



Beneficial Use Determination: Analytical Testing Report



DNR Certified Lab: <u>Eurofins TestAmerica, Cedar Falls</u> Lab Report Date: <u>11/24/2025</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	<0.0400 mg/L	31 mg/kg	<0.796 mg/kg
☐	Arsenic	0.010 mg/L	0.10 mg/L	<0.0400 mg/L	17 mg/kg	<0.796 mg/kg
☐	Barium	2.0 mg/L	20.0 mg/L	<0.200 mg/L	15,000 mg/kg	2.09 mg/kg
☐	Beryllium	0.004 mg/L	0.04 mg/L	<0.0200 mg/L	110 mg/kg	<0.398 mg/kg
☐	Boron				16,000 mg/kg	<39.8 mg/kg
☐	Cadmium	0.005 mg/L	0.05 mg/L	<0.0100 mg/L	70 mg/kg	<0.398 mg/kg
☐	Chromium	0.1 mg/L	1.0 mg/L	<0.100 mg/L	** (Total)	1.50 mg/kg
					(Hexavalent - VI) 210 mg/kg	mg/kg
					(Trivalent - III) 97,000 mg/kg	mg/kg
☐	Cobalt				23 mg/kg	1.66 mg/kg
☐	Copper	1.3 mg/L	13.0 mg/L	<0.200 mg/L	15,000 mg/kg	19.8 mg/kg
☐	Fluoride	4.0 mg/L	40.0 mg/L	0.904 mg/L	4,700 mg/kg	8.20 mg/kg
☐	Lead	0.015 mg/L	0.15 mg/L	<0.0200 mg/L	400 mg/kg	<1.99 mg/kg
☐	Lithium				160 mg/kg	<1.99 mg/kg
☐	Manganese				10,000 mg/kg	43.0 mg/kg
☐	Mercury	0.002 mg/L	0.02 mg/L	<0.00200 mg/L	23 mg/kg	<0.0154 mg/kg
☐	Molybdenum				390 mg/kg	<0.796 mg/kg
☐	Nickel				1,500 mg/kg	3.41 mg/kg
☐	Selenium	0.05 mg/L	0.5 mg/L	<0.100 mg/L	390 mg/kg	<1.19 mg/kg
☐	Silver				370 mg/kg	<0.398 mg/kg
☐	Thallium	0.002 mg/L	0.02 mg/L	<0.0200 mg/L	0.78 mg/kg	<0.398 mg/kg
☐	Vanadium				350 mg/kg	19.7 mg/kg
☐	Zinc				23,000 mg/kg	9.09 mg/kg

(*) Required contaminant

(**) If Total Chromium $\geq$ 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	<0.100 mg/L	☐	Benzene	0.5 mg/L	mg/L
☐	Barium	100.0 mg/L	<0.200 mg/L	☐	Carbon tetrachloride	0.5 mg/L	mg/L
☐	Cadmium	1.0 mg/L	<0.0200 mg/L	☐	Chlorobenzene	100.0 mg/L	mg/L
☐	Chromium	5.0 mg/L	<0.0200 mg/L	☐	Chloroform	6.0 mg/L	mg/L
☐	Lead	5.0 mg/L	<0.100 mg/L	☐	1,2-Dichloroethane	0.5 mg/L	mg/L
☐	Mercury	0.2 mg/L	<0.00200 mg/L	☐	1,1-Dichloroethylene	0.7 mg/L	mg/L
☐	Selenium	1.0 mg/L	<0.100 mg/L	☐	Methyl ethyl ketone	200.0 mg/L	mg/L
☐	Silver	5.0 mg/L	<0.0500 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: 
 Printed Name: Shawn Ferdig

Date: 11/24/25
 Title: Quality and Compliance Director

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

Beneficial ReUse Metals Q4 2025

JOB NUMBER

310-320227-1

Eurofins Cedar Falls

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



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Case Narrative

Client: Keokuk Steel Castings
Project: Beneficial ReUse Metals Q4 2025

Job ID: 310-320227-1

Job ID: 310-320227-1

Eurofins Cedar Falls

Job Narrative 310-320227-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The sample was received on 11/11/2025 8:50 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 5.9°C.

Metals

Method 6020B - SPLP West: The initial calibration verification (ICV) result for batch 310-474554 was above the upper control limit. The affected analytes are: Thallium. Sample results were non-detects, and have been reported as qualified data.

