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July 2, 2010

Mr. Jeffrey Lippert
On-Scene Coordinator
Emergency Response Branch No. 1
United States Environmental Protection Agency
9311 Groh Road
Grosse Ile, MI 48138

Subject: Pickens Plating Site Assessment
Albion, Calhoun County, Michigan
Technical Direction Document No.: S05-0001-1006-015
Document Control No.: 1085-2A-AHEF
Work Order No.: 20405.012.001.1085.00

Dear Mr. Lippert:

In June 2010, the United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to conduct a site assessment at the Pickens Plating site in Albion, Calhoun County, Michigan (Site) under technical direction document (TDD) No. S05-0001-1006-015. START was tasked to conduct a site assessment and reconnaissance and collect samples of unknown substances.

This letter report discusses the Site background, site assessment, threats to human health and the environment, and conclusions. In addition, this letter report has four attachments. Attachment A contains the figures for this letter report. Attachment B contains photographic documentation of Site conditions during the site assessment and the sampling locations and activities. Attachment C contains the analytical results summary table. Attachment D contains the analytical data and the data validation report.

SITE BACKGROUND

The Site is the location of the former Pickens Plating, Inc., facility at 1000 Industrial Boulevard in Albion, Calhoun County, Michigan 49224. The Site's approximate geographical coordinates are 42° 15' 18.68" North latitude and 84° 46' 31.27" West longitude. Figure 1 in Attachment A shows the Site location. The Site is bordered by industrial properties to the south and west, partially wooded and open land to the north, agricultural land to the east, and residential properties to the northeast. Figure 2 in Attachment A shows the Site layout. The Kalamazoo River is less than 0.25 mile south of the Site, and Spectacle Lake is 1 mile southwest of the Site.

The Site is a former electro-plating facility that specialized in zinc plating. The Site currently contains an abandoned building housing chemicals used in plating processes and other potentially hazardous materials. In May 2010, the City of Albion and the Michigan Department



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Pickens Plating Site
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of Natural Resources and Environment (MDNRE) requested assistance from the U.S. EPA to address imminent threats to human health and the environment at the Site.

SITE ASSESSMENT

On June 4, 2010, U.S. EPA conducted a site assessment that included a site reconnaissance, air monitoring, and sample collection activities. WESTON START accompanied U.S. EPA during the site assessment to document Site conditions and collect samples of selected unknown liquids and solids. Site assessment observations, sampling activities, and analytical results are discussed below.

Observations

Site conditions observed by WESTON START on June 4, 2010, are summarized below. Attachment B provides photographic documentation of Site conditions during the site assessment.

- All electrical power was on at the Site.
- The roof in the north-central portion of the building was leaking.
- The building contained numerous abandoned, leaking, and unknown waste in drums, totes, vats, buckets, and small containers throughout, including the following:
 - 10 to 15 totes of varying fullness containing water treatment and other chemicals
 - 250 to 300 of varying fullness (of about 20 to 55 gallons each) containing oils, water treatment chemicals, paints, and other chemicals including chromic acid, nitric acid, sodium hydroxide, and hydrogen peroxide
 - Numerous plating vats of various sizes, of which 41 were one-quarter full to full of plating liquids
 - Ten to fifteen 5-gallon buckets of oil and other chemicals
- Multiple containers and drums had missing lids and bungs.
- Drums were observed outside the Site building.
- No perimeter fencing was in place.
- Industrial properties are located south and west of the Site.

Sampling Activities

On June 4, 2010, U.S. EPA directed WESTON START to collect four liquid samples and one solid sample for laboratory analysis. Sampling locations were selected based on visual observations and field pH measurements and were chosen to be representative of areas posing potential risk to human health and the environment.

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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 consent of U.S. EPA.



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Liquid and solid samples were collected using drum thieves and disposable plastic scoops and placed into dedicated, laboratory-supplied bottles. On-Scene Coordinator Jeffrey Lippert requested specific chemical analyses for each sample. Attachment B contains photographic documentation of the sampling locations. The table below summarizes the sample numbers, media, sampling locations and descriptions, and analyses conducted.

Sample No.	Matrix	Sampling Location and Description	Analyses
PISA-WL01-060410	Liquid	Brownish-red liquid from plating vat in northeast portion of building, approximately 1,350 gallons	pH
PISA-WL02-060410		Clear liquid from plating vat in northeast portion of building, approximately 1,350 gallons	
PISA-WL03-060410		Reddish liquid from blue poly 55 gallon drum labeled "Acid"	TCLP RCRA metals and pH
PISA-WL04-060410		Blue poly 55 gallon drum labeled "Zylite," a plating solution, in south area of building	pH
PISA-WS01-060410	Solid	Waste sludge from blue poly 55 gallon drum	TCLP RCRA metals and pH

Notes:

060410 – Date collected

PISA – Pickens Plating Site Assessment

Poly – Polyethylene

RCRA – Resource Conservation and Recovery Act

TCLP – Toxicity Characteristic Leaching Procedure

WS – Waste solid sample

WL – Waste liquid sample

All samples were labeled, properly packaged, and placed on ice immediately after collection and were accompanied by a completed chain-of-custody record. The samples were relinquished to a courier and delivered to TriMatrix Laboratories, Inc., in Grand Rapids, Michigan. The samples were analyzed under Analytical Technical Direction Document No. S05-0001-1006-015. Sample analytical results are discussed below.

Analytical Results

Table 1 in Attachment C summarizes the analytical results for the liquid and solid samples. Attachment D provides the laboratory analytical data and the data validation report for the samples. Results are summarized below.

- Liquid sample PISA-WL01-040610, collected from a vat of approximately 1,350 gallons, had a pH result of 12.5 standard units (SU). According to Title 40 of the *Code of Federal Regulations* (CFR) 260, Subpart C, Part 261.22(a)(1), a liquid having a pH value equal to or exceeding 12.5 SUs exhibits the characteristic of corrosivity. Therefore, the materials associated with sample PISA-WL01-040610 are defined as hazardous wastes.



