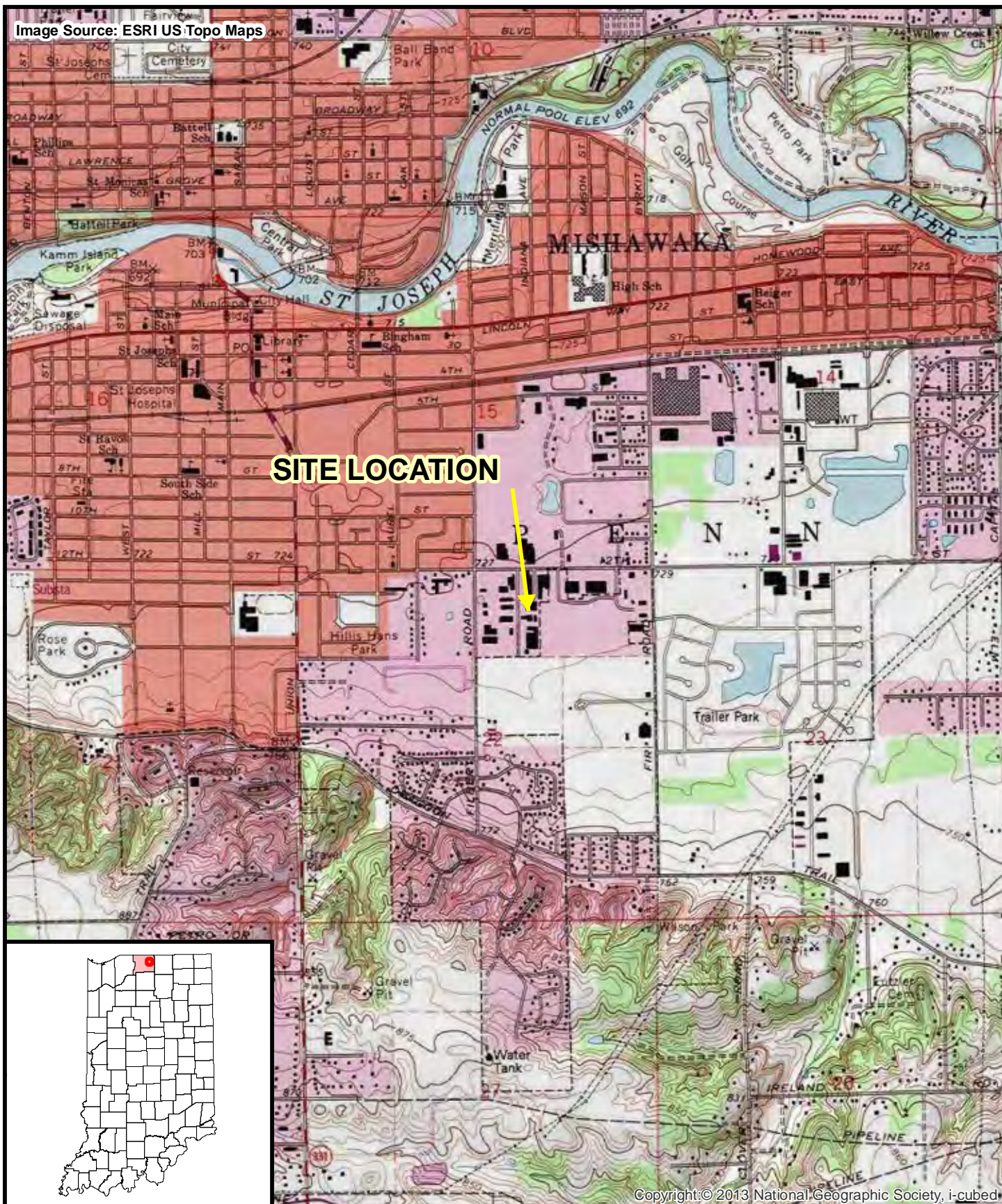
On October 20, 2009, IDEM and the Site owner (TJAC, LLC) entered into an Agreed Order to resolve the violations. The Agreed Order stipulated that within 120 days of the Effective Date of the Order, the Respondent was to remove all waste materials and/or product from the Site. The Site owner began voluntary removal of on-site wastes. However, the removal was not completed. On February 3, 2010, Site representatives estimated that approximately 52,000 gallons of waste remained at the Site.

In a letter dated November 21, 2011, the St. Joseph County Health Department (SJCHD) referred the Site to the United States Environmental Protection Agency (EPA) to determine if the Site warranted a time-critical removal action.

On November 21, 2011, the EPA and SJCHD conducted a Site walkthrough. During the Site walkthrough, the EPA On-Scene Coordinator (OSC) documented numerous tanks, drums, containers, and spilled materials on the floor and observed containers labeled with the following:

- Sulfuric Acid
- Spent Acid
- Acid Rinse
- Copper Solution
- Bromate
- Phosphate
- Nitrate
- Black Chromate
- Tri-Chromate Cobalt
- Yellow Hexavalent Chromate
- Hexavalent Chrome
- Sodium Cyanide

Image Source: ESRI US Topo Maps



Copyright: © 2013 National Geographic Society, i-cubed

Legend

0 2,000 Feet



Prepared for:
U.S. EPA REGION V

Contract No: EP-S5-06-04
TDD: S05-0001-1205-001
DCN: 1843-2A-BDQI



Prepared By:
WESTON SOLUTIONS, INC

20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Figure 1

Site Location Map
Baycote Metal Finishing Site
Mishawaka, St. Joseph County, Indiana

Image Source: ESRI Bing Maps

E 12th St

E 12th St

SITE LOCATION

Industrial Dr

bing

Image courtesy of the Indiana Map © 2013 Microsoft Corporation © 2010 NAVTEQ © AND

Legend

0 150 Feet



Prepared for:
U.S. EPA REGION V

Contract No: EP-S5-06-04
TDD: S05-0001-1205-001
DCN: 1843-2A-BDQI

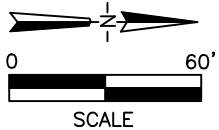
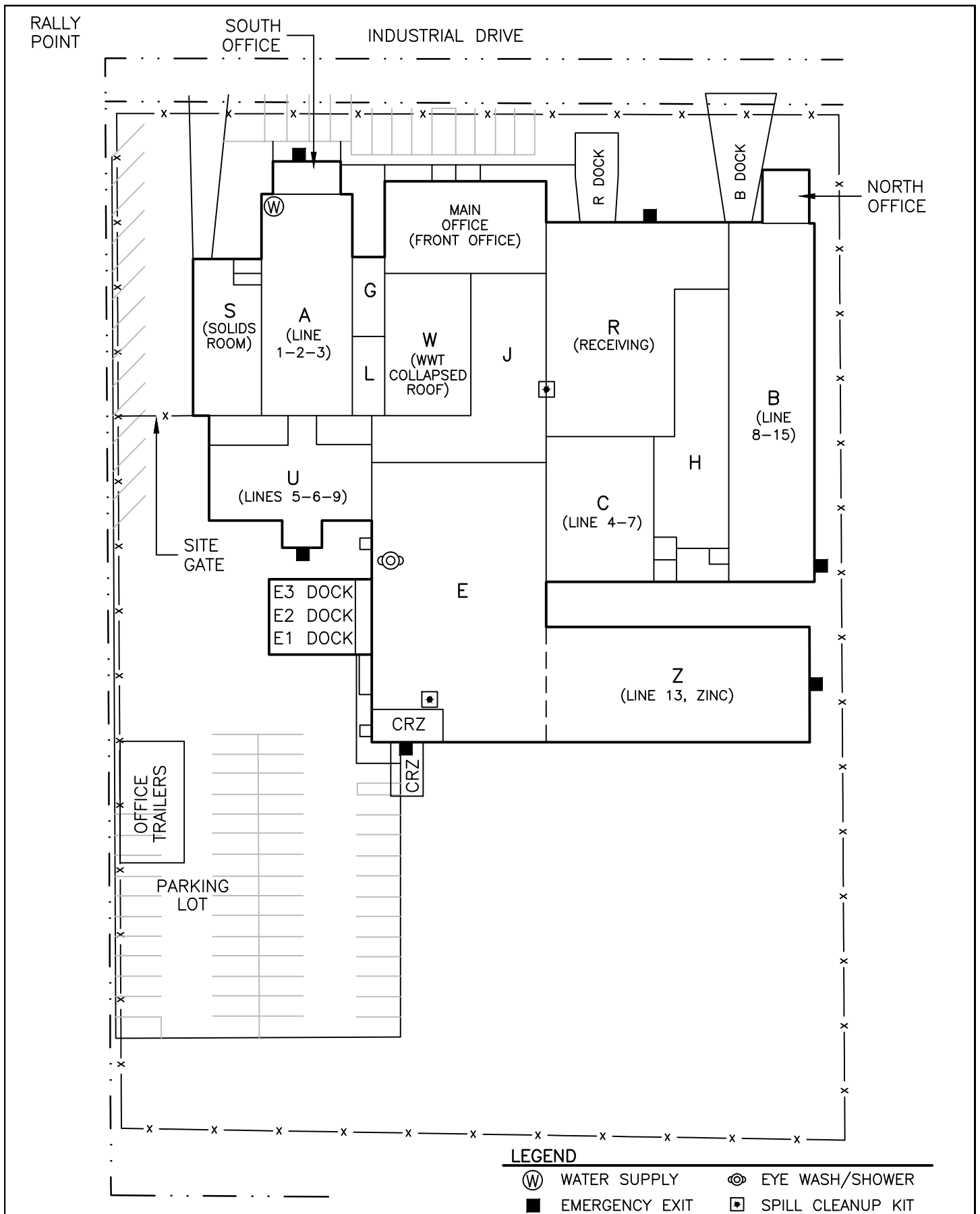


Prepared By:
**WESTON
SOLUTIONS, INC**

20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Figure 2

Site Layout Map
Baycote Metal Finishing Site
Mishawaka, St. Joseph County, Indiana



Prepared for:
U.S. EPA. REGION V
Contract No: EP-S5-06-04
TDD: S05-0001-1205-001
DCN: 1843-2A-BDQI



Prepared By:
WESTON
SOLUTIONS, INC
20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Figure 3
Building Layout Map
Baycote Metals Finishing Site
Mishawaka, St Joseph County, Indiana

On December 12 and 13, 2011, the EPA and Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) conducted a site assessment to investigate Site conditions that could pose imminent and substantial threats to the public health or welfare of the United States or the environment. Various drums, vats, and containers were observed throughout the Site building. Observations made during the site assessment are summarized below.

- The building appeared to be in fair condition. Access to the building appeared to be restricted, and all doors and windows had locks. Utility services (water and electricity) had been disconnected from the building.
- A section of roof in the wastewater treatment (WWT) room had collapsed, exposing the room and its contents to weather. Water flooded the floor in the Line 4-7 Room (Area C).
- Animal prints were observed in material piles on the building floor, indicating the presence of animals at the Site.
- Over 332 drums, vats, totes, and miscellaneous containers were documented at the Site as summarized below.
 - Line 5-6-9 (Area U): 10 vats of various sizes, 10 55-gallon polyethylene (poly) drums, 3 1-gallon containers, and 2 330-gallon poly totes; labeling indicated unknown contents, cadmium sulfate solution, hydrochloric acid inhibitor, clear chromate, olive drab chromate, used oil, cyanide, cadmium plating solution, copper cyanide, potassium silver cyanide, hot rinse water, chloride zinc, electro cleaner, yellow chromate, and chrome #2
 - Solids Room (Area S): 5 bags, 4 10-gallon steel drums, 2 55-gallon steel drums, 2 35-gallon steel drums, 2 55-gallon poly drums, 1 300-gallon poly tote, 1 275-gallon poly tote, and 1 5-gallon container; labeling indicated acetone, harden sack, used oil, per kote, sodium cyanide, sodium hydrosulfate, chromic acid, yellow chromate, chrome acid flakes, endochrome regular, electro clean, and oxidizer
 - Line 1-2-3 (Area A): 18 vats of various sizes, 6 55-gallon poly drums, 1 55-gallon steel drum, and 1 35-gallon poly drum; labeling indicated unknown contents, hydrogen peroxide, HP Tri-V black, corrosive, OD chromate, yellow chromate, cadmium tank, acid, electro cleanse, zinc cyanide, soak clean, rinse tank, phosphate, copper, bright copper, and sodium cyanide
 - West Corridor (Area J): 30 5-gallon poly buckets, 2 55-gallon poly drums, and 1 150-gallon tank; labeling indicated unknown contents and used oil
 - WWT Room (Area W): 2 55-gallon poly drums; labeling indicated unknown contents
 - Line 8-15 (Area B): 23 vats of various sizes, 4 330-gallon poly totes, 4 55-gallon poly drums, 1 200-gallon tank, 1 55-gallon steel drum, 1 55-gallon fiber drum, and 1 25-gallon poly drum; labeling indicated unknown contents, DI water, havilan clean, used oil, full corrosive, olive drab chrome, cyanide, acid chrome zinc, water rinse, activator, hot electro cleanse, soak chrome, clear chromate, hot soak, black trivalent dip, black chromate, chromate rinse, and black hexavalent chromate post dip
 - Line 4-7 (Area C): 15 55-gallon poly drums; labeling indicated unknown contents

- Line 13 (Area Z): 67 350-gallon poly totes, 44 55-gallon poly drums, 11 vats of various sizes, 7 tanks of various sizes, 7 55-gallon steel drums, 3 20-gallon miscellaneous containers, 2 plating baths, 2 85-gallon steel drums, 2 30-gallon poly drums, 1 10-gallon miscellaneous container, and 1 gas cylinder; labeling indicated unknown contents, chromate orange, liquid/solid, sulfuric acid, lab pack, hydrogen peroxide, silver cyanide, ammonium hydroxide, used silver, cyanide hold, flammable, caustic oil, spent acid, chrome line, new chromate, spent hydrochloric acid, IT-2 polymer, T-11 caustic, brightener, used metal, used acid, corrosive, Hypo Blue, Tri-V, acid, #2, acid pumpout, yellow chrome, hydroblue, coldip triblack, post dip, havacleaner, water rinse, sulfuric acid, water rinse backwater, chrome rinse, havilan clean, havilan soak, rinse, yellow hexavalent chrome pre-dip, clear hexavalent chrome rinse, sodium hydrosulfate, die cast activator, plating sludge, and oxygen
- Outside Building (south side of the Site): 28 350-gallon poly totes; 3 1,500-gallon tanks; and 2 55-gallon poly drums; labeling indicated unknown contents
- Receiving (Area R): 15 5-gallon miscellaneous containers; 5 55-gallon poly drums; 4 55-gallon steel drums; 1 7,500-gallon tank; 1 200-gallon tank; and one bag; labeling indicated unknown contents, hydrochloric acid, Alka2 40, and corrosive Tri-V rejuvenated
- Some drums were in poor condition and open, and incompatible materials were observed stored next to each other in the Solids Room (Area S). Most containers were labeled, but the volumes of the contents were unknown. Many totes were improperly labeled, and several drums were corroded and leaking onto the floor. Evidence of previous spills was noted in the Solids Room (Area S) and Line 4-7 (Area C).

During the site assessment, 11 investigative liquid waste samples and 4 investigative solid waste samples were collected from vats, drums, and containers at the Site. Analytical results for three liquid waste samples (BMF-WL04-121211, BMF-WL07-121211, and BMF-WL10-121211) and one solid waste sample (BMF-WS02-121211) indicated pH values of less than 2 standard units (SU). Analytical results for one liquid waste sample (BMF-WL08-121211) indicated a flashpoint of less than 140 degrees Fahrenheit (°F). Analytical results for one solid waste sample (BMF-WS01-121211) exceeded the Toxicity Characteristic Leaching Procedure (TCLP) regulatory limit for cadmium of 1 milligram per liter (mg/L). Analytical results for four solid waste samples (BMF-WS02-121211, BMF-WS03-121211, BMF-WS04-121211, and BMF-WS04-121211-D) exceeded the TCLP regulatory limit for chromium of 5 mg/L. Based on the site assessment results, the Site was considered to pose an imminent and substantial threat to the public health or welfare of the United States or the environment. Hazards identified at the Site included the following:

- Wastes exhibiting the characteristics of ignitability, corrosivity, TCLP cadmium, and TCLP chromium
- Contaminants in open containers in poor condition
- Questionable integrity of building structures (collapsed roof in WWT room [Area W] and flooding in Line 4-7 [Area C])

- Close proximity of Site to residential properties and other sensitive receptors (including churches, schools, and waterways)
- Potential migration pathways from waste inside the on-site building to public areas

Contaminants and conditions at the Site met the criteria established in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) for a removal action by the EPA.

