

APPENDIX D

EA Group
(Waste Characterization Sampling & Analysis)

APPENDIX D



EA GROUP

25th Anniversary
1982-2007

July 11, 2008

Mr. Ed Gonzalez
Ferrous Metal Processing Corporation
11103 Memphis Avenue
Brooklyn, Ohio 44144

RE: Waste Characterization Sampling and Analysis
Ferrous Metal Processing Corporation, 11103 Memphis Avenue, Brooklyn, Ohio
OH34418

Description of Work

EA Group, Mentor, Ohio was contracted by Ferrous Metal Processing to perform sampling and analysis of a specific waste stream to determine potential hazardous characteristics. A representative sample was secured by EA Group representative Kate Baney on June 25, 2008.

Sampling and Analytical Work

A 10'x25' hopper, reportedly containing sand and process water from the process area, was identified for sampling. Composite samples from three locations within the hopper were collected and transferred into two laboratory-supplied sample containers, which were then delivered directly to the Laboratory Division of EA Group where a single representative composite was formed. All samples were secured in accordance with sound industry practice and standard operating procedures. Chain-of-Custody protocol was maintained.

The sample was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver); TCLP volatile organic compounds (VOCs); TCLP semi-volatile organic compounds (SVOCs); ignitability/flashpoint; reactivity; and, corrosivity. The analytical methods and results are summarized in Table 1, attached, and detailed in the Laboratory Analytical Report in Appendix A.

The sample does not appear to exhibit the characteristics of a hazardous waste due to toxicity by TCLP protocol (metals, VOCs, or SVOCs), ignitability/flashpoint; reactivity, or corrosivity. It is noted that the RCRA characteristic of "corrosivity" applies only to a solid waste that is an aqueous or non-aqueous liquid; there are no specific action levels for pH. The pH of the composite samples was moderately alkaline, well below the upper limit for the RCRA Action Level for "corrosivity".



July 11, 2008

Ferrous Metal Processing Corporation
Waste Characterization Sampling and Analysis
Ferrous Metal Processing Corporation, 11103 Memphis Avenue, Brooklyn, Ohio
OH34418
Page 2

Please contact the undersigned if you require any additional information or interpretation. Thank you for consulting EA Group.

Sincerely,
EA Group

Timothy S. Bowen,
Vice President/Technical Director

Table 1. Summary of Waste Characterization Analytical Results
Ferrous Metal Processing Corporation
Waste Characterization

June 25, 2008 Sampling

Analyte/Method/Units	Hopper, Process Area	Action Level
	062508-01	
TCLP Metals/SW846-1311+ /mg/l		
Arsenic/SW846-6010A	< 0.10	5.0
Barium/SW846-6010A	< 0.10	100
Cadmium/SW846-6010A	< 0.10	1.0
Chromium/SW846-6010A	< 0.10	5.0
Lead/SW846-6010A	< 0.10	5.0
Mercury/SW846-7470A	< 0.0020	0.2
Selenium/SW846-6010A	< 0.10	1.0
Silver/SW846-6010A	< 0.10	5.0
TCLP VOCs/SW846-1311/8260A/mg/l	ND	[varies]
TCLP SVOCs/SW846-1311/8270B/mg/l	ND	[varies]
Ignitability/SW846-1010M[(mm/sec)]	[NEG]	> 2.2 ²
Reactive Cyanide/SW7.3.3.2/mg/kg	< 0.20	250 ¹
Reactive Sulfide/SW7.3.4.2/mg/kg	< 10	500 ¹
Corrosivity/SW846-9045C[S.U.]	9.3	N/A

Notes:

Results expressed in units as indicated.