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U.S. EPA

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- Liquid samples PISA-WL02-040610 and PISA-WL03-040610 had pH results of 0.8 and 1.7 SUs, respectively. According to 40 CFR 260, Subpart C, Part 261.22(a)(1), a liquid having a pH value of less than 2.0 SUs exhibits the characteristic of corrosivity. Therefore, the materials associated with samples PISA-WL01-040610 and PISA-WL02-040610 are defined as hazardous wastes. PISA-WL02-040610 was collected from a plating vat that contained approximately 1,350 gallons of contents, and PISA-WL03-060410 was collected from a full 55 gallon drum.
- Liquid sample PISA-WL03-040610 had a chromium result of 6,200 milligrams per liter (mg/L) as measured using the Toxicity Characteristic Leaching Procedure (TCLP). According to 40 CFR 261, Subpart C, 261.24(b), Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic, the maximum concentration for chromium is 5 mg/L. Therefore, the materials associated with sample PISA-WL03-040610 are defined as hazardous wastes.

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 National Oil and Hazardous Substances Pollution Contingency Plan at 40 CFR 300.415(b)(2). A summary of the factors 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**

During the site assessment, abandoned, leaking, and unknown waste in drums, totes, vats, buckets, and small containers were observed throughout the Site building.

Results for samples collected during the site assessment indicate that characteristically hazardous waste is present in on-site drums and vats (samples PISA-WL01-060410, PISA-WL02-060410, and PISA-WL03-060410) and potentially in other containers not sampled.

The leaking roof in the northeast portion of the building could cause drums, totes, and open vats to overflow, and contaminants could migrate into street and storm sewer drains. The presence of hazardous and other unknown wastes poses a threat to nearby residents and potential trespassers from the potential for off-site migration of contaminants and through the potential for direct exposure. An incident, such as a fire, at the Site could result in the release of toxic gasses and/or particulates; causing potential exposure to nearby residents.

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

The presence of the drums, totes, vats, and buckets of materials without secondary



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containment inside the on-site building has the potential to affect drinking water supplies, sensitive ecosystems. The leaking roof in the northeast portion of the building could cause drums, totes, and open vats to overflow, and contaminants could migrate into street and storm sewer drains. The Kalamazoo River is located less than 0.25 mile south of the Site and Spectacle Lake is located 1 mile southwest of the Site.

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

During the site assessment, numerous drums, totes, buckets, and vats of waste materials were observed throughout the on-site building. Many of the drums and plating vats were uncovered. Many of the drums and containers were labeled as hazardous materials (corrosive), and the hazardous nature of selected drum and vat contents was confirmed during site assessment sampling activities. Trespassers could (1) cause accidental or intentional release of hazardous materials, (2) contact hazardous materials, and (3) cause a reaction that generates toxic gases. The close proximity of the Site to local businesses increases the potential for threats to human health and environment if a release occurs. The presence of hazardous materials at the Site also increases the risk level for first responders having to respond to an incident at the Site.

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

Southern Michigan receives a substantial amount of precipitation during spring, and winter temperatures are normally below freezing, with regular snowfall. Weather conditions will contribute to the deterioration of the on-site building. The building does not have heat to prevent freezing and thawing of the containers. Precipitation was observed entering through the roof of the building in at least one location and could very likely cause open plating vats to overflow and cause currently closed containers to rust and release their contents onto the floor. These releases could then flow out of the building, and through the sewer or infiltrate the concrete floor through cracks and gaps.

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

The City of Albion and MDNRE requested U.S. EPA assistance to address imminent threats to human health and the environment posed by the Site.

CONCLUSIONS

Based on the site assessment, WESTON START's conclusions are summarized below.

- Site hazards have been identified that present imminent and substantial endangerment of human health and the environment as defined in 40 CFR 300.415(b)(2).



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- Uncontrolled wastes are present at the Site that could cause off-site releases of hazardous materials that could result in, but are not limited to, any or all of the following impacts:
 - Potential exposure of human and animal populations and sensitive ecosystems to Site-related contaminants
 - Potential for release of Site-related hazardous materials to the City of Albion storm sewers, which could contaminate nearby wetlands and rivers and damage sensitive ecosystems
 - Potential contamination of drinking water from the release of Site-related contaminants
- The extent of the contaminated materials at the Site has not been fully determined, and many on-site drums, totes, and large holding tanks have not been evaluated.

If you have any questions regarding this report, please contact either of the undersigned at (517)381-5949 or (313)739-2533, respectively.

Very truly yours,

WESTON SOLUTIONS, INC.

