



RCRA SITE INVESTIGATION REPORT SHAPIRO BROTHERS, INC. SCRAP YARD SITE

Order Number: 110915002

Jefferson County

Festus, Missouri

Site Information:

ESP LDPR Code: FERCA ESP Lead: Sean Counihan
Job Code: NJ12SHAP Investigation Date: 9/14/2011

Introduction:

The Missouri Department of Natural Resources (MDNR), Hazardous Waste Program (HWP), requested the MDNR, Environmental Services Program (ESP) to conduct sampling as part of an investigation at a site identified as the Shapiro Brothers Inc. Scrap Yard Site. The HWP was represented at the site by Evan Bryant. Vickie Heberlie, Jim Hessel, and Darren Bernat from the MDNR St. Louis Regional Office were on hand to conduct a multi-media inspection. Sampling was conducted in order to determine if any hazardous material was present and possibly moving off site.

The site is Shapiro Brothers, Inc. located at 9th Street and Delmar Street, Festus, Missouri. Shapiro Brothers, Inc. is a scrap metal processor. Shapiro Brothers is a demolition contractor, Union Pacific often uses them to dismantle out of service rail cars, and they offer transportation services to their clients for scrap metal materials. All metals are brought to their location to be processed with a 450 horsepower shear or 3500 horsepower shredder. The metal is processed and compressed into sizes that are accepted by a steel mill for recycling. All non-metal items are separated out (auto fluff) during the process and taken to a landfill. This site has come under question because of some complaints, to the City of Festus by nearby residents, of the dust the site creates. The City collected a composite soil sample from street debris surrounding the site (9th, Delmar, and Vine). The results from analysis on that sample failed TCLP for lead. The site latitude and longitude are 38.23001°, -90.39035°. Information in this report will be used in determining the need for additional actions at the subject site.

Field Methods:

Site access was granted from the owner of the property at the time of inspection. Samples were collected from nine locations throughout the site (six soil samples and three surface/storm water samples). Sampling data and observations were recorded in a bound field logbook. New stainless steel spoons were used to collect each surface soil grab sample and the containers for water sample collection were immersed directly into the water/stream. Appropriate containers and chemical preservation techniques were employed during field activities. Eight-ounce glass jars were used to collect soils for analysis of seven RCRA metals including arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), lead (Pb), selenium (Se) and silver (Ag). Surface water run off was collected in two – one liter amber glass bottles for oil and grease analysis, and one – 250ml Nalgene bottle for total metals analysis for seven RCRA metals including arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), lead (Pb), selenium (Se) and silver (Ag). All samples received a numbered label and the corresponding number entered onto a chain-of-custody form indicating the description, location, date and time of collection, and analytes requested. Samples were stored and transported on ice in coolers. ESP field personnel maintained custody of the samples until relinquishing them to a sample custodian at the state's environmental laboratory within the Environmental Services Program in Jefferson City for analyses.

Observations:

The weather was cloudy and rainy with temperatures around 70 degrees Fahrenheit. The inspection team arrived on site around 0900 hours. The site owner, Greg Shapiro, was not on site and requested that we start our inspection upon his arrival. Mr. Shapiro arrived around 0945. His brother Dave Shapiro, along with NPN Environmental Consultants Dave Rowe and Brian Gregory were also present for the inspection. The inspection started with a meeting with the owners, followed by a walkthrough of the facility property where sampling locations were determined.

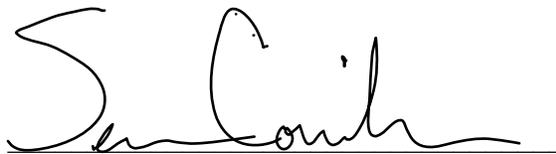
Sampling began just before 1200 hours. The facility installed a truck wash station at the main entrance to the facility several weeks ago. This station would wash the tires and undercarriage of vehicles entering and leaving the site. The water from the wash would be circulated through the wash jets with new water being introduced periodically to keep the system with a certain volume of water. All solid particles that were removed during the wash settled to the bottom. A series of scrapers attached to a conveyor belt removes the solids to a container on the exterior of the machine. This waste will be mixed with other material to be sent to a landfill. Since this is a new system this waste stream has not been tested or characterized. No discharged material from this machine has been disposed of up to the time of sampling. Sample 1 (1106418) was a surface water sample from the wash station. This sample was brown in color and very turbid. It also appeared oily. Sample 2 (1106419) was a soil/sediment sample collected from the discharge container of the wash station. This sample was gray to light brown in color, and had a variety of particle sizes from silt to gravel. The property has a storm water drain near the

truck wash station. It collects storm water that flows down hill from the operations part of the facility, as well as overspray from the wash station, and drainage from the front entrance. A small creek flows along the east border of the facility property. This storm drain has an outfall to the creek at the south east corner of the property. Sample 3 (1106420) was collected from this outfall. This location is near the junction of the railroad crossing on 9th Street. The sample was mostly clear with a slight amount of turbidity. Sample 4 (1106421) was a soil sample collected from the center of the road (near the entrance) north of the truck wash and north of the non-ferrous building. The sample was silt/gravel mixture with a light brown to caramel color. Traveling north through the facility two staging piles are encountered. The first one encountered contains mainly industrial type metals, which is processed through one machine. The other pile, mainly automobiles, is processed through a different machine. A soil sample was collected from an open spot at the bottom of the first pile along the edge. This was Sample 5 (1106422). This sample had dark brown to black color. Another roadway soil sample, Sample 6 (1106423), was collected about midway through the facility property (heading north) along the main road on the west side of the property. This sample had the same color and texture\composition as Sample 4. The north end of the property has another entrance (off Vine Street), for use by Shapiro Brothers trucks only. A soil sample, Sample 7 (1106424), was collected from the middle of the roadway at this entrance. As with the other two roadway samples, this sample was a light brown/caramel color with varying composition. The auto fluff pile was at the north east end, down gradient, and directly across from the Vine Street entrance. This is the pile of all non-metal materials that was separated out of the shredders. They load this material in large trucks and haul to a landfill daily. Sample 8 (1106425) was a soil sample collected from exposed soil in this area. The soil was variable in color from black to light brown and had auto fluff mixed with the top layer of soil. Another storm water outfall exists on the north side of the facility fence. This is storm water runoff from the roadways. It once drained onto facility property, but because of interference with operation, Shapiro Brothers took it upon themselves to bury the line and run it underground to the stream. There is a small junction that is exposed where the line comes out from the street and where Shapiro Brothers put in a drain. A water sample was collected from this outfall, Sample 9 (1106426). Sample 9 was clear and colorless. Refer to sampling locations map and site photographs (Appendix C).