VOC and SVOC compounds identified only if detected

ND = none detected - refer to Laboratory Analytical Report for details

Action Levels = RCRA Characteristic limits, except as noted

† = concentration or value exceeds Action Level

¹ = non-reactive (NR), concentration is general industry standard for comparison

² = DOT Flammable Solid per DOT/UN Division 4.1 Burning Rate Test

[NEG] = "negative" per Burning Rate Test (< 2.2)

N/A = Not Applicable:

RCRA characteristic of "corrosivity" applies only to a solid waste that is aqueous or non-aqueous liquid



EA GROUP
25th Anniversary
1962-2007

APPENDIX A

Laboratory Analytical Report(s)



EA GROUP

Ferrous Processing & Trading
11103 Memphis Avenue
Brooklyn, OH 44144
Ed Gonzalez

Client Project: Waste Characterization

EA Group Project Number: 080600471

Received on June 25, 2008

The following analytical report contains results as requested for samples submitted to EA Group. The results included in this report have been reviewed for compliance with the analytical methods indicated in this report. All data has been found to be compliant with accepted laboratory protocol, except as noted in the QC narrative. Industrial hygiene reports, air and/or surface concentrations results are based upon sampling information provided by the client. Industrial hygiene results will not be blank corrected. Analyst initials of REF indicate analysis performed at a subcontract facility.

If you have questions, comments or require further assistance regarding this report, please contact your client services representative or one of the individuals listed below.

Data or reporting:

Jeff Herbert - Lab Manager
jherbert@eagroup-ohio.com

Sample tracking, supplies:

Lisa Foote - Sample Control
sreceiving@eagroup-ohio.com

Mike Herbert - Supervisor
mherbert@eagroup-ohio.com

Invoice Related:

Bonnie Renbarger - Office Manager
brenbarger@eagroup-ohio.com

Reproduction of this report is prohibited except in its entirety. Unless noted, soil, sludge and sediment results are reported on dry weight basis. The "Sample Reporting Limit" is based on the method used for analysis and does not refer to any regulatory limit. These results relate only to the items tested.

7118 Industrial Park Blvd., Mentor, Ohio 44060-5314
(440) 951-3514 (800) 875-3514 FAX (440) 951-3774 www.eagroup-ohio.com



EA GROUP

Laboratory Analytical Report

Ferrous Processing & Trading

11103 Memphis Avenue

Brooklyn, OH 44144

Attention:

Ed Gonzalez

Project Identification

Waste Characterization

Purchase Order:

91904

EA Group

Order Number

0806-00471

Jeffrey A. Herbert

Laboratory Manager

July 8, 2008

7118 Industrial Park Blvd., Mentor, Ohio 44060-5314
(440) 951-3514 (800) 875-3514 FAX (440) 951-3774 www.eagroup-ohio.com



Sample Receive Date 6/25/2008

Sample Listing

<u>EAG</u>	<u>Client</u>	<u>EAG</u>	<u>Client</u>
<u>Sample Identification</u>	<u>Sample Identification</u>	<u>Sample Identification</u>	<u>Sample Identification</u>
080600471	- 001	OH34418-062508-1	



EA Group Project Narrative

EAG Work Order Number: 0806-00471

Shipment Conditions / Sample Receipt:

Sample receipt temperature 20.2 C.

Sample Preparation:

Sample preparation proceeded normally.

Analytical Notes:

No issues

"REF" indicates analysis by a subcontract laboratory. The QC notes and above statements are assumed correct unless otherwise noted in samples sent out for subcontract analysis.

Quality Control Notes (these may not apply to all analyses):

MS/MSD: No issues

LCS/LCSD: No issues

Surrogates: No issues

Percent Moisture is used to report results on a dry weight basis.

When necessary, reporting limits of individual samples may be raised due to high concentration of interfering compounds or target analytes, or quantity of sample available for analysis. Unless otherwise noted, surrogate recoveries outside listed control limits were affected by matrix interference.

pH method note: If this analysis was performed in the laboratory, it may not meet the "immediate analysis" requirement that applies to most wastewater monitoring samples. In such cases, analysis for pH should be done at the time of sampling.

Data Flags Table:

The following is a listing of data qualifiers and their explanations, which may appear in the body of the report:

"B" indicates method blank contamination. The method blank contained a standard laboratory contaminant (Methylene Chloride, Acetone or Hexane) above the standard laboratory method detection limit and below the standard laboratory-reporting limit.