2. Location of Hazardous Substance(s)

During removal action activities, an inventory of storage containers was conducted in the on-site building. All containers greater than or equal to 5 gallons were sampled and characterized for proper disposal. Over 580 vats, containers, and pits were present at the Site as summarized below.

- Area A (Line 1-2-3): 40 vats; 5 5-gallon, 4 15-gallon, 3 30-gallon, 12 55-gallon, and 1 300-gallon containers; and 12 containment pits
- Area B (Line 8-15): 8 vats and 25 5-gallon, 2 30-gallon, 6 55-gallon, 2 150-gallon, 1 275-gallon, and 6 330-gallon containers
- Area C (Line 4-7): 39 vats and 7 5-gallon, 1 15-gallon, 4 30-gallon, 15 55-gallon, and 1 7,000-gallon containers
- Area E: 10 vats; 60 5-gallon, 5 15-gallon, 5 30-gallon, 58 55-gallon, 3 85-gallon, 4 275-gallon, 65 330-gallon, and 2 3,000-gallon containers; and 2 cubic-yard boxes
- Area G: 23 5-gallon, 3 10-gallon, 4 15-gallon, and 8 55-gallon containers
- Area H: 18 vats and 10 5-gallon, 2 15-gallon, 1 40-gallon, and 2 55-gallon containers
- Area J and Area R (Receiving): 2 vats and 1 15-gallon and 11 55-gallon containers.
- Area S (Solids Room): 5 5-gallon, 8 15-gallon, 2 30-gallon, 2 55-gallon, and 2 300-gallon containers; and 3 cubic-yard boxes
- Area U (Line 5-6-9): 8 vats, 1 pit, and 11 55-gallon and 2 330-gallon containers
- Area W (WWT Room): Access to Area W was initially limited because of a collapsed roof; however, the following were observed: 1 55-gallon drum and tanks ranging from approximately 100 to 4,000 gallons above the grating and containment pits below the grating.
- Area Z (Line 13): 20 vats and 9 55-gallon and 2 275-gallon containers

3. Cause of Release or Discharge

According to the EPA site assessment conducted in December 2011, some drums were in poor condition and open, and incompatible materials were observed next to each other. Several drums were corroded and leaking onto the floor. A release of materials from the Site was considered possible due to the potential for trespassing and impacts from storm water. Trespassers could cause direct release of contaminants and subsequent dispersion of airborne contamination. During the site assessment, a collapsed roof in the WWT Room in Area W and large amounts of standing water in floor of Area C were observed. Public areas near the Site could have been exposed to potentially hazardous materials if materials had migrated off the Site.

4. Efforts to Obtain Response by Responsible Party

On October 20, 2009, IDEM and the Site owner (TJAC, LLC) entered into an Agreed Order to resolve violations. The Agreed Order stipulated that within 120 days of the Effective Date of the Order, the Respondent was to remove all waste materials and/or product from the Site. The Site owner began voluntary removal of on-site wastes. However, the removal was not completed. In a letter dated November 21, 2011, the SJCHD referred the Site to the EPA to determine if the Site warranted a time-critical removal action. On April 6, 2012, the EPA issued a Unilateral Administrative Order to the potentially responsible parties (PRP) to conduct a removal action at the Site. The PRPs presented an inability-to-pay argument and indicated that they did not intend to conduct a removal action at the Site.

B. ORGANIZATION OF RESPONSE

The EPA, WESTON START, and Environmental Restoration (ER), the Emergency and Rapid Response Services (ERRS) contractor, mobilized to the Site on May 29, 2012. **Table 1** summarizes the organization of the response. **Attachment A** provides photographic documentation of the removal action activities.

C. INJURY/ POSSIBLE INJURY TO NATURAL RESOURCES

1. Content and Time of Notice to Natural Resource Trustees

Not applicable

2. Trustee Damage Assessment and Restoration Activities

Not applicable

D. CHRONOLOGICAL NARRATIVE OF RESPONSE ACTIONS

1. Threat Abatement Actions Taken

On February 23, 2012, an Action Memorandum was approved to conduct a time-critical removal action at the Site to mitigate imminent and substantial threats to the public health or welfare of the United States or the environment posed by uncontrolled hazardous substances at the Site.

The EPA, WESTON START, and the ERRS contractor mobilized to the Site on May 29, 2012, and began Site setup activities. Setup activities included the establishment of work zones and installation of temporary perimeter fencing, temporary electricity and lighting in the Site building, and a temporary water hookup. In addition, the ERRS contractor confirmed that utilities (gas and electricity) had been disconnected from the Site building. The ERRS contractor mobilized two trailers for temporary office space and a break area for EPA, WESTON START, and ERRS contractor personnel.

Throughout the removal activities, WESTON START conducted air monitoring at the Site perimeter using AreaRAE Multigas monitors. WESTON START conducted air monitoring in work areas using a combination of AreaRAE monitors; Thermo Scientific DataRAM 4 units; a Thermo Scientific Personal DataRAM (PDR) unit; a MultiRAE Plus five-gas meter with sensors for carbon monoxide (CO), hydrogen cyanide (HCN), organic vapors, lower explosive limit (LEL), and oxygen; a VRAE Toxic Gas Meter with sensors for sulfur dioxide (SO₂) and hydrogen sulfide (H₂S); an HCN-specific ToxiRAE monitor; and an ammonia-specific ToxiRAE monitor.

Table 1
Organization of the Response
Baycote Metal Finishing Site
Mishawaka, Saint Joseph County, Indiana

Agencies or Parties Involved	Contact	Description of Participation
EPA – Region V Superfund Division Emergency Response Branch 77 West Jackson Blvd. Chicago, IL 60604 (312) 886-7502	Paul Atkociunas	Federal OSC responsible for overall project oversight, safety, and protection of human health and the environment
Weston Solutions, Inc. 20 North Wacker Dr. Suite 1210 Chicago, IL 60606 (312) 424-3300	Trenna Seilheimer Jeff Bryniarski Jon Colomb Jay Rauh Dave Sena Hilary Verduce	WESTON START project manager and site lead(s) responsible for removal oversight support, documentation, air monitoring, sampling, and WESTON START-related cost-tracking
Environmental Restoration, LLC 16660 Canal Street South Holland, IL 60473 (708) 333-9915	John Behrens Toben Viehweg	Response manager responsible for direction of daily ERRS activities, provision of personnel and equipment necessary for removal, and coordination of transportation and disposal of waste streams; also tracked ERRS-related costs

Notes:

ERRS - Emergency and Rapid Response Services

OSC - On-Scene Coordinator

START - Superfund Technical Assessment and Response Team

EPA - United States Environmental Protection Agency

WESTON - Weston Solutions, Inc.

All sustained PDR and DataRAM 4 readings at the Site were below 5 milligrams per cubic meter (mg/m^3), the Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for nuisance dust. MultiRAE readings for organic vapors, HCN, and percent of the LEL all were below the action levels, and oxygen levels were at 20.9 percent. MultiRAE CO readings above 12.5 part per million (ppm) were sporadically observed during vat-cutting operations. In these cases, work was stopped and the room was ventilated.

EPA implemented numerous green practices at the Site, including office trailer recycling (paper, plastic, glass, aluminum, and ink cartridges), double-sided printing, Culligan water service, dedicated water bottles, dedicated steel-toed chemical boots, city electrical power, and compact fluorescent light bulbs.

Removal activities conducted at the Site from May 29 through June 8, 2012, are summarized below.

- WESTON START and ERRS contractors and equipment mobilized to the Site.
- Temporary fencing was erected, and work zones were established, including the contaminant reduction zone (CRZ), logging, and decontamination zones. Electric, sanitary, water, and internet services were connected. Permanent electric and water services were established to reduce greenhouse emissions by eliminating diesel generators.
- EPA worked with the Mishawaka Fire Department (MFD) to distribute an Emergency Contingency Plan (ECP) to local response agencies and to confirm the location of the storm shelter at MFD Union Station.
- EPA coordinated with IDEM to identify a metals recycler.
- WESTON START set up the AreaRAE network and PDR units to monitor for contaminants of concern inside and outside the building.
- The work area was cleaned (generating solid waste debris) to establish a work zone for hazard categorization (HAZCAT) of waste.
- Two plating shop areas or lines were inventoried, and samples were collected for HAZCAT of waste.
- Leaking oxidizer containers were secured and placed in a drum.
- Two 30-cubic yard (yd^3) roll-off boxes of solid waste debris were removed from the Site and transported to Waste Management-Prairie View Recycling and Disposal Facility (RDF) in Wyatt, Indiana (Manifests No. 001 and 002).

Removal activities conducted at the Site from June 11 through 22, 2012, are summarized below.

- The EPA HAZCAT trailer was mobilized to the Site from Grosse Ile, Michigan.
- ERRS continued to inventory vats, tanks, and containers and collect samples for HAZCAT of waste.
- The ERRS field chemist mobilized to the Site to conduct HAZCAT of samples.
- The EnviroSAFE Services of Ohio facility in Oregon, Ohio, approved the disposal at its facility of hazardous waste debris from the Site.

- WESTON START collected particulate air samples from Area U for hexavalent chromium and metals analyses. Analytical results from particulate air sampling in the CRZ were received and indicated that action levels were not exceeded. WESTON START extrapolated air sampling results in the CRZ with particulate readings at the time of sampling to generate a CRZ-specific action level for particulate readings.
- The ERRS contractor mobilized drums, totes, and flex bins to containerize waste into United States Department of Transportation (DOT)-shippable containers.
- Color coding of vats and containers with hazard classifications began.
- Resource Conservation and Recovery Act (RCRA) empty vats and containers were demolished.
- EPA coordinated with IDEM to review and approve a metals recycler.
- Site maps and the ECP were updated.
- Most containers were identified, marked, measured, and sampled. The on-site chemist conducted HAZCAT on over 500 samples to date. The first batch of HAZCAT samples to be analyzed for disposal acceptance criteria was sent to the ERRS-procured laboratory.
- Work continued on Line 5-6-9 (Area U) to cut and demolish contaminated wood decking and other hazardous waste debris for disposal.
- Compatible cyanide contaminated waste liquid was pumped from plating vats in Line 5-6-9 (Area U) and consolidated in clean poly totes for staging and disposal.
- Hazardous solid waste residuals from the vats were scraped and consolidated in secure containers.
- Chromium waste and oxidizers in the Solids Room (Area S) were removed and secured in containers. The floor was swept, and pressurized water units were used to wash the floors.
- Compatible acid liquids and compatible caustic liquids were pumped from vats in Line 5-6-9 (Area U) and consolidated in secure containers.
- Selected emptied vats were spray-washed and staged for potential recycling.
- A staging area for small hazardous containers was established in the western region of the receiving area (Area R).
- An all-hands emergency drill was conducted to ensure that on-site personnel (EPA, WESTON START, and ERRS contractor) knew emergency procedures for evacuation.
- The health and safety plan (HASP) was amended to ensure safety at the Site during the removal action activities.
- Rinsewater from decontamination activities was segregated and stored in totes for eventual disposal.
- One 25-yd³ roll-off box of solid hazardous waste was removed from the Site and transported to EnviroSAFE Services of Ohio in Oregon, Ohio (Manifest No. 004354475FLE).
- One 30-yd³ roll-off box of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 003).

Removal activities conducted at the Site from June 24 to July 13, 2012, are summarized below.

- All containers had been identified, marked, measured, and sampled. The on-site chemist conducted HAZCAT tests on approximately 600 samples to date and completed HAZCAT activities. Laboratory results from the first batch of HAZCAT samples analyzed for disposal were pending.
- In Area E, acids were transferred into DOT-compliant containers and staged for disposal.
- The HASP amendment was approved and signed.
- An EPA Site audit was performed by EPA Management personnel on June 25.
- Additional containers in Areas A and B were identified, marked, measured, and in the process of being sampled for HAZCAT for disposal.
- A request for proposal was sent out and bids were being evaluated for the transportation and disposal of the bulk cyanide and acid hazardous wastes.
- Cleanup in Area U was largely completed; vats were removed and decontaminated, and all sludge and cyanide liquid was containerized for disposal. Acid wastes were containerized separately for disposal. Sumps in this area were pumped and cleaned out.
- Cleanup work began in Area A. Fifteen vats containing acid wastes were cleaned out and their contents secured in drums and cubic-yard boxes. In addition, approximately eight drums of sludge and 1 yd³ of solids were removed from the vats' secondary containment.
- Cleanup work in Areas B and H began to clear out debris for removal action work.
- Additional totes, drums, and other containers of hazardous wastes to be disposed of were stored in Areas J and R.
- Two 25-yd³ roll-off boxes of solid hazardous waste were removed from the Site and transported to EnviroSafe Services of Ohio in Oregon, Ohio, (Manifests No. 004354473FLE and 004354477FLE).
- Two 30-yd³ roll-off boxes of solid waste debris were removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifests No. 004 and 005).

Removal activities conducted at the Site from July 16 through August 3, 2012, are summarized below.

- Analyte-specific particulate air samples were collected alongside real-time particulate monitors in the CRZ and Areas J and R. Samples were to be submitted for laboratory analysis. Sample results were to be compared with real-time particulate monitor data to establish contaminant-specific particulate action levels that determine the level of respiratory protection for Site workers. Sample results indicated that particulate levels were below the action levels.
- Cleanup in Area A continued. Seven vats containing corrosive and cyanide liquids were emptied, cleaned, and removed from Area A. Two vats containing cyanide solids were emptied, cleaned, and removed. Three vats containing cyanide solids and eight vats containing neutral and acidic liquids and solids were emptied, cleaned, and removed.

- Contaminated debris and catwalks were removed from around secondary containment. Sumps and trenches were cleaned of waste liquid and sludge and then backfilled for safety. A 4-foot-deep secondary containment pit containing cyanide-contaminated sludge (from vats removed the previous week) was cleaned out. The work required permitted confined space entry in Level B personal protective equipment (PPE). Following cleaning, the containment pit was filled to give workers more room to work. Approximately 55 gallons of cyanide liquid were removed from one vat to prepare the vat for removal.
- Cleanup in Areas B and H continued. Containment walls around vats were removed. Contaminated floor solids were removed, and process equipment was removed and cleaned. Eleven containers and vats in Area B were emptied of wastes, removed from secondary containment, and cleaned. Nine vats were removed, washed, and cleaned. Process piping and tumblers were removed and washed for disposal. Metal rails and supports were removed. Seven vats were removed, washed, and cleaned. Secondary containment areas were cleaned.
- Empty totes in Area Z were cleaned and demolished.
- Contaminated concrete materials were loaded into the hazardous waste roll-off box.
- A decontamination water supply line was installed to Areas B, H, and R.
- EPA's air trailer arrived at the Site to support Site work in Level B PPE.
- Confined space entry equipment arrived at the Site to support cleanout of containment pits under vats in Area A.
- Areas J and R and the CRZ were swept with a cleaning compound to reduce airborne dust.
- Profiles for waste streams were submitted to a disposal facility for approval.
- Mercury was detected in the waste profile samples. The EPA and WESTON START initiated monitoring and screening of waste and cleanup activities for mercury vapors with the use of a Lumex. Mercury monitoring results for the waste and cleanup activities were at background levels.
- Hazardous debris materials were loaded into the roll-off box.
- Areas J, E, and R and the CRZ were swept with a cleaning compound to reduce airborne dust.
- A 4,900-gallon poly tank was used to separate bulk base liquid, neutral/hazardous liquid, and non-hazardous liquid waste streams throughout the project. Before bulking, an ERRS chemist conducted compatibility testing on liquids being added together. The tank was expected to save the project approximately \$25,000.
- Two 30-yd³ roll-off boxes of solid waste debris were removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifests No. 006 and 007).
- Approximately 2,700 gallons of chromic acid waste and 1,475 gallons of acid liquid waste (Manifest No. 010411037JJK) and approximately 3,440 gallons of cyanide waste and 6,440 pounds of solid toxic waste (Manifest No. 010411950JJK) were removed from

the Site and transported to Dynecol, Inc. – Container Management Facility (CMF), in Detroit, Michigan.

- Approximately 5,960 pounds of scrap metal was removed from the Site and transported to OmniSource Corporation in South Bend, Indiana.

Removal activities conducted at the Site from August 6 through 17, 2012, are summarized below.