Steven Kidder
WESTON START Site Lead

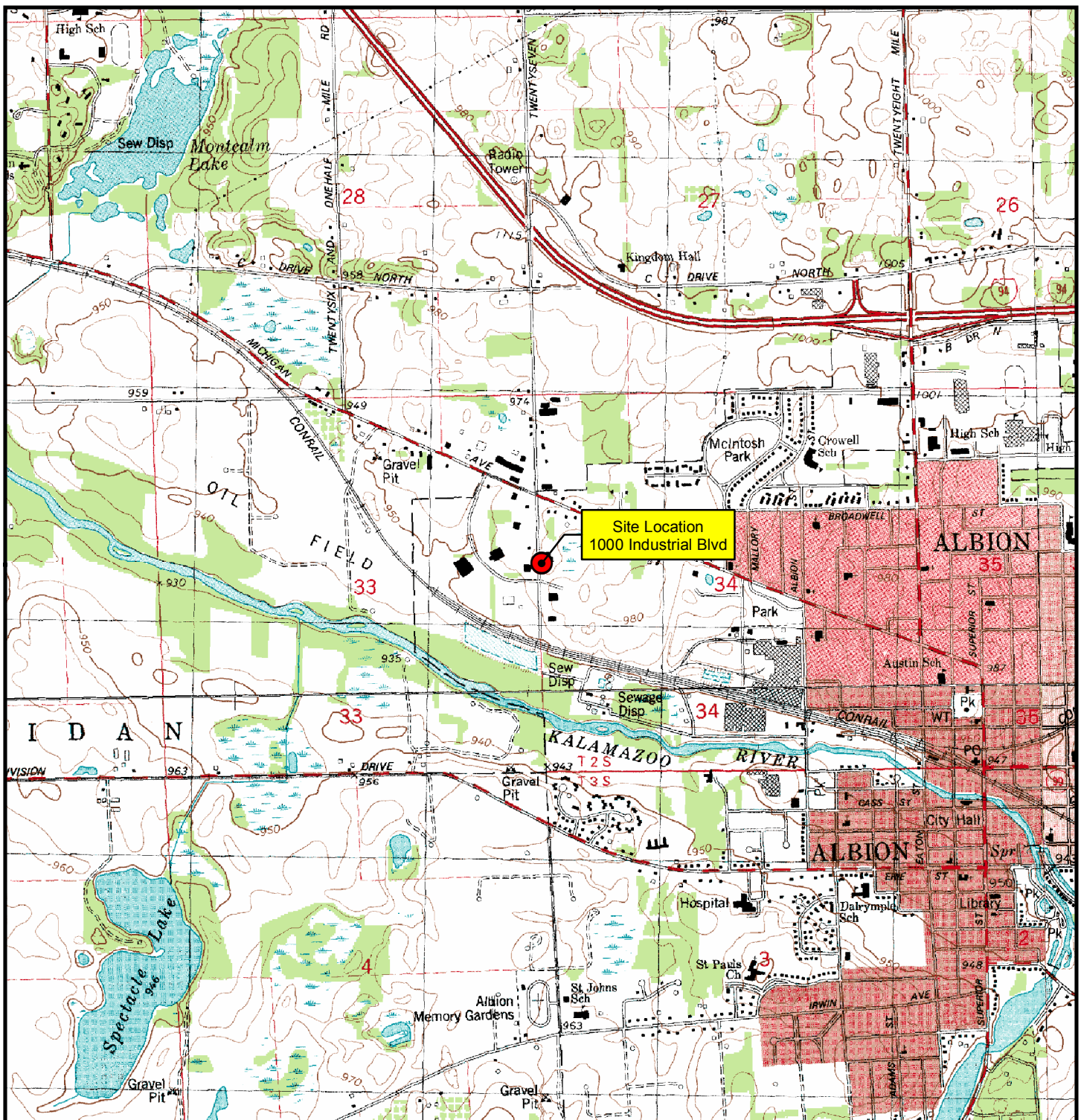
Alexandra Clark
WESTON START Project Manager

Attachments:

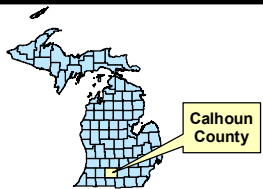
- A – Figures
- B – Photographic Documentation
- C – Analytical Results Summary Table
- D – Analytical Data and Data Validation Report

cc: WESTON START DCN File

ATTACHMENT A
FIGURES



Topo Map Source: Michigan Geographic Data Library - Calhoun_drg24k



0 1,000 2,000
Feet
1:24,000

Figure 1



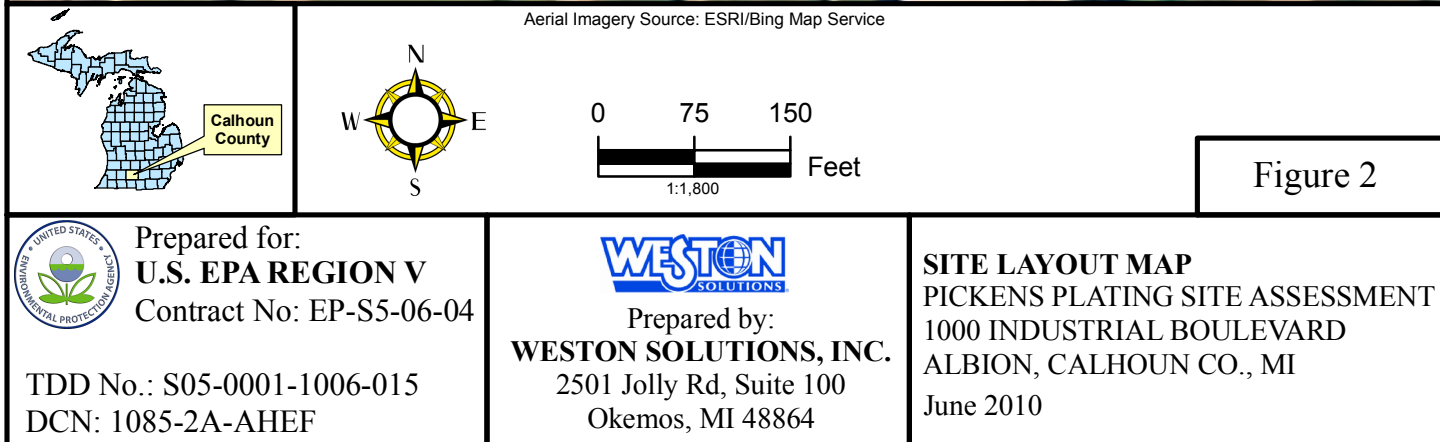
Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

