

September 12, 2019

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

Work Order No.: 19I0681

Re: Daily

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 14 sample(s) on 9/12/2019 10:00:00AM for the analyses presented in the following report as Work Order 19I0681.

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: *Thursday, September 12, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Daily
Lab Order: 19I0681

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19I0681-01	011-Composite	011	09/11/2019 05:55	9/12/2019 10:00:00AM
19I0681-02	011-Grab	011	09/11/2019 05:55	9/12/2019 10:00:00AM
19I0681-03	001-Composite	001	09/11/2019 06:15	9/12/2019 10:00:00AM
19I0681-04	001-Grab	001	09/11/2019 06:15	9/12/2019 10:00:00AM
19I0681-05	Mixed Liquor-Grab	Mixed Liquor	09/12/2019 06:33	9/12/2019 10:00:00AM
19I0681-06	J-Box-Grab	J-Box	09/12/2019 06:31	9/12/2019 10:00:00AM
19I0681-07	RSB FT Overflow-Grab	RSB FT Overflow	09/12/2019 08:05	9/12/2019 10:00:00AM
19I0681-08	999-Grab	999	09/11/2019 07:49	9/12/2019 10:00:00AM
19I0681-09	002-Grab	002	09/11/2019 07:37	9/12/2019 10:00:00AM
19I0681-10	CM1-Grab	CM1	09/12/2019 00:00	9/12/2019 10:00:00AM
19I0681-11	CM2-Grab	CM2	09/12/2019 00:00	9/12/2019 10:00:00AM
19I0681-12	CM6 Grab	CM6	09/12/2019 00:00	9/12/2019 10:00:00AM
19I0681-13	HM2-Grab	HM2	09/12/2019 00:00	9/12/2019 10:00:00AM
19I0681-14	HM3-Grab	HM3	09/12/2019 00:00	9/12/2019 10:00:00AM

Field Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order:	1910681
Client Project:	Daily		
Client Sample ID:	011-Grab	Work Order/ID:	1910681-02
Sample Description:	011	Sampled:	09/11/2019 05:55
Matrix:	Aqueous	Received:	09/12/2019 10:00

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

Client Sample ID:	001-Grab	Work Order/ID:	1910681-04
Sample Description:	001	Sampled:	09/11/2019 06:15
Matrix:	Aqueous	Received:	09/12/2019 10:00

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

Client Sample ID:	J-Box-Grab	Work Order/ID:	1910681-06
Sample Description:	J-Box	Sampled:	09/12/2019 06:31
Matrix:	Aqueous	Received:	09/12/2019 10:00

Analyses	Result	Units
pH	8.9	pH Units

Client Sample ID:	RSB FT Overflow-Grab	Work Order/ID:	1910681-07
Sample Description:	RSB FT Overflow	Sampled:	09/12/2019 08:05
Matrix:	Aqueous	Received:	09/12/2019 10:00

Analyses	Result	Units
pH	8.8	pH Units

Client Sample ID:	999-Grab	Work Order/ID:	1910681-08
Sample Description:	999	Sampled:	09/11/2019 07:49
Matrix:	Aqueous	Received:	09/12/2019 10:00

Analyses	Result	Units
pH	7.9	pH Units

Client Sample ID:	002-Grab	Work Order/ID:	1910681-09
Sample Description:	002	Sampled:	09/11/2019 07:37
Matrix:	Aqueous	Received:	09/12/2019 10:00

