

**SITE ASSESSMENT REPORT  
FOR  
DETROIT TUBULAR RIVET SITE  
WYANDOTTE, WAYNE COUNTY, MICHIGAN**

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
Region V  
Emergency Response Branch No. 1  
9311 Groh Road  
Grosse Ile, MI 48138

Prepared by:

**WESTON SOLUTIONS, INC.**  
Suite R  
360 East Maple Road  
Troy, MI 48083

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WESTON START Project Manager:	Alexandra Clark
Telephone No.:	(248) 658-5015
U.S. EPA On-Scene Coordinators:	Brian Kelly/ Elizabeth Nightingale

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February 28, 2012

Prepared by: Matthew C. Beer Date: February 28, 2012  
Matthew Beer  
WESTON START Member

Reviewed by: Alexandra Clark Date: February 28, 2012  
Alexandra Clark  
WESTON START Project Manager

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## LIST OF ABBREVIATIONS AND ACRONYMS

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AST	Aboveground storage tank
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<i>Code of Federal Regulations</i>
DTR	Detroit Tubular Rivet, Inc.
ft	Feet
MDEQ	Michigan Department of Environmental Quality
mg/L	Milligram per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
No.	Number
OSC	On-Scene Coordinator
Poly	Polyethylene
SA	Site assessment
START	Superfund Technical Assessment and Response Team
SU	Standard unit
TCLP	Toxicity characteristic leaching procedure
µg/kg	Microgram per kilogram
U.S. EPA	United States Environmental Protection Agency
WESTON	Weston Solutions, Inc.

## 1. INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON<sup>®</sup>), Superfund Technical Assessment and Response Team (START) to assist the U.S. EPA On-Scene Coordinators (OSCs) in performing a site assessment (SA) at the Detroit Tubular Rivet site in Wyandotte, Wayne County, Michigan (the Site). Under Technical Direction Document No. S05-0001-1201-014, U.S. EPA requested WESTON START to collect samples from drums and containers of unknown contents located at the Site. The purpose of the sampling was to determine the presence of hazardous substances in Site buildings. WESTON START also collected written and photographic documentation of Site conditions, performed air monitoring, and evaluated the potential for imminent and substantial threats to the public health or welfare or the environment. WESTON START conducted the SA on January 30, 2012.

This SA report is organized into the following sections:

- **Introduction** – Provides a brief description of the objectives and scope of SA activities
- **Site Background** – Details the Site description and history
- **Site Assessment Activities** – Discusses the methods and procedures used during the SA
- **Analytical Results** – Discusses analytical results for samples collected during the SA
- **Threats to Human Health and the Environment** – Identifies conditions at the Site that may warrant a removal action under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
- **Conclusions** – Provides a summary of the SA findings

Figures and tables are presented after the conclusions section. In addition, this SA report contains two appendices. **Appendix A** provides a photographic log of Site conditions during the SA, and **Appendix B** provides the laboratory analytical report and data validation report for samples collected during the SA.

## 2. SITE BACKGROUND

The Site is located at 1213 Grove Street in Wyandotte, Wayne County, Michigan (**Figure 2-1**). The coordinates of the Site are 42°11'30.00" North latitude and 83°10'05.00" West longitude. The Site is in a mixed light industrial and residential area and is bordered by Grove Street and industrial properties to the north, industrial properties and railroad tracks to the east, industrial properties to the south, and 14<sup>th</sup> Street, residences, and Monroe Elementary School to the west (**Figure 2-2**). Monroe Elementary School is located 400 feet (ft) directly west, and the nearest residences are located 200 ft northwest of the Site. The Trenton Channel of the Detroit River is approximately 0.8 mile southeast of the Site.

The Site contains a one story building occupying a total of approximately 53,000 square ft with several concrete parking and undeveloped grassy areas. Detroit Tubular Rivet, Incorporated (DTR) used the Site for production of steel, brass, and aerospace metal rivets as well as zinc and brass electroplating services. DTR began business at the Site in the early 1960s until filing bankruptcy in 2010. The Site is no longer operational and nearly all equipment was sold off at auction.

On January 12, 2012, the Michigan Department of Environmental Quality (MDEQ) issued a violation notice to the Site owner in response to a follow-up inspection that occurred on December 13, 2011. The purpose of the inspection was to evaluate DTR's compliance with Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451. MDEQ noted 16 hazardous and liquid industrial waste violations including failure to perform the following: minimize the possibility of fire, explosion, or release of hazardous waste which could threaten human health and/or the environment; maintain containers of hazardous waste in good condition; maintain closed hazardous waste containers except when adding or removing waste; and manage waste in a manner that prevents the discharge of liquid industrial waste into the soil, surface water, groundwater, or a drain or sewer.

### **3. SITE ASSESSMENT ACTIVITIES**

SA activities included a Site reconnaissance, container inventory, and drum sampling. During the SA, WESTON START conducted air monitoring using a RAE Systems ToxiRAE hydrogen cyanide meter and a MultiRAE multi-gas air monitor to monitor air in the breathing zone for carbon monoxide, hydrogen sulfide, lower explosive limit, oxygen, and volatile organic compounds. All ambient air monitoring readings were at or below background levels. WESTON START also used a Ludlum Model 19 MicroR Meter to monitor for radioactive materials at the Site; no such materials were identified.

The following sections discuss the Site reconnaissance, Site observations, and sampling activities conducted during the SA.

#### **3.1 SITE RECONNAISSANCE**

On January 30, 2012, the U.S. EPA and WESTON START mobilized to the Site. After a brief safety meeting and equipment setup, U.S. EPA and WESTON START personnel conducted a Site reconnaissance to perform air monitoring and identify containers and sampling locations. The property owner was present during the SA for a short time period to answer questions and provide a general tour of the facility. During the Site reconnaissance, written and photographic documentation of current Site conditions were collected and potential environmental threats and sampling locations were noted. **Appendix A** provides photographic documentation of Site conditions at the time of the Site reconnaissance.

#### **3.2 SITE OBSERVATIONS**

During the SA, the Site was non-operational and vacant but chemicals and a few pieces of equipment associated with Site operations were still present. The building consisted of offices to the north end with the remainder of the facility made up by warehouse space used for industrial processes, shipping, and storage. A zinc/brass electroplating line was once in place on the west end of the Site building, but it has since been auctioned off, dismantled, and removed. At least one manhole cover was identified within the Site building; other covers or floor drains could



potentially exist but may have been obstructed from view by containers or debris. Two storm water grates were documented along the Site perimeter, one each on Grove Street and 14<sup>th</sup> Street.

