



September 21, 2019

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

Work Order No.: 19I1312

Re: NPDES Parameters

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 3 sample(s) on 9/21/2019 9:30:00AM for the analyses presented in the following report as Work Order 19I1312.

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](mailto: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)

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | [www.microbac.com](http://www.microbac.com)



---

**WORK ORDER SAMPLE SUMMARY****Date:** *Saturday, September 21, 2019*

---

**Client:** Arcelor Mittal USA, Inc.  
**Project:** NPDES Parameters  
**Lab Order:** 19I1312

---

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Collection Date</b>	<b>Date Received</b>
19I1312-01	001-Composite	001	09/21/2019 07:25	9/21/2019 9:30:00AM
19I1312-02	011-Composite	011	09/21/2019 07:06	9/21/2019 9:30:00AM
19I1312-03	002-Composite	002	09/21/2019 08:05	9/21/2019 9:30:00AM

Microbac Laboratories, Inc.

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | [www.microbac.com](http://www.microbac.com)

**CASE NARRATIVE****Date:** *Saturday, September 21, 2019***Client:** Arcelor Mittal USA, Inc.**Project:** NPDES Parameters**Lab Order:** 1911312

The Matrix Spike and Matrix Spike Duplicate failed the accuracy criteria for cyanide with a high bias. The precision criteria were met. A Post Digestion Spike was performed and the acceptance criteria met, indicating accurate measurement at the instrument. The following sample was spiked:

<u>Laboratory ID</u>	<u>Sample Name</u>
1911312-03	002-Composite



## Analytical Results

Date: Saturday, September 21, 2019

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

**Work Order/ID:** 1911312-01  
**Sampled:** 09/21/2019 7:25  
**Received:** 09/21/2019 9:30

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: <b>SM 4500-CN C/E-1999</b>			Analyst: <b>AJR</b>			
			Prep Date/Time: <b>09/21/2019 09:50</b>						
<b>Total Cyanide</b>									
Cyanide, Total	ejj	A	<b>0.0026</b>	0.0020	0.0050	J	mg/L	1	09/21/2019 11:55
			Method: <b>SW-846 9014</b>			Analyst: <b>AJR</b>			
			Prep Date/Time: <b>09/21/2019 10:07</b>						
<b>Free Cyanide</b>									
Free Cyanide		A	<b>ND</b>	0.0018	0.0062	U	mg/L	1	09/21/2019 10:35
			Method: <b>EPA 350.1 Rev 2.0</b>			Analyst: <b>AJR</b>			
			Prep Date/Time: <b>09/21/2019 09:53</b>						
<b>Nitrogen, Ammonia as N</b>									
Nitrogen, Ammonia (As N)	ei	A	<b>0.47</b>	0.054	0.10		mg/L	1	09/21/2019 11:05

Microbac Laboratories, Inc.

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com

## Analytical Results

Date: Saturday, September 21, 2019

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order/ID:</b>	1911312-02
<b>Client Project:</b>	NPDES Parameters	<b>Sampled:</b>	09/21/2019 7:06
<b>Client Sample ID:</b>	011-Composite	<b>Received:</b>	09/21/2019 9:30
<b>Sample Description:</b>	011		
<b>Matrix:</b>	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: <b>SM 4500-CN C/E-1999</b>			Analyst: <b>AJR</b>			
			Prep Date/Time: <b>09/21/2019 09:50</b>						
<b>Total Cyanide</b>									
Cyanide, Total	ejj	A	<b>0.0022</b>	0.0020	0.0050	J	mg/L	1	09/21/2019 11:57
			Method: <b>SW-846 9014</b>			Analyst: <b>AJR</b>			
			Prep Date/Time: <b>09/21/2019 10:07</b>						
<b>Free Cyanide</b>									
Free Cyanide		A	<b>0.0019</b>	0.0018	0.0062	J	mg/L	1	09/21/2019 10:40
			Method: <b>EPA 350.1 Rev 2.0</b>			Analyst: <b>AJR</b>			
			Prep Date/Time: <b>09/21/2019 09:53</b>						
<b>Nitrogen, Ammonia as N</b>									
Nitrogen, Ammonia (As N)	ei	A	<b>0.33</b>	0.054	0.10		mg/L	1	09/21/2019 11:08