Results:

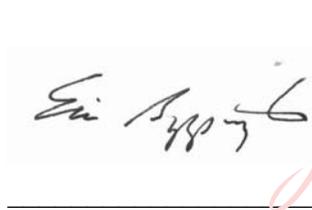
The analytical results are attached to this report as Appendix A. Chain of custody records are attached as Appendix B. Site photographs and a sampling locations map are attached as Appendix C. Field notes are attached as Appendix D.

Submitted by:



Sean Counihan
Environmental Specialist
Field Services Unit
Environmental Services Program

Approved by:



Eric Sappington
Unit Chief
Field Services Section
Environmental Services Program

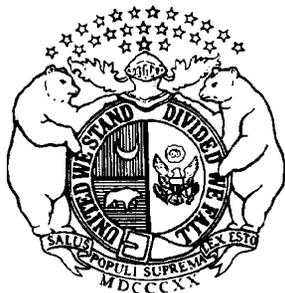
Digitally signed by Eric Sappington
DN: cn=Eric Sappington, c=US,
o=Missouri Department of Natural
Resources, ou=ESP-EER,
email=eric.sappington@dnr.mo.gov
Date: 2011.11.03 13:32:15 -05'00'

BA:smc

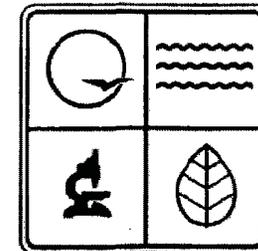
c: Evan Bryant, HWP

Appendix A

Shapiro Brothers, Inc. Scrap Yard Site Analytical Results



Missouri Department of Natural Resources
Environmental Services Program



Order ID 110915002

Program, Contact: HWP Dennis Hanson

Report Date: 10/03/2011

LDPR/JobCode: FERCA / NJ12SHAP



Sample: AB59474



Customer #: 1106418

Facility ID:
County: Jefferson

Site: Shapiro Brothers
Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 9/14/2011 12:05:00PM

Entry Point:

Sample Comment: Grab sample #1106418, collected from Wash Station.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6020 Metals-Total Recoverable	Arsenic	10.8		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Barium	775	09	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Cadmium	23.9	06	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Chromium	26.9		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Lead	2610	09	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Selenium	2.08	05	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Silver	0.51	06, 05	µg/L	12,636	SW 846 6020
Field Dissolved Oxygen	Field Dissolved Oxygen	4.42		mg/L		SM 4500-O-G
Field pH	Field pH	8.26		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	794 uS/cm				SM 2510
Field Temperature	Field Temperature	19.5 C				EPA 170.1
Oil And Grease	Oil And Grease	<2	ND	mg/L	12,653	1664

Sample: AB59475



Customer #: 1106419

Facility ID:
County: Jefferson

Site: Shapiro Brothers
Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 9/14/2011 12:10:00PM

Entry Point:

Sample Comment: Grab sample #1106419, collected from sediment pile that is removed from Wash Station. Has not been previously classified by facility - is a new system and new waste.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	11000	06	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	504000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	18600		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	63900		µg/kg	12,631	SW 846 6010B

Sample: AB59475**Customer #: 1106419****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:10:00PM**Entry Point:****Sample Comment:** Grab sample #1106419, collected from sediment pile that is removed from Wash Station. Has not been previously classified by facility - is a new system and new waste.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Lead	2220000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	7110	09	µg/kg	12,631	SW 846 6010B
Percent Moisture	Percent Moisture	20.2		%	12,557	Infrared Drying

Sample: AB59476**Customer #: 1106420****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:23:00PM**Entry Point:****Sample Comment:** Grab sample #1106420 collected from Storm Water outfall on southeast end of property near 9th and railroad crossing.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6020 Metals-Total Recoverable	Arsenic	8.65		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Barium	323	09	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Cadmium	30.9		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Chromium	22.2		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Lead	2110	09	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Selenium	2.14	05	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Silver	0.56	05	µg/L	12,636	SW 846 6020
Field Dissolved Oxygen	Field Dissolved Oxygen	5.10		mg/L		SM 4500-O-G
Field pH	Field pH	7.99		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	1023 uS/cm				SM 2510
Field Temperature	Field Temperature	19.4 C				EPA 170.1
Oil And Grease	Oil And Grease	<2	ND	mg/L	12,653	1664

Sample: AB59477**Customer #: 1106421****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:34:00PM**Entry Point:****Sample Comment:** Grab sample #1106421 collected from roadway north of truck wash entrance just north of non-ferrous building.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	8640		µg/kg	12,631	SW 846 6010B

Sample: AB59477**Customer #: 1106421****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:34:00PM**Entry Point:****Sample Comment:** Grab sample #1106421 collected from roadway north of truck wash entrance just north of non-ferrous building.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Barium	420000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	19200		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	67300		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	2180000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	872		µg/kg	12,631	SW 846 6010B
Percent Moisture	Percent Moisture	14.9		%	12,557	Infrared Drying

Sample: AB59478**Customer #: 1106422****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:50:00PM**Entry Point:****Sample Comment:** Grab sample #1106422 collected from first staging pile from entrance northwest side of pile near base.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	18700		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	697000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	44800		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	204000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	5860000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	6830	09	µg/kg	12,631	SW 846 6010B
Percent Moisture	Percent Moisture	14.7		%	12,557	Infrared Drying

Sample: AB59479**Customer #: 1106423****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:47:00PM**Entry Point:****Sample Comment:** Grab sample #1106423 collected from midway through main roadway between two main staging piles.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	8480		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	437000	09	µg/kg	12,631	SW 846 6010B