The Site building contained various open and closed aboveground storage tanks (AST), vats, totes, drums, and small containers. Only one small area within the building had a secondary containment surrounding stored containers. The building contained an estimated 300+ containers of various sizes, which were stored in approximately 11 areas; a small laboratory; waste water settling tanks used for plating operations; and various areas with floor stains and releases of oil, grease, and possible plating waste solids. Most of the on-site containers were in good overall condition, but some drums showed signs of deterioration, damage, or possible leaking. Several areas of the building contained trenches and pits and were partially filled to overflowing with what appeared to be yellow/green liquids, oil and sludge, or antifreeze. An approximately 10-cubic-yard roll-off dumpster was located on the west exterior side of the Site building, within a shipping/receiving dock. The dumpster contained electroplating waste water solids, and was unsecured and easily accessible, unlabeled, and covered with only a thin layer of plastic sheeting.

The Site had limited perimeter fencing on the east side of the building, but access to the Site was not restricted along the majority of the property perimeter. The building appeared secure, with doors and windows intact except for one window, which had been shattered on the west side of the building. The breakage appears to have occurred during a probable act of trespass/vandalism because the window is located at an elevated position and in an area where accidental breakage would be unlikely. Attempts have been made by the building owner to block the window from the inside of the building using plywood, a pallet, and other miscellaneous items. In addition, two small access points into the Site building were documented. An unobstructed hole in the roof appears to have once been the site of a vent pipe. The hole in the roof is approximately 12 inches in diameter, and positioned directly above stored drums and containers. An approximate 8-inch-square hole is present through the west side of the Site building, near the laboratory, where small-animal tracks to the building interior were observed.

WESTON START and U.S. EPA inventoried the ASTs, tanks, totes, drums, pits, trenches, and small containers to determine the approximate quantity of containers and materials at the Site.

**Table 3-1** summarizes the container inventory by area, and **Figure 3-1** shows the approximate location and area identification numbers where the containers were observed.

During the inventory, U.S. EPA and WESTON START identified approximately 180 small containers with a capacity of 5 or less gallons; one pallet and eight bags of material; 100 steel, polyethylene (poly), and fiber drums; five poly totes; 10 poly vats; two ASTs; one roll-off dumpster; and six trenches and pits. Labels on containers and drums indicated the possible presence of such chemicals as household cleaners, paint/primer/sealers, oil/waste oil, hydrogen peroxide, methylene chloride, cyanides, various corrosives, and oxidizers. In addition, numerous containers of unknown solids and liquids and suspected mislabeled containers were documented.

A group of approximately seven steel 55-gallon drums were placarded with hazardous waste decals and labeled as containing “methylene chloride”. The drums were mostly full, two had been crushed, and several were also improperly labeled with other identifiers, such as “mineral spirits” and “Extrudex 730”. Another group of drums, stored in a steel cage labeled poison, contained 7 steel drums labeled as copper cyanide and sodium cyanide along with 3 unlabeled fiber drums. The fiber drums were all partially full with a white granular solid, whereas the steel cyanide drums were mostly empty with some white residual powders remaining.

### 3.3 SAMPLING ACTIVITIES

In accordance with the site-specific field sampling plan and health and safety plan, WESTON START collected three liquid samples and two solid samples for laboratory analysis. **Figure 3-2** shows the approximate liquid and solid sampling locations. All samples were collected in Level B personal protective equipment using disposable plastic scoops or a variety of disposable drum samplers. All samples were placed into glass sample jars provided by the laboratory, labeled appropriately, and placed on ice. The sample identification numbers and descriptions are as follows:

- DTR-WL01-013012 – Amber liquid sample collected from a blue poly 15-gallon drum labeled “Oxidizer” and “Hydrogen Peroxide”

- DTR-WL02-013012 – Red/orange liquid sample collected from a blue poly 55-gallon unlabeled drum
- DTR-WL03-013012 – Amber liquid sample collected from a black steel 55-gallon drum labeled “Corrosive”
- DTR-WS01-013012 – Gray solid sample collected from an approximately 10-cubic-yard steel roll-off dumpster located on the exterior of the Site building, along 14<sup>th</sup> Street
- DTR-WS02-013012 – White granular solid sample collected from an approximately 30-gallon fiber drum labeled as Allied Kelite ARP60

Samples DTR-WL01-013012, DTR-WL02-013012, and DTR-WL03-013012 were analyzed for pH using U.S. EPA SW-846 Method 9040B. Sample DTR-WS01-013012 was analyzed for total cyanide using U.S. EPA SW-846 Method 9012A and Toxicity Characteristic Leaching Procedure (TCLP) metals using U.S. EPA Method SW-846 Methods 1311, 6020, and 7470A. Sample DTR-WS02-013012 was analyzed for total cyanide, also using U.S. EPA SW-846 Method 9012A.

On January 30, 2012, WESTON START hand-delivered all five samples to Brighton Analytical LLC in Brighton, Michigan, for laboratory analysis.

## 4. ANALYTICAL RESULTS

**Table 4-1** presents the analytical results for the three waste liquid and two waste solid samples collected during the SA. **Appendix B** presents the laboratory analytical results and the data validation report associated with the samples. Sample analytical results were compared to the hazardous waste identification criteria in Title 40 of the *Code of Federal Regulations* (CFR), Part 261 and designation of hazardous substances Title 40 CFR, Part 302.4. According to 40 CFR, Part 261.2, a solid waste is considered a hazardous waste if it exhibits any of the characteristics of ignitability, corrosivity, toxicity, or reactivity. Detected analytical results for the samples are summarized below:

## Corrosivity Results

- The pH of the waste samples analyzed ranged from <1.0 to 4.4 standard units (SU). The pH of samples DTR-WL02-013012 and DTR-WL03-013012 was reported as <1.0 SUs, which is less than the regulatory limit of 2 SUs. Therefore, the wastes associated with samples DTR-WL02-013012 and DTR-WL03-013012 are considered hazardous for the characteristic of corrosivity according to 40 CFR 261.22.

