Revised
8/18/2019

August 18, 2019

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

Work Order No.: 19H1106

Re: Spill Samples

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 30 sample(s) on 8/17/2019 11:20:00AM for the analyses presented in the following report as Work Order 19H1106.

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: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Spill Samples
Lab Order: 19H1106

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19H1106-01	#13		08/16/2019 16:36	8/17/2019 11:20:00AM
19H1106-02	#12		08/16/2019 16:44	8/17/2019 11:20:00AM
19H1106-03	#11		08/16/2019 16:52	8/17/2019 11:20:00AM
19H1106-04	#10		08/16/2019 16:58	8/17/2019 11:20:00AM
19H1106-05	#9		08/16/2019 17:04	8/17/2019 11:20:00AM
19H1106-06	#8		08/16/2019 17:08	8/17/2019 11:20:00AM
19H1106-07	#7		08/16/2019 17:13	8/17/2019 11:20:00AM
19H1106-08	#6		08/16/2019 17:20	8/17/2019 11:20:00AM
19H1106-09	#5		08/16/2019 17:28	8/17/2019 11:20:00AM
19H1106-10	#4		08/16/2019 17:33	8/17/2019 11:20:00AM
19H1106-11	#3		08/16/2019 17:38	8/17/2019 11:20:00AM
19H1106-12	#2		08/16/2019 17:43	8/17/2019 11:20:00AM
19H1106-13	#1		08/16/2019 17:53	8/17/2019 11:20:00AM
19H1106-14	Outfall 001		08/16/2019 17:59	8/17/2019 11:20:00AM
19H1106-15	#000		08/16/2019 19:08	8/17/2019 11:20:00AM

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Field Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Work Order: 19H1106

Client Sample ID: #13
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-01
Sampled: 08/16/2019 16:36
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.71	pH Units
Temp	76.2	F

Client Sample ID: #12
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-02
Sampled: 08/16/2019 16:44
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.40	pH Units
Temp	79.2	F

Client Sample ID: #11
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-03
Sampled: 08/16/2019 16:52
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.32	pH Units
Temp	78.7	F

Client Sample ID: #10
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-04
Sampled: 08/16/2019 16:58
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.35	pH Units
Temp	78.4	F

Client Sample ID: #9
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-05
Sampled: 08/16/2019 17:04
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.29	pH Units
Temp	78.1	F

Client Sample ID: #8
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-06
Sampled: 08/16/2019 17:08
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.37	pH Units
Temp	78.1	F

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Field Results

Date: *Sunday, August 18, 2019*

Client Sample ID: #7
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-07
Sampled: 08/16/2019 17:13
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.52	pH Units
Temp	79	F

Client Sample ID: #6
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-08
Sampled: 08/16/2019 17:20
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.59	pH Units
Temp	79.2	F

Client Sample ID: #5
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-09
Sampled: 08/16/2019 17:28
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.59	pH Units
Temp	80.4	F

Client Sample ID: #4
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-10
Sampled: 08/16/2019 17:33
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.64	pH Units
Temp	80.8	F

Client Sample ID: #3
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-11
Sampled: 08/16/2019 17:38
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.63	pH Units
Temp	81.2	F

Client Sample ID: #2
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-12
Sampled: 08/16/2019 17:43
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.66	pH Units
Temp	81.2	F

Client Sample ID: #1
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1106-13
Sampled: 08/16/2019 17:53
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.62	pH Units

Field Results

Date: *Sunday, August 18, 2019*

Temp	82.5	F

Client Sample ID: Outfall 001
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-14
Sampled: 08/16/2019 17:59
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.63	pH Units
Temp	84.5	F

Client Sample ID: #000
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-15
Sampled: 08/16/2019 19:08
Received: 08/17/2019 11:20

Analyses	Result	Units
pH	7.64	pH Units
Temp	70.9	F

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CASE NARRATIVE

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Spill Samples
Lab Order: 19H1106

H - sample received beyond the maximum allowable hold time for dissolved oxygen analysis.