Sample: AB59479**Customer #: 1106423****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:47:00PM**Entry Point:****Sample Comment:** Grab sample #1106423 collected from midway through main roadway between two main staging piles.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Cadmium	18500		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	49100	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	2210000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	5780		µg/kg	12,631	SW 846 6010B
Percent Moisture	Percent Moisture	26.7		%	12,557	Infrared Drying

Sample: AB59480**Customer #: 1106424****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 1:03:00PM**Entry Point:****Sample Comment:** Grab sample #1106424 collected from north end of main roadway near Vine Street entrance.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	8360		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	367000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	16000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	72400	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	1590000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	1730		µg/kg	12,631	SW 846 6010B
Percent Moisture	Percent Moisture	19.3		%	12,557	Infrared Drying

Sample: AB59481**Customer #: 1106425****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 1:09:00PM**Entry Point:****Sample Comment:** Grab sample #1106425 collected from bottom of fluff pile.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	30300	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	2180000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	74500		µg/kg	12,631	SW 846 6010B

Sample: AB59481



Customer #: 1106425

Facility ID:
County: Jefferson

Site: Shapiro Brothers
Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 9/14/2011 1:09:00PM

Entry Point:

Sample Comment: Grab sample #1106425 collected from bottom of fluff pile.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Chromium	427000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	4420000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	2520	09	µg/kg	12,631	SW 846 6010B
Percent Moisture	Percent Moisture	19.8		%	12,557	Infrared Drying

Sample: AB59482



Customer #: 1106426

Facility ID:
County: Jefferson

Site: Shapiro Brothers
Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 9/14/2011 1:17:00PM

Entry Point:

Sample Comment: Grab sample #1106426 collected from Vine Street storm water outfall north end of property.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6020 Metals-Total Recoverable	Arsenic	0.96	05	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Barium	46.3		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Cadmium	0.54		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Chromium	1.94		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Lead	28.0		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Selenium	<0.50	ND	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Silver	<0.50	ND	µg/L	12,636	SW 846 6020
Field Dissolved Oxygen	Field Dissolved Oxygen	4.97		mg/L		SM 4500-O-G
Field pH	Field pH	7.78		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	200 µS/cm				SM 2510
Field Temperature	Field Temperature	19.6 C				EPA 170.1
Oil And Grease	Oil And Grease	<2	ND	mg/L	12,653	1664

Chris Boldt

**Chris Boldt, Laboratory Manager
Environmental Services Program
Division of Environmental Quality**

Qualifier Descriptions

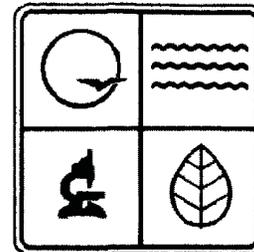
- | | |
|--|---|
| 01 Improper collection method | 02 Improper preservation |
| 03 Exceeded holding time | 04 Analyzed by Contract Laboratory |
| 05 Estimated value, detected below PQL | 06 Estimated value, QC data outside limits |
| 07 Estimated value, analyte outside calibration range | 08 Analyte present in blank at > 1/2 reported value |
| 09 Sample was diluted during analysis | 10 Laboratory error |
| 11 Estimated value, matrix interference | 12 Insufficient quantity |
| 13 Estimated value, true result is >= reported value | 14 Estimated value, non-homogeneous sample |
| 15 No Result - Failed Quality Controls Requirements | 16 Not analyzed - related analyte not detected |
| 17 Results in dry weight | 18 Sample pH is outside the acceptable range |
| 19 Estimated value | 20 Not analyzed - Instrument failure |
| 21 No result - spectral interference | 22 pH was performed at the Laboratory |
| 23 Contract Lab specific qualifier - see sample comments | 24 No result - matrix interference |
| 25 No Result: Excessive Chlorination | 26 No Result: Excessive Dechlorination |
| ND Not detected at reported value | |



Addendum

Missouri Department of Natural Resources Environmental Services Program

Addendum



Reason: TCLP added per memo from project manager

Order ID 110915002 Program, Contact: HWP Dennis Hanson

Report Date: 10/03/2011 LDPR/JobCode: FERCA / NJ12SHAP



Sample: AB59474



Customer #: 1106418

Facility ID:

County: Jefferson

Collector: SEAN COUNIHAN

Entry Point:

Sample Comment: Grab sample #1106418, collected from Wash Station.

Site: Shapiro Brothers

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/14/2011 12:05:00PM

Table with 7 columns: Test, Parameter, Result, Qualifier, Units, QC Batch ID, Method. Rows include various metal recoverability tests and field measurements like Dissolved Oxygen, pH, Conductivity, and Temperature.

Sample: AB59475



Customer #: 1106419

Facility ID:

County: Jefferson

Collector: SEAN COUNIHAN

Entry Point:

Sample Comment: Grab sample #1106419, collected from sediment pile that is removed from Wash Station. Has not been previously classified by facility - is a new system and new waste.

Site: Shapiro Brothers

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/14/2011 12:10:00PM

Table with 7 columns: Test, Parameter, Result, Qualifier, Units, QC Batch ID, Method. Rows include heavy metal recoverability tests (6010B) for Arsenic, Barium, Cadmium, and Chromium.

Sample: AB59475**Customer #: 1106419****Facility ID:****County:** Jefferson**Collector:** SEAN COUNIHAN**Entry Point:****Sample Comment:**

Grab sample #1106419, collected from sediment pile that is removed from Wash Station. Has not been previously classified by facility - is a new system and new waste.

Site: Shapiro Brothers**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 9/14/2011 12:10:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Lead	2220000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	7110	09	µg/kg	12,631	SW 846 6010B
6010B TCLP	Cadmium	0.19		ppm	13,267	SW 846 6010B
6010B TCLP	Lead	6.04		ppm	13,267	SW 846 6010B
Percent Moisture	Percent Moisture	20.2		%	12,557	Infrared Drying

Sample: AB59476**Customer #: 1106420****Facility ID:****County:** Jefferson**Collector:** SEAN COUNIHAN**Entry Point:****Sample Comment:**

Grab sample #1106420 collected from Storm Water outfall on southeast end of property near 9th and railroad crossing.