## Total Cyanide Results

- Total cyanide was detected in solid samples DTR-WS01-013012 and DTR-WS02-013012 at 300,000 and 1,100 micrograms per kilogram ( $\mu\text{g/kg}$ ), respectively. The presence of acidic wastes at the Site poses the risk of contact with the cyanide-containing waste, possibly resulting in the release of toxic fumes (cyanide reactivity). Cyanide is a listed hazardous substance under 40 CFR 302.4.

## TCLP Metals Results

- TCLP analytical results did not exceed 40 CFR 261.24.

# 5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered in determining the appropriateness of a potential removal action at a Site are delineated in the NCP at 40 CFR, Part 300.415(b)(2). A summary of the factors that may be applicable to the Site is presented below:

- **Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants**

The nearest residences are located 200 ft northwest of the Site with additional residences to the west and southwest. Monroe Elementary School is located less than 400 ft directly west of the Site. The presence of the residences and school increase the likelihood of potential exposure to humans if a release of hazardous substances were to occur at the Site. During the SA, the Site building contained vats, totes, drums, pits, trenches, and small containers without secondary containment. Two of the three liquids sampled during the SA contained characteristically hazardous wastes with a pH of less than one. Also, seven drums were labeled as hazardous waste containing methylene chloride and seven drums were labeled as containing sodium or copper cyanide residuals. Overall, the potential for human exposure to potentially hazardous substances and wastes stored at the Site is high through accidental or intentional release, fire, or direct exposure by trespassers, especially considering the on-site building is no longer occupied, is located in a populated area, and access is relatively unrestricted/easily gained.

- **Actual or potential contamination of drinking water supplies or sensitive ecosystems**

Vats, totes, drums, pits, trenches, and small containers with no secondary containment in the Site building are present; a release could affect nearby sensitive ecosystems. Releases could flow unimpeded into building floor drains or storm water sewer lines along the Site perimeter and migrate toward the Trenton Channel of the Detroit River, located less than 1 mile away. Cyanide and methylene chloride in particular could negatively impact sensitive ecosystems through fish kills and biota disruption.

- **Hazardous substances or pollutants or contaminants in drums, totes, containers, or other bulk storage containers that may pose a threat of release**

During the SA, U.S. EPA and WESTON START documented over 300 containers of various sizes, some of which were documented to contain corrosive waste, cyanide, and methylene chloride. Some drums showed signs of damage and in several areas spills and possible leaks have occurred. A roll-off dumpster containing cyanide electroplating solids was located on the exterior of the building.

The unrestricted Site access could result in trespassers causing accidental or intentional releases of chemicals or hazardous materials and wastes stored in on-site containers. The close proximity of the Site to residences and Monroe Elementary School greatly increases potential threats to human health if a release occurs.

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

The Site is no longer occupied and no longer maintained; therefore, the building likely will continue to deteriorate. Small access points through the building walls and roof could allow snow, rain, and other precipitation as well as birds and other wildlife to access the interior of the building. Open drums and containers could potentially overflow with precipitation and release their contents inside the building and beyond through floor drains and other migration routes.

- **Threat of fire or explosion**

The threat of fire or explosion at the Site is moderate based on the flammable nature of some materials at the Site (such as paints, automotive aerosol products, and flammable containers) and because the Site building is unoccupied. Signs of trespassing or vandalism were observed during the SA and the probability for an intentional or unintentional fire being set at a vacant facility will increase over time as more incidents of vandalism or trespassing occur. A fire occurring at the Site has the potential to create toxic gases containing constituents such as cyanides.

## 6. CONCLUSIONS

WESTON START collected three liquid and two solid samples during the SA. Analytical results for samples collected during the SA were compared to the criteria set forth in 40 CFR Part 261 to determine whether wastes stored at the Site are considered hazardous. Sampling results for two of the five samples collected indicate the presence of characteristically hazardous wastes at the Site, and waste associated with at least one sample can be considered listed hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERLA).

The hazards and threats summarized below also were identified during the SA:

- During the SA, the Site building contained more than 300 ASTs, vats, totes, drums, pits, trenches, and small containers, nearly all without secondary containment. A roll-off dumpster was located on the exterior of the Site building and contained electroplating waste water solids, and was unsecured and easily accessible, unlabeled, and covered with only a thin layer of plastic sheeting. A sample of this waste contained 300,000 µg/kg of cyanide.
- Residences are located to the northwest, west, and southwest of the Site and at a distance of as little as 200 ft. Monroe Elementary School is located approximately 400 ft west of the Site. The close proximity of the residences and school increase the likelihood of exposure to a release of hazardous substances from the Site.
- The Trenton Channel of the Detroit River is less than 1 mile from the Site. Two storm water sewer grates were identified along the Site perimeter.
- The Site is no longer occupied. Access is relatively unrestricted. The building will continue to deteriorate and access points for precipitation and wildlife do exist. The continued deterioration of the building increases the chance of further degradation of the containers, the likelihood of a fire, and the likelihood of a release to the environment.

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## FIGURES

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Image Source: ESRI USA Topo Maps



June 2011



0 0.25 0.5 Miles



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Prepared By:  
WESTON  
SOLUTIONS, INC

360 East Maple Road  
Suite R  
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**Figure 2-1**  
Site Location Map  
Detroit Tubular Rivet Site  
Wyandotte, Wayne County, Michigan