Laboratory ID	Sample Name
19H1106-01	#13
19H1106-02	#12
19H1106-03	#11
19H1106-04	#10
19H1106-05	#9
19H1106-06	#8
19H1106-07	#7
19H1106-08	#6
19H1106-09	#5
19H1106-10	#4
19H1106-11	#3
19H1106-12	#2
19H1106-13	#1
19H1106-14	Outfall 001
19H1106-15	#000

This report has been revised 8/18/19 in order to correct the Free Cyanide results to adjust for the Matrix Interference that caused the high bias on original results reported 8/17/19.

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #13
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-01
Sampled: 08/16/2019 16:36
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.0079***	0.0050		mg/L	1	08/17/2019 15:20
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/18/2019 14:39
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***8.5***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	di	A	***0.12***	0.10		mg/L	1	08/17/2019 15:54

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #12
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-02
Sampled: 08/16/2019 16:44
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	**dij**	A	***0.042***	0.0050		mg/L	1	08/17/2019 15:25
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.040***	0.0062		mg/L	1	08/18/2019 14:41
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	**di**	A	***6.8***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	**di**	A	***0.45***	0.10		mg/L	1	08/17/2019 15:56

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #11
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-03
Sampled: 08/16/2019 16:52
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	**dij**	A	***0.044***	0.0050		mg/L	1	08/17/2019 15:30
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.046***	0.0062		mg/L	1	08/18/2019 13:23
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	**di**	A	***6.6***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	**di**	A	***0.58***	0.10		mg/L	1	08/17/2019 16:04

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #10
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-04
Sampled: 08/16/2019 16:58
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	**dij**	A	***0.050***	0.0050		mg/L	1	08/17/2019 15:32
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.050***	0.0062		mg/L	1	08/18/2019 14:43
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	**di**	A	***6.5***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	**di**	A	***0.59***	0.10		mg/L	1	08/17/2019 16:06

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #9
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-05
Sampled: 08/16/2019 17:04
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.038***	0.0050		mg/L	1	08/17/2019 15:33
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.040***	0.0062		mg/L	1	08/18/2019 14:45
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***6.4***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	di	A	***0.65***	0.10		mg/L	1	08/17/2019 16:08

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #8
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-06
Sampled: 08/16/2019 17:08
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	**dij**	A	***0.035***	0.0050		mg/L	1	08/17/2019 15:35
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.032***	0.0062		mg/L	1	08/18/2019 14:46
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	**di**	A	***6.4***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	**di**	A	***0.61***	0.10		mg/L	1	08/17/2019 16:11

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #7
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-07
Sampled: 08/16/2019 17:13
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	**dij**	A	***0.026***	0.0050		mg/L	1	08/17/2019 15:37
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.024***	0.0062		mg/L	1	08/18/2019 14:48
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	**di**	A	***7.0***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	**di**	A	***0.47***	0.10		mg/L	1	08/17/2019 16:13

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #6
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-08
Sampled: 08/16/2019 17:20
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.023***	0.0050		mg/L	1	08/17/2019 15:39
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.022***	0.0062		mg/L	1	08/18/2019 14:50
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***7.2***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	di	A	***0.43***	0.10		mg/L	1	08/17/2019 16:16

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #5
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-09
Sampled: 08/16/2019 17:28
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.018***	0.0050		mg/L	1	08/17/2019 15:40
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.016***	0.0062		mg/L	1	08/18/2019 14:51
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***7.2***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	di	A	***0.41***	0.10		mg/L	1	08/17/2019 16:18

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #4
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-10
Sampled: 08/16/2019 17:33
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.018***	0.0050		mg/L	1	08/17/2019 15:42
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.016***	0.0062		mg/L	1	08/18/2019 14:53
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***7.4***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	di	A	***0.52***	0.10		mg/L	1	08/17/2019 16:20