- Cleanup in Area A continued. Two vats containing acid liquids, two vats containing basic liquids, and seven vats containing neutral liquids were emptied, cleaned, and removed. Cyanide sludge in Vat A-16 was removed and containerized for off-site disposal. Vat A-16 was removed from containment, the liner was removed, and the vat was scraped and power-washed. Contaminated debris and structures were removed from secondary containment areas in Area A and placed into appropriate roll-off boxes. Sludge in the containment areas for Vats A-15 and A-16 was sampled and sent to a laboratory for analysis. Approximately 4 feet of sludge was present in the containment area.
- Cleanup in Areas H and B continued. The floor next to and under the plating line in Area H was scraped, cleaned, and power-washed. Solids and sludge were removed from Vat H-22 and containerized appropriately. The vat was scraped and power-washed. Process equipment and structures from Areas H and B were removed, cleaned, and deposited in appropriate disposal roll-off boxes. Wash water was collected for off-site disposal. EPA, ERRS contractor, and WESTON START personnel conducted a walkthrough of Area H. Although residual debris remained in Area H, the focus was placed on other areas of the Site that contained bulk liquids and concentrated wastes. Process equipment and structures from Vat H-22 were removed, cleaned, and deposited in appropriate disposal roll-off boxes. Vat H-22 was to be rendered unusable and left in place.
- Small containers staged in Area E were labeled with the appropriate waste stream identifier. Compatible containers also were consolidated.
- Acid liquids were transferred to DOT-approved totes in preparation for shipment.
- EPA's air trailer was present to support Site work in Level B PPE.
- The water accumulated in Area C was sampled and sent for laboratory analysis. Disposal options for the water were to be considered pending analytical results. Based on area and depth measurements, the floor was estimated to contain approximately 11,000 gallons of water.
- Containers collected from Area G were sampled and HAZCAT tested.
- The 4,900-gallon poly tank was filled with approximately 1,800 gallons of base liquids.
- Cubic-yard boxes of hazardous waste solids were sealed, labeled, and prepared for off-site shipment.
- The EPA, ERRS contractor, and WESTON START assessed options for accessing and removing wastes in Area W.

- One 25-yd³ roll-off box of solid hazardous waste was removed from the Site and transported to Envirosafe Services of Ohio in Oregon, Ohio (Manifest No. 004354466FLE).
- Approximately 4,638 gallons of corrosive liquid waste (Manifest No. 010411219JJK) and approximately 3,420 gallons of chromic acid waste and 790 gallons of acid liquid waste (Manifest No. 010411337JJK) was removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan.
- Approximately 1,320 gallons of acid liquid waste (nitric acid, chromium, and cadmium) and 1,920 gallons of acid liquid waste (hydrochloric acid, sulfuric acid, and chromium) was removed from the Site and transported to Dynecol, Inc. – CMF, in Detroit, Michigan (Manifest No. 010411079JJK).
- One 30-yd³ roll-off box of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 008).
- Approximately 11,260 pounds of scrap metal was removed from the Site and transported to OmniSource Corporation in South Bend, Indiana.

Removal activities conducted at the Site from August 20 through 31, 2012, are summarized below.

- Cleanup in Area A continued. Cyanide sludge in Vat A-15 was removed and containerized for off-site disposal. Vat A-15 was removed from containment, scraped, and power-washed. The vat liner was stuck to the wall of the vat. Contaminated sections of the liner were removed and placed into appropriate hazardous waste debris roll-off boxes. The vat was to be rendered unusable and left at the Site. Disposal options for sludge in the secondary containment units for Area A were being considered.
- Cleanup in Area C continued. Light stands were staged, and debris and containers were removed from the room. Waste liquids were pumped from Vat C-7 to the 4,900-gallon poly tank. The accumulated water on the floor of the room was pumped for off-site disposal (RCRA Non-hazardous waste). Dirt and debris were removed, and the floor was power-washed. Waste material continued to be pumped from the vats and categorized for off-site disposal. Vats were power-washed and managed accordingly. Demolished tanks were placed into appropriate roll-off for off-site disposal. Process piping was demolished and power-washed for off-site disposal. Rinse water was collected for off-site disposal.
- Cleanup in Areas H continued. Vat H-22 was rendered unusable and left in place. Although residual debris remained adhered to the concrete floor in Area H, focus was placed on other areas of the Site that contained bulk liquids and concentrated wastes.
- Cleanup in Area G continued. Area L was accessed through a framed wall shared with Area G. (The doorway into Area L was inaccessible because it was located in the collapsed portion of Area W). Waste containers were removed from Areas G and L, HAZCAT tested, and prepared for off-site disposal.
- Waste was removed from tanks associated with the WWT in Area E. The tanks were cleaned, power-washed, and demolished or rendered unusable. Process piping associated

with the WWT was cut, rinsed, and placed into appropriate roll-off boxes. The steel decking associated with the WWT was scraped and power-washed. The filter press was cleaned and rendered unusable. Rinse water was collected for off-site disposal.

- A supplier for the cylinders located at the Site was contacted.
- EPA, ERRS contractor, and WESTON START personnel continued to assess options for accessing and removing wastes in Area W.
- EPA's supplied air trailer was present to support Site work in Level B PPE. The air trailer was serviced by Breathing Air Systems, which indicated that the system was working properly.
- Disposal options for sludge in the secondary containment units for Area A continued to be considered.
- Approximately 3,249 gallons of corrosive liquid (Manifest No. 010411359JJK), approximately 1,500 gallons of cyanide waste and 2,400 pounds of solid toxic waste (Manifest No. 010413023JJK), approximately 2,200 gallons of cyanide waste (Manifest No. 010413024JJK), approximately 10,432 gallons of non-hazardous liquid (Manifests No. 010413028JJK and 010413027JJK), and approximately 4,717 gallons of non-hazardous liquid (Manifest No. 010413049JJK) were removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan.
- One 22-yd³ roll-off box of solid hazardous waste was removed from the Site and transported to Michigan Disposal Waste Treatment Plant in Belleville, Michigan (Manifest No. 005607311FLE).
- Three 30-yd³ roll-off boxes of solid waste debris were removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifests No. 009, 010, and 011).
- Two argon gas cylinders, one acetylene cylinder, one helium/argon cylinder, and two oxygen gas cylinders, were removed from the Site and transported to Praxair in South Bend, Indiana.

Removal activities conducted at the Site from September 4 through 14, 2012, are summarized below.

- Disposal options for sludge in the secondary containment units for Area A continued to be considered.
- Cleanup in Area C continued. Waste material continued to be pumped from the vats and categorized for off-site disposal. Vats were washed and either disposed of or rendered unusable. Demolished tanks were placed into the appropriate roll-off boxes for off-site disposal. Remaining tanks were rendered unusable. Process piping was demolished and power-washed for off-site disposal. Rinse water was collected for off-site disposal. Analytical results for sludge in the secondary containment pits were received. The sludge in the secondary containment pits was solidified with corn cobs and Portland cement. Liquids in Vats A-87 and A-88 were pumped out and transferred to an on-site vat.

- The map of Area Z was finalized. Waste liquids from Area Z were pumped from several vats into tanks and containers for off-site disposal.
- Cleanup in Area C continued. Most operations in Area C had been completed. Wastes pumped from vats and containers were removed. Vats were washed and rinse water collected for off-site disposal. Vats were left in place. However, the vat and tank system was rendered unusable. Process piping was removed and power-washed for off-site disposal. Removal and disposal options for the air handling system were explored. Zinc ball anodes were collected from Area C. Methods for cleaning the zinc for recycling were explored.
- Cleanup in Area E continued. Several tanks were cut open. Wastes and sludge were removed for off-site disposal. Tanks, process equipment, and decking for the WWT were power-washed. Rinse water was collected for off-site disposal.
- Several large tanks in Area J were cut open. Tank J-12 contained several feet of sludge. Tank J-13 contained residual sludge and scale. Tank J-13 was cleaned, rinsed, and rendered unusable.
- EPA, ERRS contractor, and WESTON START continued to assess options for accessing and removing wastes in Area W.
- EPA's supplied air trailer was present to support Site work in Level B PPE.
- Approximately 3,371 gallons of hazardous waste liquid (Manifest No. 010413083JJJ), approximately 1,500 gallons of acidic corrosive liquid waste and 385 gallons of chromic acid waste (Manifest No. 010413107JJJ), approximately 1,700 gallons of acidic corrosive liquid waste and 335 gallons of basic corrosive liquid waste (Manifest No. 010413113JJJ), and approximately 4,310 gallons of non-hazardous liquid (Manifest No. 010413050JJJ) were removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan.
- Two 30-yd³ roll-off boxes of solid waste debris were removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifests No. 012 and 013).
- Approximately 3,086 gallons of hazardous liquid waste was removed from the Site and transported to Vickery Environmental, Inc., in Vickery, Ohio (Manifest No. 010130168JJJ).
- Two argon gas cylinders, four acetylene gas cylinders, one helium/argon cylinder, three oxygen gas cylinders, and one propane cylinder were removed from the Site and transported to Praxair in South Bend, Indiana.

Removal activities conducted at the Site on September 14 and 15, 2012, are summarized below.

- On September 14, 2012, 10 containers of waste were placed into the cubic-yard container for consolidation and disposal (approximately 1,000 pounds total). Laboratory data from the composite sample contained 49,000 milligrams per kilogram (mg/kg) of total cyanide. HAZCAT data for waste placed into the composite container did not document reactive substances. However, four 35-gallon containers contained bags labeled sodium hydrosulfite (reactive material).

- At approximately 7:00 p.m., a chemical-reaction fire occurred in the shipping container in the on-site storage area. MFD reported the incident to the EPA. MFD extinguished the fire, but a vapor cloud was observed around the container. Initial readings by MFD were 6.5 ppm of HCN inside the building, but HCN was not detected outside the building. The incident was confined to the container, and the building structure was not involved. MFD waited for the EPA before making further Site entries. Roads were closed between Byrkit Avenue west to Merrifield Street, and 12th Street north to Lincoln Way East. Approximately 200 to 300 residents were advised to shelter-in-place, and 34 residents in a nearby senior center were evacuated to a shelter and assisted by the American Red Cross. No injuries were reported at the time.
- At 11:00 p.m., OSC Mendoza arrived on scene and coordinated response activities with the MFD Chief. AreaRAE units were deployed in the evacuation zone by WESTON START. Mark Johnson of the Agency for Toxic Substances and Disease Registry (ATSDR) arrived to assist the OSC with health-related questions and concerns and to provide advice on evacuation decisions. The ERRS crew arrived on scene and initiated cleanup actions to address the released waste material and repackage the contents.
- On September 15, 2012, at 1:00 a.m., the EPA, ERRS contractor, and MFD Chief worked out a plan to send ERRS contractor personnel in Level B PPE into the building to break up the smoldering pile. The plan was to break the pile into several pieces and secure the pieces in steel drums to let the reaction take its course in a controlled environment with monitoring. WESTON START had brought additional monitoring equipment for possible degradation products on site, which included SO₂ sensors and Draeger CMS Chips (H₂S, SO₂, and HCN).
- At 4:51 a.m., the ATSDR and OSC Mendoza sent the MFD Chief an e-mail message recommending the lifting of the evacuation order based on non-detect results for the contaminants of concern. At 5:00 a.m., air monitoring at the Site and in the community was ongoing, and results continued to be non-detect for H₂S, HCN, and SO₂.
- At 7:30 a.m., OSC Atkociunas arrived on scene. OSCs Atkociunas and Mendoza and ATSDR representative Mark Johnson conducted interviews with local news agents regarding the incident. The reaction had stabilized. EPA, WESTON START, and ERRS contractor personnel continued to monitor the drums. No temperature changes in the drums were detected. Monitoring results for the ambient air near the drums were at background levels. Incident Command lifted the evacuation order.

Removal activities conducted at the Site from September 16 through 21, 2012, are summarized below.

- EPA, WESTON START, and ERRS contractor personnel continued to monitor the eight 55-gallon drums that contained the source material for the incident on September 14. No heat or evidence of reaction was detected. EPA consulted members of the Environmental Response Team (ERT) and START Health and Safety to determine sampling strategy. Sampling was needed to determine any transportation, disposal, and treatment options. Additional air monitoring equipment for byproducts of degradation of the source material was being explored.
- On September 20, EPA and WESTON START participated in a debriefing with state, local, and hospital officials. The following also were present: Mayor of Mishawaka;

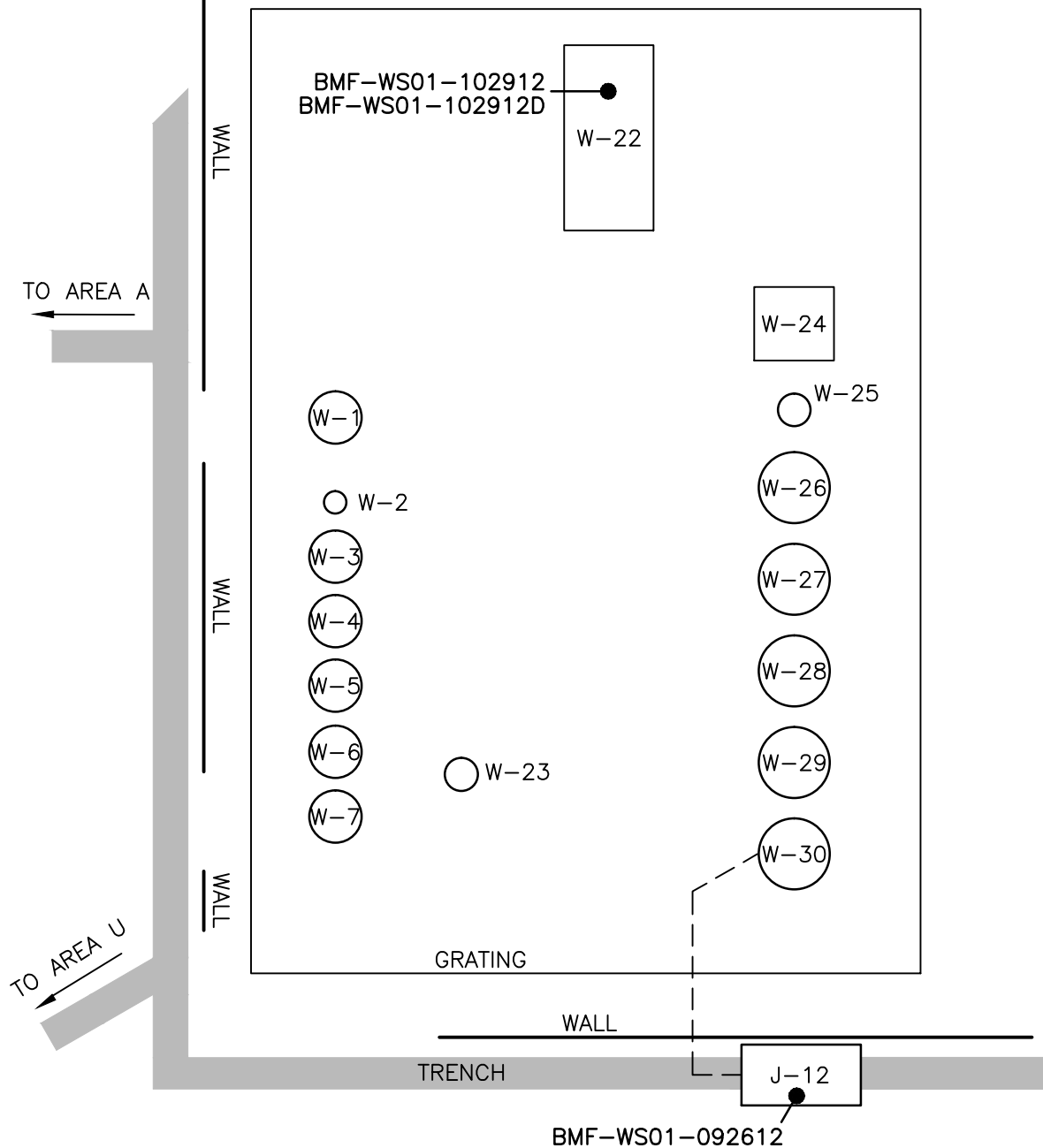
MFD; Mishawaka Police Department (MPD); emergency management agency (EMA) personnel; St. Joseph Hospital staff; Mishawaka Utilities, Building, and Wastewater Departments; and IDEM staff. MFD Area 6 Chief Cocquyt discussed the response, entities contacted (hospitals, the school, the nursing home, the American Red Cross) and how the response was conducted. OSC Atkociunas discussed the removal project, waste management, the incident, response actions, and work remaining at the Site. OSC Atkociunas provided local authorities with four large laminated copies of the Site map.

