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September 16, 2019

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

Work Order No.: 19I0846

Re: NPDES Parameters

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 6 sample(s) on 9/14/2019 9:25:00AM for the analyses presented in the following report as Work Order 19I0846.

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.

Carey Gadzala
Project Manager

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WORK ORDER SAMPLE SUMMARY

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Project: NPDES Parameters
Lab Order: 19I0846

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19I0846-01	001-Composite	001	09/13/2019 00:00	9/14/2019 9:25:00AM
19I0846-02	001-Grab	001	09/13/2019 00:00	9/14/2019 9:25:00AM
19I0846-03	011-Composite	011	09/13/2019 00:00	9/14/2019 9:25:00AM
19I0846-04	011-Grab	011	09/13/2019 00:00	9/14/2019 9:25:00AM
19I0846-05	002-Composite	002	09/13/2019 00:00	9/14/2019 9:25:00AM
19I0846-06	002-Grab	002	09/13/2019 00:00	9/14/2019 9:25:00AM

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Field Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Work Order: 19I0846

Client Sample ID: 001-Grab
Sample Description: 001
Matrix: Aqueous
Work Order/ID: 19I0846-02
Sampled: 09/13/2019 00:00
Received: 09/14/2019 09:25

Analyses	Result	Units
FLD_CL_TITR	0.00	mg/L
pH	7.8	pH Units

Client Sample ID: 011-Grab
Sample Description: 011
Matrix: Aqueous
Work Order/ID: 19I0846-04
Sampled: 09/13/2019 00:00
Received: 09/14/2019 09:25

Analyses	Result	Units
FLD_CL_TITR	0.00	mg/L
pH	7.9	pH Units

CASE NARRATIVE

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Project: NPDES Parameters
Lab Order: 19I0846

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:

Laboratory ID	Sample Name
19I0846-01	001-Composite

B - the Method Blank contained zinc at a level above the reporting limit. This does not impact the data, as the concentration in the sample was below the reporting limit. This nonconformance is associated with the following sample:

Laboratory ID	Sample Name
19I0846-01	001-Composite

B - the Method Blank contained zinc at a level above the reporting limit. The zinc results could be biased high. This nonconformance is associated with the following sample:

Laboratory ID	Sample Name
19I0846-03	011-Composite

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Analytical Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 001-Composite
Sample Description: 001
Matrix: Aqueous
Work Order/ID: 19I0846-01
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 200.7 Rev 4.4**						Analyst: **RPL**
Total Recoverable Metals by ICP									Prep Date/Time: **09/16/2019 08:23**
Copper	eij	A	***ND***	0.0013	0.010		mg/L	1	09/16/2019 13:03
Lead	eij	A	***ND***	0.0033	0.0075		mg/L	1	09/16/2019 13:03
Zinc	eij	A	***ND***	0.0073	0.020	B	mg/L	1	09/16/2019 13:03
			Method: **EPA 200.8 Rev 5.4**						Analyst: **BTM**
Total Recoverable Metals by ICP/MS									Prep Date/Time: **09/16/2019 08:23**
Silver	eij	A	***0.000087***	0.000053	0.00060		mg/L	1	09/16/2019 12:20
			Method: **SM 4500-CN C/E-1999**						Analyst: **AJR**
Total Cyanide									Prep Date/Time: **09/14/2019 10:25**
Cyanide, Total	eij	A	***0.0066***	0.0020	0.0050		mg/L	1	09/14/2019 12:34
			Method: **SW-846 9014**						Analyst: **AJR**
Free Cyanide									Prep Date/Time: **09/14/2019 10:40**
Free Cyanide		A	***ND***		0.0062		mg/L	1	09/14/2019 11:19
			Method: **EPA 350.1 Rev 2.0**						Analyst: **AJR**
Nitrogen, Ammonia as N									Prep Date/Time: **09/14/2019 09:56**
Nitrogen, Ammonia (As N)	ei	A	***0.59***	0.054	0.10		mg/L	1	09/14/2019 12:32
			Method: **EPA 420.4 Rev 1.0**						Analyst: **ABG**
Total Phenolics									Prep Date/Time: **09/16/2019 07:17**
Phenolics, Total Recoverable	eij	A	***ND***	0.0060	0.010	U	mg/L	1	09/16/2019 15:22
			Method: **SM 2540 D-1997**						Analyst: **AJR**
Total Suspended Solids									Prep Date/Time: **09/14/2019 08:52**
Total Suspended Solids	eij	A	***3.8***	1.0	1.0		mg/L	1	09/14/2019 8:52

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Analytical Results

Date: *Monday, September 16, 2019*

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

Work Order/ID: 19I0846-02
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 1664B**						Analyst: **AJR**
Oil & Grease (HEM) by SPE									Prep Date/Time: **09/14/2019 10:02**
Oil & Grease (HEM)	eij	A	***ND***	1.4	5.0	U	mg/L	1	09/14/2019 10:02