"DIL" Due to matrix interference or high analyte concentration, a dilution was required and the result could not be quantitated.

"E" The analytical result for this sample as reported is above the higher limit of the calibration curve and should be considered an estimated concentration.

"J" Estimated result reported below the standard reporting limit and above the method detection limit.

"MI" Due to inherent matrix interference, the result could not be quantitated.

"NA" Not applicable.

"Q" Due to the poor chromatographic behavior of the indicated analyte, a quadratic regression was used to calculate results.

"#" Indicates the reported result may be outside allowable permit levels as provided by the client, when applicable.



EA GROUP

EAG Workorder: 0806-00471

Client Project: Waste Characterization

EAG ID: 0806-00471-1

Client ID: OH34418-062508-1

Sampled: 6/25/2008

Received: 6/25/2008

<u>Parameter</u>	<u>Result</u>	<u>Sample Reporting</u>		<u>Units</u>	<u>Prep</u>	<u>Analysis</u>	<u>Analyst</u>
		<u>Limit</u>			<u>Date</u>	<u>Date</u>	
SW846 1311: TCLP Extraction	Complete					6/30/2008	CP
Arsenic, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
Barium, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
Cadmium, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
Chromium, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
Lead, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
Mercury, TCLP: SW846-7470A	<2.0	2.0		ug/liter	7/03/2008	7/03/2008	CP
Selenium, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
Silver, TCLP: SW846-6010A	<0.10	0.10		mg/liter	7/02/2008	7/03/2008	CMB
SW846 1311: TCLP Extraction	Complete					6/30/2008	CP
Percent Moisture: ASTM C311	17	0.10		%	6/30/2008	6/30/2008	SLD
Ignitability: SW846-1030M	<2.2	2.2		mm/second	7/03/2008	7/03/2008	SLD
Corrosivity: SW846-9045C	9.3			pH units	6/26/2008	6/26/2008	SLD
Cyanide, Reactive: SW846-7.3.3.2	<0.20	0.20		mg/kg	7/07/2008	7/07/2008	CMW
Sulfides, Reactive: SW846-7.3.4.2	<10	10		mg/kg	7/07/2008	7/07/2008	CMW



EA GROUP

EAG Workorder: 0806-00471

EAG ID: 0806-00471-001

Client ID: OH34418-062508-1

Client Project: Waste Characterization

Matrix: Solid

Analyst: DFM

Date Sampled: 06/25/2008

Date Received: 06/25/2008

<u>Parameter</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Units</u>	<u>Date Analyzed</u>
Semi-volatile Organic TCLP: SW846-8270B				
o-Cresol	<0.050	0.050	mg/liter	7/01/2008
m & p-Cresol	<0.050	0.050	mg/liter	7/01/2008
1,4-Dichlorobenzene	<0.050	0.050	mg/liter	7/01/2008
2,4-Dinitrotoluene	<0.050	0.050	mg/liter	7/01/2008
Hexachlorobenzene	<0.050	0.050	mg/liter	7/01/2008
Hexachlorobutadiene	<0.050	0.050	mg/liter	7/01/2008
Hexachloroethane	<0.050	0.050	mg/liter	7/01/2008
Nitrobenzene	<0.050	0.050	mg/liter	7/01/2008
Pentachlorophenol	<0.25	0.25	mg/liter	7/01/2008
Pyridine	<0.050	0.050	mg/liter	7/01/2008
2,4,5-Trichlorophenol	<0.050	0.050	mg/liter	7/01/2008
2,4,6-Trichlorophenol	<0.050	0.050	mg/liter	7/01/2008
Extraction: SW846-3510	Complete			7/01/2008
TCLP Extraction: SW846-1311	Complete			6/30/2008

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Recovery Limits</u>
Nitrobenzene-d5	75.3	(35 - 114)
2-Fluorobiphenyl	71.9	(43 - 116)
p-Terphenyl-d14	92.9	(33 - 141)
2-Fluorophenol	34.2	(21 - 100)
Phenol-d6	27.0	(10 - 94)
2,4,6-Tribromophenol	90.3	(10 - 123)