- An EPA management official and an IDEM representative conducted a Site visit. The OSC provided an overview of the Site and discussed health and safety concerns, Site operations, the incident, the response to the incident, and follow-up activities. EPA and IDEM staff reviewed notification procedures.
- An ERRS Health and Safety representative and a Federal Occupational Health (FOH) representative investigated the incident. Standard operating procedures were reviewed, and any changes or modifications were to be implemented. In the interim, additional reviews and precautions (additional HAZCAT tests, bucket tests, etc.) were conducted.
- EPA, WESTON START, and ERRS contractor personnel conducted a Site organization review and implemented changes. The waste staging area was reorganized. The ERRS contractor procured a security company to be at the Site during non-work hours.
- Cleanup in Area A continued. The sludge in the secondary containment pits was solidified with corn cobs and Portland cement. Sludge in Pit A-89 was solidified and removed. The walls and floor of the pit were scraped and power-washed. Rinse water was collected for off-site disposal. Pit A-89 was backfilled with recycled concrete.
- Cleanup in Area Z continued. Process piping was demolished and placed into the appropriate roll-off box. Non-hazardous liquids were pumped into the on-site, 4,900-gallon poly tank.
- Cleanup in Area E continued. Additional process piping was demolished and placed into the appropriate roll-off box for disposal. General housekeeping and cleaning were conducted.
- EPA, ERRS contractor, and WESTON START personnel continued to assess options for accessing and removing wastes in Area W. A structural engineer was contacted. There was an opening in the building between Areas W and J. The ERRS contractor removed a wall air conditioning unit between the areas to obtain visual access into the open area.
- EPA's supplied air trailer was present to support Site work in Level B PPE.
- One 15-yd³ roll-off box of solid hazardous waste was removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan (Manifest No. 004354467FLE).
- Approximately 4,717 gallons of non-hazardous liquid was removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan (Manifest No. 010413265JJK).
- Approximately 9,280 pounds of scrap metal was removed from the Site and transported to OmniSource Corporation in South Bend, Indiana.

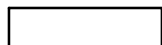
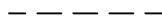
Removal activities conducted at the Site from September 23 through 28, 2012, are summarized below.

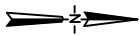
- A 4,900-gallon Rain for Rent poly tank was cleaned and decontaminated.
- On September 26, 2012, the EPA conducted community outreach activities (residences and businesses) and issued fact sheets.
- On September 27, EPA met at the Site with the IDEM OSC and briefed him on operational activities.
- EPA, WESTON START, and ERRS contractor personnel continued to monitor the eight 55-gallon drums stored in Area H that contained the source material from the incident on September 14, 2012. No heat or evidence of reaction was detected. On September 26, EPA, WESTON START, and ERRS contractor personnel collected a composite sample from each of the eight drums for laboratory analysis for disposal characterization. The sampling effort was conducted in Level B PPE, and residual levels of HCN and SO₂ were detected trapped inside the drums. However average ambient levels of HCN in the room were 2 ppm for HCN and non-detect for SO₂. In addition, average levels of HCN in the air monitoring units (AreaRAE) were 0 to 1 ppm outside and downwind of the building and 0 ppm in the parking lot at the grocery store located about 0.25 mile downwind. Results for the composite samples from the drums were expected to be available by the following week. Samples also were submitted to the laboratory for three additional containers of suspected sodium hydrosulfite to accelerate their disposal. The MFD Chief was notified of the event as he requested.
- Cleanup in Area A continued. The sludge in the secondary containment pits was being solidified with corn cobs and Portland cement. The solidified sludge then was excavated for disposal and the pits washed and cleaned with caustic water. Rinse water was pumped from the pits and stored for disposal. The pits then were filled with recycled concrete. Two more pits (A-86 and A-88) were filled in this week. Work at various stages was ongoing at Pits A-82 through A-85 and A-87.
- Cleanup in Area Z continued. Process piping and tank supports were demolished and placed into appropriate roll-off boxes. Vats Z-11 through Z-14 and Z-18 through Z-20 were cleaned and rendered unusable. Non-hazardous liquids were pumped into 330-gallon tote containers.
- The ERRS contractor cleaned out the on-site 4,900-gallon storage tank and its portable secondary containment. The tank was used to hold liquid wastes generated from cleanup activities.
- Cleanup in Area E continued. All HAZCAT testing from this point forward (with oversight by WESTON START) was conducted using an improved procedure developed by the ERRS contractor to determine the chemical characteristics of several unknown wastes in small containers. The EPA supported the HAZCAT work with additional air monitoring instruments.
- WESTON START collected a sludge sample from the WWT area, Tank J-12, to determine its hazardous waste characteristics (see **Figures 4A** and **4B**).
- The EPA OSC and WESTON START completed a sweep of the Site and detected no signs of combustion, heat, or reactions.

J:\CAD93\000\00112.dwg, 7/19/2013 10:23:02 AM



LEGEND

-  VAT/TANK
-  PIPING



NOT TO SCALE

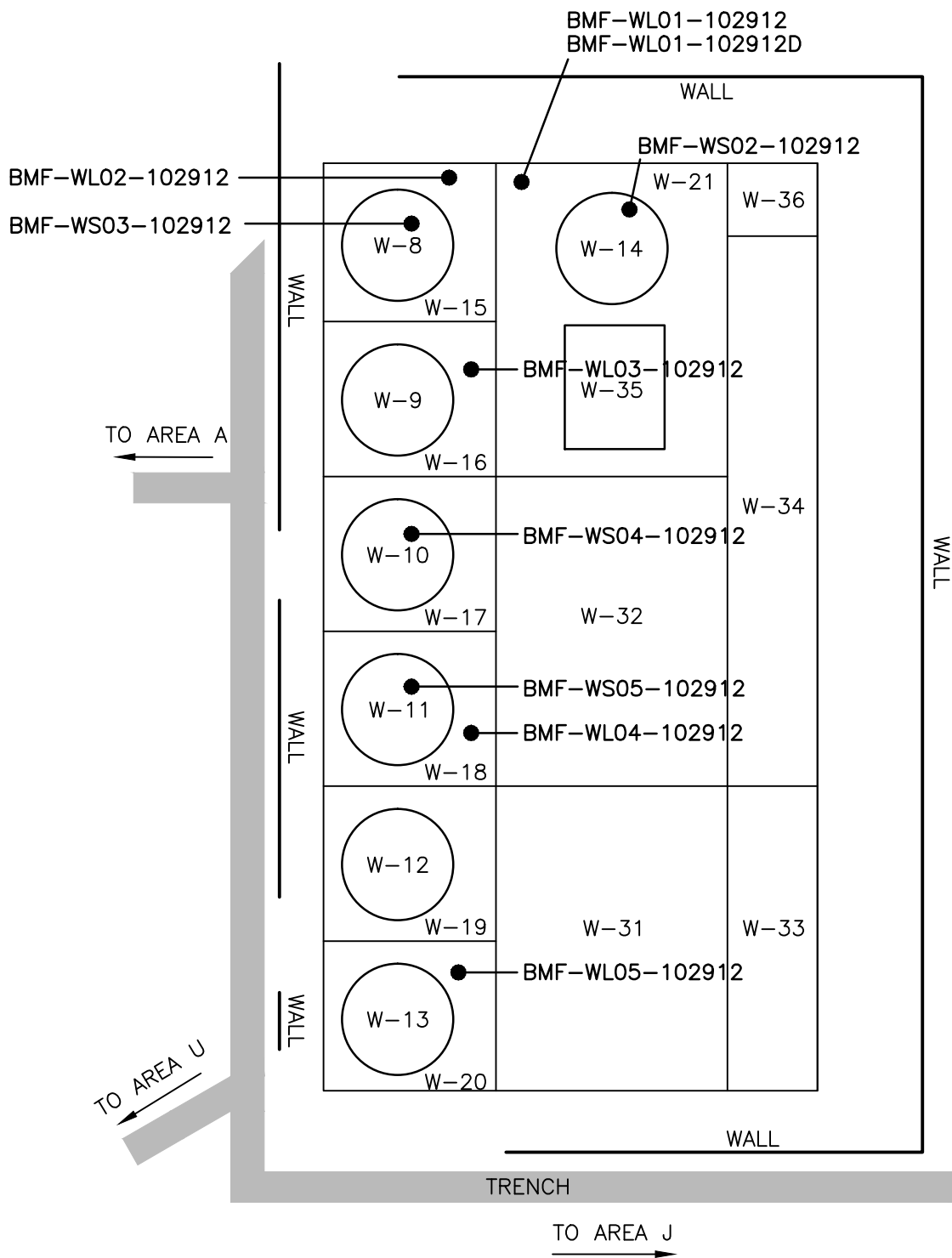


Prepared for:
U.S. EPA. REGION V
Contract No: EP-S5-06-04
TDD: S05-0001-1205-001
DCN: 1843-2A-BDQI



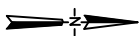
Prepared By:
WESTON
SOLUTIONS, INC
20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Figure 4A
Sampling Location Map for Area W
(above ground surface)
Baycote Metals Finishing Site
Mishawaka, St Joseph County, Indiana



LEGEND

CONCRETE CONTAINMENT



NOT TO SCALE



Prepared for:
U.S. EPA. REGION V

Contract No: EP-S5-06-04
TDD: S05-0001-1205-001
DCN: 1843-2A-BDQI



Prepared By:
WESTON
SOLUTIONS, INC

20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Figure 4B
Sampling Location Map for Area W
(below ground surface)
Baycote Metals Finishing Site
Mishawaka, St Joseph County, Indiana

- EPA's supplied air trailer was present at the Site to support work in Level B PPE.
- Two 15-yd³ roll-off boxes of solid hazardous waste (Manifests No. 010413252JJK and 010413250JJK); approximately 400 pounds of non-regulated material and 3,140 pounds of non-hazardous regulated sludge (Manifest No. 010413339JJK); approximately 150 pounds of barium compounds, 330 gallons of basic corrosive liquid waste, and 165 gallons of cyanide waste (Manifest No. 010413340JJK) were removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan.
- One 30-yd³ roll-off box of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 014).
- Approximately 7,640 pounds of scrap metal was removed from the Site and transported to OmniSource in South Bend, Indiana.

Removal activities conducted at the Site from October 1 through 5, 2012, are summarized below.

- OSC Atkociunas held a meeting with the residents of the Penelope 60 Apartments. The senior community was evacuated during the September 14 incident. OSC Atkociunas discussed removal activities to date, the incident, and future activities planned for the Site. Approximately 15 residents attended the meeting.
- EPA, WESTON START, and ERRS contractor personnel continued to monitor the eight 55-gallon drums stored in Area H that contained the source material from the incident on September 14, 2012. Additional monitoring equipment for possible degradation products remained on site. The equipment included SO₂ sensors and Draeger CMS Chips (H₂S, SO₂, and HCN). No heat or evidence of reaction was detected. Analytical results for the September 26 sampling event of source material were received. The ERRS contractor initiated the bid process for off-site disposal of the waste.
- Cleanup in Area A continued. The sludge in the secondary containment pits was solidified with corn cobs and Portland cement. The solidified sludge was excavated for disposal. The pits were washed and cleaned with caustic water, and rinse water was pumped out and stored for disposal. The pits were emptied, cleaned, and backfilled or partially backfilled. An additional load of recycled concrete was delivered to the Site to continue backfilling operations.
- Cleanup in Area Z continued. Process piping and tank supports were demolished and placed into appropriate roll-off boxes. Vats Z-9, Z-10, and Z-15 through Z-17 were cleaned and rendered unusable. A large opening was cut into Vat Z-6. The ERRS contractor accessed the vat and began removing debris and baskets containing zinc ball anodes. The vat measured approximately 70 feet long and 7 feet wide and contained a substantial amount of material. The ERRS contractor accessed a hatch to Vat Z-25, which appeared to be a dryer for the plating process. Mechanical equipment was observed inside.
- Cleanup in Area E continued. HAZCAT testing was conducted to determine the chemical characteristics of several unknown wastes in small containers. The ERRS contractor loaded solidified non-hazardous waste sludge from containers and vats in Area E into a roll-off box for off-site disposal.
- Cleanup in Area J continued. The ERRS contractor removed liquid and sludge from Tank J-12.

- EPA and WESTON START began developing a quality assurance project plan (QAPP) for sampling associated with the removal action. The sampling included the sample collected from Tank J-12 to determine the threat posed by wastes associated with Area W.
- A representative from Keller Engineering, Inc., an ERRS subcontractor, visited the Site on October 4 to conduct a structural integrity assessment of the Site building. A report was expected during the week of October 8. The EPA requested the assessment to determine the structural soundness of the building, methods to access or remove waste from Area W, and methods to remove air handling systems.
- The EPA OSC and WESTON START completed a sweep of the Site and detected no signs of combustion, heat, or reactions.
- EPA's supplied air trailer was present at the Site to support work in Level B PPE.
- One 18-yd³ roll-off box of hazardous waste solid was removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan (Manifest No. 010413251JJK).

Removal activities conducted at the Site from October 8 through 12, 2012, are summarized below.

- The Mayor of Mishawaka discussed Site activities and the progress of work at the Site with OSC Atkociunas.
- Students from Penn High School interviewed OSC Atkociunas regarding Site activities for an environmental science class.
- EPA, WESTON START, and ERRS contractor personnel continued to monitor source material from the September 14 incident. Analytical data from the September 26 sampling event were reviewed. Based on the analytical data and the physical characteristics of the drums, the contents of six containers were consolidated into one 55-gallon drum and the contents of two containers were consolidated into another 55-gallon drum. Before consolidation, the ERRS contractor conducted a "bucket test" to determine if any reactions, heat, or byproducts of consolidation would be generated. No anomalies were detected. The empty containers were washed and rinsed. Rinse water was collected for off-site disposal. EPA, ERRS contractor personnel, and WESTON START monitored the two drums for reactions, heat, and byproducts of consolidation. No anomalies were detected. The ERRS contractor procured disposal services for source material from the incident and scheduled shipment for the week of October 14.
- Backfill operations in Area A continued. The ERRS contractor placed recycled concrete into the cleaned secondary containment pits to bring the area closer to grade.
- Cleanup in Area Z continued. The ERRS contractor completed cleanup of Vat Z-6, which was approximately 70 feet long and 7 feet wide. Debris in the tank was cleaned and placed into the appropriate container. The ERRS contractor also accessed and cleaned Vats Z-26, Z-27, Z-58, Z-59, and Z-66. Sludge was collected for off-site disposal. The ERRS contractor cleaned and power-washed structures and collected rinse water for characterization and off-site disposal. The ERRS contractor demolished piping and a portion of the catwalk to access vats in the northeast section of the room.

- The 4,900-gallon Rain for Rent poly tank (cleaned and decontaminated during the week of September 24) was demobilized from the Site.
- Cleanup in Area E continued. The ERRS contractor pumped liquids from Tank E, which was located below grade in the northwest corner of the room. HAZCAT testing was conducted to determine the chemical characteristics of several unknown wastes in small containers.
- Cleanup in the HAZCAT area (southwest corner of Area R) continued. HAZCAT testing was conducted to determine the chemical characteristics of several unknown wastes in small containers. EPA and WESTON START continued developing a QAPP for WESTON START sampling associated with the removal action. The sampling included the sample collected from Tank J-12 to determine the threat posed by wastes associated with Area W. The QAPP also included soil sampling to characterize Site soil.
- The Engineering Structural Condition Report was received and reviewed. Recommendations were to be implemented as necessary.
- EPA's supplied air trailer was present at the Site to support work in Level B PPE.
- One 25-yd³ roll-off box of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 015).
- Approximately 10 tons of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 016).
- Approximately 4,811 gallons of non-RCRA material (cyanide wastewater) was removed from the Site and transported to Vickery Environmental, Inc., in Vickery, Ohio (Manifest No. 010461892JJK).
- Approximately 7,120 pounds of scrap metal was removed from the Site and transported to OmniSource Corporation in South Bend, Indiana.

Removal activities conducted at the Site from October 15 through 19, 2012, are summarized below.

- EPA, WESTON START, and ERRS contractor personnel continued to monitor source material from the September 14 incident.
- Cleanup in Area Z continued. The ERRS contractor accessed and cleaned Vats Z-28 through Z-34 and Z-67 through Z-69. Sludge was collected for off-site disposal. The ERRS contractor cleaned and power-washed the vats, which were rendered unusable. The ERRS contractor continued to demolish process piping, which was decontaminated and power-washed. Rinse water was collected for off-site disposal.
- Cleanup in Area E continued. The ERRS contractor power-washed Tank E-7, which was located below grade in the northwest corner of the room. Rinse water was collected for off-site disposal. The ERRS contractor backfilled the tank excavation with washed and screened gravel to bring it to grade. HAZCAT testing was conducted to determine the chemical characteristics of several unknown wastes in containers. .