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #3
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-11
Sampled: 08/16/2019 17:38
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.018***	0.0050		mg/L	1	08/17/2019 15:44
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.017***	0.0062		mg/L	1	08/18/2019 14:55
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***7.1***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 12:39**
Nitrogen, Ammonia (As N)	di	A	***0.47***	0.10		mg/L	1	08/17/2019 16:23

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Revised
8/18/2019

Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #2
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-12
Sampled: 08/16/2019 17:43
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.016***	0.0050		mg/L	1	08/17/2019 16:49
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.016***	0.0062		mg/L	1	08/18/2019 15:00
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***7.0***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 14:31**
Nitrogen, Ammonia (As N)	di	A	***0.41***	0.10		mg/L	1	08/17/2019 16:25

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Revised
8/18/2019

Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #1
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-13
Sampled: 08/16/2019 17:53
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.016***	0.0050		mg/L	1	08/17/2019 16:50
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.016***	0.0062		mg/L	1	08/18/2019 15:01
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***6.9***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 14:31**
Nitrogen, Ammonia (As N)	di	A	***0.43***	0.10		mg/L	1	08/17/2019 16:32

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8/18/2019

Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: Outfall 001
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-14
Sampled: 08/16/2019 17:59
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	dij	A	***0.019***	0.0050		mg/L	1	08/17/2019 16:52
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***0.018***	0.0062		mg/L	1	08/18/2019 15:03
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	di	A	***6.6***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 14:31**
Nitrogen, Ammonia (As N)	di	A	***0.56***	0.10		mg/L	1	08/17/2019 16:35

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Analytical Results

Date: *Sunday, August 18, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: Spill Samples
Client Sample ID: #000
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1106-15
Sampled: 08/16/2019 19:08
Received: 08/17/2019 11:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **ABG**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/17/2019 12:30**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/17/2019 16:54
			Method: **SW-846 9014**					Analyst: **EF**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/17/2019 13:28**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/18/2019 15:05
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/17/2019 12:16**
Oxygen, Dissolved	**di**	A	***8.0***	0.20	H	mg/L	1	08/17/2019 12:16
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/17/2019 14:31**
Nitrogen, Ammonia (As N)	**di**	A	***ND***	0.10		mg/L	1	08/17/2019 16:37

ANALYTE TYPES: (AT)
A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

Revised
8/18/2019

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)

H:	Sample was analyzed past holding time.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler **Temp:** 3.9°C

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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?	No
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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CHAIN OF CUSTODY RECOR

Number 152346

Instructions on back

19H1106 Carey Gadzala
ArcelorMittal - Burns Harbor, IN
Receiving Water Monitoring
08/17/2019

Lab Report Address	Invoice Address	Turnaround Time	TO BE COMPLETED BY MICROBAC
Client Name:	Client Name:	☐ Routine (5 to 7 business days) ☒ RUSH* (notify lab)	Temperature Upon Receipt (°C) Therm ID
Address:	Address:		Holding Time
City, State, Zip:	City, State, Zip:	(needed by)	Samples Received on Ice? ☒ Yes ☐
Contact:	Contact:	Report Type	Custody Seals Intact? ☐ Yes ☐ No
Telephone No.:	Telephone No.:	☐ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD	

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

Project: Receiving Water Monitoring Location: PO No.: Compliance Monitoring? ☐ Yes ☐ No ☐ Agency/Program

Sampled by (PRINT): Patrick Gurman 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 **	DO	NH4	CN	Free CN	Temp	pH					Additional Notes
	#13	8/16/19	4:36PM	4	AQ	G	U,2,4	X	X	X	X	X	X					19H1106 Temp 76.2°F pH 7.71-9

RUSH!