Image Source: ESRI Imagery Maps

Residential  
Properties

Industrial  
Properties

Grove St

Monroe  
Elementary  
School

Detroit  
Tubular  
Rivet

14th St

Industrial  
Properties

Site Boundary



0 130 260 Feet



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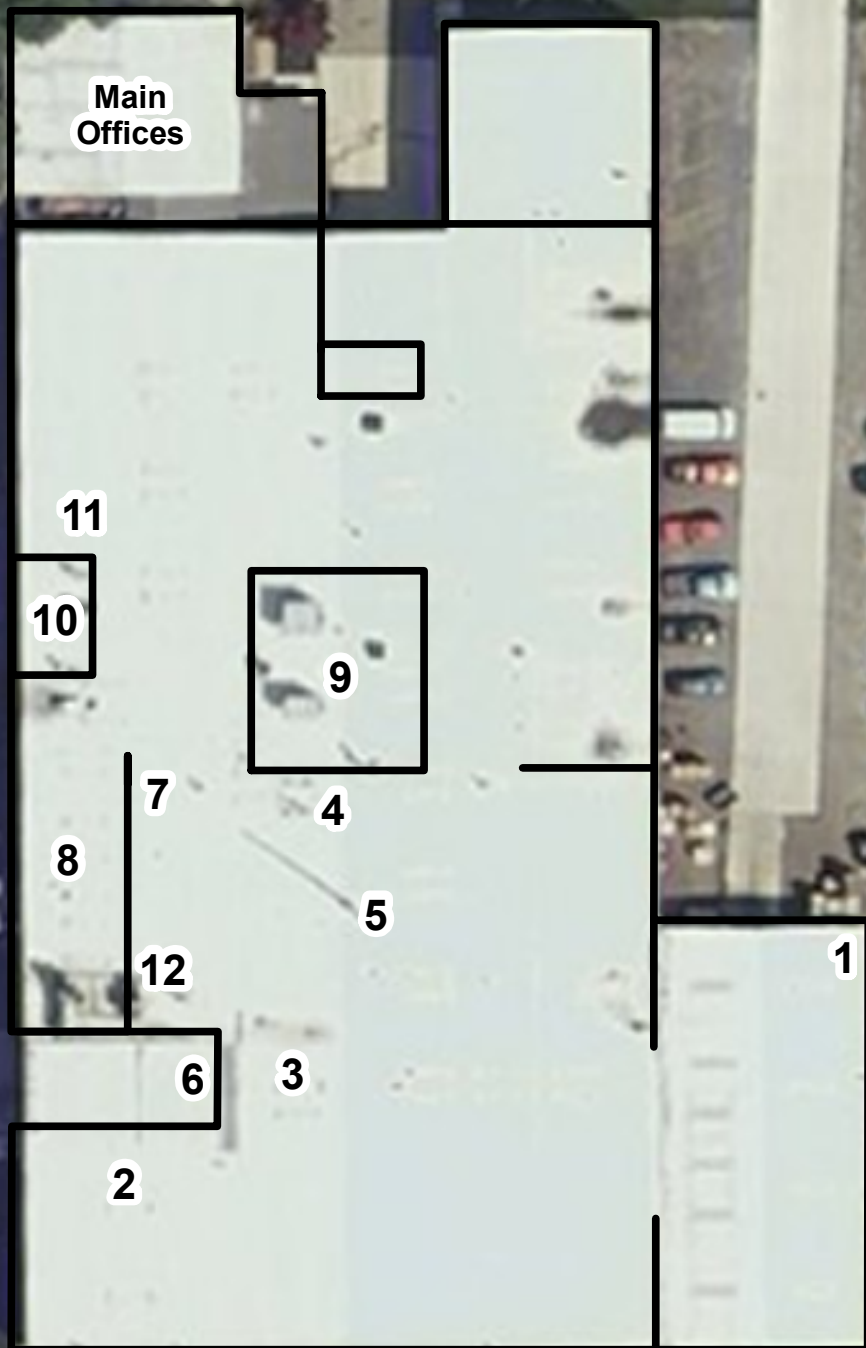
**Figure 2-2**  
Site Features Map  
Detroit Tubular Rivet Site  
Wyandotte, Wayne County, Michigan

Image Source: ESRI Imagery Maps

Grove Street

14th Street

Main  
Offices



# - Locations of Inventory

□ - Room Boundary



Note: Area locations are approximate.

0 25 50  
Feet



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SOLUTIONS, INC**

360 East Maple Road  
Suite R  
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**Figure 3-1**

Inventory Areas Map  
Detroit Tubular Rivet Site  
Wyandotte, Wayne County, Michigan



Image Source: ESRI Imagery Maps

Grove Street

14th Street

Main  
Offices

Lab

DTR-WS02-013012

DTR-WL03-013012

DTR-WL02-013012

DTR-WS01-013012

DTR-WL01-013012

- - Liquid Sample
- - Solid Sample
- - Room Boundary

Note: Sampling locations are approximate.

0 25 50  
Feet



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**WESTON  
SOLUTIONS, INC**

360 East Maple Road  
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**Figure 3-2**  
Sampling Location Map  
Detroit Tubular Rivet Site  
Wyandotte, Wayne County, Michigan

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## TABLES

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**Table 3-1**  
**Container Inventory**  
**Detroit Tubular Rivet Site**  
**Wyandotte, Wayne County, Michigan**

Area	Approximate No.	Description	Container Size	Contents	Approximate Quantity Per Container
<b>1</b>	16	Poly drums	55 gallons	Unknown	Residuals
	3	Steel drums	55 gallons	Possible waste oil	1/2 full
	4	Small containers	5 gallons	Possible waste oil, driveway sealer	Full to empty
	2	Steel ASTs	Est. 3,000 gallons	Possible waste oil	Unknown
<b>2</b>	30	Small containers	1 gallon or less	Oil/latex paints, primers, water proofing, automotive aerosols	1/2 full to full
	12		5 gallons or less	Paints, coating, hydraulic cement, roof sealer	1/2 full to full
	2		5 gallon	Oil, waste oil	1/2 full to full
	1	Steel drum	30 gallon	Possible waste oil	1/2 full
<b>3</b>	11	Steel drums	55 gallons	Possible waste oil	Residuals
	1	Overpack	55 gallons	Unknown	3/4 full to full
	1	Steel drum	55 gallons	Unknown solids	1/4 full
	1	Pallet	5 gallons or less	Spent PPE, 5 gallon buckets of unknown solids	3/4 full to full
	5	Poly drums	55 gallons	Possible waste oil	Residuals
	1	Poly drum	15 gallons	Labeled "Hydrogen peroxide 50% "	1/2 full
	5	Steel drums	55 gallons	Labeled "Hazardous Waste" "Methylene Chloride"	Full
	1	Steel drum	55 gallons	Labeled "Hazardous Waste", "Methylene Chloride", and "Mineral Spirits"	Residuals
	1	Steel drum	55 gallons	Labeled "Hazardous Waste", "Methylene Chloride", and "Extrudex 730"	Full
<b>4</b>	15	Poly drums	55 gallons	Labeled "corrosives", "oxidizer", "plating wax"	1/4 full to full
	15	Steel drums	55 gallons	Acid solutions, debris, waste oil, oil soaked absorbant pads	Empty to full
	2	Poly drums	15 gallons	Handwritten "acid", "caustic"	Full
	8	Steel drums	15 to 55 gallons	Possible waste oil	1/4 full to full
	8	Bags	50 pounds	White solid labeled "Orbiloid"	Full
	3	Poly totes	275 gallons	Unknown liquids (2) and solids (1)	1/2 full to 3/4 full
	56	Small containers	5 gallons or less	Waste oils, corrosives, acid, ferric sulfate, sealants, unknowns	1/4 full to full
<b>5</b>	1	Pit	4 foot by 6 foot by ?	Possible waste oil	Unknown
<b>6</b>	1	Roll off dumpster	10 cubic yards	Grey solid	1/2 full
<b>7</b>	3	Fiber drums	30 gallons	White granular solids	1/2 full
	7	Steel drums	15 gallons	Labeled "poison, UN1689, Sodium/copper cyanide"	Residuals
<b>8</b>	5	Trenches and Pits	Various sizes	Contain greenish/yellow liquids	Full
<b>9</b>	2	Poly totes	275 gallons	Unknown	Unknown
	1	Small containers	5 gallons	Unknown	3/4 full
	1		5 gallons	Unknown	1/2 full
	38		1 gallon	Labeled "Settle-It polymer, flocculant"	Full
<b>10</b>	11	Small containers	4 liters or less	Labeled "Potassium hydroxide, sulfuric acid, buffer solutions	1/4 full to full

