



Beneficial Use Determination: Analytical Testing Report



DNR Certified Lab: <u>Eurofins TestAmerica, Cedar Falls</u> Lab Report Date: <u>11/11/2024</u> By-Product Generator: <u>Keokuk Steel Castings</u> City: <u>Keokuk</u> , State: <u>IA</u> , Zip: <u>52632</u> By-Product Name: <u>Foundry Sand</u>	Send completed report form(s) and associated laboratory analytics to: Iowa Department of Natural Resources Land Quality Bureau Solid Waste Section 502 East 9 th Street Des Moines, IA 50319-0034 For questions concerning this report form, please contact the DNR at (515) 725-8351.
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ANALYTICAL RESULTS

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846).

Required		Synthetic Precipitation Leaching Procedure (EPA Test Method 1312)			Total Metals	
*	Contaminant	MCL	10 X MCL	Test Result	Regulatory Limit	Test Result
☐	Antimony	0.006 mg/L	0.06 mg/L	<0.00810 mg/L	31 mg/kg	<0.354 mg/kg
☐	Arsenic	0.010 mg/L	0.10 mg/L	<0.00510 mg/L	17 mg/kg	0.374 mg/kg
☐	Barium	2.0 mg/L	20.0 mg/L	<0.0160 mg/L	15,000 mg/kg	7.43 mg/kg
☐	Beryllium	0.004 mg/L	0.04 mg/L	<0.00170 mg/L	110 mg/kg	<0.157 mg/kg
☐	Boron				16,000 mg/kg	<19.6 mg/kg
☐	Cadmium	0.005 mg/L	0.05 mg/L	<0.00070 mg/L	70 mg/kg	<0.149 mg/kg
☐	Chromium	0.1 mg/L	1.0 mg/L	<0.0110 mg/L	** (Total)	28.9 mg/kg
					(Hexavalent - VI) 210 mg/kg	mg/kg
					(Trivalent - III) 97,000 mg/kg	mg/kg
☐	Cobalt				23 mg/kg	2.35 mg/kg
☐	Copper	1.3 mg/L	13.0 mg/L	0.00939 mg/L	15,000 mg/kg	33.5 mg/kg
☐	Fluoride	4.0 mg/L	40.0 mg/L	0.454 mg/L	4,700 mg/kg	1.83 mg/kg
☐	Lead	0.015 mg/L	0.15 mg/L	<0.0019 mg/L	400 mg/kg	1.33 mg/kg
☐	Lithium				160 mg/kg	<0.566 mg/kg
☐	Manganese				10,000 mg/kg	193 mg/kg
☐	Mercury	0.002 mg/L	0.02 mg/L	<0.00110 mg/L	23 mg/kg	<0.00789 mg/kg
☐	Molybdenum				390 mg/kg	7.10 mg/kg
☐	Nickel				1,500 mg/kg	17.4 mg/kg
☐	Selenium	0.05 mg/L	0.5 mg/L	<0.0083 mg/L	390 mg/kg	<0.589 mg/kg
☐	Silver				370 mg/kg	<0.173 mg/kg
☐	Thallium	0.002 mg/L	0.02 mg/L	<0.00290 mg/L	0.78 mg/kg	<0.196 mg/kg
☐	Vanadium				350 mg/kg	23.9 mg/kg
☐	Zinc				23,000 mg/kg	22.1 mg/kg

(*) Required contaminant

(**) If Total Chromium ≥ 210 mg/kg, further analysis shall be conducted to determine hexavalent and trivalent results.

Toxicity Characteristic Leaching Procedure (EPA Test Method 1311) – Regulatory Limits