- Cleanup in the HAZCAT area (southwest corner of Area R) continued. HAZCAT testing was conducted to determine the chemical characteristics of several unknown wastes in small containers. The EPA and WESTON START continued developing a QAPP for WESTON START sampling associated with the removal action. The sampling included the sample collected from Tank J-12 to determine the threat posed by wastes associated with Area W. The QAPP also included soil sampling to characterize Site soil.
- Demolition of empty containers and equipment continued. The empty containers and equipment were placed into appropriate roll-off boxes for off-site disposal.
- The EPA Field Environmental Decision Support (FIELDS) Team conducted a geophysical survey of the field east of the on-site building. Areas of concern were scheduled for investigation during the week of October 22.
- The Engineering Structural Condition Report was reviewed. Recommendations were to be implemented as necessary. Telescopic floor jacks were procured to provide structural support in several areas.
- EPA demobilized the supplied air trailer.
- One 30-yd³ roll-off box of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 017).
- Approximately 1,800 gallons of hazardous waste liquid (chromium, mercury, and cadmium), 2,100 gallons of hazardous waste liquid (chromium, cadmium, and silver), 900 gallons of hazardous waste liquid (chromium), and 500 pounds of hazardous waste liquid (copper cyanide and zinc cyanide) (Manifest No. 010413688JJK); approximately 1,595 gallons of hazardous waste liquid (chromium and cadmium), 110 gallons of chromic acid waste, 165 gallons of acid liquid waste, and 715 gallons of hazardous waste liquid (cadmium) (Manifest No. 010413689JJK); approximately 330 gallons of non-hazardous regulated sludge (Manifest No. 010413691JJK); approximately 750 gallons of acid liquid waste, 190 gallons of ammonia, and 155 pounds of calcium hypochlorite (Manifest No. 010413694JJK); and approximately 1,940 pounds of calcium hydroxide (Manifest No. B5-101) were removed from the Site and transported to U.S. Ecology Michigan, Inc., in Detroit, Michigan.

Removal activities conducted at the Site from October 22 through 26, 2012, are summarized below.

- Cleanup in Area Z continued. The ERRS contractor accessed and cleaned Vats Z-1 through Z-5 and Z-35. Sludges were collected for off-site disposal. The ERRS contractor cleaned and power-washed the vats, which were rendered unusable. The ERRS contractor continued to demolish process piping, which was decontaminated and power-washed. The ERRS contractor also cleaned residual material on the floor in Area Z. Rinse water was collected for off-site disposal.
- Cleanup in Areas U and C continued. The ERRS contractor removed air pollution control systems (local exhaust hoods, associated duct work, and filters) from the areas. The equipment was removed, demolished, power-washed, and placed into appropriate roll-off boxes. Rinse water was collected for off-site disposal.

- Cleanup in the HAZCAT area (southwest corner of Area R) continued. HAZCAT testing was conducted to determine the chemical characteristics of several unknown wastes in small containers. Laboratory packing of miscellaneous containers began and was completed.
- Test pits were excavated in areas where the EPA FIELDS Team detected anomalies based on the geophysical survey. Evidence of waste burial (drums, containers, and plating waste) was not observed. WESTON START collected five soil samples from the area (see **Figure 5**). Metal debris (bolts and nuts) was present at or near the surface in the area. WESTON START also collected additional soil samples from the field east of the Site building. The samples were sent for off-site laboratory analysis.
- The EPA and WESTON START continued developing a QAPP for WESTON START sampling associated with the removal action. The sampling included the sample collected from Tank J-12 to determine the threat posed by wastes associated with Area W. The QAPP also included soil sampling to characterize Site soil.
- Demolition of empty containers and equipment continued. The empty containers and equipment were placed into appropriate roll-off boxes for off-site disposal.
- The ERRS contractor placed telescopic floor jacks under beams in Area W. EPA, WESTON START, and ERRS contractor personnel accessed portions of Area W to determine waste management strategies.
- One 30-yd³ roll-off box of solid waste debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 018).

Image Source: ESRI Bing Maps



Legend

● Sampling Locations

0 150
Feet



Prepared for:
U.S. EPA REGION V

Contract No: EP-S5-06-04
TDD: S05-0001-1205-001
DCN: 1843-2A-BDQI



Prepared By:
**WESTON
SOLUTIONS, INC**

20 N. Wacker Drive
Suite 1210
Chicago, Illinois 60606

Figure 5

Soil Sampling Location Map
Baycote Metal Finishing Site
Mishawaka, St. Joseph County, Indiana

Removal activities conducted at the Site from October 29 through November 29, 2012, are summarized below.

- Cleanup of the plating areas was completed. The ERRS contractor cleaned and power-washed the floors and collected rinse water for off-site disposal.
- Cleanup in Area W began. WWT chemicals in tanks (W-1 through W-7 and W-23) and containers were removed, and the tanks and containers were cleaned and rinsed. Rinse water was collected for off-site disposal. The WWT system was located above a containment pit that contained water and sludge. WESTON START collected five water samples and five sludge samples from the area to determine threats to the public health or welfare of the United States or the environment (see **Figures 4A** and **4B**).
- The ERRS contractor decontaminated Site equipment. Rinse water was collected for off-site disposal.
- Site wastes were relocated to Areas E and Z for staging for off-site disposal. Containers were segregated according to hazard classification and compatibility. The wastes were being profiled for acceptance at off-site disposal facilities. Profiled wastes were labeled, and wastes with pending laboratory analysis were identified.
- Demolition of empty containers and equipment continued. The empty containers and equipment were placed into appropriate roll-off boxes for off-site disposal.
- The ERRS contractor placed telescoping floor jacks in Area J to add structural support during the winter months.
- EPA provided a pallet for 38 5-pound bags of Alka40 (Calcium Hydroxide) for reuse at the U.S. Ecology Michigan, Inc., facility.
- On November 1, 2012, EPA, ERRS contractor and WESTON START personnel demobilized from Site for the winter months. EPA and ERRS contractor personnel were to return to the Site to facilitate transportation of staged wastes for off-site disposal.
- On November 5, 2012, EPA conducted a Site walkthrough with MFD, City of Mishawaka, and IDEM personnel. EPA outlined response activities, the current status of the Site, and future plans.
- Until off-site transportation of staged wastes was complete, 24-hour Site security was to remain.
- Three 30-yd³ roll-off boxes and approximately 7.5 tons of solid waste debris were removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 019, 020, 022, and 023).
- One 25-yd³ roll-off box of solid hazardous waste was removed from the Site and transported to EnviroSAFE Services of Ohio in Oregon, Ohio (Manifest No. 004354474FLE).

- Approximately 21,850 pounds of hazardous waste solids (chromium and cadmium) and 55 gallons of waste sodium hypochlorite were removed from the Site and transported to Michigan Disposal Waste Treatment Plant in Belleville, Michigan (Manifest No. 006186989FLE).
- Approximately 7,500 pounds of corrosive acidic hazardous waste solid; 2,000 pounds of calcium hydroxide; 165 gallons of acid liquid waste (sulfuric acid); 55 gallons of acid liquid waste (sulfuric acid and ferric sulfate); 95 gallons of sodium hydroxide; and 110 gallons of hydrogen peroxide were removed from the Site and transported to EQ Detroit, Inc., in Detroit, Michigan (Manifest No. 006186990FLE).
- Approximately 3,840 gallons of hazardous waste liquid (chromium and cadmium) and 960 gallons of hazardous waste liquid (cadmium and silver) (Manifest No. 010733870JJK); approximately 600 pounds of hazardous waste solid (sodium hydrosulfite and cyanide), 3,255 gallons of hazardous waste liquid (cadmium), 715 gallons of hazardous waste liquid (cadmium and silver), 1 gallon of hydrogen peroxide, 1 gallon of chromic acid waste, 3 gallons of cyanide waste, 3 pounds of cyanide waste, 1 gallon of ammonia sulfide, 1 liter of fluoroboric acid, 10 gallons of toxic liquid waste (sodium nitrate and sodium dichromate), 8 gallons of toxic liquid waste (cadmium oxide and barium chloride), 5 gallons of cyanide waste (copper cyanide and zinc cyanide), 1 gallon of perchloric acid, 15 gallons of acid liquid waste (formaldehyde and sulfuric acid), 1 liter of acid liquid waste (sulfuric acid and mercuric acid), 12 gallons of basic corrosive liquid waste (sodium hydroxide and sodium hypochlorite), 1 gallon of corrosive and flammable liquid waste, 300 pounds of non-regulated material, 1 gallon of glacial acetic acid, 20 gallons of paint-related material, 350 pounds of potassium permanganate, 85 pounds of flammable liquid (mineral spirits, xylene, and naphtha), 3 gallons of flammable liquid (mineral spirits and methanol), 20 pounds of aerosol waste, 2 pounds of propane waste, 1 liter of mercury thiocyanate, 2 pounds of universal waste (cadmium compounds), and 10 pounds of mercury contained in manufactured articles (Manifest No. 010733992JJK); approximately 385 gallons of hazardous waste liquid (cadmium and silver) and 3,475 gallons of hazardous waste liquid (chromium, cadmium, and silver) (Manifest No. 010740976JJK); and approximately 1,420 gallons of non-hazardous regulated sludge, 770 gallons of hazardous waste liquid (barium, cadmium, chromium, and lead), 320 gallons of basic corrosive liquid waste (cadmium and chromium), 340 gallons of acid liquid waste (chromium and sulfuric acid), 540 gallons of hazardous liquid waste (cadmium and cyanide), 850 pounds of potassium hydroxide, 445 gallons of hazardous liquid waste (cadmium and silver), 110 gallons of hazardous waste liquid (chromium, cadmium, and silver), and 555 pounds of environmentally hazardous substances (fluorescent bulbs) (Manifest No. 010741136JJK) were removed from the Site and transported to Petro-Chem Processing, Inc., in Detroit, Michigan.
- Approximately 203 kilograms of polychlorinated biphenyls were removed from the Site and transported to Republic Environmental Systems in Hatfield, Pennsylvania (Manifest No. 010741138JJK).

On November 29, 2012, Site operations were shut down. The ERRS contractor completed Site cleanup activities, Site security activities, and demobilization of all personnel and equipment from the Site.

On March 18, 2013, EPA, WESTON START, and the ERRS contractor remobilized to the Site

to continue removal activities focusing on the previously inaccessible areas.

Removal activities conducted at the Site from March 19 through March 29, 2013, are summarized below.

- Two office trailers were mobilized to the Site and electric, sanitary, water, and internet services were established.
- SJCHD and Mishawaka Code Enforcement toured the Site.
- The ERRS contractor established work zones through the facility including the CRZ, logging, and decontamination zones in Area E. Area W was established as a restricted area due to the collapsed roof until measures had been taken to secure the zone.
- Cleanup began in Area W with the removal and disposal of collapsed roof and construction debris near the entrance. Poly tanks (W-1 – W-7) were removed from Area W and disposed of in non-hazardous roll-off boxes.
- The ERRS contractor mobilized a boom-lift, a skid-steer loader, road plates, and a mini-excavator to the Site to assist in the cleanup of Area W. A fractionation (frac) tank was mobilized to the Site to stage liquids prior to transport and disposal.
- The overhead door, filter press equipment, metal shelving, PVC piping, and I-beams were removed from Area W and disposed of in a non-hazardous roll-off box.
- Samples were collected by the ERRS contractor from secondary containment W-12, W-13, W-19, and W-20 and submitted for laboratory analysis.
- Secondary containment pits W-15 and W-18 were pumped in to the non-hazardous liquid frac tank.
- An initial sweeping was conducted in Area E to mitigate potential dust issues and as preparation for the staging of solid waste piles from Area W.
- One 30-yd³ roll-off box of non-hazardous debris was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. 1-13).

Removal activities conducted at the Site from April 1 through April 12, 2013, are summarized below.

- Laboratory analysis for samples W-12, W-13, W-19, and W-20 indicated elevated levels of cadmium and chromium. An additional frac tank for the staging of hazardous waste liquids was mobilized to the Site. Hazardous liquids were pumped from W-12, W-13, W-19, and W-20 in to the frac tanks while awaiting disposal.
- Solid material from W-22 was excavated and staged in 55 gallon steel drums on Site. W-22 was power washed and placed in non-hazardous roll-off box for disposal.
- The solid material in W-13 and W-20 was excavated and staged in Area E. W-13 was removed from pit W-20 and power washed prior to disposal in the non-hazardous roll-off box. W-20 was then scraped clean and backfilled with crushed stone.

- The solid material in W-12 and W-19 was excavated and staged in Area E. W-12 was removed from pit W-19 and power washed prior to disposal in the non-hazardous roll-off box. W-19 was then scraped clean and backfilled with crushed stone.
- The solid material in W-11 and W-18 was excavated and staged in Area E. W-11 was removed from pit W-18 and power washed prior to disposal in the non-hazardous roll off bin. W-18 was then scraped clean and backfilled with crushed stone.
- W-26 through W-30 were pumped empty and then pulled from the scaffolding. The remaining solid material in each tank was solidified and then staged in Area E. The tanks were power washed and then placed in to non-hazardous roll-off boxes for disposal.
- The elevated scaffolding was removed from Area W and cut up for scrap metal.
- The trench in Area W cleaned and power washed. The piping between the trench and the secondary containment pits were sealed with concrete. The trench was filled in with crushed stone.
- The ERRS contractor began shoveling out collected material from trenches in Areas B, G, H, J, R, and U.
- Approximately 19,380 pounds of scrap metal was removed from the Site and transported to OmniSource Corporation in South Bend, Indiana.

Removal activities conducted at the Site from April 19 through May 3, 2013, are summarized below.

- The solid material in W-10 and W-17 was excavated and staged in Area E. W-10 was removed from pit W-17 and power washed prior to disposal in the non-hazardous roll off bin. W-17 was then scraped clean and backfilled with crushed stone.
- The solid material in W-9 and W-16 was excavated and staged in Area E. W-9 was removed from pit W-16 and power washed prior to disposal in the non-hazardous roll off bin. W-16 was then scraped clean and backfilled with crushed stone.
- The solid material in W-8 and W-15 was excavated and staged in Area E. W-8 was removed from pit W-15 and power washed prior to disposal in the non-hazardous roll off bin. W-15 was then scraped clean and backfilled with crushed stone.
- The ERRS contractor pumped out liquid waste from pit W-31 and W-32 to the non-hazardous liquid frac tank. The remaining solid material was mixed with solidification agent and excavated from pits and staged in Area E. The pits were then scraped clean and then backfilled with crushed stone.
- Liquid waste from W-14, W-21, and W-35 was pumped in to non-hazardous liquid frac tank while awaiting disposal. The remaining solid material was solidified with solidification agent, excavated, and staged in Area E. W-35 and W-14 were removed from pit W-21 and placed in non-hazardous roll-off bin. Pit W-21 was scraped clean and backfilled with crushed stone.
- Liquid waste from W-33, W-34, and W-36 was pumped in to non-hazardous liquid frac tank while awaiting disposal. The remaining solid material was solidified with solidification agent, excavated, and staged in Area E. W-33, W-34, and W-36 were scraped clean and backfilled with crushed stone.

- Approximately 41,152 gallons of non-hazardous liquid was removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana (Manifest No. NHBL-001 through NHBL-013).
- Six 20-yd³ roll-off boxes of hazardous waste solid (cadmium and chromium) were removed from the Site and transported to Envirite of Illinois, Inc., in Harvey, Illinois (Manifest No. 010244849JJK, 010244848JJK, 010244953JJK, 010244954JJK, 010244955JJK, and 010244956JJK).
- Approximately 5,000 gallons of hazardous waste liquid (cadmium and chromium) were removed from the Site and transported to Petro-Chem Processing, Inc. in Detroit, Michigan (Manifest No. 010012712JJK).

Removal activities conducted at the Site from May 6 through May 10, 2013, are summarized below.