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Analytical Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 011-Composite
Sample Description: 011
Matrix: Aqueous
Work Order/ID: 19I0846-03
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 200.7 Rev 4.4**						Analyst: **RPL**
Total Recoverable Metals by ICP									Prep Date/Time: **09/16/2019 08:23**
Lead	eij	A	***0.0053***	0.0033	0.0075		mg/L	1	09/16/2019 13:08
Zinc	eij	A	***0.020***	0.0073	0.020	B	mg/L	1	09/16/2019 13:08
			Method: **SM 4500-CN C/E-1999**						Analyst: **AJR**
Total Cyanide									Prep Date/Time: **09/14/2019 10:25**
Cyanide, Total	eij	A	***0.0074***	0.0020	0.0050		mg/L	1	09/14/2019 12:39
			Method: **EPA 350.1 Rev 2.0**						Analyst: **AJR**
Nitrogen, Ammonia as N									Prep Date/Time: **09/14/2019 09:56**
Nitrogen, Ammonia (As N)	ei	A	***0.32***	0.054	0.10		mg/L	1	09/14/2019 12:25
			Method: **EPA 420.4 Rev 1.0**						Analyst: **ABG**
Total Phenolics									Prep Date/Time: **09/16/2019 07:17**
Phenolics, Total Recoverable	eij	A	***ND***	0.0060	0.010	U	mg/L	1	09/16/2019 15:24
			Method: **SM 2540 D-1997**						Analyst: **AJR**
Total Suspended Solids									Prep Date/Time: **09/14/2019 08:52**
Total Suspended Solids	eij	A	***5.1***	1.0	1.0		mg/L	1	09/14/2019 8:52

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Analytical Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 011-Composite
Sample Description: 011
Matrix: Aqueous
Work Order/ID: 19I0846-03RE1
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **SW-846 9014**						Analyst: **AJR**
Free Cyanide									Prep Date/Time: **09/14/2019 10:40**
Free Cyanide		A	***ND***		0.0062		mg/L	1	09/14/2019 13:28

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Analytical Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 011-Grab
Sample Description: 011
Matrix: Aqueous

Work Order/ID: 19I0846-04
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 1664B**						Analyst: **AJR**
Oil & Grease (HEM) by SPE									Prep Date/Time: **09/14/2019 10:02**
Oil & Grease (HEM)	eij	A	***ND***	1.4	5.0	U	mg/L	1	09/14/2019 10:02

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Analytical Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 002-Composite
Sample Description: 002
Matrix: Aqueous

Work Order/ID: 19I0846-05
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**						Analyst: **AJR**
Total Cyanide									Prep Date/Time: **09/14/2019 10:25**
Cyanide, Total	eij	A	***ND***	0.0020	0.0050	U	mg/L	1	09/14/2019 12:41

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Analytical Results

Date: *Monday, September 16, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Parameters
Client Sample ID: 002-Grab
Sample Description: 002
Matrix: Aqueous

Work Order/ID: 19I0846-06
Sampled: 09/13/2019 0:00
Received: 09/14/2019 9:25

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 1664B**						Analyst: **AJR**
Oil & Grease (HEM) by SPE									Prep Date/Time: **09/14/2019 10:02**
Oil & Grease (HEM)	eij	A	***ND***	1.4	5.0	U	mg/L	1	09/14/2019 10:02

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)

B:	The target analyte was detected in the method blank at or above the reported quantitation limit.
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: 2.8ºC

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

1910846 Carey Gadzala
ArcelorMittal - Burns Harbor, IN
NPDES Parameters
09/14/2019

ROBAC

CHAIN OF CUSTODY RE

Number 152544

Instructions on back

TO BE COMPLETED BY MICROBAC

Temperature Upon Receipt (°C) 3.2
Therm ID -0.4
2.8-C

Holding Time

Samples Received on Ice? ☒ Yes ☐ No ☐ N/A

Custody Seals Intact? ☐ Yes ☐ No ☒ N/A

Address: Arcelor Mittal BH

Zip:

Tom Kirk

lo.:

Invoice Address

Client Name:

Address:

City, State, Zip:

Contact:

Telephone No.:

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

via: ☐ Mail ☐ Fax ☐ e-mail (address)

Send Invoice via: ☐ Mail ☐ Fax ☐ e-mail (address)

Location:

PO No.:

Compliance Monitoring? ☐ Yes ☐ No
☐ Agency/Program

(PRINT): Warren Hon

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

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Ammonia	TSS	Phenol	2N	CN-	Pb	Silver	Copper	FOG	Res Cl2	PH	1910846 Additional Notes
	001	9/13/19		1		C		X	X	X	X	X	X	X	X				-01
	001	9/13/19		2		G										X		X	-02
	011	9/13/19		1		C		X	X	X	X	X	X						-03
	011	9/13/19		3		G										X	X	X	-04
	002	9/13/19		1		C						X							-05
	002	9/13/19		2		G										X			-06
	lagoon Channel Inlet	9/14/19		1		G						X							-07
	South lagoon Inlet	9/14/19		1		G						X							-08
	011	9/14/19		1		G						X							-09

Possible Hazard Identification ☐ Hazardous ☐ Non-Hazardous ☐ Radioactive

Sample Disposition ☐ Dispose as appropriate ☐ Return ☐ Archive

Comments

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	9/14/19 0800		9-14-19 0810
	9-14-19 0925		
		Frank Barry	09-14-19 0925

rev.12/26/2017

Page 1 of 1