Metals				Volatile Organic Compounds			
*	Contaminant	Regulatory Limit	Test Result	*	Contaminant	Regulatory Limit	Test Result
☐	Arsenic	5.0 mg/L	<0.0300 mg/L	☐	Benzene	0.5 mg/L	mg/L
☐	Barium	100.0 mg/L	0.0663 mg/L	☐	Carbon tetrachloride	0.5 mg/L	mg/L
☐	Cadmium	1.0 mg/L	<0.0039 mg/L	☐	Chlorobenzene	100.0 mg/L	mg/L
☐	Chromium	5.0 mg/L	0.0442 mg/L	☐	Chloroform	6.0 mg/L	mg/L
☐	Lead	5.0 mg/L	<0.0370 mg/L	☐	1,2-Dichloroethane	0.5 mg/L	mg/L
☐	Mercury	0.2 mg/L	<0.0011 mg/L	☐	1,1-Dichloroethylene	0.7 mg/L	mg/L
☐	Selenium	1.0 mg/L	<0.0290 mg/L	☐	Methyl ethyl ketone	200.0 mg/L	mg/L
☐	Silver	5.0 mg/L	<0.0160 mg/L	☐	Tetrachloroethylene	0.7 mg/L	mg/L
				☐	Trichloroethylene	0.5 mg/L	mg/L
				☐	Vinyl chloride	0.2 mg/L	mg/L
Pesticides				Semi-Volatile Organic Compounds			
*	Contaminant	Regulatory Limit	Test Result	*	Contaminant	Regulatory Limit	Test Result
☐	Chlordane	0.03 mg/L	mg/L	☐	o-Cresol	200.0 mg/L	mg/L
☐	Endrin	0.02 mg/L	mg/L	☐	m-Cresol	200.0 mg/L	mg/L
☐	Heptachlor (& its epoxide)	0.008 mg/L	mg/L	☐	p-Cresol	200.0 mg/L	mg/L
☐	Lindane	0.4 mg/L	mg/L	☐	Cresol	200.0 mg/L	mg/L
☐	Methoxychlor	10.0 mg/L	mg/L	☐	1,4-Dichlorobenzene	7.5 mg/L	mg/L
☐	Toxaphene	0.5 mg/L	mg/L	☐	2,4-Dinitrotoluene	0.13 mg/L	mg/L
				☐	Hexachlorobenzene	0.13 mg/L	mg/L
				☐	Hexachlorobutadiene	0.5 mg/L	mg/L
				☐	Hexachloroethane	3.0 mg/L	mg/L
				☐	Nitrobenzene	2.0 mg/L	mg/L
Herbicides				☐	Pentachlorophenol	100.0 mg/L	mg/L
*	Contaminant	Regulatory Limit	Test Result	☐	Pyridine	5.0 mg/L	mg/L
☐	2,4-D	10.0 mg/L	mg/L	☐	2,4,5-Trichlorophenol	400.0 mg/L	mg/L
☐	2,4,5-TP (Silvex)	1.0 mg/L	mg/L	☐	2,4,6-Trichlorophenol	2.0 mg/L	mg/L

(*) Required contaminant

By-Product pH	
☐	

BY-PRODUCT GENERATOR CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature: Shawn Ferdig

Printed Name: Shawn Ferdig

Date: 11/12/24

Title: Quality Manager

ANALYTICAL REPORT

PREPARED FOR

Attn: Shawn Ferdig
Keokuk Steel Castings
3972 Main Street
Keokuk, Iowa 52632

Generated 11/11/2024 8:58:45 AM

JOB DESCRIPTION

Beneficial ReUse Metals

JOB NUMBER

310-293991-1

Eurofins Cedar Falls

Job Notes

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Authorization



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Case Narrative

Client: Keokuk Steel Castings
Project: Beneficial ReUse Metals

Job ID: 310-293991-1

Job ID: 310-293991-1

Eurofins Cedar Falls

Job Narrative 310-293991-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 10/30/2024 9:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 21.9°C.

Receipt Exceptions

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Cedar Falls

Sample Summary

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-293991-1	North Pile	Solid	10/29/24 08:50	10/30/24 09:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Client Sample ID: North Pile

Lab Sample ID: 310-293991-1

Date Collected: 10/29/24 08:50

Matrix: Solid

Date Received: 10/30/24 09:00

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0300		0.100	0.0300	mg/L		11/04/24 09:30	11/05/24 13:27	1
Barium	0.0663	J	0.200	0.0400	mg/L		11/04/24 09:30	11/05/24 13:27	1
Cadmium	<0.00390		0.0200	0.00390	mg/L		11/04/24 09:30	11/05/24 13:27	1
Chromium	0.0442		0.0200	0.00600	mg/L		11/04/24 09:30	11/05/24 13:27	1
Lead	<0.0370		0.100	0.0370	mg/L		11/04/24 09:30	11/05/24 13:27	1
Selenium	<0.0290		0.100	0.0290	mg/L		11/04/24 09:30	11/05/24 13:27	1
Silver	<0.0160		0.0500	0.0160	mg/L		11/04/24 09:30	11/05/24 13:27	1