- The ERRS contractor pumped out non-hazardous liquid from the frac tank and shipped it off site for disposal. The non-hazardous liquids tank was then decontaminated with a pressure washer and demobilized from the Site.
- The ERRS contractor pumped out hazardous liquid from the frac tank and shipped it off site for disposal. The hazardous liquids tank was then decontaminated with a pressure washer and demobilized from the Site.
- Four 20-yd³ roll-off boxes of hazardous waste solid (cadmium and chromium) were removed from the Site and transported to Envirite of Illinois, Inc., in Harvey, Illinois (Manifest No. 010244957JJK, 010244958JJK, 010242711JJK, and 010242712JJK).
- Approximately 5,225 gallons of non-hazardous liquid (Manifest No. NHBL-014 and NHBL-015) and one 30-yd³ roll-off box, one 20-yd³ roll-off box, and one 10-yd³ roll-off box of non-hazardous debris (Manifest No. NH025, NH026, and NHBS-001) were removed from the Site and transported to Waste Management-Prairie View RDF in Wyatt, Indiana.
- Approximately 4,100 gallons of hazardous waste liquid (cadmium and chromium) (Manifest No. 010012783JJK) and approximately 385 gallons of hazardous waste solid (cadmium and chromium) (Manifest No. 010012851JJK) were removed from the Site and transported to Petro-Chem Processing, Inc., in Detroit, Michigan.
- The mini-excavator, air compressor, and boom lift were demobilized from the Site.
- Both office trailers were demobilized from Site and all entrances and exits were sealed before START, the ERRS contractor, and EPA demobilized from the Site.

On May 13, 2013, the EPA OSC conducted a walk through with the MFD, South Bend Fire Department, Clay Fire Department, City of Mishawaka, IDEM, and SJCHD. EPA outlined the completion of the removal activities and enforcement staff provided keys of the facility to the potentially responsible party.

2. Treatment/Disposal/Alternative Technology Approaches Pursued

Fifty-seven on-site waste streams were identified for disposal or recycling. **Table 2** summarizes in chronological order by shipping date the waste stream description, container total, shipping

date, manifest numbers, disposal method, and disposal facilities. **Table 3** lists the total amount of each waste stream. The following methods were used to dispose of the Site waste streams:

- **Treatment and Disposal:** Acid liquid waste, ammonia, ammonia sulfide, chromic acid waste, acidic corrosive liquid waste, basic corrosive liquid waste, corrosive and flammable liquid waste, corrosive solid acidic waste, cyanide waste, hazardous waste liquid, hazardous waste solid, hydrogen peroxide, non-hazardous waste liquid, non-hazardous regulated sludge, non-regulated material, non-RCRA material, potassium hydroxide, sodium hydroxide, sodium hypochlorite, toxic liquid waste, and toxic solid waste
- **Landfill:** Aerosol containers, barium compounds, solid hazardous waste, and solid waste debris
- **Recycling:** Batteries, calcium hypochlorite, environmentally hazardous substance (fluorescent bulbs), glass (clear), metal (aluminum and steel/bimetal cans), paper (office, newspaper quality, corrugated cardboard), plastic (water bottles, PETE #1, and HDPE #2), calcium hydroxide, scrap metal, and universal waste (cadmium compounds and mercury contained in manufactured articles)
- **Incineration:** Fluoroboric acid, glacial acetic acid, mercury thiocyanate, paint waste material, perchloric acid, polychlorinated biphenyls, and potassium permanganate
- **Fuel Blending and Energy Recovery:** Flammable liquid waste
- **Return to vender/owner:** Compressed gas cylinders and propane waste

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	6/6/12	001	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	6/8/12	002	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ Hazardous Waste, Solid, n.o.s., (Arsenic, Cadmium, Chromium, Cyanide), Class 9, UN3077, PGII	Solid Hazardous Waste (F006, F008, D004, D006, D007, D008)	(1) 25-yd ³ roll-off box	6/18/12	004354475FLE	Treatment and Disposal	Envirosafe Services of Ohio 876 Otter Creek Road Oregon, Ohio 43616
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	6/21/12	003	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Hazardous Waste Solid, n.o.s. (Arsenic, Cadmium, Chromium, Cyanide), Class 9, NA3077 PGII	Solid Hazardous Waste (F006, F008, D004, D006, D007, D008)	(1) 25-yd ³ roll-off box	6/26/12	004354473FLE	Treatment and Disposal	Envirosafe Services of Ohio 876 Otter Creek Road Oregon, Ohio 43616
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	6/29/12	004	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Hazardous Waste Solid, n.o.s. (Arsenic, Cadmium, Chromium, Cyanide), Class 9, NA3077 PGIII	Solid Hazardous Waste (F006, F008, D004, D006, D007, D008)	(1) 25-yd ³ roll-off box	7/3/12	004354477FLE	Treatment and Disposal	Envirosafe Services of Ohio 876 Otter Creek Road Oregon, Ohio 43616
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	7/12/12	005	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	7/18/12	006	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Waste Cyanide Solutions, n.o.s., Class 6.1, UN1935, PGII (Cyanide, Cadmium, Chromium, Selenium)	Cyanide Waste (F007, D006, D007, D010, D011)	880 gallons	7/31/12	010411950JJK	Treatment and Disposal	Dynecol, Inc. - CMF 6520 Georgia Street Detroit, MI 48211
RQ, Waste Cyanide Solutions, n.o.s., Class 6.1, UN1935, PGII (Cyanide, Cadmium, Chromium, Selenium)	Cyanide Waste (F008, D006, D007, D010, D011)	2560 gallons				
RQ, Waste Toxic Solid, inorganic, n.o.s., Class 6.1, UN3288, PGII (Cyanide)	Solid Toxic Waste (F008, D006)	6400 pounds				
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	8/2/12	007	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Waste Chromic Acid Solution, Class 8, UN1755, PGIII	Chromic Acid Waste (D002, D004, D006, D007, D008)	2700 gallons	8/2/12	010411037JJK	Treatment and Disposal	Dynecol, Inc. - CMF 6520 Georgia Street Detroit, MI 48211
RQ, Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., Class 8, UN3264, PGII (Hydrochloric acid, Sulfuric acid, chromium)	Acid Liquid Waste (D002, D006, D007, D011)	275 gallons 1200 gallons				
Unprepared Miscellaneous Steel	Scrap Metal	5960 pounds	8/2/12	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
RQ Hazardous waste, solid, N.O.S. (Arsenic, Cadmium, Cyanide) Class 9, UN3077, PGII	Solid Hazardous Waste (F006, F008, D004, D006, D007, D008)	(1) 25-yd ³ roll-off box	8/9/12	004354466FLE	Treatment and Disposal	Envirosafe Services of Ohio 876 Otter Creek Road Oregon, Ohio 43616
Waste Corrosive Liquid, Basic, Inorganic, n.o.s., Class 8, Hazardous Waste, UN3266, PGIII	Corrosive Liquid Waste, Basic (D002)	4638 gallons	8/10/12	010411219JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
RQ, Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., (Hydrochloric Acid, Sulfuric Acid, Chromium), Class 8, UN3264, PG II	Acid Liquid Waste (D002, D006, D007, D011)	1480 gallons 440 gallons	8/10/12	010411079JJK	Treatment and Disposal	Dynecol, Inc. - CMF 6520 Georgia Street Detroit, MI 48211
RQ, Corrosive Liquid, Acidic, Inorganic, n.o.s., (Nitric Acid, Chromium, Cadmium), Class 8, UN3264, PGII	Acid Liquid Waste (D002, D004, D006, D007, D008, D009)	1320 gallons				
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	8/15/12	008	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
Waste Chromic Acid Solution, Class 8, UN1755, PGIII	Chromic Acid Waste (D002, D004, D006, D007, D008, D011)	3200 gallons	8/17/12	010411337JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
		220 gallons				
Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., (Nitric Acid), Class 8, UN3264, PGII	Acid Liquid Waste (D002, D004, D006, D007, D008, D009)	640 gallons				
		150 gallons				
Unprepared Miscellaneous Steel	Scrap Metal	11,260 pounds	8/17/12	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
RQ, Hazardous Waste Solid, n.o.s., (Chromium, Cadmium), Class 9, NA3077, PGIII	Solid Hazardous Waste (D006, D007, D010)	(1) 22-yd ³ roll-off box	8/20/12	005607311FLE	Landfill	Michigan Disposal WTP 49350 North I-94 Service Drive Belleville, MI 48111
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	8/20/12	009	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Waste Corrosive Liquid, Basic, Inorganic, n.o.s., (NAOH, KOH), Class 8, UN3266, PGII	Corrosive Liquid Waste, Basic (D002)	3249 gallons	8/21/12	010411359JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	8/24/12	010	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Waste Cyanide Solution, n.o.s., (Cyanide, Cadmium, Chromium, Selenium), Class 6.1, UN1935, PGII	Cyanide Waste (D006, D007, D010, D011, F007)	1500 gallons	8/27/12	010413023JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
RQ, Waste Toxic Solids, Inorganic, n.o.s., (Cyanide, Cadmium), Class 6.1, UN3288, PGII	Solid Toxic Waste (D006, F008)	500 pounds				
		1900 pounds				
RQ, Waste Cyanide Solution, n.o.s., (Cyanide, Cadmium, Chromium, Selenium), Class 6.1, UN1935, PGII	Cyanide Waste (D006, D007, D010, D011, F008)	2200 gallons	8/27/12	010413024JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Argon, Compressed Non-Flammable Gas, Class 2.2, UN1006	Argon S	2 cylinders	8/27/12	21339090-00	Return to vendor/owner	Praxair 3625 South Main Street South Bend, IN 46614
Acetylene, Dissolved Flammable Gas, Class 2.1, UN1001	Acetylene WC	1 cylinder				
Helium/Argon, Compressed Non-Flammable Gas, n.o.s., Class 2.2, UN1956	Helium-Argon	1 cylinder				
Oxygen, Compressed Non-Flammable Gas, Class 2.2, UN1072	Oxygen	2 cylinders				
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	8/28/12	011	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
NA, Non-Hazardous Aqueous Solution, NA	Non-Hazardous Liquids (029L)	5465 gallons	8/28/12	010413028JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
		4967 gallons	8/28/12	010413027JJK		
Non-Hazardous Aqueous Solution	Non-Hazardous Liquids (029L)	4717 gallons	8/30/12	010413049JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
RQ, Hazardous Waste Liquid, n.o.s. (Chromium), Class 9, NA3082, PGIII	Hazardous Waste Liquid (D007)	3371 gallons	9/5/12	010413083JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	9/7/12	012	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Hazardous Waste, Liquid, n.o.s., (D006, D007, D038), Class 9, NA3082, PGIII, (D006, D007 (10#))	Hazardous Waste Liquid (D006, D007, D038)	3086 gallons	9/10/12	010130168JJK	Treatment and Disposal	Vickery Environmental, Inc. 3956 State Route 412 Vickery, OH 43464
Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., (Nitric Acid), Class 8, UN3264, PGII	Corrosive Liquid Waste, Acidic (D002, D004, D006, D007, D008, D009)	1280 gallons	9/10/12	010413107JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
		220 gallons				
Waste Chromic Acid Solution, Class 8, UN1755, PGIII	Chromic Acid Waste (D002, D004, D006, D007, D008, D011)	330 gallons				
		55 gallons				
Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., Class 8, UN3264, PGII	Corrosive Liquid Waste, Acidic (D002, D006, D007, D011)	1590 gallons	9/10/12	010413113JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
		110 gallons				
RQ, Waste Corrosive Liquid, Basic, Inorganic, n.o.s., (NAOH, KOH), Class 8, UN3266, PGIII	Corrosive Liquid Waste, Basic (D002)	280 gallons				
		55 gallons				

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
Argon, Compressed Non-Flammable Gas, Class 2.2, UN1006	Argon S	2 cylinders	9/11/12	21339090-00	Return to vendor/ owner	Praxair 3625 South Main Street South Bend, IN 46614
Acetylene, Dissolved Flammable Gas, Class 2.1, UN1001	Acetylene WC and WQ	4 cylinders				
Helium/Argon, Compressed Non-Flammable Gas, n.o.s., Class 2.2, UN1956	Helium-Argon	1 cylinder				
Oxygen, Compressed Non-Flammable Gas, Class 2.2, UN1072	Oxygen	3 cylinders				
Liquified Petroleum Gas, Flammable Gas, Class 2.1, UN1075	Propane Alum	1 cylinder				
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	9/14/12	013	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-Hazardous Aqueous Solution	Non-Hazardous Liquids (029L)	4310 gallons	9/14/12	010413050JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
RQ, Hazardous Waste Solid, n.o.s., (Cadmium), Class 9, NA3077, PGIII	Solid Hazardous Waste (D006)	(1) 15-yd ³ roll-off box	9/18/12	004354467FLE	Landfill	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Hazardous Aqueous Solution	Non-Hazardous Liquid (029L)	4717 gallons	9/19/12	010413265JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Unprepared Miscellaneous Steel	Scrap Metal	9280 pounds	9/19/12	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
RQ, Hazardous Waste Solid, n.o.s., (Cadmium), Class 9, NA3077, PGIII	Solid Hazardous Waste (D006)	(1) 15-yd ³ roll-off box	9/24/12	010413252JJK	Landfill	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Regulated Material	Non-Regulated Material	400 pounds	9/24/12	010413339JJK	Landfill	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Hazardous, Non-DOT-Regulated Sludge, NA	Non-Hazardous Regulated Sludge (029L)	2315 gallons			Treatment and Disposal	
		825 gallons				
RQ, Barium Compounds, n.o.s., (Barium Carbonate), Class 6.1, UN1564, PGIII	Barium Compounds (D005)	150 pounds	9/24/12	010413340JJK	Landfill	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
RQ, Waste Corrosive Liquid, Basic, Inorganic, n.o.s., (Sodium Hydroxide, Potassium Hydroxide), Class 8, UN3266, PGIII	Corrosive Liquid Waste, Basic (D002)	330 gallons			Treatment and Disposal	
RQ, Waste Cyanide Solution, n.o.s., (Cyanide, Cadmium, Chromium, Selenium) Class 6.1, UN1935, PGII	Cyanide Waste (D006, D007, D010, D011, F008)	165 gallons				
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	9/25/12	014	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Hazardous Waste Solid, n.o.s., (Cadmium), Class 9, NA3077, PGIII	Solid Hazardous Waste (D006)	(1) 15-yd ³ roll-off box	9/27/12	010413250JJK	Landfill	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Unprepared Miscellaneous Steel	Scrap Metal	7640 pounds	9/28/12	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
RQ, Hazardous Waste Solid, n.o.s., (Cadmium), Class 9, NA3077, PGIII	Solid Hazardous Waste (D006)	(1) 18-yd ³ roll-off box	10/1/12	010413251JJK	Landfill	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Hazardous- Solid Waste Debris, Non-Hazardous, Non-DOT, regulated solids (Profile #605533IN)	Solid Waste Debris	10 tons	10/8/12	016	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Material (Cyanide Wastewater)	Non-RCRA Material	4811 gallons	10/8/12	010461892JJK	Treatment and Disposal	Vickery Environmental, Inc. 3956 State Route 412 Vickery, OH 43464
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 25-yd ³ roll-off box	10/10/12	015	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Unprepared Miscellaneous Steel	Scrap Metal	7120 pounds	10/11/12	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	10/17/12	017	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
RQ, Hazardous Waste, Liquid, n.o.s., (Chromium, Mercury, Cadmium), Class 9, NA3082, PGIII	Hazardous Waste Liquid (D006, D007, D009)	1800 gallons	10/19/12	010413688JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
RQ, Hazardous Waste, Liquid, n.o.s., (Chromium, Cadmium, Silver), Class 9, NA3082, PGIII	Hazardous Waste Liquid (D006, D007, D011)	2100 gallons				
RQ, Hazardous Waste, Liquid, n.o.s., (Chromium), Class 9, NA3082, PGIII	Hazardous Waste Liquid (D007)	900 gallons				
RQ, Hazardous Waste, Liquid, n.o.s., (Copper Cyanide, Zinc Cyanide), Class 6.1, UN1588, PGII	Hazardous Waste Liquid (D003)	500 pounds				
RQ, Hazardous Waste, Liquid, n.o.s., (Chromium, Cadmium), Class 9, NA3082, PGIII	Hazardous Waste Liquid (D006, D007)	1595 gallons	10/19/12	010413689JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Waste Chromic Acid Solution, Class 8, UN1755, PGIII	Chromic Acid Waste (D002, D004, D006, D007, D008, D011)	110 gallons				
Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., (Hydrochloric Acid, Sulfuric Acid), Class 8, UN3264, PGII	Acid Liquid Waste (D002, D006, D007, D011)	165 gallons				
Hazardous Waste, Liquid, n.o.s., (Cadmium), Class 9, NA3082, PGIII	Hazardous Waste Liquid (D006)	715 gallons				
Non-Hazardous, Non-DOT-Regulated Sludge, NA	Non-Hazardous Regulated Sludge (029L)	275 gallons	10/19/12	010413691JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
		55 gallons				
Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., (Nitric Acid), Class 8, UN3264, PGII	Acid Liquid Waste (D002, D004, D006, D007, D008, D009)	110 gallons	10/19/12	010413694JJK	Treatment and Disposal	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
		640 gallons				
RQ, Ammonia Solution, Class 8, UN2672, PG III	Ammonia (029L)	190 gallons				
Calcium Hypochlorite, Hydrated Mixture, Class 5.1, UN2880, PG II	Calcium Hypochlorite (D001)	155 pounds			Recycling	
Non-DOT-Regulated Material (Calcium Hydroxide)	Calcium Hydroxide	1940 pounds	10/19/12	B5-101	Recycling	U.S. Ecology Michigan, Inc. 6520 Georgia Street Detroit, MI 48211
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	10/22/12	018	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	10/29/12	019	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-Hazardous- Solid Waste Debris, Non-Hazardous, Non-DOT, regulated solids (Profile #605533IN)	Solid Waste Debris	7.5 tons	10/31/12	020	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Hazardous Waste, Solid, n.o.s., (Arsenic, Cadmium, Chromium, Cyanide), Class 9, NA3077, PGIII	Solid Hazardous Waste (D004, D006, D007, D008, F006, F008)	(1) 25-yd ³ roll-off box	10/31/12	004354474FLE	Landfill	Envirosafe Services of Ohio 876 Otter Creek Road Oregon, Ohio 43616
Non-Hazardous- Solid Waste Debris, Non-Hazardous, Non-DOT, regulated solids (Profile #605533IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	11/1/12	022	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Environmentally Hazardous Substances, Liquid, n.o.s., (Chromium, Cadmium), Class 9, UN3082, PGIII, (D006, D007)	Hazardous Waste Liquid (D006, D007)	3840 gallons	11/13/12	010733870JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lycaste Street Detroit, Michigan 48214
RQ, Hazardous Waste Liquid, n.o.s., (Cadmium, Silver), Class 9, NA3082, PGIII, (D006, D011)	Hazardous Waste Liquid (D006, D011)	960 gallons				
RQ, Hazardous Waste Solid, n.o.s., (Chromium, Cadmium), Class 9, NA3077, PGIII	Solid Hazardous Waste (D006, D007, D010)	19,000 pounds	11/15/12	006186989FLE	Landfill	Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Belleville, Michigan
		1200 pounds				
		1650 pounds				
RQ, Waste Sodium Hypochlorite Solution, Class 8, UN1791, PGIII	Waste Sodium Hypochlorite (D002)	55 gallons			Treatment and Disposal	
RQ, Waste Corrosive Solid, Acidic, Inorganic, n.o.s., Class 8, UN3260, PGIII (Chromium, Sulfuric Acid)	Corrosive, Acidic, Hazardous Waste Solid (D007)	7500 pounds	11/15/12	006186990FLE	Treatment and Disposal	EQ Detroit, Inc. 1923 Frederick Street Detroit, Michigan 48211
Calcium Hydroxide (Non-DOT/Non-RCRA Regulated)	Calcium Hydroxide	2000 pounds				