TDD No.: S05-0001-1006-015
DCN: 1085-2A-AHEF



Prepared by:
WESTON SOLUTIONS, INC.
2501 Jolly Rd, Suite 100
Okemos, MI 48864

SITE LOCATION MAP
PICKENS PLATING SITE ASSESSMENT
1000 INDUSTRIAL BOULEVARD
ALBION, CALHOUN CO., MI
June 2010



ATTACHMENT B
PHOTOGRAPHIC DOCUMENTATION



Site: Pickens Plating Site Assessment

Photograph No.: 1

Direction: Southeast

Subject: Front entrance to the former Pickens Plating building

Date: 6/4/10

Photographer: S. Kidder



Site: Pickens Plating Site Assessment

Photograph No.: 2

Direction: North

Subject: Drums with unknown contents located behind Site building

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 3

Direction: West

Subject: Area behind Pickens Plating building

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 4

Direction: Up

Subject: A hole in the roof that allows precipitation to leak into the Site building

Date: 6/4/10

Photographer: M. Browning



Site: Pickens Plating Site Assessment

Photograph No.: 5

Direction: South

Subject: Inside the Site building facing south from the main entrance

Date: 6/4/10

Photographer: M. Browning



Site: Pickens Plating Site Assessment

Photograph No.: 6

Direction: East

Subject: Collection of a liquid sample from a plating vat

Date: 6/4/10

Photographer: M. Browning



Site: Pickens Plating Site Assessment

Photograph No.: 7

Direction: Down

Subject: Sample PISA-WL-01-060410 collected from a vat

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Assessment

Photograph No.: 8

Direction: Down

Subject: Collection of a pH reading from a container labeled nitric acid

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 9

Direction: Down

Subject: A pH reading from a nitric acid container

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 10

Direction: Down

Subject: An open vat full of unknown liquid

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

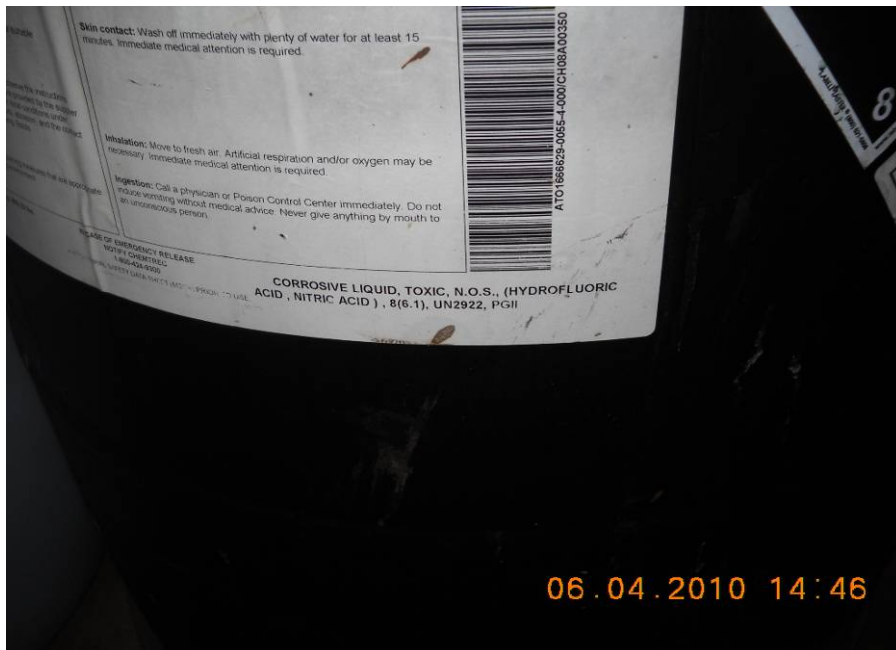
Photograph No.: 11

Direction: Down

Subject: Sample PISA-WL02-060410 collected from an open vat

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 12

Direction: Down

Subject: A black poly drum labeled hydrofluoric acid

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 13

Date: 6/4/10

Direction: Southwest

Photographer: D. Capone

Subject: Sampling location of PISA-WL03-060410 from blue poly drum labeled acid



Site: Pickens Plating Site Assessment

Photograph No.: 14

Date: 6/4/10

Direction: South

Photographer: D. Capone

Subject: Collection of sample PISA-WL04-060410 from a blue poly drum



Site: Pickens Plating Site Assessment

Photograph No.: 15

Direction: Down

Subject: Collection of sample PISA-WL04-060410 and collection of a field pH reading

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 16

Direction: Down

Subject: Sampling location PISA-WS01-060410, a solid sample from a blue poly drum

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 17

Direction: Down

Subject: A tote half full of unknown contents labeled corrosive

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 18

Direction: Down

Subject: A drum inside the building labeled sodium hydroxide and corrosive

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 19

Direction: Down

Subject: A drum inside the building labeled hydrogen peroxide and oxidizer

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 20

Direction: West

Subject: A row of plating vats containing unknown liquids

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 21

Direction: East

Subject: A row of plating vats containing unknown liquids

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 22

Direction: Down

Subject: A plating vat full of unknown contents

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 23

Direction: South

Subject: Multiple containers, drums, and totes in southern area of building

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 24

Direction: South

Subject: Drums stacked in southern area of building

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 25

Direction: East

Subject: A plating vat full of contents in background, and several drums in foreground

Date: 6/4/10

Photographer: D. Capone



Site: Pickens Plating Site Assessment

Photograph No.: 26

Direction: East

Subject: A blue poly drum labeled muriatic acid

Date: 6/4/10

Photographer: D. Capone

ATTACHMENT C
ANALYTICAL RESULTS SUMMARY TABLE

Table 1
Analytical Results Summary Table
Pickens Plating Site
Albion, Calhoun County, Michigan

Parameter	Regulatory Limit ^a	Sample Identification No.				
		PISA-WL01-060410	PISA-WL02-060410	PISA-WL03-060410	PISA-WL04-060410	PISA-WS01-060410
Sample medium	NA	Liquid	Liquid	Liquid	Liquid	Solid
Container type	NA	Plating vat	Plating vat	Blue poly drum	Blue poly drum	Blue poly drum
Label information	NA	NA	NA	"Acid"	"Zylite"	NA
pH (SU)	≤2 or ≥12.5	12.5	0.8	1.7	2.4	9.6
TCLP RCRA Metals (mg/L)						
Arsenic	5	--	--	3.2	--	ND
Barium	100	--	--	ND	--	ND
Cadmium	1	--	--	0.12	--	0.023
Chromium	5	--	--	6,200	--	0.063
Lead	5	--	--	ND	--	ND
Mercury	0.02	--	--	0.00094	--	ND
Selenium	1	--	--	ND	--	ND
Silver	5	--	--	0.041	--	ND

Notes:

Shaded **bold** results exceed regulatory limits.