Method: SW846 6020B - Metals (ICP/MS) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00810		0.0100	0.00810	mg/L		11/08/24 09:30	11/08/24 17:26	1
Arsenic	<0.00510		0.0100	0.00510	mg/L		11/08/24 09:30	11/08/24 17:26	1
Barium	<0.0160		0.0500	0.0160	mg/L		11/08/24 09:30	11/08/24 17:26	1
Beryllium	<0.00170		0.00500	0.00170	mg/L		11/08/24 09:30	11/08/24 17:26	1
Cadmium	<0.000700		0.00250	0.000700	mg/L		11/08/24 09:30	11/08/24 17:26	1
Chromium	<0.0110		0.0250	0.0110	mg/L		11/08/24 09:30	11/08/24 17:26	1
Copper	0.00939	J	0.0250	0.00900	mg/L		11/08/24 09:30	11/08/24 17:26	1
Lead	<0.00190		0.00500	0.00190	mg/L		11/08/24 09:30	11/08/24 17:26	1
Selenium	<0.00830		0.0250	0.00830	mg/L		11/08/24 09:30	11/08/24 17:26	1
Thallium	<0.00290		0.00500	0.00290	mg/L		11/08/24 09:30	11/08/24 17:26	1

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00110		0.00200	0.00110	mg/L		11/02/24 15:10	11/04/24 12:06	1

Method: SW846 7470A - Mercury (CVAA) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00110		0.00200	0.00110	mg/L		11/07/24 15:00	11/08/24 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	0.1		0.1	0.1	%			10/30/24 15:08	1
Percent Solids (EPA Moisture)	99.9		0.1	0.1	%			10/30/24 15:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	1.83		0.992	0.536	mg/Kg			11/07/24 14:44	1
pH (SW846 9045D)	8.0	HF	1.0	1.0	SU			11/06/24 00:24	1

General Chemistry - SPLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.454		0.200	0.200	mg/L			11/07/24 13:35	1

Client Sample ID: North Pile

Lab Sample ID: 310-293991-1

Date Collected: 10/29/24 08:50

Matrix: Solid

Date Received: 10/30/24 09:00

Percent Solids: 99.9

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.354		0.786	0.354	mg/Kg	☆	11/06/24 10:00	11/07/24 18:17	5
Arsenic	0.374	J	0.786	0.330	mg/Kg	☆	11/06/24 10:00	11/06/24 17:44	5

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Client Sample Results

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Client Sample ID: North Pile

Lab Sample ID: 310-293991-1

Date Collected: 10/29/24 08:50

Matrix: Solid

Date Received: 10/30/24 09:00

Percent Solids: 99.9

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	7.43		0.786	0.393	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Beryllium	<0.157		0.393	0.157	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Boron	<19.6		39.3	19.6	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Cadmium	<0.149		0.393	0.149	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Chromium	28.9		1.18	0.511	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Cobalt	2.35		0.393	0.181	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Copper	33.5		1.18	0.479	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Lead	1.33 J		1.96	0.613	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Lithium	<0.566		1.96	0.566	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Manganese	193		1.96	0.943	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Molybdenum	7.10		0.786	0.424	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Nickel	17.4		1.18	0.534	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Selenium	<0.589		1.18	0.589	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Silver	<0.173		0.393	0.173	mg/Kg	✱	11/06/24 10:00	11/07/24 18:17	5
Thallium	<0.196		0.393	0.196	mg/Kg	✱	11/06/24 10:00	11/07/24 18:17	5
Vanadium	23.9		1.18	0.361	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5
Zinc	22.1		3.93	1.89	mg/Kg	✱	11/06/24 10:00	11/06/24 17:44	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00789		0.0193	0.00789	mg/Kg	✱	11/06/24 16:00	11/07/24 12:46	1

Lab Chronicle

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Client Sample ID: North Pile