Site: Shapiro Brothers**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 9/14/2011 12:23:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6020 Metals-Total Recoverable	Arsenic	8.65		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Barium	323	09	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Cadmium	30.9		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Chromium	22.2		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Lead	2110	09	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Selenium	2.14	05	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Silver	0.56	05	µg/L	12,636	SW 846 6020
Field Dissolved Oxygen	Field Dissolved Oxygen	5.10		mg/L		SM 4500-O-G
Field pH	Field pH	7.99		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	1023 µS/cm				SM 2510
Field Temperature	Field Temperature	19.4 C				EPA 170.1
Oil And Grease	Oil And Grease	<2	ND	mg/L	12,653	1664

Sample: AB59477**Customer #: 1106421****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:34:00PM**Entry Point:****Sample Comment:** Grab sample #1106421 collected from roadway north of truck wash entrance just north of non-ferrous building.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	8640		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	420000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	19200		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	67300		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	2180000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	872		µg/kg	12,631	SW 846 6010B
6010B TCLP	Cadmium	0.32		ppm	13,267	SW 846 6010B
6010B TCLP	Lead	7.34	06	ppm	13,267	SW 846 6010B
Percent Moisture	Percent Moisture	14.9		%	12,557	Infrared Drying

Sample: AB59478**Customer #: 1106422****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:50:00PM**Entry Point:****Sample Comment:** Grab sample #1106422 collected from first staging pile from entrance northwest side of pile near base.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	18700		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	697000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	44800		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	204000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	5860000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	6830	09	µg/kg	12,631	SW 846 6010B
6010B TCLP	Cadmium	0.66		ppm	13,267	SW 846 6010B
6010B TCLP	Chromium	<0.1	ND	ppm	13,267	SW 846 6010B
6010B TCLP	Lead	7.92		ppm	13,267	SW 846 6010B
Percent Moisture	Percent Moisture	14.7		%	12,557	Infrared Drying

Sample: AB59479**Customer #: 1106423****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 12:47:00PM**Entry Point:****Sample Comment:** Grab sample #1106423 collected from midway through main roadway between two main staging piles.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	8480		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	437000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	18500		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	49100	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	2210000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	5780		µg/kg	12,631	SW 846 6010B
6010B TCLP	Cadmium	0.25		ppm	13,267	SW 846 6010B
6010B TCLP	Lead	8.20		ppm	13,267	SW 846 6010B
Percent Moisture	Percent Moisture	26.7		%	12,557	Infrared Drying

Sample: AB59480**Customer #: 1106424****Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 1:03:00PM**Entry Point:****Sample Comment:** Grab sample #1106424 collected from north end of main roadway near Vine Street entrance.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	8360		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	367000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	16000		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	72400	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	1590000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	1730		µg/kg	12,631	SW 846 6010B
6010B TCLP	Cadmium	0.16		ppm	13,267	SW 846 6010B
6010B TCLP	Lead	3.37		ppm	13,267	SW 846 6010B
Percent Moisture	Percent Moisture	19.3		%	12,557	Infrared Drying

Sample: AB59481**Customer #:** 1106425**Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 1:09:00PM**Entry Point:****Sample Comment:** Grab sample #1106425 collected from bottom of fluff pile.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	30300	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Barium	2180000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	74500		µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	427000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Lead	4420000	09	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Selenium	<1000	ND	µg/kg	12,631	SW 846 6010B
6010B Metals-Total Recoverable	Silver	2520	09	µg/kg	12,631	SW 846 6010B
6010B TCLP	Barium	0.86		ppm	13,273	SW 846 6010B
6010B TCLP	Cadmium	0.32		ppm	13,273	SW 846 6010B
6010B TCLP	Chromium	<0.1	ND	ppm	13,273	SW 846 6010B
6010B TCLP	Lead	0.68	06	ppm	13,273	SW 846 6010B
Percent Moisture	Percent Moisture	19.8		%	12,557	Infrared Drying

Sample: AB59482**Customer #:** 1106426**Facility ID:**
County: Jefferson**Site:** Shapiro Brothers
Sample Reference ID:**Collector:** SEAN COUNIHAN**Affiliation:** ESP**Collect Date:** 9/14/2011 1:17:00PM**Entry Point:****Sample Comment:** Grab sample #1106426 collected from Vine Street storm water outfall north end of property.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6020 Metals-Total Recoverable	Arsenic	0.96	05	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Barium	46.3		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Cadmium	0.54		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Chromium	1.94		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Lead	28.0		µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Selenium	<0.50	ND	µg/L	12,636	SW 846 6020
6020 Metals-Total Recoverable	Silver	<0.50	ND	µg/L	12,636	SW 846 6020
Field Dissolved Oxygen	Field Dissolved Oxygen	4.97		mg/L		SM 4500-O-G
Field pH	Field pH	7.78		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	200 µS/cm				SM 2510
Field Temperature	Field Temperature	19.6 C				EPA 170.1
Oil And Grease	Oil And Grease	<2	ND	mg/L	12,653	1664



**Chris Boldt, Laboratory Manager
Environmental Services Program
Division of Environmental Quality**

Qualifier Descriptions

- 01 Improper collection method
- 03 Exceeded holding time
- 05 Estimated value, detected below PQL
- 07 Estimated value, analyte outside calibration range
- 09 Sample was diluted during analysis
- 11 Estimated value, matrix interference
- 13 Estimated value, true result is \geq reported value
- 15 No Result - Failed Quality Controls Requirements
- 17 Results in dry weight
- 19 Estimated value
- 21 No result - spectral interference
- 23 Contract Lab specific qualifier - see sample comments
- 25 No Result: Excessive Chlorination
- ND Not detected at reported value
- 02 Improper preservation
- 04 Analyzed by Contract Laboratory
- 06 Estimated value, QC data outside limits
- 08 Analyte present in blank at $> 1/2$ reported value
- 10 Laboratory error
- 12 Insufficient quantity
- 14 Estimated value, non-homogeneous sample
- 16 Not analyzed - related analyte not detected
- 18 Sample pH is outside the acceptable range
- 20 Not analyzed - Instrument failure
- 22 pH was performed at the Laboratory
- 24 No result - matrix interference
- 26 No Result: Excessive Dechlorination

