



September 23, 2019

Arcelor Mittal USA, Inc.
250 W US Highway 12
Burns Harbor, IN 46304-9745

Work Order No.: 19I1313

Re: NPDES Parameters

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 3 sample(s) on 9/22/2019 9:20:00AM for the analyses presented in the following report as Work Order 19I1313.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

A handwritten signature in black ink that reads "Carey Gadzala". The signature is written in a cursive, flowing style.

Carey Gadzala
Project Manager

[Microbac Laboratories, Inc.](http://www.microbac.com)

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WORK ORDER SAMPLE SUMMARY**Date:** *Monday, September 23, 2019*

Client: Arcelor Mittal USA, Inc.**Project:** NPDES Parameters**Lab Order:** 1911313

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
1911313-01	001-Composite	001	09/21/2019 07:45	9/22/2019 9:20:00AM
1911313-02	011-Composite	011	09/21/2019 07:22	9/22/2019 9:20:00AM
1911313-03	002-Composite	002	09/21/2019 08:15	9/22/2019 9:20:00AM

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CASE NARRATIVE

Date: *Monday, September 23, 2019*

Client: Arcelor Mittal USA, Inc.

Project: NPDES Parameters

Lab Order: 1911313

Report has been revised with correct composite date.

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Analytical Results

Date: Monday, September 23, 2019

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 001-Composite
Sample Description: 001
Matrix: Aqueous

Work Order/ID: 1911313-01
Sampled: 09/21/2019 7:45
Received: 09/22/2019 9:20

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: SM 4500-CN C/E-1999			Analyst: EF			
			Prep Date/Time: 09/22/2019 09:58						
Total Cyanide									
Cyanide, Total	ejj	A	0.0034	0.0020	0.0050		mg/L	1	09/22/2019 12:33
			Method: SW-846 9014			Analyst: EF			
			Prep Date/Time: 09/22/2019 10:27						
Free Cyanide									
Free Cyanide		A	ND	0.0018	0.0062		mg/L	1	09/22/2019 12:22
			Method: EPA 350.1 Rev 2.0			Analyst: EF			
			Prep Date/Time: 09/22/2019 10:11						
Nitrogen, Ammonia as N									
Nitrogen, Ammonia (As N)	ei	A	0.38	0.054	0.10		mg/L	1	09/22/2019 12:04

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Analytical Results

Date: Monday, September 23, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	191313-02
Client Project:	NPDES Parameters	Sampled:	09/21/2019 7:22
Client Sample ID:	011-Composite	Received:	09/22/2019 9:20
Sample Description:	011		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: SM 4500-CN C/E-1999				Analyst: EF		
Prep Date/Time: 09/22/2019 09:58									
Total Cyanide									
Cyanide, Total	ejj	A	0.0033	0.0020	0.0050		mg/L	1	09/22/2019 12:42
			Method: SW-846 9014				Analyst: EF		
Prep Date/Time: 09/22/2019 10:27									
Free Cyanide									
Free Cyanide		A	ND	0.0018	0.0062		mg/L	1	09/22/2019 12:23
			Method: EPA 350.1 Rev 2.0				Analyst: EF		
Prep Date/Time: 09/22/2019 10:11									
Nitrogen, Ammonia as N									
Nitrogen, Ammonia (As N)	ei	A	0.23	0.054	0.10		mg/L	1	09/22/2019 12:11

Analytical Results

Date: Monday, September 23, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	1911313-03
Client Project:	NPDES Parameters	Sampled:	09/21/2019 8:15
Client Sample ID:	002-Composite	Received:	09/22/2019 9:20
Sample Description:	002		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
				Method: SM 4500-CN C/E-1999			Analyst: EF		
Total Cyanide									
Prep Date/Time: 09/22/2019 09:58									
Cyanide, Total	ejj	A	ND	0.0020	0.0050	U	mg/L	1	09/22/2019 12:43
				Method: SW-846 9014			Analyst: EF		
Free Cyanide									
Prep Date/Time: 09/22/2019 10:27									
Free Cyanide		A	ND	0.0018	0.0062		mg/L	1	09/22/2019 12:25

ANALYTE TYPES: (AT)