**Table 3-1**  
**Container Inventory**  
**Detroit Tubular Rivet Site**  
**Wyandotte, Wayne County, Michigan**

Area	Approximate No.	Description	Container Size	Contents	Approximate Quantity Per Container
	25		1 liter or less	Labeled "Sodium hydroxide, Sodium dichromate, titration solutions, phenol red	1/4 full to full
11	2	Poly drums	55 gallons	Labeled "caustic"	1/2 full
	2	Poly drums	55 gallons	Labeled "caustic"	Full
12	10	Poly vats	Est. 500 to 1,000 gallons	Used as settling tanks for plating operations	Empty

**SUMMARY TOTALS**

Description	Approximate No.	Container Sizes
AST	2	Est. 3,000 gallon
Bags	8	50 pounds
Fiber drums	3	30 gallons
Poly drums	43	15 to 55 gallons
Poly totes	5	275 gallons
Steel drums	54	15 to 55 gallons
Small Containers	180	<1 to 5 gallons
Roll off dumpster	1	Est. 10 yard
Pallet	1	5 gallons
Trenches and Pits	6	Unknown
Poly vats	10	Est. 500 to 1,000 gallons

Notes:

< = Less than

AST = Aboveground storage tank

Est. = Estimated

No. = Number

Poly = Polyethylene

**Table 4-1**  
**Analytical Results Summary**  
**Detroit Tubular Rivet Site**  
**Wyandotte, Wayne County, Michigan**

Parameter	Unit	Sample No.	DTR-WL01-013012		DTR-WL02-013012		DTR-WL03-013012		DTR-WS01-013012		DTR-WS02-013012		
		Sampling Date	1/30/2012		1/30/2012		1/30/2012		1/30/2012		1/30/2012		
		Sample Medium	Liquid		Liquid		Liquid		Solid		Solid		
		Description	Amber Liquid from 15 Gallon Poly Drum <sup>a</sup>		Red/Orange Liquid from 55 Gallon Poly Drum <sup>a</sup>		Amber Liquid from 55 Gallon Steel Drum <sup>a</sup>		Grey Solid from Roll off Dumpster <sup>a</sup>		White Granular Solid from 30 Gallon Fiber Drum <sup>a</sup>		
		Regulatory Level	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	
TCLP Metals													
Arsenic	mg/L	5	NA		NA		NA		ND	0.2	NA		
Barium	mg/L	100							0.20	0.1			
Cadmium	mg/L	1							0.05	0.04			
Chromium	mg/L	5							0.02	0.01			
Copper	mg/L	NL							0.3	0.1			
Lead	mg/L	5							ND	0.2			
Mercury	mg/L	0.2							ND	0.002			
Selenium	mg/L	1							ND	0.3			
Silver	mg/L	5							ND	0.1			
Zinc	mg/L	NL							400	0.07			
Total Cyanide	µg/Kg	NL	NA		NA		NA		300,000	0.1	1,100	0.1	
pH	SU	< 2, >12.5	4.4	NL	<1.0	NL	<1.0	NL	NA		NA		

Notes:

**Bold shaded results exceed 40 CFR Part 261 regulatory levels**

µg/Kg = Microgram per kilogram

< = Less than

> = Greater than

DTR = Detroit Tubular Rivet Inc.

mg/L = Milligram per liter

NA = Not analyzed

ND = Not detected

NL = Not listed

No. = Number

Poly = Polyethylene

SU = Standard unit

TCLP = Toxicity Characteristic Leaching Procedure

<sup>a</sup> = Regulatory level from Title 40 of the *Code of Federal Regulations* (40 CFR), Part 261, Identification and Listing of Hazardous Waste

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**APPENDIX A**  
**PHOTOGRAPHIC DOCUMENTATION**

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**Site:** Detroit Tubular Rivet  
**Photograph No.:** 1  
**Direction:** Down  
**Subject:** Sludge in a trench

**Date:** 1/30/12  
**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet  
**Photograph No.:** 2  
**Direction:** Southwest  
**Subject:** Area where old plating line was once located

**Date:** 1/30/12  
**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 3

**Direction:** West

**Subject:** Drum labeled copper cyanide

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 4

**Direction:** Northeast

**Subject:** Drums labeled as containing corrosive and acidic materials

**Date:** 1/30/12

**Photographer:** Matthew Beer





**Site:** Detroit Tubular Rivet  
**Photograph No.:** 5  
**Direction:** Down  
**Subject:** Leaking containers

**Date:** 1/30/12  
**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet  
**Photograph No.:** 6  
**Direction:** Down  
**Subject:** Pit partially filled with unknown waste