Appendix B

Shapiro Brothers, Inc. Scrap Yard Site Chain of Custody Records



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Description of Delivery
Tape sealed and initialed _____
Shipped _____
 Hand Delivered _____
Total No. Of Containers: 8
Carrier: _____
By: _____

Collector's Name: Sean Counihan
(Please Print)
Affiliation: KCRO NERO SERO SLRO SWRO WPP DGLS HWP ESP MoDOT
(circle one)
MDC DHSS Other:

LAB USE ONLY!
Laboratory ID: 110915002
Location: B37

Sample Number	Sample Collected	Analyses Requested	Disinfect. Type	Field Parameters (include units)	Matrix (circle one)	Container Type	Preservative Type	Number of Containers
<u>1106418</u> (Sample A) For Lab Use Only: <u>AB59474</u>	Date: <u>9/14/11</u> Time: <u>1205</u>	<u>Metals (As, Ba, Cd, Cr, Pb, Se, Ag)</u> <u>Oil + Grease</u> <u>TCLP if applicable etc</u>	(circle one) <u>None</u> Cl ₂ UV Ozone Other:	D.O. Flow pH <u>8.26</u> Cond. <u>794.45</u> Temp. <u>19.5°C</u> Other: <u>DO 4.42</u>	<u>Water</u> Soil Organic Sludge Other:	<u>1L AG</u> <u>250 CN</u>	<u>H₂SO₄</u> <u>HNO₃</u>	<u>2</u> <u>1</u>
<u>1106419</u> (Sample B) For Lab Use Only: <u>AB59475</u>	Date: <u>9/14/11</u> Time: <u>1210</u>	<u>Metals (As, Ba, Cd, Cr, Pb, Se, Ag)</u> <u>TCLP if applicable etc</u>	(circle one) <u>None</u> Cl ₂ UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	Water <u>Soil</u> Organic Sludge Other:	<u>8oz CG</u>	<u>4L</u>	<u>1</u>
<u>1106420</u> (Sample C) For Lab Use Only: <u>AB59476</u>	Date: <u>9/14/11</u> Time: <u>1223</u>	<u>Metals (As, Ba, Cd, Cr, Pb, Se, Ag)</u> <u>Oil + Grease</u> <u>TCLP if applicable etc</u>	(circle one) <u>None</u> Cl ₂ UV Ozone Other:	D.O. Flow pH <u>7.99</u> Cond. <u>1023</u> Temp. <u>19.4°C</u> Other: <u>DO 5.10</u>	<u>Water</u> Soil Organic Sludge Other:	<u>1L AG</u> <u>250 CN</u>	<u>H₂SO₄</u> <u>HNO₃</u>	<u>2</u> <u>1</u>
<u>1106421</u> (Sample D) For Lab Use Only: <u>AB59477</u>	Date: <u>9/14/11</u> Time: <u>1234</u>	<u>Metals (As, Ba, Cd, Cr, Pb, Se, Ag)</u> <u>TCLP if applicable etc</u>	(circle one) <u>None</u> Cl ₂ UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	Water <u>Soil</u> Organic Sludge Other:	<u>8oz CG</u>	<u>4L</u>	<u>1</u>

Relinquished By: <u>[Signature]</u>	Received By: <u>[Signature]</u>	Date: <u>9/15/11</u>	Time: <u>0841</u>
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Sample A		LDPR: <u>FERCA</u>		Job Code: <u>NJ12 SHAP</u>		Sample Reference ID:	
Facility ID:		Site/Study Name: <u>Shapiro Brothers</u>		County: <u>Jefferson</u>		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected): <u>Sample # 1106418 collected from wash station</u>		<input checked="" type="checkbox"/> <u>Grab</u> Composite Modified Other:		Bypass/SSO		Air Soil	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	Complaint	Container Spill
						Emergency Response	Discharge <u>Storm Water</u>
						<u>Inspection</u>	Groundwater <u>Surface Water</u>
						Investigation	Organic Wipes
						Monitoring	Sediment
						Special Project	Sludge
							Drinking Water Supply

Sample B		LDPR: <u>FERCA</u>		Job Code: <u>NJ12 SHAP</u>		Sample Reference ID:	
Facility ID:		Site/Study Name: <u>Shapiro Brothers</u>		County: <u>Jefferson</u>		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected): <u>Sample # 1106419 collected from sediment pile that is removed from wash station has not been previously classified by facility - is a new system + new waste.</u>		<input checked="" type="checkbox"/> <u>Grab</u> Composite Modified Other:		Bypass/SSO		Air Soil	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	Complaint	Container Spill
						Emergency Response	Discharge <u>Storm Water</u>
						<u>Inspection</u>	Groundwater <u>Surface Water</u>
						Investigation	Organic Wipes <u>Smc</u>
						Monitoring	<u>Sediment</u>
						Special Project	Sludge
							Drinking Water Supply

Sample C		LDPR: <u>FERCA</u>		Job Code: <u>NJ12 SHAP</u>		Sample Reference ID:	
Facility ID:		Site/Study Name: <u>Shapiro Brothers</u>		County: <u>Jefferson</u>		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected): <u>Sample # 1106420 collected from storm water outfall on east end of property near 9th + railroad crossing</u>		<input checked="" type="checkbox"/> <u>Grab</u> Composite Modified Other:		Bypass/SSO		Air Soil	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	Complaint	Container Spill
						Emergency Response	Discharge <u>Storm Water</u>
						<u>Inspection</u>	Groundwater <u>Surface Water</u>
						Investigation	Organic Wipes
						Monitoring	Sediment
						Special Project	Sludge
							Drinking Water Supply