Lab Sample ID: 310-293991-1

Date Collected: 10/29/24 08:50

Matrix: Solid

Date Received: 10/30/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			438266	U8FK	EET CF	10/31/24 15:36 - 11/01/24 07:36 ¹
TCLP	Prep	3010A			438389	F5MW	EET CF	11/04/24 09:30
TCLP	Analysis	6010D		1	438772	ZRI4	EET CF	11/05/24 13:27
SPLP West	Leach	1312			438863	U8FK	EET CF	11/06/24 15:00 - 11/07/24 07:00 ¹
SPLP West	Prep	3010A			439000	F5MW	EET CF	11/08/24 09:30
SPLP West	Analysis	6020B		1	439231	A6US	EET CF	11/08/24 17:26
SPLP West	Leach	1312			438863	U8FK	EET CF	11/06/24 15:00 - 11/07/24 07:00 ¹
SPLP West	Prep	7470A			439015	QTZ5	EET CF	11/07/24 15:00
SPLP West	Analysis	7470A		1	439147	QTZ5	EET CF	11/08/24 12:54
TCLP	Leach	1311			438266	U8FK	EET CF	10/31/24 15:36 - 11/01/24 07:36 ¹
TCLP	Prep	7470A			438436	QTZ5	EET CF	11/02/24 15:10
TCLP	Analysis	7470A		1	438610	QTZ5	EET CF	11/04/24 12:06
Soluble	Leach	DI Leach			438964	WZC8	EET CF	11/07/24 09:47
Soluble	Analysis	4500 F C-2011		1	439065	WZC8	EET CF	11/07/24 14:44
SPLP	Leach	1312			438864	U8FK	EET CF	11/06/24 15:00 - 11/07/24 07:00 ¹
SPLP	Analysis	4500 F C-2011		1	439065	WZC8	EET CF	11/07/24 13:35
Soluble	Leach	DI Leach			438781	ZJX4	EET CF	11/05/24 21:52
Soluble	Analysis	9045D		1	438782	ZJX4	EET CF	11/06/24 00:24
Total/NA	Analysis	Moisture		1	438105	A3GU	EET CF	10/30/24 15:08

Client Sample ID: North Pile

Lab Sample ID: 310-293991-1

Date Collected: 10/29/24 08:50

Matrix: Solid

Date Received: 10/30/24 09:00

Percent Solids: 99.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3050B			438406	F5MW	EET CF	11/06/24 10:00
Total/NA	Analysis	6020B		5	438929	NFT2	EET CF	11/06/24 17:44
Total/NA	Prep	3050B			438406	F5MW	EET CF	11/06/24 10:00
Total/NA	Analysis	6020B		5	439075	A6US	EET CF	11/07/24 18:17
Total/NA	Prep	7471B			438763	QTZ5	EET CF	11/06/24 16:00
Total/NA	Analysis	7471B		1	439019	QTZ5	EET CF	11/07/24 12:46

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Eurofins Cedar Falls

Definitions/Glossary

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
4500 F C-2011		Solid	Fluoride
6020B	3050B	Solid	Lithium
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals

Job ID: 310-293991-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
7471B	Mercury (CVAA)	SW846	EET CF
4500 F C-2011	Fluoride (Ion-selective Electrode)	SM	EET CF
9045D	pH	SW846	EET CF
Moisture	Percent Moisture	EPA	EET CF
1311	TCLP Extraction	SW846	EET CF
1312	SPLP Extraction	SW846	EET CF
3010A	Preparation, Total Metals	SW846	EET CF
3050B	Preparation, Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
7471B	Preparation, Mercury	SW846	EET CF
DI Leach	Deionized Water Leaching Procedure	ASTM	EET CF

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

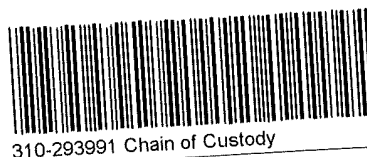
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
America



310-293991 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Keokuk Steel Castings</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/30/21</u>	TIME <u>900</u>	Received By: <u>XB</u>
Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		☒ Yes ☐ No	If yes: Cooler ID: _____
Multiple Coolers?		☐ Yes ☒ No	If yes: Cooler # _____ of _____
Cooler Custody Seals Present?		☐ Yes ☒ No	If yes: Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?		☐ Yes ☒ No	If yes: Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?		☐ Yes ☒ No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>2</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>21.9</u>		Corrected Temp (°C): <u>21.9</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>4oz soil Jar</u>	<u>CONTAINER 2</u> <u>32oz clear glass</u>	
Uncorrected Temp (°C):	<u>20.7</u>	<u>21.6</u>	
Corrected Temp (°C):	<u>20.7</u>	<u>21.6</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) If yes: Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Address

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

[illegible]

Login Sample Receipt Checklist

Client: Keokuk Steel Castings

Job Number: 310-293991-1

Login Number: 293991

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Bunker, Xavier M

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	