**Date:** 1/30/12  
**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

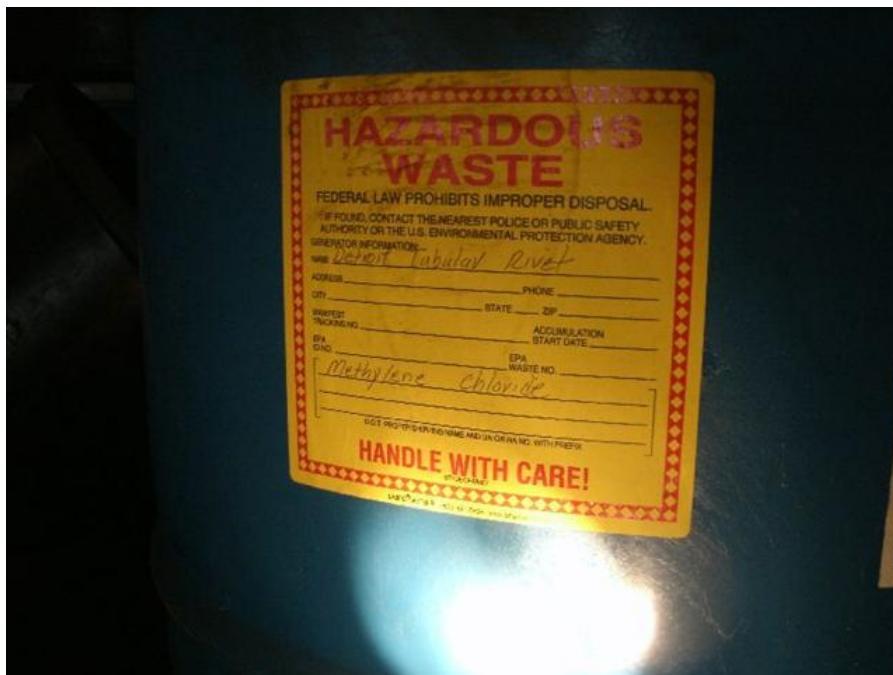
**Photograph No.:** 7

**Date:** 1/30/12

**Direction:** South

**Photographer:** Matthew Beer

**Subject:** Drums labeled as containing oxidizers and hazardous wastes



**Site:** Detroit Tubular Rivet

**Photograph No.:** 8

**Date:** 1/30/12

**Direction:** South

**Photographer:** Matthew Beer

**Subject:** Hazardous waste label: methylene chloride



**Site:** Detroit Tubular Rivet

**Photograph No.:** 9

**Direction:** West

**Subject:** Small containers (e.g., paints and cleaners)

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 10

**Direction:** Northeast

**Subject:** ASTs

**Date:** 1/30/12

**Photographer:** Matthew Beer





**Site:** Detroit Tubular Rivet

**Photograph No.:** 11

**Direction:** Down

**Subject:** Drum with sludge poured into a pit

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 12

**Direction:** Down

**Subject:** Trenches with yellow-green liquid

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 13

**Direction:** West

**Subject:** Laboratory with small containers

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 14

**Direction:** Down

**Subject:** Numerous open-top containers

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 15

**Direction:** West

**Subject:** Playground viewed from inside the Detroit Tubular Rivet facility

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 16

**Direction:** East

**Subject:** Evidence of trespassing and vandalism at the Site

**Date:** 1/30/12

**Photographer:** Matthew Beer





**Site:** Detroit Tubular Rivet

**Photograph No.:** 17

**Date:** 1/30/12

**Direction:** West

**Photographer:** Matthew Beer

**Subject:** Monroe Elementary School located west of Detroit Tubular Rivet facility



**Site:** Detroit Tubular Rivet

**Photograph No.:** 18

**Date:** 1/30/12

**Direction:** Northwest

**Photographer:** Matthew Beer

**Subject:** Neighborhood across from the Detroit Tubular Rivet facility



**Site:** Detroit Tubular Rivet

**Photograph No.:** 19

**Direction:** Southeast

**Subject:** Front entrance to the Detroit Tubular Rivet facility

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 20

**Direction:** Down

**Subject:** Rolloff dumpster containing a solid material

**Date:** 1/30/12

**Photographer:** Matthew Beer





**Site:** Detroit Tubular Rivet

**Photograph No.:** 21

**Direction:** Down

**Subject:** Drum labeled as oxidizer/hydrogen peroxide

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 22

**Direction:** Northwest

**Subject:** Interior of the Detroit Tubular Rivet facility

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 23

**Date:** 1/30/12

**Direction:** Up

**Photographer:** Matthew Beer

**Subject:** Hole in the roof of the Detroit Tubular Rivet facility



**Site:** Detroit Tubular Rivet

**Photograph No.:** 24

**Date:** 1/30/12

**Direction:** Down

**Photographer:** Matthew Beer

**Subject:** Evidence of leaking containers

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1725-2A-AUHV

This document was prepared by Weston Solutions, Inc., expressly for U.S. EPA. It shall not be released or disclosed in whole or in part without the express written permission of U.S. EPA.





