

August 24, 2019

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

Work Order No.: 19H1554

Re: Daily

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 6 sample(s) on 8/24/2019 9:00:00AM for the analyses presented in the following report as Work Order 19H1554.

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



WORK ORDER SAMPLE SUMMARY**Date:** *Saturday, August 24, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Daily
Lab Order: 19H1554

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19H1554-01	011-Composite	011	08/23/2019 00:00	8/24/2019 10:00:00AM
19H1554-02	011-Grab	011	08/24/2019 00:00	8/24/2019 10:00:00AM
19H1554-03	001-Composite	001	08/23/2019 00:00	8/24/2019 10:00:00AM
19H1554-04	001-Grab	001	08/24/2019 00:00	8/24/2019 10:00:00AM
19H1554-05	002-Composite	002	08/23/2019 00:00	8/24/2019 10:00:00AM
19H1554-06	002-Grab	002	08/24/2019 00:00	8/24/2019 10:00:00AM

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Field Results

Date: *Saturday, August 24, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Daily

Work Order: 19H1554

Client Sample ID: 011-Grab
Sample Description: 011
Matrix: Aqueous

Work Order/ID: 19H1554-02
Sampled: 08/24/2019 00:00
Received: 08/24/2019 09:00

Analyses	Result	Units
FLD_CL_TITR	0.00	mg/L
pH	7.6	pH Units

Client Sample ID: 001-Grab
Sample Description: 001
Matrix: Aqueous

Work Order/ID: 19H1554-04
Sampled: 08/24/2019 00:00
Received: 08/24/2019 09:00

Analyses	Result	Units
FLD_CL_TITR	0.00	mg/L
pH	7.48	pH Units

CASE NARRATIVE**Date:** *Saturday, August 24, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Daily
Lab Order: 19H1554

The Laboratory Control Sample failed the accuracy criteria for phenol. This is considered insignificant, as the bias was high yet the sample concentration was below the reporting limit. This failure affects the following sample:

<u>Laboratory ID</u>	<u>Sample Name</u>
19H1554-01	011-Composite
19H1554-03	001-Composite

Analytical Results

Date: Saturday, August 24, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1554-01
Client Project:	Daily	Sampled:	08/23/2019 0:00
Client Sample ID:	011-Composite	Received:	08/24/2019 10:00
Sample Description:	011		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
Method: EPA 200.7 Rev 4.4									
Analyst: RPL									
Prep Date/Time: 08/24/2019 09:55									
Total Recoverable Metals by ICP									
Lead	ejj	A	ND	0.0033	0.0075	U	mg/L	1	08/24/2019 12:33
Zinc	ejj	A	0.014	0.0073	0.020		mg/L	1	08/24/2019 12:33
Method: SM 4500-CN C/E-1999									
Analyst: AJR									
Prep Date/Time: 08/24/2019 11:00									
Total Cyanide									
Cyanide, Total	ejj	A	ND	0.0020	0.0050	U	mg/L	1	08/24/2019 15:51
Method: SW-846 9014									
Analyst: AJR									
Prep Date/Time: 08/24/2019 11:39									
Free Cyanide									
Free Cyanide		A	ND		0.0062		mg/L	1	08/24/2019 14:11
Method: EPA 350.1 Rev 2.0									
Analyst: AJR									
Prep Date/Time: 08/24/2019 12:33									
Nitrogen, Ammonia as N									
Nitrogen, Ammonia (As N)	ei	A	0.27	0.054	0.10		mg/L	1	08/24/2019 14:18
Method: EPA 420.4 Rev 1.0									
Analyst: AJR									
Prep Date/Time: 08/24/2019 12:39									
Total Phenolics									
Phenolics, Total Recoverable	ejj	A	ND	0.0060	0.010	U	mg/L	1	08/24/2019 18:37
Method: SM 2540 D-1997									
Analyst: KMT									
Prep Date/Time: 08/24/2019 10:35									
Total Suspended Solids									
Total Suspended Solids	ejj	A	1.4	1.0	1.0		mg/L	1	08/24/2019 12:00

Analytical Results

Date: Saturday, August 24, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1554-02
Client Project:	Daily	Sampled:	08/24/2019 0:00
Client Sample ID:	011-Grab	Received:	08/24/2019 10:00
Sample Description:	011		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
Method: EPA 1664B					Analyst: KMT				
Oil & Grease (HEM) by SPE									
Prep Date/Time: 08/24/2019 10:07									
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	08/24/2019 14:11



Analytical Results

Date: Saturday, August 24, 2019

Client: Arcelor Mittal USA, Inc.
Client Project: Daily
Client Sample ID: 001-Composite **Work Order/ID:** 19H1554-03
Sample Description: 001 **Sampled:** 08/23/2019 0:00
Matrix: Aqueous **Received:** 08/24/2019 10:00