-- -- Not analyzed

mg/L – Milligram per liter

NA – Not applicable

ND – Not detected

≤ - less than or equal to

≥ - greater than or equal to

Poly – Polyethylene

RCRA – Resource Conservation and Recovery Act

SU – Standard unit

TCLP – Toxicity Characteristic Leaching Procedure

^a Title 40 of the *Code of Federal Regulations*, Part 261 - Identification and Listing of Hazardous Waste

ATTACHMENT D
ANALYTICAL DATA AND DATA VALIDATION REPORT

**START 3
PICKENS PLATING
DATA VALIDATION REPORT**

Date: June 12, 2010
Laboratory: TriMatrix
Laboratory Project #: 1006120
Data Validation Performed By: Tonya Balla (Weston)
Weston Work Order #: 20405.012.001.1086.00

This data validation report has been prepared by WESTON START. This report documents the data validation for 5 samples collected for the Pickens Plating project. Samples were analyzed for the parameters below following the stated methods:

- TCLP Metals – Method 6010C/7470A/(1311 TCLP extraction)
- pH – Method 9045C

The data validation was conducted in general accordance with the U.S. EPA “Contract Laboratory Program National Functional Guidance for Inorganic Data Review” and the applicable methods listed above.

General

1. Samples

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

Samples PISA-WL-XX- 060410	Lab ID 106120	Analysis	Date Collected
01 (liquid)	01	pH	6/4/2010
02 (liquid)	02	pH	6/4/2010
03 (liquid)	03	pH, TCLP metals	6/4/2010
04 (liquid)	04	pH	6/4/2010
05 (solid)	05	pH, TCLP metals	6/4/2010

2. Holding Times / Sample Receipt

All samples were received by the laboratory on 6/7/2010 in good condition. All samples were extracted/analyzed within method required holding times. Samples were received intact and under custody.

TCLP Metals

1. Blanks

All method blanks for all analytes were non-detect.

2. LCS Results

All LCS results were within the 80 to 120% control limits for each analyte.

3. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Matrix QC was performed on sample 05. All MS recoveries were within the 75 to 125% control limits and 20% RPD.. All recoveries were acceptable. No qualifications are required.

pH

1. Duplicate

The pH duplicate checks (1006120-02 and 1006120-05) had acceptable RPDs (less than 20%). All results are acceptable.

Overall Assessment

Based on the quality control data presented and this validation review, all of the results are acceptable for use.

June 14, 2010

Weston Solutions, Inc.
Attn: Ms. Tonya Balla
7800 W. Outer Drive, Suite 200
Detroit, MI 48235

Project: Pickens Plating

Dear Ms. Tonya Balla,

Enclosed is a copy of the laboratory report, comprised of the following work order(s), for test samples received by TriMatrix Laboratories:

Work Order	Received	Description
1006120	06/07/2010	Laboratory Services

This report relates only to the sample(s), as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Any qualifications of results, including sample acceptance requirements, are explained in the Statement of Data Qualifications.

Estimates of analytical uncertainties for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



Lisa M. Harvey
Project Chemist

Enclosures(s)

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
Project: Pickens Plating
Client Sample ID: **PISA-WL-01-060410**
Lab Sample ID: **1006120-01**
Matrix: Waste

Work Order: **1006120**
Description: Laboratory Services
Sampled: 06/04/10 14:35
Sampled By: S.Kidder
Received: 06/07/10 12:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
pH	12.5	0.1		pH Units	1	USEPA-9040B	06/10/10 13:37	KRK	1005720

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
Project: Pickens Plating
Client Sample ID: **PISA-WL-02-060410**
Lab Sample ID: **1006120-02**
Matrix: Waste

Work Order: **1006120**
Description: Laboratory Services
Sampled: 06/04/10 14:40
Sampled By: S.Kidder
Received: 06/07/10 12:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
pH	0.8	0.1		pH Units	1	USEPA-9040B	06/10/10 13:16	KRK	1005715

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
Project: Pickens Plating
Client Sample ID: **PISA-WL-03-060410**
Lab Sample ID: **1006120-03**
Matrix: Waste

Work Order: **1006120**
Description: Laboratory Services
Sampled: 06/04/10 14:50
Sampled By: S.Kidder
Received: 06/07/10 12:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
pH	1.7	0.1		pH Units	1	USEPA-9040B	06/10/10 13:16	KRK	1005715

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
 Project: **Pickens Plating**
 Client Sample ID: **PISA-WL-03-060410**
 Lab Sample ID: **1006120-03**
 Matrix: **Waste**

Work Order: **1006120**
 Description: **Laboratory Services**
 Sampled: **06/04/10 14:50**
 Sampled By: **S.Kidder**
 Received: **06/07/10 12:00**

TCLP Metals by EPA 1311/6000/7000 Series Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Arsenic	3.2	0.30	5	mg/L	1	USEPA-6010C	06/10/10 12:22	KLV	1005641
Barium	<1.1	1.1	100	mg/L	1	USEPA-6010C	06/10/10 12:22	KLV	1005641
Cadmium	0.12	0.030	1	mg/L	1	USEPA-6010C	06/10/10 12:22	KLV	1005641
Chromium	6200	150	5	mg/L	1000	USEPA-6010C	06/10/10 12:40	KLV	1005641
*Lead	<1.5	1.5	5	mg/L	1	USEPA-6010C	06/10/10 12:22	KLV	1005641
Mercury	0.00094	0.00060	0.2	mg/L	1	USEPA-7470A	06/10/10 10:49	DSC	1005654
Selenium	<0.30	0.30	1	mg/L	1	USEPA-6010C	06/10/10 12:22	KLV	1005641
Silver	0.041	0.030	5	mg/L	1	USEPA-6010C	06/10/10 12:22	KLV	1005641