Analyses	Result	Units
pH	8.1	pH Units

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-01
Client Project:	Daily	Sampled:	09/11/2019 5:55
Client Sample ID:	011-Composite	Received:	09/12/2019 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: 09/12/2019 10:30										
Total Recoverable Metals by ICP										
Lead	ejj	A	ND	0.0033	0.0075	U	mg/L	1	09/12/2019 13:14	
Zinc	ejj	A	0.018	0.0073	0.020		mg/L	1	09/12/2019 13:14	
			Method: SM 4500-CN C/E-1999				Analyst: ABG			
Prep Date/Time: 09/12/2019 11:36										
Total Cyanide										
Cyanide, Total	ejj	A	0.0062	0.0020	0.0050		mg/L	1	09/12/2019 13:50	
			Method: SW-846 9014				Analyst: ABG			
Prep Date/Time: 09/12/2019 10:48										
Free Cyanide										
Free Cyanide		A	ND		0.0062		mg/L	1	09/12/2019 11:44	
			Method: EPA 420.4 Rev 1.0				Analyst: ABG			
Prep Date/Time: 09/12/2019 11:10										
Total Phenolics										
Phenolics, Total Recoverable	ejj	A	ND	0.0060	0.010	U	mg/L	1	09/12/2019 13:50	
			Method: SM 2540 D-1997				Analyst: KMT			
Prep Date/Time: 09/12/2019 11:04										
Total Suspended Solids										
Total Suspended Solids	ejj	A	4.0	1.0	1.0		mg/L	1	09/12/2019 12:30	

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-01RE1
Client Project:	Daily	Sampled:	09/11/2019 5:55
Client Sample ID:	011-Composite	Received:	09/12/2019 10:00
Sample Description:	011		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0			Analyst: ABG			
Nitrogen, Ammonia as N									
Prep Date/Time: 09/12/2019 11:19									
Nitrogen, Ammonia (As N)	ei	A	0.20	0.054	0.10		mg/L	1	09/12/2019 13:47

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-02
Client Project:	Daily	Sampled:	09/11/2019 5:55
Client Sample ID:	011-Grab	Received:	09/12/2019 10:00
Sample Description:	011		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: EPA 1664B				Analyst: KMT			
Prep Date/Time: 09/12/2019 07:27										
Oil & Grease (HEM) by SPE										
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	09/12/2019 14:32	

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-03
Client Project:	Daily	Sampled:	09/11/2019 6:15
Client Sample ID:	001-Composite	Received:	09/12/2019 10:00
Sample Description:	001		
Matrix:	Aqueous		

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: 09/12/2019 10:30			
Lead	ejj	A	ND	0.0033	0.0075	U	mg/L	1	09/12/2019 13:19	
Zinc	ejj	A	ND	0.0073	0.020	U	mg/L	1	09/12/2019 13:19	
			Method: SM 4500-CN C/E-1999				Analyst: ABG			
Total Cyanide										
							Prep Date/Time: 09/12/2019 11:36			
Cyanide, Total	ejj	A	0.0038	0.0020	0.0050		mg/L	1	09/12/2019 13:51	
			Method: SW-846 9014				Analyst: ABG			
Free Cyanide										
							Prep Date/Time: 09/12/2019 10:48			
Free Cyanide		A	ND		0.0062		mg/L	1	09/12/2019 11:49	
			Method: EPA 420.4 Rev 1.0				Analyst: ABG			
Total Phenolics										
							Prep Date/Time: 09/12/2019 11:10			
Phenolics, Total Recoverable	ejj	A	ND	0.0060	0.010	U	mg/L	1	09/12/2019 13:52	
			Method: SM 2540 D-1997				Analyst: KMT			
Total Suspended Solids										
							Prep Date/Time: 09/12/2019 11:04			
Total Suspended Solids	ejj	A	3.6	1.0	1.0		mg/L	1	09/12/2019 12:30	

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-03RE1
Client Project:	Daily	Sampled:	09/11/2019 6:15
Client Sample ID:	001-Composite	Received:	09/12/2019 10:00
Sample Description:	001		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0			Analyst: ABG			
Nitrogen, Ammonia as N									
Prep Date/Time: 09/12/2019 11:19									
Nitrogen, Ammonia (As N)	ei	A	0.27	0.054	0.10		mg/L	1	09/12/2019 13:49