EA GROUP

EAG Workorder: 0806-00471
EAG ID: 0806-00471-001
Client ID: OH34418-062508-1
Client Project: Waste Characterization

Matrix: Solid
Analyst: REC

Date Sampled: 06/25/2008
Date Received: 06/25/2008

<u>Parameter</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Units</u>	<u>Date Analyzed</u>
Volatile Organic TCLP: SW846-8260A				
Benzene	<0.10	0.10	mg/liter	6/30/2008
Carbon tetrachloride	<0.10	0.10	mg/liter	6/30/2008
Chlorobenzene	<0.10	0.10	mg/liter	6/30/2008
Chloroform	<0.10	0.10	mg/liter	6/30/2008
1,2-Dichloroethane	<0.10	0.10	mg/liter	6/30/2008
1,1-Dichloroethene	<0.10	0.10	mg/liter	6/30/2008
Methyl ethyl ketone	<1.0	1.0	mg/liter	6/30/2008
Tetrachloroethylene	<0.10	0.10	mg/liter	6/30/2008
Trichloroethylene	<0.10	0.10	mg/liter	6/30/2008
Vinyl chloride	<0.10	0.10	mg/liter	6/30/2008
ZHE TCLP Extraction:SW846-1311	NA			6/30/2008

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Recovery Limits</u>
1,2-Dichloroethane-d4	100	(73 - 125)
Toluene-d8	116	(86 - 122)
4-Bromofluorobenzene	98.2	(88 - 123)



0806-00471

Listed below are the TCLP regulatory limits. If you have any questions regarding the results or the regulatory limits, please contact Client Services. Source: 40CFR 261.

TCLP Metals:	mg/liter	TCLP Volatiles:	mg/liter
Arsenic	5.0	Benzene	0.5
Barium	100.0	Carbontetrachloride	0.5
Cadmium	1.0	Chlorobenzene	100.0
Chromium	5.0	Chloroform	6.0
Lead	5.0	1,2-Dichloroethane	0.5
Mercury	0.2	1,1-Dichloroethene	0.7
Selenium	1.0	Methyl ethyl ketone	200.0
Silver	5.0	Tetrachloroethene	0.7
		Trichloroethene	0.5
		Vinyl Chloride	0.2
TCLP Semi-volatiles:	mg/liter	TCLP Pesticides:	mg/liter
1,4-Dichlorobenzene	7.5	Chlordane	0.03
2,4-Dinitrotoluene	0.13	Endrin	0.02
Hexachlorobenzene	0.13	Heptachlor	0.008
Hexachlorobutadiene	0.5	Heptachlor Epoxide	0.008
Hexachloroethane	3.0	Lindane	0.4
Nitrobenzene	2.0	Methoxychlor	10.0
Pyridine	5.0	Toxaphene	0.5
o-Cresol	200.0		
m-Cresol	200.0	TCLP Herbicides:	mg/liter
p-Cresol	200.0	2,4-D	10.0
Cresol (total)	200.0	2,4,5-TP (Silvex)	1.0
Pentachlorophenol	100.0		
2,4,5-Trichlorophenol	400.0		
2,4,6-Trichlorophenol	2.0		
Characterization Parameters:	Acceptable limits		
Corrosivity	2-12.5 pH units		
Flashpoint	>140 degrees F		
Ignitability (solid burn rate)	>2.2 mm/second		
Reactive Cyanide*	<250 mg/kg		
Reactive Sulfide*	<500 mg/kg		

* EA Group uses the industry standard for the analysis of reactivity. However, the EPA has withdrawn guidance concerning this method. Further evaluation may be required to determine whether a waste is 'reactive'. The generator should contact the waste handler or the EPA for further guidance.



EAG WORK ORDER

PLEASE DO NOT SEPARATE FORMS

PAGE 3 OF 3

[illegible]

Rev: 13/3/2006