*See Statement of Data Qualifications

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
Project: Pickens Plating
Client Sample ID: **PISA-WL-04-060410**
Lab Sample ID: **1006120-04**
Matrix: Waste

Work Order: **1006120**
Description: Laboratory Services
Sampled: 06/04/10 15:00
Sampled By: S.Kidder
Received: 06/07/10 12:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
pH	2.4	0.1		pH Units	1	USEPA-9040B	06/10/10 13:16	KRK	1005715

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
Project: Pickens Plating
Client Sample ID: **PISA-WS-01-060410**
Lab Sample ID: **1006120-05**
Matrix: Waste

Work Order: **1006120**
Description: Laboratory Services
Sampled: 06/04/10 15:10
Sampled By: S.Kidder
Received: 06/07/10 12:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
pH	9.6	0.1		pH Units	1	USEPA-9045C	06/09/10 15:22	KRK	1005674

ANALYTICAL REPORT

Client: **Weston Solutions, Inc.**
 Project: Pickens Plating
 Client Sample ID: **PISA-WS-01-060410**
 Lab Sample ID: **1006120-05**
 Matrix: Waste

Work Order: **1006120**
 Description: Laboratory Services
 Sampled: 06/04/10 15:10
 Sampled By: S.Kidder
 Received: 06/07/10 12:00

TCLP Metals by EPA 1311/6000/7000 Series Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Arsenic	<0.10	0.10	5	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632
*Barium	<0.35	0.35	100	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632
Cadmium	0.023	0.010	1	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632
Chromium	0.063	0.050	5	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632
Lead	<0.050	0.050	5	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632
*Mercury	<0.00020	0.00020	0.2	mg/L	1	USEPA-7470A	06/10/10 10:54	DSC	1005654
Selenium	<0.10	0.10	1	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632
Silver	<0.010	0.010	5	mg/L	1	USEPA-6010C	06/10/10 11:16	KLV	1005632

*See Statement of Data Qualifications

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: pH/USEPA-9040B

QC Batch: 1005715 (General Inorganic Prep)

Analyzed: 06/10/2010 By: KRK

1006120-02 [PISA-WL-02-060410]

Duplicate	0.82	0.81	pH Units	1	20	0.1
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Analyte: pH/USEPA-9045C

QC Batch: 1005674 (General Inorganic Prep)

Analyzed: 06/09/2010 By: KRK

1006120-05 [PISA-WS-01-060410]

Duplicate	9.55	9.57	pH Units	0.2	20	0.1
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QUALITY CONTROL REPORT

TCLP Metals by EPA 1311/6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: Arsenic/USEPA-6010C

QC Batch: 1005632 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.10	mg/L					0.10
Laboratory Control Sample		1.25	1.31	mg/L	105	80-120			0.10
1006120-05 [PISA-WS-01-060410]									
Matrix Spike	<0.10	1.25	1.36	mg/L	109	75-125			0.10
Matrix Spike Duplicate	<0.10	1.25	1.49	mg/L	119	75-125	9	20	0.10

QC Batch: 1005641 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.10	mg/L					0.10
Laboratory Control Sample		1.25	1.30	mg/L	104	80-120			0.10

Analyte: Barium/USEPA-6010C

QC Batch: 1005632 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.35	mg/L					0.35
Laboratory Control Sample		0.250	0.267	mg/L	107	80-120			0.35
1006120-05 [PISA-WS-01-060410]									
Matrix Spike	0.0682	0.250	0.305	mg/L	95	75-125			0.35
Matrix Spike Duplicate	0.0682	0.250	0.322	mg/L	101	75-125	5	20	0.35

QC Batch: 1005641 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.35	mg/L					0.35
Laboratory Control Sample		0.250	0.254	mg/L	102	80-120			0.35

Analyte: Cadmium/USEPA-6010C

QC Batch: 1005632 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.010	mg/L					0.010
Laboratory Control Sample		0.250	0.257	mg/L	103	80-120			0.010
1006120-05 [PISA-WS-01-060410]									
Matrix Spike	0.0234	0.250	0.268	mg/L	98	75-125			0.010
Matrix Spike Duplicate	0.0234	0.250	0.291	mg/L	107	75-125	8	20	0.010

QC Batch: 1005641 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.010	mg/L					0.010

Continued on next page

QUALITY CONTROL REPORT

TCLP Metals by EPA 1311/6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Cadmium/USEPA-6010C (Continued)									
QC Batch: 1005641 (Continued) (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Laboratory Control Sample		0.250	0.256	mg/L	102	80-120			0.010
Analyte: Chromium/USEPA-6010C									
QC Batch: 1005632 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.050	mg/L					0.050
Laboratory Control Sample		0.250	0.248	mg/L	99	80-120			0.050
1006120-05 [PISA-WS-01-060410]									
Matrix Spike	0.0628	0.250	0.312	mg/L	100	75-125			0.050
Matrix Spike Duplicate	0.0628	0.250	0.338	mg/L	110	75-125	8	20	0.050
QC Batch: 1005641 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.050	mg/L					0.050
Laboratory Control Sample		0.250	0.254	mg/L	102	80-120			0.050
Analyte: Lead/USEPA-6010C									
QC Batch: 1005632 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.050	mg/L					0.050
Laboratory Control Sample		0.250	0.284	mg/L	113	80-120			0.050
1006120-05 [PISA-WS-01-060410]									
Matrix Spike	<0.050	0.250	0.240	mg/L	96	75-125			0.050
Matrix Spike Duplicate	<0.050	0.250	0.264	mg/L	105	75-125	9	20	0.050
QC Batch: 1005641 (3010A TCLP Digestion)						Analyzed: 06/10/2010		By: KLV	
Method Blank			<0.050	mg/L					0.050
Laboratory Control Sample		0.250	0.280	mg/L	112	80-120			0.050
Analyte: Mercury/USEPA-7470A									
QC Batch: 1005654 (7470A TCLP Digestion)						Analyzed: 06/10/2010		By: DSC	
Method Blank			<0.00020	mg/L					0.00020
Laboratory Control Sample		0.00200	0.00206	mg/L	103	80-120			0.00020