**Site:** Detroit Tubular Rivet

**Photograph No.:** 25

**Direction:** Southwest

**Subject:** Storage area for cyanide labeled drums

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

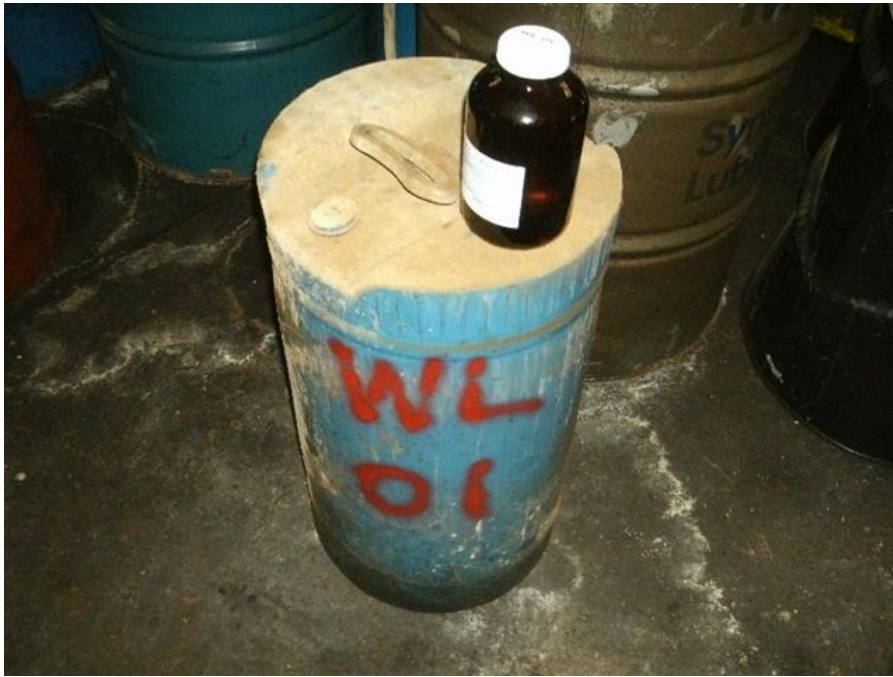
**Photograph No.:** 26

**Direction:** West

**Subject:** Hole in the wall of the Detroit Tubular Rivet facility and evidence of animal access

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

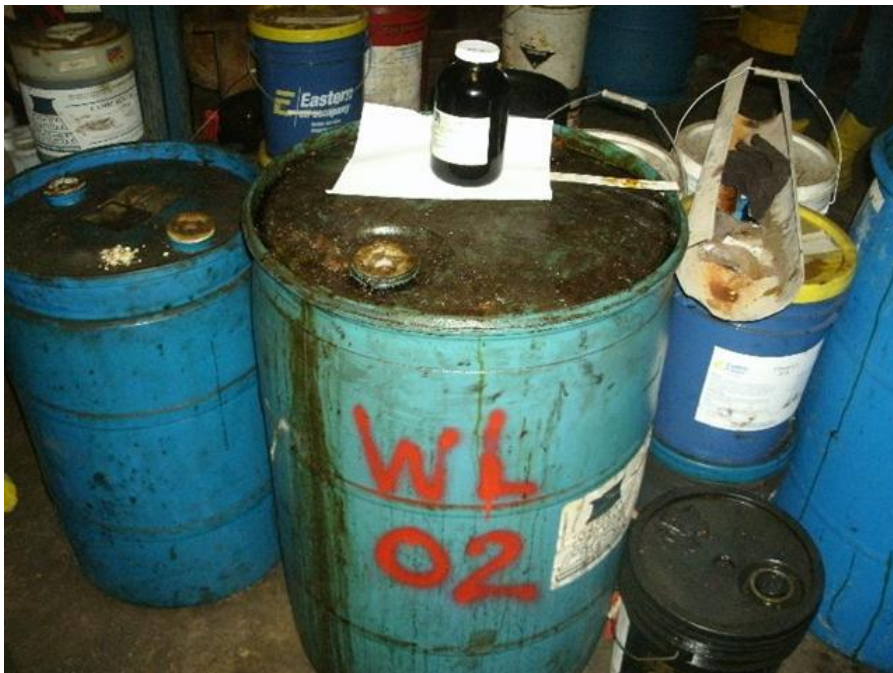
**Photograph No.:** 27

**Direction:** Down

**Subject:** Sample DTR-WL01-013012

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 28

**Direction:** Down

**Subject:** Sample DTR-WL02-013012

**Date:** 1/30/12

**Photographer:** Matthew Beer





**Site:** Detroit Tubular Rivet

**Photograph No.:** 29

**Direction:** Down

**Subject:** Sample DTR-WL03-013012

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 30

**Direction:** Down

**Subject:** Sample DTR-WS01-013012

**Date:** 1/30/12

**Photographer:** Matthew Beer



**Site:** Detroit Tubular Rivet

**Photograph No.:** 31

**Direction:** Down

**Subject:** Sample DTR-WS02-013012

**Date:** 1/30/12

**Photographer:** Matthew Beer



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**APPENDIX B**  
**LABORATORY ANALYTICAL REPORT AND**  
**DATA VALIDATION REPORT**

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**DETROIT TUBULAR RIVET  
WYANDOTTE, MICHIGAN  
DATA VALIDATION REPORT**

**Date:** February 7, 2012

**Laboratory:** Brighton Analytical L.L.C. (Brighton), Brighton, Michigan

**Laboratory Project #:** 18011

**Data Validation Performed By:** Lisa Graczyk, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)

**Weston Analytical Work Order #/TDD #:** 20405.016.001.1726.00/S05-0001-1201-015

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for three waste liquid and two waste solid samples collected for the Detroit Tubular Rivet Site that were analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Toxicity Characteristic Leaching Procedure (TCLP) Metals by SW-846 Methods 1311, 6020, and 7470A
- Total Cyanide by SW-846 Method 9012A
- Corrosivity by SW-846 Method 9040B

A level II data package was requested from Brighton. The data validation was conducted in general accordance with the U.S. EPA “Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review” dated June 2008 and “Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review” dated January 2010. The Attachment contains the results summary sheets with the hand-written qualifiers applied during data validation.

## **TCLP METALS BY SW-846 METHODS 1311, 6020, AND 7470A**

### **1. Samples**

The following table summarizes the samples for which this data validation is being conducted.

<b>Samples</b>	<b>Lab ID</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Date Analyzed</b>
DTR-WS01-013012	BW03898	Solid	1/30/2012	2/2/2012 – 2/3/2012

### **2. Holding Times**

The sample was analyzed within the required holding time limit of 28 days from sample collection to analysis for mercury and 180 days from sample collection to analysis for all other metals.

### **3. Blank Results**

Method blanks were analyzed with the metals analysis. The blanks were free of target analyte contamination above the reporting limits.

### **4. Laboratory Control Sample (LCS) Results**

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

### **5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results**

Brighton did analyze a site-specific MS and MSD with the analysis. The percent recoveries and relative percent differences (RPD) were within QC limits except for as follows. For zinc, the recoveries were outside QC limits for both the MS and MSD. Because the spike was more than four times lower than the sample concentration, no qualification is required.

### **6. Overall Assessment**

The TCLP metals data are acceptable for use based on the information received.