## Analytical Results

Date: *Saturday, September 21, 2019*

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order/ID:</b>	191312-03
<b>Client Project:</b>	NPDES Parameters	<b>Sampled:</b>	09/21/2019 8:05
<b>Client Sample ID:</b>	002-Composite	<b>Received:</b>	09/21/2019 9:30
<b>Sample Description:</b>	002		
<b>Matrix:</b>	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
				Method: <b>SM 4500-CN C/E-1999</b>			Analyst: <b>AJR</b>		
Prep Date/Time: <b>09/21/2019 09:50</b>									
<b>Total Cyanide</b>									
Cyanide, Total	ejj	A	<b>ND</b>	0.0020	0.0050	U	mg/L	1	09/21/2019 11:58

---

**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 &amp; Env. NELAP (#E-10397)

j Kentucky Wastewater Laboratory Certification Program (#108202)

---

**FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)**

<b>J:</b>	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
<b>MDL:</b>	Minimum Detection Limit
<b>RL:</b>	Reporting Limit
<b>RPD:</b>	Relative Percent Difference
<b>U:</b>	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



### 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

---

Microbac Laboratories, Inc.

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | [www.microbac.com](http://www.microbac.com)



CHAIN OF CUSTODY RECORD



Number **152362**

Instructions on back

TO BE COMPLETED BY MICROBAC  
 Temperature Upon Receipt (°C)  
 Therm ID  
 Holding Time  
 Samples Received on Ice?  Yes  No  N/A  
 Custody Seals Intact?  Yes  No  N/A

Turnaround Time  
 Routine (5 to 7 business days)  
 RUSH\* (notify lab)  
 (needed by)  
 Report Type  
 Results Only  Level 1  Level 2  Level 3  Level 4  EDD

Invoice Address  
 Client Name:  
 Address:  
 City, State, Zip:  
 Contact:  
 Telephone No.:

Send Invoice via:  Mail  Fax  e-mail (address)  
 PO No.:  
 Compliance Monitoring?  Yes  No  
 Agency/Program

1911312 Carey Gadzala  
 ArcelorMittal - Burns Harbor, IN  
 NPDES Parameters  
 09/21/2019



Location:  
 Location:  
 PO No.:  
 Compliance Monitoring?  Yes  No  
 Agency/Program

Sampler Signature:  
 Sampler Phone No.:

\* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)  
 \*\* Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	NAS CNT	Additional Notes
	001	9/21/19	0725	1				X	19 I 1312
	011	↓	0706	1	ZS			X	-01
	002	↓	0805	1	ZS			X	-02
								A	-03

Requested Analysis  
 Sample Disposition  Dispose as appropriate  Return  Archive  
 Relinquished/By (signature) Date/Time  
 Relinquished/By (signature) Date/Time  
 Relinquished/By (signature) Date/Time  
 Received By (signature) Date/Time  
 Received By (signature) Date/Time  
 Received By (signature) Date/Time

Possible Hazard Identification  
 Comments  
 14.5  
 -0.3  
 14.2



# Chain of Custody

ArcelorMittal Burns Harbor/Microbac Labs

Daily During Zebra Muscle Treatment

Lab Work No: \_\_\_\_\_

\* Date Obtained: 9-21-19  
\*\* Sample Date: 9-20-19

Location	Time	Sampler	Type	Preserved	Cooled	Containers			Parameters	Comments
						Type	Qty	Vol. (ml)		
001	07:25	CP	Grab	No	No	plastic	1	500	total residual chlorine	0.00
002	08:05	/	Grab	No	No	plastic	1	500	total residual chlorine	0.00
003	07:50	/	Grab	No	No	plastic	1	500	total residual chlorine	0.00
DUP			Grab	No	No	plastic	1	500	total residual chlorine	0.00

\* From composite sample bottle for that day

Relinquished by:

Date: 9-21-19

Time: 28:28

Received by:

Date: 9/21/19

Time: 0835

Microbac Laboratories, Inc. - Chicagoland Division

Total Residual Chlorine - Amperometric Titration - SM Method 4500-Cl E - 2000  
for Arcelor Mittal - Burns Harbor

Date/Time: 7/20/19 08:10  
 Analyst: BAO  
 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

Exp. Date  
11/20

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		0.02	0.02	0.02
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		4.0		0.00	0.00	0.00
Outfall 011 Dup		4.0		0.00	0.00	0.00
Outfall 003 Dup		4.0		0.00	0.00	0.00

Date/Time: 7/21/17 08:35  
 Analyst: BAO  
 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

Exp. Date  
11/20

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		0.10	0.10	0.10
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		4.0		0.00	0.00	0.00
Outfall 011 Dup		4.0		0.00	0.00	0.00
Outfall 001 Dup		4.0		0.00	0.00	0.00

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

revision: a\_01\_2016