Continued on next page

QUALITY CONTROL REPORT

TCLP Metals by EPA 1311/6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: Mercury/USEPA-7470A (Continued)

QC Batch: 1005654 (Continued) (7470A TCLP Digestion)

Analyzed: 06/10/2010 By: DSC

1006120-05 [PISA-WS-01-060410]

Matrix Spike	0.000172	0.00200	0.00265	mg/L	124	80-120			0.00020
Matrix Spike Duplicate	0.000172	0.00200	0.00277	mg/L	130	80-120	5	20	0.00020

Analyte: Selenium/USEPA-6010C

QC Batch: 1005632 (3010A TCLP Digestion)

Analyzed: 06/10/2010 By: KLV

Method Blank			<0.10	mg/L					0.10
Laboratory Control Sample		1.25	1.27	mg/L	101	80-120			0.10

1006120-05 [PISA-WS-01-060410]

Matrix Spike	<0.10	1.25	1.18	mg/L	95	75-125			0.10
Matrix Spike Duplicate	<0.10	1.25	1.34	mg/L	107	75-125	13	20	0.10

QC Batch: 1005641 (3010A TCLP Digestion)

Analyzed: 06/10/2010 By: KLV

Method Blank			<0.10	mg/L					0.10
Laboratory Control Sample		1.25	1.23	mg/L	98	80-120			0.10

Analyte: Silver/USEPA-6010C

QC Batch: 1005632 (3010A TCLP Digestion)

Analyzed: 06/10/2010 By: KLV

Method Blank			<0.010	mg/L					0.010
Laboratory Control Sample		0.250	0.237	mg/L	95	80-120			0.010

1006120-05 [PISA-WS-01-060410]

Matrix Spike	<0.010	0.250	0.231	mg/L	92	75-125			0.010
Matrix Spike Duplicate	<0.010	0.250	0.245	mg/L	98	75-125	6	20	0.010

QC Batch: 1005641 (3010A TCLP Digestion)

Analyzed: 06/10/2010 By: KLV

Method Blank			<0.010	mg/L					0.010
Laboratory Control Sample		0.250	0.240	mg/L	96	80-120			0.010

STATEMENT OF DATA QUALIFICATIONS**TCLP Metals by EPA 1311/6000/7000 Series Methods**

Qualification: This analyte was not present in this sample at a concentration greater than 50 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6010C

Sample/Analyte: 1006120-05 PISA-WS-01-060410

Barium

Qualification: The MS and/or MSD recovery exceeded the upper control limit. The non-spiked sample result for the same analyte was non-detect and is not qualified.

Analysis: USEPA-7470A

Sample/Analyte: 1006120-05 PISA-WS-01-060410

Mercury

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-6010C

Sample/Analyte: 1006120-03 PISA-WL-03-060410

Lead

SAMPLE RECEIVING / LOG-IN CHECKLIST



Client <u>Weston</u>	Work Order #: <u>1006120</u>
Receipt Record Page/Line # <u>1-2</u>	Project Chemist <u>MAH</u>
	Sample #s <u>01-05</u>

Recorded by (initials/date) <u>WC 6/7/10</u>	<input checked="" type="checkbox"/> Cooler <input type="checkbox"/> Box <input type="checkbox"/> Other _____	Qty Received <u>1</u>	<input checked="" type="checkbox"/> IR Gun (#202) Thermometer Used <input type="checkbox"/> Digital Thermometer (#54) <input type="checkbox"/> See Additional Cooler Information Form <input type="checkbox"/> Other (# _____)
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Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
<u>Im 2541</u>	<u>1210</u>						
Custody Seals: <input checked="" type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		Custody Seals: <input type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		Custody Seals: <input type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		Custody Seals: <input type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact	
Coolant Location: Dispersed / <u>Top</u> / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom	
Coolant/Temperature Taken Via: <input type="checkbox"/> Loose ice / Avg 2-3 containers <input checked="" type="checkbox"/> Bagged ice / Avg 2-3 containers <input type="checkbox"/> Blue ice / Avg 2-3 containers <input checked="" type="checkbox"/> None / Avg 2-3 containers		Coolant/Temperature Taken Via: <input type="checkbox"/> Loose ice / Avg 2-3 containers <input type="checkbox"/> Bagged ice / Avg 2-3 containers <input type="checkbox"/> Blue ice / Avg 2-3 containers <input checked="" type="checkbox"/> None / Avg 2-3 containers		Coolant/Temperature Taken Via: <input type="checkbox"/> Loose ice / Avg 2-3 containers <input type="checkbox"/> Bagged ice / Avg 2-3 containers <input type="checkbox"/> Blue ice / Avg 2-3 containers <input checked="" type="checkbox"/> None / Avg 2-3 containers		Coolant/Temperature Taken Via: <input type="checkbox"/> Loose ice / Avg 2-3 containers <input type="checkbox"/> Bagged ice / Avg 2-3 containers <input type="checkbox"/> Blue ice / Avg 2-3 containers <input checked="" type="checkbox"/> None / Avg 2-3 containers	
Alternate Temperature Taken Via: <input type="checkbox"/> Temperature Blank (TB) <input type="checkbox"/> 1 Container		Alternate Temperature Taken Via: <input type="checkbox"/> Temperature Blank (TB) <input type="checkbox"/> 1 Container		Alternate Temperature Taken Via: <input type="checkbox"/> Temperature Blank (TB) <input type="checkbox"/> 1 Container		Alternate Temperature Taken Via: <input type="checkbox"/> Temperature Blank (TB) <input type="checkbox"/> 1 Container	
Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C
Temp Blank:			Temp Blank:			Temp Blank:	
TB location: Representative / Not Representative		TB location: Representative / Not Representative		TB location: Representative / Not Representative		TB location: Representative / Not Representative	
1	<u>5.5</u>		1			1	
2	<u>5.1</u>		2			2	
3	<u>5.8</u>		3			3	
Average °C			Average °C			Average °C	
<u>5.5</u>							
<input type="checkbox"/> Cooler ID on COC? <input type="checkbox"/> VOC Trip Blank received?			<input type="checkbox"/> Cooler ID on COC? <input type="checkbox"/> VOC Trip Blank received?			<input type="checkbox"/> Cooler ID on COC? <input type="checkbox"/> VOC Trip Blank received?	