Sample D		LDPR: <u>FERCA</u>		Job Code: <u>NJ12 SHAP</u>		Sample Reference ID:	
Facility ID:		Site/Study Name: <u>Shapiro Brothers</u>		County: <u>Jefferson</u>		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected): <u>Sample # 1106421 collected from roadway north of truck wash entrance just north of non-ferrous building</u>		<input checked="" type="checkbox"/> <u>Grab</u> Composite Modified Other:		Bypass/SSO		Air <u>Soil</u>	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	Complaint	Container Spill
						Emergency Response	Discharge Storm Water
						<u>Inspection</u>	Groundwater Surface Water
						Investigation	Organic Wipes
						Monitoring	Sediment
						Special Project	Sludge
							Drinking Water Supply

Remarks:
5.6°C



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Description of Delivery
Tape sealed and initialed _____
Shipped _____
 Hand Delivered _____
Carrier: _____
By: _____
Total No. Of Containers: 4

Collector's Name: Sean Counihan
(Please Print)
Affiliation: KCRO NERO SERO SLRO SWRO WPP DGLS HWP ESP MoDOT
(circle one)
MDC DHSS Other:

LAB USE ONLY!
Laboratory ID: 110915002
Location: B37

Sample Number	Sample Collected	Analyses Requested	Disinfect. Type	Field Parameters (include units)	Matrix (circle one)	Container Type	Preservative Type	Number of Containers
1106422 (Sample A)	Date: 9/14/11	Metals (As, Ba, Cd, Cr, Pb, Se, Ag)	(circle one) None	D.O. Flow pH Cond.	Water <u>Soil</u> Organic	8oz CG	4L	1
For Lab Use Only AB59478	Time: 1250	TCLP if applicable <u>Et</u>	Cl ₂ UV Ozone Other:	Temp. Other:	Sludge Other:			
1106423 (Sample B)	Date: 9/14/11	Metals (As, Ba, Cd, Cr, Pb, Se, Ag)	(circle one) None	D.O. Flow pH Cond.	Water <u>Soil</u> Organic	8oz CG	4L	1
For Lab Use Only AB59479	Time: 1247	TCLP if applicable <u>Et</u>	Cl ₂ UV Ozone Other:	Temp. Other:	Sludge Other:			
1106424 (Sample C)	Date: 9/14/11	Metals (As, Ba, Cd, Cr, Pb, Se, Ag)	(circle one) None	D.O. Flow pH Cond.	Water <u>Soil</u> Organic	8oz CG	4L	1
For Lab Use Only AB59480	Time: 1303	TCLP if applicable <u>Et</u>	Cl ₂ UV Ozone Other:	Temp. Other:	Sludge Other:			
1106425 (Sample D)	Date: 9/14/11	Metals (As, Ba, Cd, Cr, Pb, Se, Ag)	(circle one) None	D.O. Flow pH Cond.	Water <u>Soil</u> Organic	8oz CG	4L	1
For Lab Use Only AB59481	Time: 1309	TCLP if applicable <u>Et</u>	Cl ₂ UV Ozone Other:	Temp. Other:	Sludge Other:			

Relinquished By: <u>Sean Counihan</u>	Received By: <u>Derek [Signature]</u>	Date: 9/15/11	Time: 0841
Relinquished By: _____	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Received By: _____	Date: _____	Time: _____



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Sample A		LDPR: FERCA	Job Code: NJ 12 SHAP	Sample Reference ID:	
Facility ID:	Site/Study Name: Shapiro Brothers		County: Jefferson	Sample Event Type: (circle one)	Sample Type: (circle one)
Sample Comment (where and how the sample was collected): Sample # 1106422 collected from first staging pile from entrance north west side of pile near base.				<input checked="" type="radio"/> Bypass/SSO	Air <input checked="" type="radio"/> Soil
				<input type="radio"/> Complaint	Container <input type="radio"/> Spill
				<input type="radio"/> Emergency Response	Discharge <input type="radio"/> Storm Water
				<input checked="" type="radio"/> Inspection	Groundwater <input type="radio"/> Surface Water
				<input type="radio"/> Investigation	Organic <input type="radio"/> Wipes
				<input type="radio"/> Monitoring	Sediment
				<input type="radio"/> Special Project	Sludge
					Drinking Water Supply
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	PDOP

Sample B		LDPR: FERCA	Job Code: NJ 12 SHAP	Sample Reference ID:	
Facility ID:	Site/Study Name: Shapiro Brothers		County: Jefferson	Sample Event Type: (circle one)	Sample Type: (circle one)
Sample Comment (where and how the sample was collected): Sample # 1106423 collected from midway through main roadway between two main staging piles				<input checked="" type="radio"/> Bypass/SSO	Air <input checked="" type="radio"/> Soil
				<input type="radio"/> Complaint	Container <input type="radio"/> Spill
				<input type="radio"/> Emergency Response	Discharge <input type="radio"/> Storm Water
				<input checked="" type="radio"/> Inspection	Groundwater <input type="radio"/> Surface Water
				<input type="radio"/> Investigation	Organic <input type="radio"/> Wipes
				<input type="radio"/> Monitoring	Sediment
				<input type="radio"/> Special Project	Sludge
					Drinking Water Supply
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	PDOP

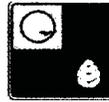
Sample C		LDPR: FERCA	Job Code: NJ 12 SHAP	Sample Reference ID:	
Facility ID:	Site/Study Name: Shapiro Brothers		County: Jefferson	Sample Event Type: (circle one)	Sample Type: (circle one)
Sample Comment (where and how the sample was collected): Sample # 1106424^{int} collected from end of main roadway near Vine Street entrance.				<input checked="" type="radio"/> Bypass/SSO	Air <input checked="" type="radio"/> Soil
				<input type="radio"/> Complaint	Container <input type="radio"/> Spill
				<input type="radio"/> Emergency Response	Discharge <input type="radio"/> Storm Water
				<input checked="" type="radio"/> Inspection	Groundwater <input type="radio"/> Surface Water
				<input type="radio"/> Investigation	Organic <input type="radio"/> Wipes
				<input type="radio"/> Monitoring	Sediment
				<input type="radio"/> Special Project	Sludge
					Drinking Water Supply
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	PDOP