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 Q4 2025

Job ID: 310-320227-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
310-320227-1	Sample Pile 1	Solid	11/10/25 10:18	11/11/25 08:50	Iowa

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

Client Sample Results

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals Q4 2025

Job ID: 310-320227-1

Client Sample ID: Sample Pile 1

Lab Sample ID: 310-320227-1

Date Collected: 11/10/25 10:18

Matrix: Solid

Date Received: 11/11/25 08:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.100		0.100		mg/L		11/13/25 09:09	11/17/25 13:36	1
Barium	<0.200		0.200		mg/L		11/13/25 09:09	11/17/25 13:36	1
Cadmium	<0.0200		0.0200		mg/L		11/13/25 09:09	11/17/25 13:36	1
Chromium	<0.0200		0.0200		mg/L		11/13/25 09:09	11/17/25 13:36	1
Lead	<0.100		0.100		mg/L		11/13/25 09:09	11/17/25 13:36	1
Selenium	<0.100		0.100		mg/L		11/13/25 09:09	11/17/25 13:36	1
Silver	<0.0500		0.0500		mg/L		11/13/25 09:09	11/17/25 13:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0400		0.0400		mg/L		11/14/25 09:45	11/23/25 23:08	4
Arsenic	<0.0400		0.0400		mg/L		11/14/25 09:45	11/23/25 23:08	4
Barium	<0.200		0.200		mg/L		11/14/25 09:45	11/23/25 23:08	4
Beryllium	<0.0200		0.0200		mg/L		11/14/25 09:45	11/23/25 23:08	4
Cadmium	<0.0100		0.0100		mg/L		11/14/25 09:45	11/23/25 23:08	4
Chromium	<0.100		0.100		mg/L		11/14/25 09:45	11/23/25 23:08	4
Copper	<0.200		0.200		mg/L		11/14/25 09:45	11/23/25 23:08	4
Lead	<0.0200		0.0200		mg/L		11/14/25 09:45	11/23/25 23:08	4
Selenium	<0.100		0.100		mg/L		11/14/25 09:45	11/23/25 23:08	4
Thallium	<0.0200	^1+	0.0200		mg/L		11/14/25 09:45	11/23/25 23:08	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		11/14/25 13:00	11/15/25 11:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		11/14/25 13:00	11/15/25 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	0.2		0.1		%			11/11/25 12:13	1
Percent Solids (EPA Moisture)	99.8		0.1		%			11/11/25 12:13	1

General Chemistry - SPLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	0.904		0.200		mg/L			11/14/25 17:30	1

Client Sample ID: Sample Pile 1

Lab Sample ID: 310-320227-1

Date Collected: 11/10/25 10:18

Matrix: Solid

Date Received: 11/11/25 08:50

Percent Solids: 99.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.796		0.796		mg/Kg	✱	11/14/25 08:30	11/20/25 15:49	5
Arsenic	<0.796		0.796		mg/Kg	✱	11/14/25 08:30	11/20/25 15:49	5
Barium	2.09		0.796		mg/Kg	✱	11/14/25 08:30	11/20/25 15:49	5
Beryllium	<0.398		0.398		mg/Kg	✱	11/14/25 08:30	11/20/25 15:49	5
Boron	<39.8		39.8		mg/Kg	✱	11/14/25 08:30	11/21/25 14:24	5
Cadmium	<0.398		0.398		mg/Kg	✱	11/14/25 08:30	11/21/25 14:24	5
Chromium	1.50		1.19		mg/Kg	✱	11/14/25 08:30	11/20/25 15:49	5

Eurofins Cedar Falls

Client Sample Results

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals Q4 2025

Job ID: 310-320227-1

Client Sample ID: Sample Pile 1

Lab Sample ID: 310-320227-1

Date Collected: 11/10/25 10:18

Matrix: Solid

Date Received: 11/11/25 08:50

Percent Solids: 99.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.66		0.398		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Copper	19.8		1.19		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Lead	<1.99		1.99		mg/Kg	☼	11/14/25 08:30	11/21/25 14:24	5
Lithium	<1.99		1.99		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Manganese	43.0		1.99		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Molybdenum	<0.796		0.796		mg/Kg	☼	11/14/25 08:30	11/21/25 14:24	5
Nickel	3.41		1.19		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Selenium	<1.19		1.19		mg/Kg	☼	11/14/25 08:30	11/21/25 14:24	5
Silver	<0.398		0.398		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Thallium	<0.398		0.398		mg/Kg	☼	11/14/25 08:30	11/21/25 14:24	5
Vanadium	19.7		1.19		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5
Zinc	9.09		3.98		mg/Kg	☼	11/14/25 08:30	11/20/25 15:49	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0154		0.0154		mg/Kg	☼	11/19/25 12:30	11/20/25 09:20	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C-2011)	8.20		0.976		mg/Kg	☼		11/14/25 17:54	1