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility		
RQ, Waste Sulfuric Acid Solution, Class 8, UN2796, PGII	Acid Liquid Waste (D002)	165 gallons	11/15/12	006186990FLE	Treatment and Disposal	EQ Detroit, Inc. 1923 Frederick Street Detroit, Michigan 48211		
RQ, Waste Corrosive Liquid, Acidic, n.o.s., (Sulfuric Acid, Ferric Sulfate), Class 8, UN3264, PGII	Acid Liquid Waste (D002)	55 gallons						
RQ, Waste Sodium Hydroxide, Class 8, UN1824, PGII	Sodium Hydroxide (D002)	95 gallons						
RQ, Waste Hydrogen Peroxide, Class 5.1, UN2014, PGII	Hydrogen Peroxide (D001)	110 gallons						
RQ, Hazardous Waste, Solid, n.o.s., (Sodium Hydrosulfite, Cyanide), Class 9, NA3077, PGII, (D003)	Hazardous Waste Solid (D003)	50 pounds 550 pounds	11/15/12	010733992JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lycaste Street Detroit, Michigan 48214		
RQ, Waste Environmentally Hazardous Substances, Liquid, n.o.s., (Cadmium), Class 9, UN3082, PGIII, (D006)	Hazardous Waste Liquid (D006)	2240 gallons 55 gallons						
RQ, Hazardous Waste, Liquid, n.o.s., (Cadmium, Silver), Class 9, NA3082, PGIII, (D006, D011)	Hazardous Waste Liquid (D006, D011)	215 gallons 440 gallons						
RQ, Waste Environmentally Hazardous Substances, Liquid, n.o.s., (Chromium, Cadmium), Class 9, UN3082, PGIII, (D006, D007)	Hazardous Waste Liquid (D006, D007)	960 gallons						
Waste Hydrogen Peroxide, 50%, Class 5.1, UN2014, PGII	Hydrogen Peroxide (D001, D002)	1 gallon						
Waste Chromic Acid Solution, Class 8, UN1755, PGII	Chromic Acid Waste (D001, D002, D007)	1 gallon						
Waste Sodium Cyanide Solution, Class 6.1, UN3414, PGI	Cyanide Waste (P106)	3 gallons						
Waste Potassium Cyanide, Solid, Class 6.1, UN1620, PGI	Cyanide Waste (P098)	3 pounds						
Waste Ammonium Sulfide, Class 8, UN2683, PGII	Ammonium Sulfide (D001, D002)	1 gallon						
Waste Fluoroboric Acid, Class 8, UN1755, PGII	Fluoroboric Acid (D002)	1 liter						
Waste Oxidizing Liquids, Toxic, n.o.s., (Sodium Nitrate, Sodium Dichromate), Class 5.1, UN3099, PGII	Toxic Liquid Waste (D001, D005, D007, D011)	10 gallons						
Waste Toxic Liquids, Organic, n.o.s., (Cadmium Oxide, Barium Chloride), Class 6.1, UN2810, PGII	Toxic Liquid Waste (D005, D006, D007, D008, D011, V044)	8 gallons						
Waste Cyanide Solutions, n.o.s., (Copper, Cyanide, Zinc Cyanide), Class 6.1, UN1935, PGII	Cyanide Waste (D006, P121, P030, P074, P029)	5 gallons						
Waste Perchloric Acid, 70%, Class 5.1, UN1873, PGI	Perchloric Acid (D001, D002)	1 gallon						
Waste Corrosive Liquids, Acidic, Organic, n.o.s., (Formaldehyde, Sulfuric Acid), Class 8, UN3265, PGII	Acid Liquid Waste (D002, D006, D007, D008, D011)	15 gallons						
Waste Corrosive Liquids, Toxic, n.o.s., (Sulfuric Acid, Mercuric Acid), Class 8, UN2922, PGII	Acid Liquid Waste (D002, D009)	1 liter						
RQ, Waste Corrosive Liquids, Basic, Inorganic, n.o.s., (Sodium Hydroxide, Sodium Hypochlorite), Class 8, UN3266, PGII	Corrosive Liquid Waste, Basic (D002)	12 gallons						
Waste Amines, Liquid, Corrosive, Flammable, n.o.s., (Thiethanoamine, Ethylenediamine), Class 8, UN2734, PGII	Corrosive and Flammable Liquid Waste (D001, D002, D006)	1 gallon						
Non-regulated Material	Non-Regulated Material	300 pounds						
Waste Glacial Acetic Acid, Class 8, UN2789, PGII	Glacial Acetic Acid (D001, D002)	1 gallon					Incineration	
RQ, Waste Paint Related Material, Class 3, UN1263, PGII	Paint Related Material (D001)	20 gallons						
RQ, Waste Potassium Permanganate, Class 5.1, UN1490, PGII, (D001)	Potassium Permanganate (D001)	350 pounds						

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
RQ, Waste Flammable Liquid, n.o.s., (Mineral Spirits, Xylene, Naphtha), Class 3, UN1993, PGII, (D001, D005, D007, D038)	Flammable Liquid Waste (D001, D005, D007, D038)	85 pounds	11/15/12	010733992JJK	Fuel Blending and Energy Recovery	Petro-Chem Processing, Inc. 515 Lyncaste Street Detroit, Michigan 48214
Waste Flammable Liquids, n.o.s., (Mineral Spirits, Methanol), Class 3, UN1993, PGII	Flammable Liquid Waste (D001, O154, O196)	3 gallons				
Waste Aerosols, Class 2.1, UN1950 (Limited Quantity)	Waste Aerosol (D001)	20 pounds				
Waste Propane, Class 2.1, UN1975	Waste Propane (D001)	2 pounds				
Waste Mercury Thiocyanate, Class 6.1, UN1646, PGII	Mercury Thiocyanate (D009)	1 liter			Landfill	
Cadmium Compounds, (NiCd batteries), Solid, Class 6.1, PGII, UN2570	Universal Waste	2 pounds				
Mercury Contained in Manufactured Articles, Class 8, UN2809, PGIII	Universal Waste	10 pounds				
RQ, Hazardous Waste, Liquid, n.o.s., (Cadmium, Silver), Class 9, NA3082, PGIII, (D006, D011)	Hazardous Waste Liquid (D006, D011)	165 gallons	11/27/12	010740976JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lyncaste Street Detroit, Michigan 48214
		55 gallons				
		165 gallons				
RQ, Waste Environmentally Hazardous Substances, Liquid, n.o.s., (Chromium, Cadmium, Silver), Class 9, UN3082, PGIII	Hazardous Waste Liquid (D006, D007, D011)	275 gallons				
		3200 gallons				
Non-Hazardous- Solid Waste Debris, Non-Hazardous, Non-DOT, regulated solids (Profile #605533IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	11/29/12	023	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Polychlorinated Biphenyls, Solid, UN3432, Class 9, PGII	Polychlorinated Biphenyls (PA502)	203 kilograms	11/29/12	010741138JJK	Incineration	Republic Environmental Systems 2869 Sandstone Drive Hatfield, Pennsylvania 19440
Nonhazardous, Non DOT Regulated Sludge	Non-Hazardous Regulated Sludge	275 gallons	11/29/12	010741136JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lyncaste Street Detroit, Michigan 48214
		825 gallons				
		320 gallons				
RQ, Hazardous Waste, Liquid, n.o.s., (Barium, Cadmium, Chromium, Lead), Class 9, NA3082, PGIII, (D005, D006, D007, D008)	Hazardous Waste Liquid (D005, D006, D007, D008)	220 gallons				
		55 gallons				
		110 gallons				
Waste Corrosive Liquid, Basic, Inorganic, n.o.s., (Cadmium, Chromium), Class 8, UN3266, PGII	Corrosive Liquid Waste, Basic (D002, D006, D007)	320 gallons				
RQ, Waste Corrosive Liquid, Acidic, Inorganic, n.o.s., (Chromium, Sulfuric Acid), Class 8, UN3264, PGII, (D002, D007)	Acid Liquid Waste (D002, D004, D006, D007, D008, D009)	55 gallons				
		285 gallons				
RQ, Waste Environmentally Hazardous Substances, Liquid, n.o.s. (Cadmium, Cyanide), Class 9, UN3082, PGIII, (D006)	Hazardous Waste Liquid (D006)	110 gallons				
		320 gallons				
Waste Potassium Hydroxide, Solid, Class 8, UN1813, PGII	Waste Potassium Hydroxide	850 pounds				
RQ, Hazardous Waste, Liquid, n.o.s., (Cadmium, Silver), Class 9, NA3082, PGIII, (D006, D011)	Hazardous Waste Liquid (D006, D011)	55 gallons				
		330 gallons				
RQ, Waste Environmentally Hazardous Substances, Liquid, n.o.s., (Chromium, Cadmium, Silver), Class 9, UN3082, PGIII	Hazardous Waste Liquid (D006, D007, D011)	110 gallons				
Environmentally Hazardous Substances, Solid, n.o.s., (Fluorescent Bulbs for Recycling- Universal Waste), Class 9, UN3077,PGIII	Environmentally Hazardous Substance	555 pounds				
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	3/29/13	1-13	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Unprepared Miscellaneous Steel	Scrap Metal	9760 pounds	4/1/13	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
Unprepared Miscellaneous Steel	Scrap Metal	9620 pounds	4/3/13	NA	Recycling	OmniSource Corporation 1305 Praire Avenue South Bend, Indiana
Non-RCRA Hazardous Aqueous Liquid (Profile #607707IN)	Non-Hazardous Liquid	2995 gallons	4/18/13	NHBL-001	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3175 gallons	4/18/13	NHBL-002	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3095 gallons	4/18/13	NHBL-003	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3124 gallons	4/18/13	NHBL-004	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	4/18/13	010244849JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	4/19/13	010244848JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	4/23/13	010244953JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3150 gallons	4/23/13	NHBL-005	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3195 gallons	4/23/13	NHBL-006	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3287 gallons	4/23/13	NHBL-007	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3208 gallons	4/23/13	NHBL-008	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	4/25/13	010244954JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3398 gallons	4/30/13	NHBL-009	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3275 gallons	4/30/13	NHBL-010	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3255 gallons	4/30/13	NHBL-011	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3190 gallons	4/30/13	NHBL-012	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	2805 gallons	4/30/13	NHBL-013	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	5/1/13	010244955JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	5/2/13	010244956JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
RQ, Hazardous Waste, Liquid, n.o.s., (Cadmium, Chromium), Class 9, PGIII, (D006, D007)	Hazardous Waste Liquid (D006, D007)	5,000 gallons	5/3/13	010012712JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lycaste Street Detroit, Michigan 48214
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	5/6/13	010244957JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	3175 gallons	5/6/13	NHBL-014	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Non-RCRA Hazardous Aqueous Liquid (Profile #6077071N)	Non-Hazardous Liquid	2050 gallons	5/6/13	NHBL-015	Treatment and Disposal	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595

Table 2
Waste Materials Disposition Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Description	Waste Stream	Container Total	Date	Manifest No.	Disposal Method	Disposal Facility
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	5/7/13	010244958JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 30-yd ³ roll-off box	5/7/13	NH025	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
RQ, Hazardous Waste, Liquid, n.o.s., (Cadmium, Chromium), Class 9, PGIII, (D006, D007)	Hazardous Waste Liquid (D006, D007)	4100 gallons	5/8/13	010012783JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lycaste Street Detroit, Michigan 48214
Non-Hazardous- Solid Waste Debris, Non-Hazardous, Non-DOT, regulated solids (Profile #605533IN)	Solid Waste Debris	(1) 20-yd ³ roll-off box	5/8/13	NHBS-001	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	5/10/13	010242711JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	(1) 20-yd ³ roll-off box	5/10/13	010242712JJK	Treatment and Disposal	Envirite of Illinois, Inc 16435 South Center Avenue Harvey, IL 60426
Hazardous Waste Solid, n.o.s., (Cadmium, Chromium), Class 9, NA3077, PGIII, ERG #171	Hazardous Waste Solid (D006, D007)	385 gallons	5/10/13	010012851JJK	Treatment and Disposal	Petro-Chem Processing, Inc. 515 Lycaste Street Detroit, Michigan 48214
Non-Hazardous- Solid Waste Debris, RCRA empty aerosol cans/cylinders (Profile #606744IN)	Solid Waste Debris	(1) 10-yd ³ roll-off box	5/10/13	NH026	Landfill	Waste Management-Prairie View RDF 15505 Shively Road Wyatt, IN 46595

Notes:

DOT - United States Department of Transportation
NA - Not applicable
RCRA - Resource Conservation and Recovery Act

yd³ - Cubic yard
WTP - Waste Treatment Plant

Table 3
Waste Disposal Totals Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Waste Stream	Acid Liquid Waste	Ammonia	Ammonium Sulfide	Aerosol Containers	Barium Compounds	Batteries
Characterization	Hazardous	Hazardous	Hazardous	Non-Hazardous	Hazardous	Non-Hazardous
Disposal Method	Treatment and Disposal	Treatment and Disposal	Treatment and Disposal	Landfill	Landfill	Recycling
Unit	gallons	gallons	gallons	pounds	pounds	batteries
Total Units	6,995	190	1	20	150	4

Waste Stream	Calcium Hydroxide	Calcium Hypochlorite	Chromic Acid Waste	Corrosive Liquid Waste, Acidic	Corrosive Liquid Waste, Basic	Corrosive, Flammable Liquid Waste
Characterization	Hazardous	Non-Hazardous	Hazardous	Hazardous	Hazardous	Hazardous
Disposal Method	Treated and Recycled	Treated and Recycled	Treatment and Disposal	Treatment and Disposal	Treatment and Disposal	Treatment and Disposal
Unit	pounds	pounds	gallons	gallons	gallons	gallons
Total Units	3,940	155	6,616	3,200	8,884	1