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-04
Client Project:	Daily	Sampled:	09/11/2019 6:15
Client Sample ID:	001-Grab	Received:	09/12/2019 10:00
Sample Description:	001		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: EPA 1664B				Analyst: KMT			
Prep Date/Time: 09/12/2019 07:27										
Oil & Grease (HEM) by SPE										
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	09/12/2019 14:32	

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-05
Client Project:	Daily	Sampled:	09/12/2019 6:33
Client Sample ID:	Mixed Liquor-Grab	Received:	09/12/2019 10:00
Sample Description:	Mixed Liquor		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed		
			Method: SM 2540 F-1997				Analyst: DAT				
										Prep Date/Time: 09/12/2019 10:22	
Settleable Solids											
Settleable Solids	i	A	97	1.0	1.0		ml/L	1	09/12/2019 10:22		
			Method: SM 2540 D-1997				Analyst: KMT				
										Prep Date/Time: 09/12/2019 11:04	
Total Suspended Solids											
Total Suspended Solids	ejj	A	1900	1.0	1.0		mg/L	1	09/12/2019 12:30		

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-06
Client Project:	Daily	Sampled:	09/12/2019 6:31
Client Sample ID:	J-Box-Grab	Received:	09/12/2019 10:00
Sample Description:	J-Box		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed		
			Method: SM 2540 D-1997				Analyst: KMT				
										Prep Date/Time: 09/12/2019 11:04	
Total Suspended Solids											
Total Suspended Solids	ejj	A	18	1.0	1.0		mg/L	1	09/12/2019 12:30		

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-10
Client Project:	Daily	Sampled:	09/12/2019 0:00
Client Sample ID:	CM1-Grab	Received:	09/12/2019 10:00
Sample Description:	CM1		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed		
			Method: SM 2540 D-1997				Analyst: KMT				
										Prep Date/Time: 09/12/2019 11:04	
Total Suspended Solids											
Total Suspended Solids	ejj	A	11	1.0	1.0		mg/L	1	09/12/2019 12:30		

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-11
Client Project:	Daily	Sampled:	09/12/2019 0:00
Client Sample ID:	CM2-Grab	Received:	09/12/2019 10:00
Sample Description:	CM2		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: SM 2540 D-1997				Analyst: KMT		
Total Suspended Solids									
Prep Date/Time: 09/12/2019 11:04									
Total Suspended Solids	ejj	A	12	1.0	1.0		mg/L	1	09/12/2019 12:30

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-12
Client Project:	Daily	Sampled:	09/12/2019 0:00
Client Sample ID:	CM6 Grab	Received:	09/12/2019 10:00
Sample Description:	CM6		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: SM 2540 D-1997				Analyst: KMT			
Total Suspended Solids										
Prep Date/Time: 09/12/2019 11:04										
Total Suspended Solids	ejj	A	19	1.0	1.0		mg/L	1	09/12/2019 12:30	

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-13
Client Project:	Daily	Sampled:	09/12/2019 0:00
Client Sample ID:	HM2-Grab	Received:	09/12/2019 10:00
Sample Description:	HM2		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: SM 2540 D-1997				Analyst: KMT			
			Prep Date/Time: 09/12/2019 11:04							
Total Suspended Solids										
Total Suspended Solids	ejj	A	14	1.0	1.0		mg/L	1	09/12/2019 12:30	

Analytical Results

Date: *Thursday, September 12, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0681-14
Client Project:	Daily	Sampled:	09/12/2019 0:00
Client Sample ID:	HM3-Grab	Received:	09/12/2019 10:00
Sample Description:	HM3		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: SM 2540 D-1997				Analyst: KMT			
Total Suspended Solids										
Prep Date/Time: 09/12/2019 11:04										
Total Suspended Solids	ejj	A	42	1.0	1.0		mg/L	1	09/12/2019 12:30	

ANALYTE TYPES: (AT)

A, B = Target Analyte

I = Internal Standard

M = Summation Analyte

S = Surrogate

T = Tentatively Identified Compound (TIC, concentration estimated)