Sample D		LDPR: FERCA	Job Code: NJ 12 SHAP	Sample Reference ID:	
Facility ID:	Site/Study Name: Shapiro Brothers		County: Jefferson	Sample Event Type: (circle one)	Sample Type: (circle one)
Sample Comment (where and how the sample was collected): Sample # 1106425 collected from bottom of Fluff pile				<input checked="" type="radio"/> Bypass/SSO	Air <input checked="" type="radio"/> Soil
				<input type="radio"/> Complaint	Container <input type="radio"/> Spill
				<input type="radio"/> Emergency Response	Discharge <input type="radio"/> Storm Water
				<input checked="" type="radio"/> Inspection	Groundwater <input type="radio"/> Surface Water
				<input type="radio"/> Investigation	Organic <input type="radio"/> Wipes
				<input type="radio"/> Monitoring	Sediment
				<input type="radio"/> Special Project	Sludge
					Drinking Water Supply
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting	Y Northing	Accuracy (circle one)	EPE (meters)	PDOP

Remarks:
5.6°C



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



4

Tape sealed and initialed
Shipped
 Hand Delivered

Description of Delivery

Total No. Of Containers: 2

Carrier: _____

By: _____

Collector's Name:

Sean Connihan

(Please Print)

Affiliation: KCRO NERO SERO SLRO SWRO WPP DGLS HWP ESP MoDOT
(circle one) MDC DHSS Other:

LAB USE ONLY!

Laboratory ID:

110915002

Location:

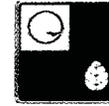
B37

Sample Number	Sample Collected	Analyses Requested	Disinfect. Type	Field Parameters (include units)	Matrix (circle one)	Container Type	Preservative Type	Number of Containers
<i>1100426</i>	Date: <i>9/14/11</i>	<i>Metals (As, Ba, Cd, Cr, Pb, Se, Ag)</i>	(circle one) <i>None</i>	D.O. Flow pH <i>7.78</i> Cond. <i>200 uS</i> Temp. <i>19.6 °C</i> Other: <i>DO 4.97</i>	<u>Water</u> Soil Organic Sludge Other:	<i>11 AG</i> <i>250 W</i>	<i>H2SO4</i> <i>HNO3</i>	<i>2</i> <i>1</i>
(Sample A)	Time: _____	<i>Oil + Grease</i>	None Cl ₂ UV Ozone Other:					
<i>AB59482</i>	<i>1317</i>	<i>TCLP if applicable SA</i>						
(Sample B)	Date: _____		None Cl ₂ UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	Water Soil Organic Sludge Other:			
(Sample C)	Date: _____		None Cl ₂ UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	Water Soil Organic Sludge Other:			
(Sample D)	Date: _____		None Cl ₂ UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	Water Soil Organic Sludge Other:			

Relinquished By: <i>[Signature]</i>	Received By: <i>[Signature]</i>	Date: <i>9/15/11</i>	Time: <i>0841</i>
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Sample A		LDPR: <u>FERCA</u>		Job Code: <u>NJ 12 SHAP</u>		Sample Reference ID:	
Facility ID:		Site/Study Name: <u>Shapiro Brothers</u>		County: <u>Jefferson</u>		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected): <u>Sample # 1106426 collected from vine street storm water cut fall north end of property</u>		Grab Composite Modified Other:		Bypass/SSO		Sample Type: (circle one)	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters) PDOP	Air Soil	
						Container Spill	
						Discharge Storm Water	
						Groundwater Surface Water	
						Organic Wipes	
						Sediment	
						Sludge	
						Drinking Water Supply	

Sample B		LDPR:		Job Code:		Sample Reference ID:	
Facility ID:		Site/Study Name:		County:		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected):		Grab Composite Modified Other:		Bypass/SSO		Sample Type: (circle one)	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters) PDOP	Air Soil	
						Container Spill	
						Discharge Storm Water	
						Groundwater Surface Water	
						Organic Wipes	
						Sediment	
						Sludge	
						Drinking Water Supply	

Sample C		LDPR:		Job Code:		Sample Reference ID:	
Facility ID:		Site/Study Name:		County:		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected):		Grab Composite Modified Other:		Bypass/SSO		Sample Type: (circle one)	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters) PDOP	Air Soil	
						Container Spill	
						Discharge Storm Water	
						Groundwater Surface Water	
						Organic Wipes	
						Sediment	
						Sludge	
						Drinking Water Supply	