Waste Stream	Corrosive Solid Waste, Acidic	Cyanide Waste	Cyanide Waste	Cylinders	Environmentally Hazardous Substance	Flammable Liquid Waste
Characterization	Hazardous	Hazardous	Hazardous	Non-Hazardous	Non-Hazardous	Hazardous
Disposal Method	Treatment and Disposal	Treatment and Disposal	Treatment and Disposal	Return to vendor/owner	Recycling	Blending and Recovery
Unit	pounds	gallons	pounds	cylinder	pounds	gallons
Total Units	7,500	7,313	3	17	555	3

Waste Stream	Flammable Liquid Waste	Fluoroboric Acid	Glacial Acetic Acid	Glass (clear)	Hazardous Waste Liquid	Hazardous Waste Liquid
Characterization	Hazardous	Hazardous	Hazardous	Non-Hazardous	Hazardous	Hazardous
Disposal Method	Blending and Recovery	Incineration	Incineration	Recycling	Treatment and Disposal	Treatment and Disposal
Unit	pounds	liter	gallons	pounds	gallons	pounds
Total Units	85	1	1	2	36,547	500

Waste Stream	Hydrogen Peroxide	Mercury Thiocyanate	Metal (aluminum, steel/bimetal cans)	Non-Hazardous Waste Liquid	Non-Hazardous Regulated Sludge	Non-Regulated Material
Characterization	Hazardous	Hazardous	Non-Hazardous	Non-Hazardous	Non-Hazardous	Non-Hazardous
Disposal Method	Treatment and Disposal	Incineration	Recycling	Treatment and Disposal	Treatment and Disposal	Treatment and Disposal
Unit	gallons	liter	pounds	gallons	gallons	pounds
Total Units	111	1	10.5	70,553	4,890	700

Table 3
Waste Disposal Totals Summary
Baycote Metals Finishing Site
Mishawaka, St. Joseph County, Indiana

Waste Stream	Non-RCRA Material	Paint Waste Material	Paper (office, newspaper quality, corrugated cardboard)	Perchloric Acid	Plastic (water bottles, PETE #1, HDPE #2)	Polychlorinated Biphenyls
Characterization	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous	Non-Hazardous	Non-Hazardous
Disposal Method	Treatment and Disposal	Incineration	Recycling	Incineration	Recycling	Incineration
Unit	gallons	gallons	pounds	gallon	pounds	kilograms
Total Units	4,811	20	71.5	1	16	203

Waste Stream	Potassium Hydroxide	Potassium Permanganate	Propane Waste	Scrap Metal	Sodium Hydroxide	Sodium Hypochlorite
Characterization	Non-Hazardous	Hazardous	Hazardous	Non-Hazardous	Hazardous	Hazardous
Disposal Method	Treatment and Disposal	Incineration	Return to vendor/owner	Recycling	Treatment and Disposal	Treatment and Disposal
Unit	pounds	pounds	pounds	pounds	gallons	gallons
Total Units	850	350	2	60,640	95	55

Waste Stream	Solid Hazardous Waste	Solid Hazardous Waste	Solid Hazardous Waste	Solid Hazardous Waste	Solid Hazardous Waste	Solid Hazardous Waste
Characterization	Hazardous	Hazardous	Hazardous	Hazardous	Hazardous	Hazardous
Disposal Method	Landfill	Landfill	Landfill	Landfill	Landfill	Landfill
Unit	25-yd ³ roll-off box	22-yd ³ roll-off box	15-yd ³ roll-off box	18-yd ³ roll-off box	20-yd ³ roll-off box	pounds
Total Units	5	1	3	1	10	22,450

Waste Stream	Solid Hazardous Waste	Solid Waste Debris	Solid Waste Debris	Solid Waste Debris	Solid Waste Debris	Solid Waste Debris
Characterization	Hazardous	Non-Hazardous	Non-Hazardous	Non-Hazardous	Non-Hazardous	Non-Hazardous
Disposal Method	Landfill	Landfill	Landfill	Landfill	Landfill	Landfill
Unit	gallon	30-yd ³ roll-off box	tons	25-yd ³ roll-off box	20-yd ³ roll-off box	10-yd ³ roll-off box
Total Units	385	21	17.5	1	1	1

Waste Stream	Toxic Waste Liquid	Toxic Waste Solid	Universal Waste
Characterization	Hazardous	Hazardous	Non-Hazardous
Disposal Method	Treatment and Disposal	Treatment and Disposal	Recycling
Unit	gallons	pounds	pounds
Total Units	18	8,800	12

Notes:

RCRA - Resource Conservation and Recovery Act

yd³ - Cubic yard

3. Public Information and Community Relations Activity

On September 20, 2012, the EPA met with state, local, and hospital officials. The following also were present: Mayor of Mishawaka; MFD; MPD; EMA personnel; St. Joseph Hospital staff; Mishawaka Utilities, Building, and Wastewater Departments; and IDEM staff. MFD Area 6 Chief Cocquyt discussed the response to the incident at the Site on September 14 and 15, 2012. OSC Atkociunas discussed the removal project, waste management, the incident, response actions, and work remaining at the Site. OSC Atkociunas also provided local authorities with four large laminated copies of the Site map.

On September 26, 2012, the EPA conducted community outreach activities (residences and businesses) and issued fact sheets.

In October 2012, OSC Atkociunas held a meeting with the residents of the Penelope 60 Apartments. The senior community was evacuated during the September 14 incident. OSC Atkociunas discussed removal activities to date, the incident, and future activities planned for the Site. Approximately 15 residents attended the meeting. In addition, students from Penn High School interviewed OSC Atkociunas regarding Site activities for an environmental science class.

E. RESOURCES COMMITTED

Extramural Costs as of May 09, 2013:

Total ERRS Contractor Costs:	\$1,460,000
Total WESTON START Costs:	\$ 225,500
Extramural Subtotal	\$ 0
 Estimated Total Project Costs	 \$1,685,500
 Project Ceiling	 \$1,852,500

II. EFFECTIVENESS OF REMOVAL ACTIVITIES

A. ACTIONS TAKEN BY PRPs

Not applicable

B. ACTIONS TAKEN BY STATE AND LOCAL FORCES

Not applicable

C. ACTIONS TAKEN BY FEDERAL AGENCIES AND SPECIAL TEAMS

In December 2011, the EPA performed a site assessment and determined that a time-critical removal was necessary. On May 29, 2012, the EPA initiated the removal action. The EPA used its Region 5 ERRS contractor to conduct the removal action activities and its Region 5 START contractor to provide oversight, including preparation of written and photographic logs of Site activities, air monitoring, and sample collection. The EPA provided management and oversight of the removal action.

D. ACTIONS TAKEN BY CONTRACTORS, PRIVATE GROUPS, AND VOLUNTEERS

The EPA ERRS contractor, ER, removed 57 waste streams from the Site. The ERRS contractor also coordinated the transportation and disposal of all waste streams and arranged for Site security, utilities, the structural survey, and laboratory services needed to perform the removal action. The structural survey subcontractor to ERRS was Keller Engineering, Inc., and is located at 54365 30th Street in South Bend, Indiana. The contracted laboratories that performed all analyses required during removal action activities were Microbac Laboratories located at 250 West 84th Drive in Merrillville, Indiana, and Pace Analytical Services located at 7726 Moller Road in Indianapolis, Indiana. The ERRS contractor procured all subcontractors.

The EPA START contractor, WESTON, provided technical support for the EPA while on site. In addition, WESTON START performed general and health and safety oversight, documented all Site activities, conducted air monitoring and sampling, and performed WESTON START-related cost tracking.

III. DIFFICULTIES ENCOUNTERED

A. ITEMS THAT AFFECTED THE RESPONSE

Not applicable

B. ISSUES OF INTERGOVERNMENTAL COORDINATION

Not applicable

C. DIFFICULTIES INTERPRETING, COMPLYING WITH, OR IMPLEMENTING POLICIES AND REGULATIONS

Not applicable

IV. RECOMMENDATIONS

A. MEANS TO PREVENT RECURRENCE OF THE DISCHARGE OR RELEASE

The activity summarized below was conducted to prevent recurrence of a potential discharge or release at the Site.

- Vats with liners that could be removed and properly cleaned were sent for scrap recycling. All other vats, including adhered liners, were emptied, cleaned, and rendered unusable.

B. MEANS TO IMPROVE RESPONSE ACTIONS

Not applicable

C. PROPOSALS FOR CHANGES IN REGULATIONS AND RESPONSE PLANS

Not applicable

ATTACHMENT A
PHOTOGRAPHIC DOCUMENTATION



Site: Baycote Metals Finishing Site

Photograph No.: 1

Direction: East

Subject: Front of Baycote Metals Finishing Site building

Date: 6/29/12

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 2

Direction: Southeast

Subject: Decontamination line in CRZ of Site building

Date: 6/4/12

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site
Photograph No.: 3
Direction: North
Subject: Air monitoring equipment in Area U

Date: 6/11/12
Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site
Photograph No.: 4
Direction: East
Subject: HAZCAT samples collected from various containers at the Site

Date: 6/19/12
Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 5

Date: 7/24/12

Direction: East

Photographer: Jeff Bryniarski

Subject: ERRS contractor removing plating process piping and wiring from a vat in Area H



Site: Baycote Metals Finishing Site

Photograph No.: 6

Date: 7/10/12

Direction: South

Photographer: Jeff Bryniarski

Subject: ERRS contractor performing confined space entry to remove sludge from pit in Area A



Site: Baycote Metals Finishing Site

Photograph No.: 7

Date: 6/26/12

Direction: East

Photographer: Jeff Bryniarski

Subject: ERRS contractor transferring acid liquid into DOT-approved, shippable, 330-gallon tote



Site: Baycote Metals Finishing Site

Photograph No.: 8

Date: 6/27/12

Direction: South

Photographer: Jeff Bryniarski

Subject: ERRS contractor cleaning steel vat previously containing acid solids



Site: Baycote Metals Finishing Site

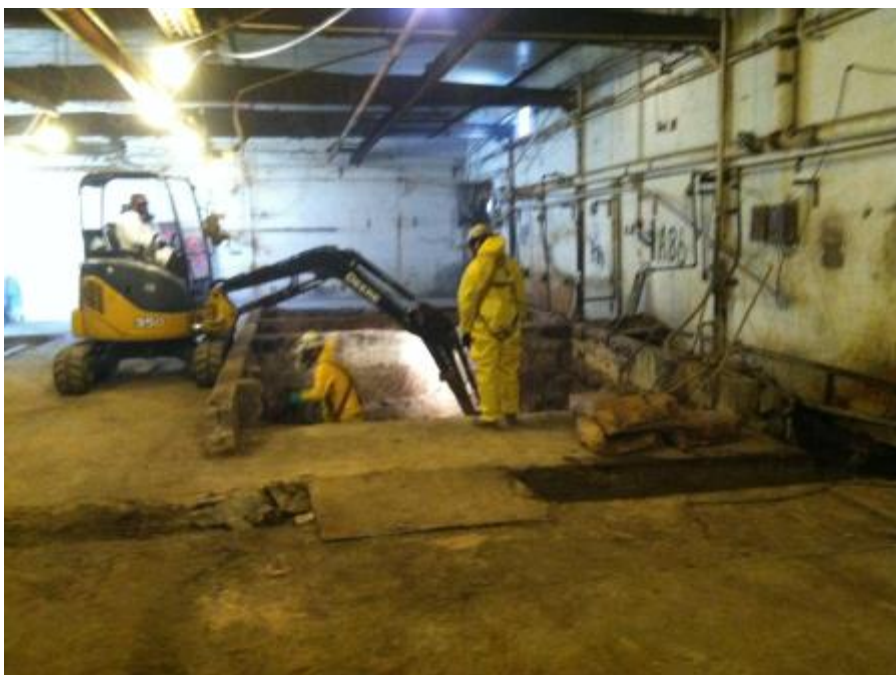
Photograph No.: 9

Date: 9/11/12

Direction: East

Photographer: Jeff Bryniarski

Subject: ERRS contractor add solidification agent to sludge in pit in Area A



Site: Baycote Metals Finishing Site

Photograph No.: 10

Date: 9/26/12

Direction: West

Photographer: Jeff Bryniarski

Subject: ERRS contractor removing solids from pit in Area A



Site: Baycote Metals Finishing Site

Photograph No.: 11

Date: 9/26/12

Direction: South

Photographer: Jeff Bryniarski

Subject: ERRS contractor transferring solids from Area A into roll-off box



Site: Baycote Metals Finishing Site

Photograph No.: 12

Date: 9/21/12

Direction: Northwest

Photographer: Jeff Bryniarski

Subject: ERRS contractor cutting apart Tank E-6 after sludge has been removed from tank



Site: Baycote Metals Finishing Site

Photograph No.: 13

Date: 10/4/12

Direction: North

Photographer: David Sena

Subject: ERRS contractor using chop saw to render steel vat in Area Z unusable



Site: Baycote Metals Finishing Site

Photograph No.: 14

Date: 8/27/12

Direction: West

Photographer: Jeff Bryniarski

Subject: Shipment of containerized cyanide waste for off-site disposal



Site: Baycote Metals Finishing Site

Photograph No.: 15

Date: 10/17/12

Direction: West

Photographer: Jeff Bryniarski

Subject: U.S. EPA FIELDs Team member conducting geophysical survey of field east of Site building



Site: Baycote Metals Finishing Site

Photograph No.: 16

Date: 10/22/12

Direction: East

Photographer: David Sena

Subject: ERRS contractor using excavator to investigate anomaly detected during U.S. EPA FIELDs Team geophysical survey



Site: Baycote Metals Finishing Site

Photograph No.: 17

Date: 10/24/12

Direction: North

Photographer: David Sena

Subject: ERRS contractor cutting fume hood duct work in Area U



Site: Baycote Metals Finishing Site

Photograph No.: 18

Date: 11/1/2012

Direction: East

Photographer: David Sena

Subject: ERRS contractor pumping liquid from tank in Area W



Site: Baycote Metals Finishing Site

Photograph No.: 19

Direction: Southwest

Subject: Laboratory packs of small chemical containers staged in Area J

Date: 10/24/12

Photographer: David Sena



Site: Baycote Metals Finishing Site

Photograph No.: 20

Direction: Northwest

Subject: Transport of eight rubber-lined steel vats from Site for recycling

Date: 10/22/12

Photographer: David Sena



Site: Baycote Metals Finishing Site

Photograph No.: 21

Direction: Northwest

Subject: Area E, location of all staged wastes remaining at Site before ERRS contractor demobilization

Date: 11/1/12

Photographer: David Sena



Site: Baycote Metals Finishing Site

Photograph No.: 22

Direction: North

Subject: ERRS contractor prepping Area W

Date: 3/20/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 23

Direction: West

Subject: ERRS contractor removing collapsed roof in Area W

Date: 3/26/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 24

Direction: East

Subject: ERRS contractor cleaning up collapsed roof debris in Area W

Date: 3/26/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 25

Direction: Northeast

Subject: ERRS contractor removing collapsed roof in Area W

Date: 3/27/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 26

Direction: West

Subject: Area W

Date: 4/2/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 27

Direction: East

Subject: ERRS contractor filling trenches in Area W

Date: 4/2/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 28

Direction: West

Subject: ERRS contractor removing wastes in Area W

Date: 4/3/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 29

Direction: Northwest

Subject: ERRS contractor solidifying solid wastes in Area W

Date: 4/3/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 30

Direction: East

Subject: ERRS contractor removing underground poly tanks in Area W

Date: 4/15/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 31

Direction: East

Subject: ERRS contractor cleaning underground tank areas in Area W

Date: 4/24/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 32

Direction: East

Subject: ERRS contractor filling in areas in Area W

Date: 4/24/13

Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site

Photograph No.: 33

Date: 4/25/13

Direction: North

Photographer: Jeff Bryniarski

Subject: ERRS contractor removing underground metal structures in Area W



Site: Baycote Metals Finishing Site

Photograph No.: 34

Date: 4/30/13

Direction: East

Photographer: Jeff Bryniarski

Subject: ERRS contractor cleaning underground tank areas in Area W



Site: Baycote Metals Finishing Site
Photograph No.: 35
Direction: Northeast
Subject: ERRS contractor filling in areas in Area W

Date: 4/30/13
Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site
Photograph No.: 36
Direction: East
Subject: ERRS contractor filling in areas in Area W

Date: 5/1/13
Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site
Photograph No.: 37
Direction: West
Subject: ERRS contractor filling in areas in Area W

Date: 5/2/13
Photographer: Jeff Bryniarski



Site: Baycote Metals Finishing Site
Photograph No.: 38
Direction: East
Subject: Completed backfill of Area W

Date: 5/3/13
Photographer: Jeff Bryniarski

ATTACHMENT B
ANALYTICAL RESULTS