If any shaded areas checked, complete Sample Receiving Non-Conformance Form

Paperwork Received <table style="width: 100%;"> <tr> <td style="width: 30%;">N/A</td> <td style="width: 30%;">Yes <input checked="" type="checkbox"/></td> <td style="width: 30%;">No</td> </tr> </table> <input type="checkbox"/> Chain of Custody record(s)? If No, COC Initiated By _____ Rec'd for Lab Signed/Date/Time? _____ Shipping document? _____ Other _____ COC ID #s <u>TriMatrix 134223</u> <input type="checkbox"/> Other (Name or ID#) _____	N/A	Yes <input checked="" type="checkbox"/>	No	Check Sample Preservation <table style="width: 100%;"> <tr> <td style="width: 30%;">N/A</td> <td style="width: 30%;">Yes <input checked="" type="checkbox"/></td> <td style="width: 30%;">No</td> </tr> </table> <input checked="" type="checkbox"/> Average sample temperature ≤6° C? <input type="checkbox"/> Completed Sample Preservation Verification Form? <input checked="" type="checkbox"/> Samples preserved correctly? If "No", added orange tag? Received pre-preserved VOC soils? <input type="checkbox"/> MeOH <input type="checkbox"/> Na ₂ SO ₄	N/A	Yes <input checked="" type="checkbox"/>	No
N/A	Yes <input checked="" type="checkbox"/>	No					
N/A	Yes <input checked="" type="checkbox"/>	No					
Check COC for Accuracy <table style="width: 100%;"> <tr> <td style="width: 30%;">Yes <input checked="" type="checkbox"/></td> <td style="width: 30%;">No</td> </tr> </table> <input checked="" type="checkbox"/> Sample ID matches COC? <input checked="" type="checkbox"/> Sample Date and Time matches COC? <input checked="" type="checkbox"/> Container type completed on COC? <input checked="" type="checkbox"/> All container types indicated are received? Sample Condition Summary <table style="width: 100%;"> <tr> <td style="width: 30%;">N/A</td> <td style="width: 30%;">Yes <input checked="" type="checkbox"/></td> <td style="width: 30%;">No</td> </tr> </table> <input checked="" type="checkbox"/> Broken containers/lids? <input checked="" type="checkbox"/> Missing or incomplete labels? <input checked="" type="checkbox"/> Illegible information on labels? <input checked="" type="checkbox"/> Low volume received? <input checked="" type="checkbox"/> Inappropriate containers received? <input checked="" type="checkbox"/> VOC vials / TOX containers have headspace? <input checked="" type="checkbox"/> Extra sample locations / containers not listed on COC?	Yes <input checked="" type="checkbox"/>	No	N/A	Yes <input checked="" type="checkbox"/>	No	Check for Short Hold-Time Prep/Analyses <input type="checkbox"/> Bacteriological <input type="checkbox"/> Air Bags <input type="checkbox"/> EnCores / Methanol Pre-Preserved <input type="checkbox"/> Formaldehyde/Aldehyde <input type="checkbox"/> Green-tagged containers <input type="checkbox"/> Yellow/White-tagged 1L ambers (SV Prep-Lab) <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> AFTER HOURS ONLY: COPIES OF COC TO LAB AREA(S) <input type="checkbox"/> NONE RECEIVED <input checked="" type="checkbox"/> RECEIVED, COCs TO LAB(S) </div>	
Yes <input checked="" type="checkbox"/>	No						
N/A	Yes <input checked="" type="checkbox"/>	No					
Notes <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Trip Blank received <input type="checkbox"/> No COC received, Proj. Chemist reviewed (Init/Date) _____ <input type="checkbox"/> No analysis requested, Proj. Chemist completed (Init/Date) _____ </div> <div> <input type="checkbox"/> Trip Blank not listed on COC <input type="checkbox"/> No COC received, Proj. Chemist reviewed (Init/Date) _____ <input type="checkbox"/> No analysis requested, Proj. Chemist completed (Init/Date) _____ </div> </div>							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Cooler Received (Date/Time) <u>6/7/10 1200</u></td> <td style="width: 33%;">Paperwork Delivered (Date/Time) <u>6/7/10 1220</u></td> <td style="width: 33%;">≤1 Hour Goal Met? <u>Yes</u> / No</td> </tr> </table>		Cooler Received (Date/Time) <u>6/7/10 1200</u>	Paperwork Delivered (Date/Time) <u>6/7/10 1220</u>	≤1 Hour Goal Met? <u>Yes</u> / No			
Cooler Received (Date/Time) <u>6/7/10 1200</u>	Paperwork Delivered (Date/Time) <u>6/7/10 1220</u>	≤1 Hour Goal Met? <u>Yes</u> / No					