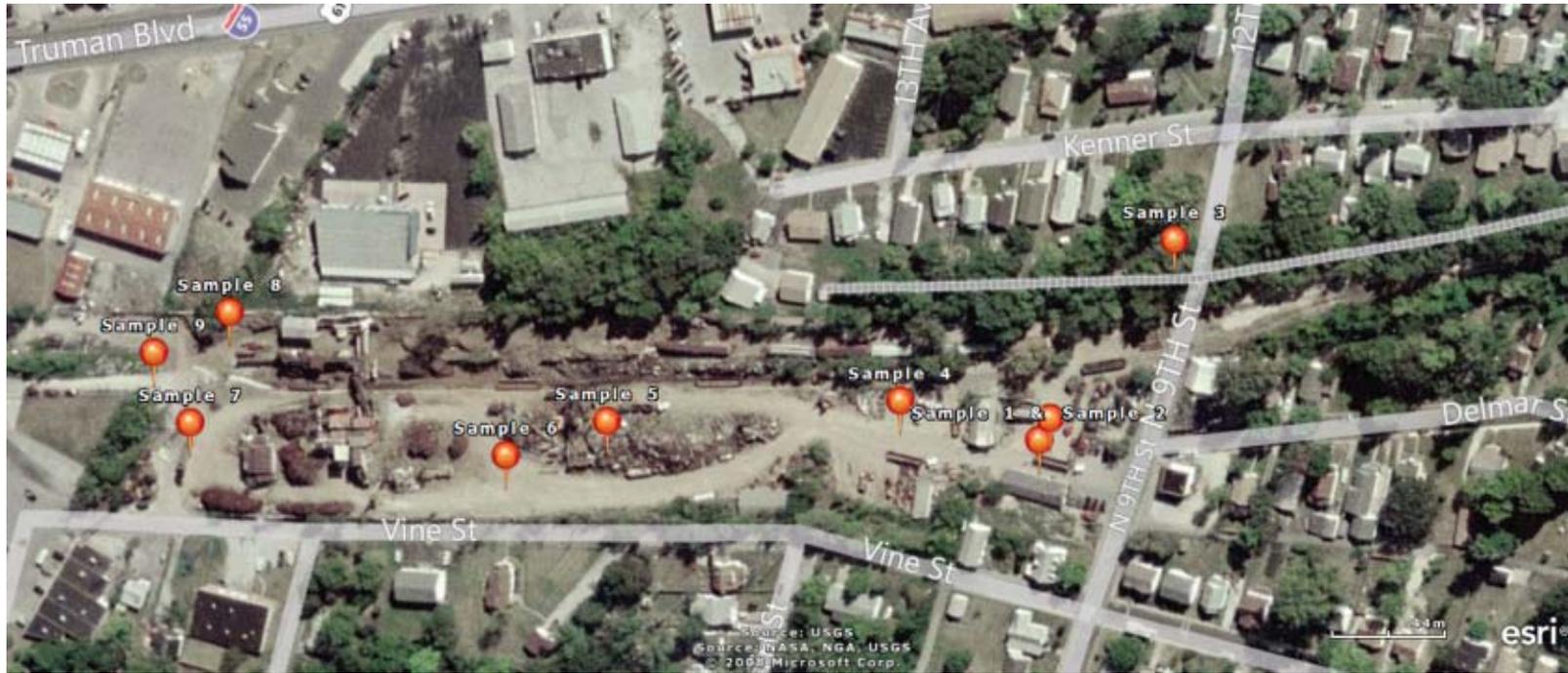
Sample D		LDPR:		Job Code:		Sample Reference ID:	
Facility ID:		Site/Study Name:		County:		Sample Event Type: (circle one)	
Sample Comment (where and how the sample was collected):		Grab Composite Modified Other:		Bypass/SSO		Sample Type: (circle one)	
GPS Coordinates (UTM Zone 15 NAD83 Only)		X Easting	Y Northing	Accuracy (circle one)	EPE (meters) PDOP	Air Soil	
						Container Spill	
						Discharge Storm Water	
						Groundwater Surface Water	
						Organic Wipes	
						Sediment	
						Sludge	
						Drinking Water Supply	

Remarks: 5.6°C

Appendix C

Shapiro Brothers, Inc. Scrap Yard Site Sampling Locations Map and Photographs

Shapiro Brothers Scrap Yard Sampling Locations Map





Sample 1, Surface water from Truck Wash Station.



Sample 2, Soil\Sediment scraped from bottom of wash tank.



Sample 3, Storm water run off, S.E. corner of property.



Sample 4, Soil collected from roadway just after entering property.



Sample 5, Soil collected from bottom of first staging pile.



Sample 6, Soil collected from roadway midway through property – between staging piles. (Staging pile 2 in background)



Sample 7, Auto Fluff pile



Sample 8, Soil collected from north entrance.



Sample 9, Storm Water run off from Vine Street (on north end of property). The drain was installed by Shapiro Brothers to route underground to stream.

Appendix D

Shapiro Brothers, Inc. Scrap Yard Site Field Notes

Shapiro Brothers Scrap Yard

Wed. Sep. 14 2011 FERCA NJ/2 SHAP

Arrive on site @ 0900 9th + Delmar

DNR Personnel

P.O. Box 759

Sean Cenninen

Evan Bryant

Jim Hessel

Vickie Heberlie

Darwin Barnart

Also on site

Site Owner ^{NPN} Greg Shapiro/Dave Shapiro

Shapiro Environment ^{NPN} Dave ~~Rosen~~ Rowe

Had to wait on about two to get started. ^{NPN} Farion Gregory consultant

Met w/ Greg Shapiro 0945

Greg said Shapiro Brothers had been sold & will be closing this Friday Sep 16 site is approx 15 acres 8 acres usable

1157 Sample 1

From Wash station by front entrance at 9th + Delmar

Collecting water from Washbasin

GPS N. 38.23001
-90.39035

Water quality meters bump tested on 9/13/0
~~Temp~~ pH at 7 = 7.06
 at 4 = 4.03
 Cond at 1413_u: 1460_us

Sample collected @ 1205
 Temp = 19.5°C
 pH = 8.26
 DO = 4.42
 Cond = 794
 Sample # 1106418

Sample 2 collected from
 Sediment collected from wash station
 conveyor scraper collects & deposits into
 container outside of station
 Sample # 1106419 @ 1210
 5 aliquots from container

Sample 3 from stormwater outfall
 near creek off 7th Street &
 railroad crossing

Temp = 17.4°C
 Cond = 1023
 pH = 7.91
 DO = 5.10

Sample collected @ 1223
 Sample # 1106420

Sample 4 Soil
 collected from Center of Roadway
 after truck waste station
~~east~~^{north} of Non-Ferrous building
 Sample collected @ 1234
 5 aliquots from ~~east~~ ^{west} ~~to~~ ^{south} to north
 Sample # 1106421

Sample 5 Soil collected from
 1st Staging Pile from main entrance
 at base of pile ^{northwest} ~~west~~ side by ^{cond} ~~cond~~
 Sample collected at 1250
 Sample # 1106422

Sample 6 Soil collected from
 middle of ^{main} Roadway between piles
 Sample collected at 1247
 Sample # 1106423

Sample 7 Collected Soil
 from ~~first~~ ^{rain} entrance off Vine St.
 sample collected at 1303
 Sample # 110624

Sample 8 Collected from
 Fluff pile (left over from car shredding)
 collected @ 1309
 Sample # 110625

Sample 9 north of property
 Storm water outfall from Vine
 St. This outfall should not be impaired
 by Shapiro facility. water is underground
 except for corner of facility near
 fluff pile entrance where Shapiro
 re-routed runoff back underground
 so as not to affect fluff pile

Temp 19.6°C
 Cond 200 µS
 pH 7.78
 PDC-4.97

Sample collected at 1317
 Sample # 110624