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: 08/24/2019 09:55			
Lead	ejj	A	0.0046	0.0033	0.0075		mg/L	1	08/24/2019 12:38
Zinc	ejj	A	0.0089	0.0073	0.020		mg/L	1	08/24/2019 12:38
			Method: SM 4500-CN C/E-1999			Analyst: AJR			
Total Cyanide						Prep Date/Time: 08/24/2019 11:00			
Cyanide, Total	ejj	A	ND	0.0020	0.0050	U	mg/L	1	08/24/2019 15:54
			Method: SW-846 9014			Analyst: AJR			
Free Cyanide						Prep Date/Time: 08/24/2019 11:39			
Free Cyanide		A	ND		0.0062		mg/L	1	08/24/2019 14:12
			Method: EPA 350.1 Rev 2.0			Analyst: AJR			
Nitrogen, Ammonia as N						Prep Date/Time: 08/24/2019 12:33			
Nitrogen, Ammonia (As N)	ei	A	0.30	0.054	0.10		mg/L	1	08/24/2019 14:21
			Method: EPA 420.4 Rev 1.0			Analyst: AJR			
Total Phenolics						Prep Date/Time: 08/24/2019 12:39			
Phenolics, Total Recoverable	ejj	A	0.0092	0.0060	0.010		mg/L	1	08/24/2019 18:38
			Method: SM 2540 D-1997			Analyst: KMT			
Total Suspended Solids						Prep Date/Time: 08/24/2019 10:35			
Total Suspended Solids	ejj	A	1.5	1.0	1.0		mg/L	1	08/24/2019 12:00

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Analytical Results

Date: Saturday, August 24, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1554-04
Client Project:	Daily	Sampled:	08/24/2019 0:00
Client Sample ID:	001-Grab	Received:	08/24/2019 10:00
Sample Description:	001		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
Method: EPA 1664B					Analyst: KMT				
Oil & Grease (HEM) by SPE									
Prep Date/Time: 08/24/2019 10:07									
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	08/24/2019 14:11

Analytical Results

Date: Saturday, August 24, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1554-05
Client Project:	Daily	Sampled:	08/23/2019 0:00
Client Sample ID:	002-Composite	Received:	08/24/2019 10:00
Sample Description:	002		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
				Method: SM 4500-CN C/E-1999			Analyst: AJR			
Prep Date/Time: 08/24/2019 11:00										
Total Cyanide										
Cyanide, Total	ejj	A	ND	0.0020	0.0050	U	mg/L	1	08/24/2019 15:53	

Analytical Results

Date: Saturday, August 24, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1554-06
Client Project:	Daily	Sampled:	08/24/2019 0:00
Client Sample ID:	002-Grab	Received:	08/24/2019 10:00
Sample Description:	002		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: EPA 1664B				Analyst: KMT			
Oil & Grease (HEM) by SPE										
Prep Date/Time: 08/24/2019 10:07										
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	08/24/2019 14:11	

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: 6.0°C
 MICROBAC®

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?	Yes
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
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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Number **152278**
Instructions on back

Turnaround Time

Routine (5 to 7 business days)
 RUSH* (notify lab)

Invoice Address

Client Name: **ArcelorMittal BH**
Address:
City, State, Zip:
Contact:
Telephone No.:

TO BE COMPLETED BY MICROBAC

Temperature Upon Receipt (°C) **6.3**
Therm ID
Holding Time **-0.3 / 6.0**
Samples Received on Ice? Yes No N/A
Custody Seals Intact? Yes No N/A

Results Only Level 1 Level 2 Level 3 Level 4 EDD
Send Invoice via: Mail Fax e-mail (address)

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

Sampler Phone No.:

Sampler Signature: *Walter Howard*

* 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

Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Analysis	Additional Notes
001	8/23/19		2		C		X TSS X Pb X Zn X Cd X FdG	1941554 -01
001	8/24/19		3		C		X TSS X Pb X Zn X Cd X FdG	-02
011	8/23/19		2		C		X TSS X Pb X Zn X Cd X FdG	-03
011	8/24/19		3		C		X TSS X Pb X Zn X Cd X FdG	-04
002	8/23/19		1		C		X TSS X Pb X Zn X Cd X FdG	-05
002	8/24/19		2		C		X TSS X Pb X Zn X Cd X FdG	-06
Lower Channel Inlet	8/24/19	0705	1	G			X	
South Layer Inlet	8/24/19	0710	1	G			X	
017	8/24/19	0711	1	G			X	

Possible Hazard Identification Hazardous Non-Hazardous Radioactive Sample Disposition Dispose as appropriate Return Archive

Relinquished By (signature) *Walter Howard* Date/Time **8/24/19 0730**
Relinquished By (signature) *Walter Howard* Date/Time **8/24/19 0900**
Relinquished By (signature) *Walter Howard* Date/Time **8/24/19 0900**

Received By (signature) *M. O'Neil* Date/Time **8/24/19 0740**
Received By (signature) *M. O'Neil* Date/Time **8/24/19 0740**
Received By (signature) *Walter Howard* Date/Time **8/24/19 0900**

001 PH = 7.48
011 PH = 7.56

19H1554 Carey Gadzala
ArcelorMittal - Burns Harbor. IN
Daily
08/24/2019