A, B = Target Analyte

I = Internal Standard

M = Summation Analyte

S = Surrogate

T = Tentatively Identified Compound (TIC, concentration estimated)



QC SAMPLE IDENTIFICATIONS

BLK = Method Blank

DUP = Method Duplicate

BS = Method Blank Spike

MS = Matrix Spike

ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank

CRL = Client Required Reporting Limit

PDS = Post Digestion Spike

QCS = Quality Control Standard

ICSA = Interference Check Standard "A"

ICSAB = Interference Check Standard "AB"

BSD = Method Blank Spike Duplicate

MSD = Matrix Spike Duplicate

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

OPR = Ongoing Precision and Recovery Standard

SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

d Illinois EPA drinking water, wastewater and solid waste analysis (#200064)

i Kansas Dept Health & Env. NELAP (#E-10397)

j Kentucky Wastewater Laboratory Certification Program (#108202)

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)**MDL:** Minimum Detection Limit**RL:** Reporting Limit**RPD:** Relative Percent Difference**U:** The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

Cooler Receipt Log

Cooler ID: Default Cooler

Temp: 7.1°C
 MICROBAC®

Comments

No time

Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct type of Containers Received	Yes
Correct number of containers listed on COC?	No
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	No
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes

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Chain of Custody

ArcelorMittal Burns Harbor/Microbac Labs

Daily During Zebra Muscle Treatment

Lab Work No: _____

* Date Obtained: 9-22-19
** Sample Date: 9-21-19

Location	Time	Sampler	Type	Preserved	Cooled	Containers			Parameters	Comments
						Type	Qty	Vol. (ml)		
001	07:45	CD	Grab	No	No	plastic	1	500	total residual chlorine	0.00
002	08:15	1	Grab	No	No	plastic	1	500	total residual chlorine	0.00
003	08:02	1	Grab	No	No	plastic	1	500	total residual chlorine	0.00
DUP 002			Grab	No	No	plastic	1	500	total residual chlorine	0.00

* From composite sample bottle for that day

Relinquished by: CD
Received by: B. Old

Date: 9-22-19 Time: 08:36
Date: 9/22/19 Time: 08:36

Env 684 Rev 1 07/04/15
191313 Carey Gadzala
ArcelorMittal - Burns Harbor, IN
NPDES Parameters
09/21/2019



Microbac Laboratories, Inc. - Chicagoland Division

**Total Residual Chlorine - Amperometric Titration - SM Method 4500-ClE - 2000
for Arcelor Mittal - Burns Harbor**

Date/Time: 9/22/19 0830
 Analyst: Bto
 pH Paper Lot #: HJ626
 LCS ID: A9074

STD ID / Lot #
 KI Solution: 146367
 Acetate buffer: 147996
 PAO Titrant: 145348
 Exp. Date 6/30/20
7/29/20
5/31/20

Sample ID	Sample Vol. (mL)	pH (pH Units)	Titrant Start (mL)	Titrant Stop (mL)	Titrant Vol. (mL)	Result (mg/L)
Blank	200	4.0	0.00	0.00	0.00	0.00
LCS		4.0		0.05	0.05	0.05
Outfall 001		4.0		0.00	0.00	0.00
Outfall 002		4.0		0.00	0.00	0.00
Outfall 003		4.0		0.00	0.00	0.00
Outfall 011						
Outfall 011 Dup						
Outfall 002 Dup		4.0		0.00	0.00	0.00

Date/Time: _____
 Analyst: _____
 pH Paper Lot #: _____
 LCS ID: _____
 STD ID / Lot # _____
 KI Solution: _____
 Acetate buffer: _____
 PAO Titrant: _____
 Exp. Date _____

Sample ID	Sample Vol. (ml)	pH (pH Units)	Titrant Start (ml)	Titrant Stop (ml)	Titrant Vol. (ml)	Result (mg/L)
Blank						
LCS						
Outfall 001						
Outfall 002						
Outfall 003						
Outfall 011						
Outfall 011 Dup						
Outfall Dup						

Chlorine, mg/L = (Titrant Vol., mL) (200 mL) / (Sample Vol., mL)

revision: a_01_2016