**Partial**
9/12/2019

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



Partial
9/12/2019

Comments

Metals sample preserved at lab

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

Chain of Custody

ArcelorMittal Burns Harbor/Microbac Labs

Thursday

Lab Work No: 19I0681

* Date Obtained: 9-12-19

** Sample Date: 9-11-19

Location	Time	Sampler	Type	Preserved	Cooled	Containers			Parameters	Comments
						Type	Qty	Vol. (ml)		
011 **	05:55	CD	Comp	No	Yes	Glass	1	4000		01
			Grab	No	No	Plastic	1	500	pH	02
001 **	06:15		Comp	No	Yes	Glass	1	4000		03
			Grab	No	No	Plastic	1	125	pH	04
Mixed Liquor *	06:33		Grab	No	No	Plastic	1	2000	TSS, Settling	05
DIW-131 *	NA		Grab	No	No	Plastic	1	125	pH	X
J-Box *	06:31		Grab	No	No	Plastic	1	1000	TSS, pH	06
RSB FT Overflow *	08:05		Grab	No	No	Plastic	1	125	pH	07
999 *	07:49		Grab	No	No	Plastic	1	500	pH	08
002 **	07:37		Grab	No	No	Plastic	1	125	pH	09
SWTP *	NA	***	Grab	No	No	Plastic	75	1000	TSS	10-14

*** WPL is for previous sample date

**** Sample collected by Water Process personnel

No CM 3 + HM 1

5.2
- 0.3

4.9 01

Relinquished by: CD

Date: 9-12-19

Time: 08:10

Received by: R2 - JAO

Date: 9/12/19

Time: 0820

Env 4x Rev. 8 07/01/16 (TEK)

19I0681 Carey Gadzala
ArcelorMittal - Burns Harbor, IN
Daily
09/12/2019



Microbac Laboratories - Chicagoland Division
pH - METHOD 9045D
Arcelor Mittal /Burns Harbor NPDES

Sample ID		pH	Analyst	Date/Time of Analysis
Buffer ID: Meter ID:	4: 185909	7: 188312	10: 191040	
Calibration	④①④①④		BAO	9/11/19 0830
ICV	4 ① 10	7.00	↓	↓
Slope		100.9		
Lake 999		7.94		
Location 001		7.73		
Location 002		8.24		
Location 011		7.75		
WAL 1		8.90		
WAL 2	_____	_____		
SWTP J-Box		8.66		
DIW 131	_____	_____		
RSB		8.90		
Dup- WAL		8.90		
CCV		7.01		

Sample ID		pH	Analyst	Date/Time of Analysis
Buffer ID: Meter ID:	4: 185909	7: 188312	10: 191040	
Calibration	④①④①④		BAO	9/12/19 0820
ICV	4 ① 10	6.99	↓	↓
Slope		100.9		
Lake 999		7.89		
Location 001		7.84		
Location 002		8.14		
Location 011		7.79		
WAL 1	_____	_____		
WAL 2	_____	_____		
SWTP J-Box		8.86		
DIW 131	_____	_____		
RSB		8.75		
Dup- 999		7.91		
CCV		7.01		

Microbac Laboratories, Inc. - Chicagoland Division

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

Exp. Date
6/30/20
7/29/20
5/31/20

STD ID / Lot #
146367
147996
145348

Date/Time: 9/12/18
 Analyst: BAO
 pH Paper Lot #: HJ 626
 LCS ID: A 9074
 Exp. Date: 11/20

Sample ID	Sample Vol. (mL)	pH (pH Units)	Titration Start (mL)	Titration Stop (mL)	Titration 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

Exp. Date
 STD ID / Lot #

Date/Time: _____
 Analyst: _____
 pH Paper Lot #: _____
 LCS ID: _____

KI Solution: _____
 Acetate buffer: _____
 PAO Titrant: _____

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

revision: a_01_2016

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