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

Comments
When collected
Temp
pH

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
[signature]	8-16-19 8:33	Darren Fenus	8/16/19 0900
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Darren Fenus	8/17/19 1120	Frank Gerry	8-17-19 1120

rev.12/26/2017

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CHAIN OF CUSTODY RECORD

Number 152367

Instructions on back

Lab Report Address	Invoice Address	Turnaround Time	*TO BE COMPLETED BY MICROBAC*
Client Name:	Client Name:	☐ Routine (5 to 7 business days)	Temperature Upon Receipt (°C)
		☒ RUSH* (notify lab)	Therm ID
Address:	Address:		Holding Time
City, State, Zip:	City, State, Zip:	(needed by)	Samples Received on Ice? ☒ Yes ☐ No ☐ N/A
Contact:	Contact:	Report Type	Custody Seals Intact? ☐ Yes ☐ No ☒ N/A
Telephone No.:	Telephone No.:	☐ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD	

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

Project: Receiving Water Monitoring Location: PO No.: Compliance Monitoring? ☐ Yes ☐ No ☐ Agency/Program

Sampled by (PRINT): Patrick Garman Sampler Signature: Sampler Phone No.: 219-644-7585

* 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 **	EC	TC	Fecal	Temp	pH	Additional Notes
	#12	8/16/19	4:44PM	4	AQ	G	U,2,4	X	X	X	X	X	X						19H1106 Temp pH
	#11		4:52PM					X	X	X	X	X	X						78.7°F 7.32-03
	#10		4:58PM					X	X	X	X	X	X						78.4°F 7.35-04
	#9		5:04PM					X	X	X	X	X	X						78.1°F 7.29-05
	#8		5:08PM					X	X	X	X	X	X						78.1°F 7.37-06
	#7		5:13PM					X	X	X	X	X	X						79.0°F 7.52-07
	#6		5:20PM					X	X	X	X	X	X						79.2°F 7.59-08
	#5		5:28PM					X	X	X	X	X	X						80.4°F 7.59-09
	#4		5:33PM					X	X	X	X	X	X						80.8°F 7.64-10
	#3	↓	5:38PM	4	4	4	4	X	X	X	X	X	X						81.2°F 7.63-11

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

Comments

when collected
Temp
pH

4.2
-0.3
3.9°C

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	8-16-19 8:33p	Dawn Fawn	8/16/19 2400
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Dawn Fawn	8/17/19 1120	Frank Strzy	8-17-19 1129

rev.12/26/2017

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CHAIN OF CUSTODY RECORD

Number 152368

Instructions on back

Lab Report Address	Invoice Address	Turnaround Time	*TO BE COMPLETED BY MICROBAC*
Client Name:	Client Name:	☐ Routine (5 to 7 business days) ☒ RUSH* (notify lab)	Temperature Upon Receipt (°C) Therm ID
Address:	Address:		Holding Time
City, State, Zip:	City, State, Zip:	(needed by)	Samples Received on Ice? ☒ Yes ☐ No ☐ N/A
Contact:	Contact:	Report Type	Custody Seals Intact? ☐ Yes ☐ No ☒ N/A
Telephone No.:	Telephone No.:	☐ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD	

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

Project: Receiving Water Monitoring Location: PO No.: Compliance Monitoring? ☐ Yes ☐ No ☐ Agency/Program

Sampled by (PRINT): Patrick Garman Sampler Signature: Sampler Phone No.: 218-644-7585

* 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 **	DO	NH4	Cu	Free Cl	Temp	pH					Additional Notes
	#2	8/16/19	5:43PM	4	AQ	G	U, 2, 4	X	X	X	X	X	X					19H1106 Temp pH 81.2°F 7.66-12
	#1	↓	5:53PM	↓	↓	↓	↓	X	X	X	X	X	X					82.5°F 7.62-13
	Outfall 001		5:59PM					X	X	X	X	X	X					84.5°F 7.63-14
	#000		7:08PM					X	X	X	X	X	X					70.9°F 7.64-15

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

Comments: When collected Temp pH

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	8-16-19 8:33pm	Duane Tams	8/16/19 0900
Duane Tams	8/17/19 1120	Frank Storey	8-17-19 1120

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