## GENERAL CHEMISTRY PARAMETERS (Total Cyanide by 9012A and Corrosivity by 9040B)

### 1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed	Parameters Analyzed
DTR-WL01-013012	BW03895	Liquid	1/30/2012	1/31/2012	pH
DTR-WL02-013012	BW03896	Liquid	1/30/2012	1/31/2012	pH
DTR-WL03-013012	BW03897	Liquid	1/30/2012	1/31/2012	pH
DTR-WS01-013012	BW03898	Solid	1/30/2012	2/6/2012	Cyanide
DTR-WS02-013012	BW03899	Solid	1/30/2012	2/6/2012	Cyanide

### 2. Holding Times

The holding times were met for all analyses.

### 3. Method Blanks

A method blank was analyzed with the total cyanide analyses. The blank was free of cyanide above the reporting limit.

### 4. LCS Results

An LCS was analyzed with the cyanide analyses and the percent recovery was with QC limits.

### 5. Laboratory Duplicate Results

A laboratory duplicate was analyzed with the pH analyses and was within QC limits.

### 6. MS and MSD Results

For cyanide, a site-specific MS and MSD were analyzed using sample DTR-WS01-013012 as the spiked sample. The recoveries were outside QC limits for both the MS and MSD. Because the spike was more than four times lower than the sample concentration, no qualification is required.

### 7. Overall Assessment

The total cyanide and pH data are acceptable for use based on the information received.

Data Validation Report  
Detroit Tubular Rivet Site  
Brighton Analytical L.L.C.  
Laboratory Project #: 18011

**ATTACHMENT**

**BRIGHTON ANALYTICAL L.L.C.  
RESULTS SUMMARY**



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650  
e-mail: bai-brighton@sbcglobal.net

To: Weston Solutions of Michigan, Inc.  
360 E. Maple Road  
Suite R  
Troy, MI 48083

Sample Date: 1/30/2012  
Submit Date: 1/30/2012  
Report Date: 1/31/2012

BA Report Number: **18011**  
BA Sample ID: **BW03895**

Project Name: **Detroit Tubular Rivet**  
Project Number: **20405.016.001.1725.00**  
Sample ID: **DTR-WL01-013012**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Inorganic Analysis</b>						
pH	4.4	S.I.		SW846 9040B	LS	1/31/2012

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:  
Date:

*Utopol*  
*2/7/12*



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650  
e-mail: bai-brighton@sbcglobal.net

To: Weston Solutions of Michigan, Inc.  
360 E. Maple Road  
Suite R  
Troy, MI 48083

Sample Date: 1/30/2012  
Submit Date: 1/30/2012  
Report Date: 1/31/2012

BA Report Number: 18011  
BA Sample ID: BW03896

Project Name: Detroit Tubular Rivet  
Project Number: 20405.016.001.1725.00  
Sample ID: DTR-WL02-013012

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
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#### Inorganic Analysis

pH	<1	S.I.		SW846 9040B	LS	1/31/2012
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DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

*U. Wood*  
2/7/12



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650  
e-mail: bai-brighton@sbcglobal.net

Sample Date: 1/30/2012  
Submit Date: 1/30/2012  
Report Date: 1/31/2012

To: Weston Solutions of Michigan, Inc.  
360 E. Maple Road  
Suite R  
Troy, MI 48083

BA Report Number: **18011**  
BA Sample ID: **BW03897**

Project Name: **Detroit Tubular Rivet**  
Project Number: **20405.016.001.1725.00**  
Sample ID: **DTR-WL03-013012**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
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**Inorganic Analysis**

pH	<1	S.I.		SW846 9040B	LS	1/31/2012
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DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

*Uttosol*  
*2/7/12*





Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650  
e-mail: bai-brighton@sbcglobal.net

To: Weston Solutions of Michigan, Inc.  
360 E. Maple Road  
Suite R  
Troy, MI 48083

Sample Date: 1/30/2012  
Submit Date: 1/30/2012  
Report Date: 2/7/2012

BA Report Number: 18011  
BA Sample ID: BW03898

Project Name: Detroit Tubular Rivet  
Project Number: 20405.016.001.1725.00  
Sample ID: DTR-WS01-013012

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>TCLP Metal Analysis</b>						
TCLP Arsenic	Not detected	ug/L	200	SW846 6020	GW	2/2/2012
TCLP Barium	200	ug/L	100	SW846 6020	GW	2/2/2012
TCLP Cadmium	50	ug/L	40	SW846 6020	GW	2/2/2012
TCLP Chromium	20	ug/L	10	SW846 6020	GW	2/2/2012
TCLP Copper	300	ug/L	100	SW846 6020	GW	2/2/2012
TCLP Lead	Not detected	ug/L	200	SW846 6020	GW	2/2/2012
TCLP Mercury	Not detected	ug/L	2	SW846 7470A	KW	2/3/2012
TCLP Selenium	Not detected	ug/L	300	SW846 6020	GW	2/2/2012
TCLP Silver	Not detected	ug/L	100	SW846 6020	GW	2/2/2012
TCLP Zinc	400000	ug/L	70	SW846 6020	GW	2/2/2012
TCLP Mercury (digestion)	Digested			7470	KW	2/3/2012
TCLP Metal (digestion)	Digested			3015	LS	2/2/2012
<b>Inorganic Analysis</b>						
Total Cyanide	300000	ug/Kg	100	SW846 9012A	RM	2/6/2012
%Solid	45	%		ASTM D2216	LS	1/31/2012

All soil results based on dry weight.

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by: \_\_\_\_\_

Date: \_\_\_\_\_

*Jeffrey Sol*  
2/7/12



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650  
e-mail: bai-brighton@sbcglobal.net

To: Weston Solutions of Michigan, Inc.  
360 E. Maple Road  
Suite R  
Troy, MI 48083

Sample Date: 1/30/2012  
Submit Date: 1/30/2012  
Report Date: 2/7/2012

BA Report Number: **18011**  
BA Sample ID: **BW03899**

Project Name: **Detroit Tubular Rivet**  
Project Number: **20405.016.001.1725.00**  
Sample ID: **DTR-WS02-013012**

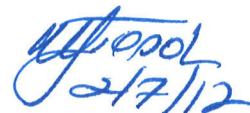
Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Inorganic Analysis</b>						
Total Cyanide	<b>1100</b>	ug/Kg	100	SW846 9012A	RM	2/6/2012
%Solid	<b>100</b>	%		ASTM D2216	LS	1/31/2012

All soil results based on dry weight.

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by:

Date:

  
2/7/12