Lab Chronicle

Client: Keokuk Steel Castings
Project/Site: Beneficial ReUse Metals Q4 2025

Job ID: 310-320227-1

Client Sample ID: Sample Pile 1

Lab Sample ID: 310-320227-1

Date Collected: 11/10/25 10:18

Matrix: Solid

Date Received: 11/11/25 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			473308	U8FK	EET CF	11/12/25 15:00 - 11/13/25 07:00 ¹
TCLP	Prep	3010A			473382	F8JX	EET CF	11/13/25 09:09
TCLP	Analysis	6010D		1	473825	ZRI4	EET CF	11/17/25 13:36
SPLP West	Leach	1312			473434	U8FK	EET CF	11/13/25 15:00 - 11/14/25 07:00 ¹
SPLP West	Prep	3010A			473544	RLT9	EET CF	11/14/25 09:45
SPLP West	Analysis	6020B		4	474554	ZRI4	EET CF	11/23/25 23:08
SPLP West	Leach	1312			473434	U8FK	EET CF	11/13/25 15:00 - 11/14/25 07:00 ¹
SPLP West	Prep	7470A			473578	RLT9	EET CF	11/14/25 13:00
SPLP West	Analysis	7470A		1	473705	RLT9	EET CF	11/15/25 12:43
TCLP	Leach	1311			473308	U8FK	EET CF	11/12/25 15:00 - 11/13/25 07:00 ¹
TCLP	Prep	7470A			473575	RLT9	EET CF	11/14/25 13:00
TCLP	Analysis	7470A		1	473705	RLT9	EET CF	11/15/25 11:37
SPLP	Leach	1312			473433	U8FK	EET CF	11/13/25 15:00 - 11/14/25 07:00 ¹
SPLP	Analysis	4500 F C-2011		1	473678	WZC8	EET CF	11/14/25 17:30
Total/NA	Analysis	Moisture		1	473134	W9YR	EET CF	11/11/25 12:13

Client Sample ID: Sample Pile 1

Lab Sample ID: 310-320227-1

Date Collected: 11/10/25 10:18

Matrix: Solid

Date Received: 11/11/25 08:50

Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3050B			473332	RLT9	EET CF	11/14/25 08:30
Total/NA	Analysis	6020B		5	474390	ZRI4	EET CF	11/20/25 15:49
Total/NA	Prep	3050B			473332	RLT9	EET CF	11/14/25 08:30
Total/NA	Analysis	6020B		5	474502	ZRI4	EET CF	11/21/25 14:24
Total/NA	Prep	7471B			473821	RLT9	EET CF	11/19/25 12:30
Total/NA	Analysis	7471B		1	474299	RLT9	EET CF	11/20/25 09:20
Soluble	Leach	DI Leach			473592	WZC8	EET CF	11/14/25 11:51
Soluble	Analysis	4500 F C-2011		1	473678	WZC8	EET CF	11/14/25 17:54

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 Q4 2025

Job ID: 310-320227-1

Qualifiers

Metals

Qualifier	Qualifier Description
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.

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 Q4 2025
Job ID: 310-320227-1

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 Q4 2025

Job ID: 310-320227-1

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
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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Keokuk Steel</u>			
City/State.	CITY	STATE	Project
Receipt Information			
Date/Time Received:	DATE <u>11/11/23</u>	TIME <u>0850</u>	Received By <u>R</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?		If yes: Cooler ID:	
☒ Yes ☐ No			
Multiple Coolers?		If yes: Cooler # ____ of ____	
☐ Yes ☒ No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
☒ Yes ☐ No		☐ Yes ☐ No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
☐ Yes ☒ No		☐ Yes ☐ No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
☐ Yes ☒ No			
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: _____ ☐ NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C) <u>+0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C). <u>5.9</u>		Corrected Temp (°C). <u>5.9</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1		CONTAINER 2
Uncorrected Temp (°C):			
Corrected Temp (°C):			
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			

Login Sample Receipt Checklist

Client: Keokuk Steel Castings

Job Number: 310-320227-1

SDG Number:

Login Number: 320227

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Homolar, Dana J

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.	True	
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.	True	
Cooler Temperature is acceptable.	True	
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.	False	Requested analyses are not listed on COC
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	