August 21, 2019

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

Work Order No.: 19H1314

Re: NPDES Excursion

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 23 sample(s) on 8/21/2019 12:35:00AM for the analyses presented in the following report as Work Order 19H1314.

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: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Project: NPDES Excursion
Lab Order: 19H1314

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19H1314-01	#8		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-02	#9		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-03	#10		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-04	#11		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-05	#12		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-06	#13		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-07	SL-8		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-08	SL-7		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-09	SL-6		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-10	SL-5		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-11	1		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-12	001		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-13	000		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-14	SL-4		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-15	SL-3		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-16	SL-2		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-17	SL-1		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-18	#7		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-19	#6		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-20	#5		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-21	#4		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-22	#3		08/20/2019 00:35	8/21/2019 12:35:00AM
19H1314-23	#2		08/20/2019 00:35	8/21/2019 12:35:00AM

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Field Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Work Order: 19H1314

Client Sample ID: #8
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-01
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.24	pH Units
Temperature	25.8	Deg C

Client Sample ID: #9
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-02
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.30	pH Units
Temperature	25.8	Deg C

Client Sample ID: #10
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-03
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.35	pH Units
Temperature	26	Deg C

Client Sample ID: #11
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-04
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.28	pH Units
Temperature	26.3	Deg C

Client Sample ID: #12
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-05
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.43	pH Units
Temperature	26.4	Deg C

Client Sample ID: #13
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-06
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.70	pH Units
Temperature	24.9	Deg C

Field Results

Date: *Wednesday, August 21, 2019*

Client Sample ID: SL-8 | **Work Order/ID:** 19H1314-07
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	8.09	pH Units
Temperature	24.2	Deg C

Client Sample ID: SL-7 | **Work Order/ID:** 19H1314-08
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.98	pH Units
Temperature	23.9	Deg C

Client Sample ID: SL-6 | **Work Order/ID:** 19H1314-09
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	8.04	pH Units
Temperature	24.1	Deg C

Client Sample ID: SL-5 | **Work Order/ID:** 19H1314-10
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	8.01	pH Units
Temperature	24	Deg C

Client Sample ID: 1 | **Work Order/ID:** 19H1314-11
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.66	pH Units
Temperature	26.1	Deg C

Client Sample ID: 001 | **Work Order/ID:** 19H1314-12
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	6.72	pH Units
Temperature	27.1	Deg C

Client Sample ID: 000 | **Work Order/ID:** 19H1314-13
Sample Description: | **Sampled:** 08/20/2019 00:35
Matrix: Aqueous | **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.64	pH Units

Field Results

Date: *Wednesday, August 21, 2019*

Temperature	21.6	Deg C

Client Sample ID: SL-4 **Work Order/ID:** 19H1314-14
Sample Description: **Sampled:** 08/20/2019 00:35
Matrix: Aqueous **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	8.01	pH Units
Temperature	24.1	Deg C

Client Sample ID: SL-3 **Work Order/ID:** 19H1314-15
Sample Description: **Sampled:** 08/20/2019 00:35
Matrix: Aqueous **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	8.0	pH Units
Temperature	24	Deg C

Client Sample ID: SL-2 **Work Order/ID:** 19H1314-16
Sample Description: **Sampled:** 08/20/2019 00:35
Matrix: Aqueous **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.97	pH Units
Temperature	24.2	Deg C

Client Sample ID: SL-1 **Work Order/ID:** 19H1314-17
Sample Description: **Sampled:** 08/20/2019 00:35
Matrix: Aqueous **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.99	pH Units
Temperature	24.2	Deg C

Client Sample ID: #7 **Work Order/ID:** 19H1314-18
Sample Description: **Sampled:** 08/20/2019 00:35
Matrix: Aqueous **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.50	pH Units
Temperature	25.3	Deg C

Client Sample ID: #6 **Work Order/ID:** 19H1314-19
Sample Description: **Sampled:** 08/20/2019 00:35
Matrix: Aqueous **Received:** 08/21/2019 00:35

Analyses	Result	Units
pH	7.61	pH Units
Temperature	25.4	Deg C

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Field Results

Date: *Wednesday, August 21, 2019*

Client Sample ID: #5
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-20
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.71	pH Units
Temperature	25.4	Deg C

Client Sample ID: #4
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-21
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.68	pH Units
Temperature	25.4	Deg C

Client Sample ID: #3
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-22
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.68	pH Units
Temperature	25.3	Deg C

Client Sample ID: #2
Sample Description:
Matrix: Aqueous
Work Order/ID: 19H1314-23
Sampled: 08/20/2019 00:35
Received: 08/21/2019 00:35

Analyses	Result	Units
pH	7.69	pH Units
Temperature	25.9	Deg C

CASE NARRATIVE

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Project: NPDES Excursion
Lab Order: 19H1314

The Matrix Spike and Matrix Spike Duplicate failed the accuracy criteria for cyanide with a low bias. The precision criteria were met. A Post Digestion Spike was performed and the acceptance criteria was not met, indicating sample matrix interference.The following sample was spiked:

Laboratory ID	Sample Name
19H1314-03	#10
19H1314-11	1

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
19H1314-23	#2

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-01
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 10:45**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 14:07
			Method: **SW-846 9014**					Analyst: **lachat4**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.015***	0.0062		mg/L	1	08/21/2019 15:56
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***5.4***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.28***	0.10		mg/L	1	08/21/2019 13:32

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-02
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **EF**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 18:03
			Method: **SW-846 9014**					Analyst: **lachat4**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.010***	0.0062		mg/L	1	08/21/2019 16:01
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***5.3***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.24***	0.10		mg/L	1	08/21/2019 13:35

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-03
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 17:02
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.017***	0.0062		mg/L	1	08/21/2019 17:02
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***5.2***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.25***	0.10		mg/L	1	08/21/2019 13:37

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-04
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 17:07
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.015***	0.0062		mg/L	1	08/21/2019 17:07
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***5.5***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.21***	0.10		mg/L	1	08/21/2019 13:59

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-05
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 17:09
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.028***	0.0062		mg/L	1	08/21/2019 17:09
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***4.3***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.18***	0.10		mg/L	1	08/21/2019 14:01

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-06
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 17:11
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.011***	0.0062		mg/L	1	08/21/2019 17:11
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***7.1***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.13***	0.10		mg/L	1	08/21/2019 14:03

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-8
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-07
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 17:12
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 17:12
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***8.5***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***ND***	0.10		mg/L	1	08/21/2019 14:06

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-7
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-08
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	dij	A	***ND***	0.0050		mg/L	1	08/21/2019 17:14
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 17:14
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***8.6***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	di	A	***0.11***	0.10		mg/L	1	08/21/2019 14:08

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-6
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-09
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	dij	A	***ND***	0.0050		mg/L	1	08/21/2019 17:19
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 17:19
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***8.6***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	di	A	***0.15***	0.10		mg/L	1	08/21/2019 14:11

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-5
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-10
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

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: **08/21/2019 13:12**
Cyanide, Total	dij	A	***ND***	0.0050		mg/L	1	08/21/2019 17:21
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 17:21
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***8.6***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	di	A	***0.11***	0.10		mg/L	1	08/21/2019 14:13

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: 1
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-11
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:37
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.011***	0.0062		mg/L	1	08/21/2019 16:32
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***6.5***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.25***	0.10		mg/L	1	08/21/2019 14:15

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-12
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:43
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.0078***	0.0062		mg/L	1	08/21/2019 16:33
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***6.4***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.36***	0.10		mg/L	1	08/21/2019 14:18

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: 000
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-13
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:44
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.0074***	0.0062		mg/L	1	08/21/2019 16:39
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***7.5***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.17***	0.10		mg/L	1	08/21/2019 14:20

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-4
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-14
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 13:12**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:49
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 16:40
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***8.4***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***ND***	0.10		mg/L	1	08/21/2019 14:27

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-3
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-15
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	dij	A	***ND***	0.0050		mg/L	1	08/21/2019 15:31
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 16:42
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***8.6***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	di	A	***0.11***	0.10		mg/L	1	08/21/2019 14:30

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-2
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-16
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	**dij**	A	***0.077***	0.0050		mg/L	1	08/21/2019 15:12
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 16:44
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***8.2***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.13***	0.10		mg/L	1	08/21/2019 14:34

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Analytical Results

Date: *Wednesday, August 21, 2019*

Client: Arcelor Mittal USA, Inc.
Client Project: NPDES Excursion
Client Sample ID: SL-1
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1314-17
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	dij	A	***0.022***	0.0050		mg/L	1	08/21/2019 15:14
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 16:45
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***8.2***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	di	A	***0.18***	0.10		mg/L	1	08/21/2019 14:37

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-18
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:16
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.014***	0.0062		mg/L	1	08/21/2019 16:47
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***5.2***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.23***	0.10		mg/L	1	08/21/2019 14:39

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-19
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:17
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.016***	0.0062		mg/L	1	08/21/2019 16:49
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***6.0***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 11:49**
Nitrogen, Ammonia (As N)	**di**	A	***0.24***	0.10		mg/L	1	08/21/2019 14:42

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-20
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	**dij**	A	***ND***	0.0050		mg/L	1	08/21/2019 15:19
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.013***	0.0062		mg/L	1	08/21/2019 16:50
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***6.2***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 14:37**
Nitrogen, Ammonia (As N)	**di**	A	***0.25***	0.10		mg/L	1	08/21/2019 16:11

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-21
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	dij	A	***ND***	0.0050		mg/L	1	08/21/2019 15:21
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***ND***	0.0062		mg/L	1	08/21/2019 16:52
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***6.4***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 14:37**
Nitrogen, Ammonia (As N)	di	A	***0.21***	0.10		mg/L	1	08/21/2019 16:14

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-22
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	dij	A	***ND***	0.0050		mg/L	1	08/21/2019 15:32
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.018***	0.0062		mg/L	1	08/21/2019 16:54
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	di	A	***6.5***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 14:37**
Nitrogen, Ammonia (As N)	di	A	***0.27***	0.10		mg/L	1	08/21/2019 16:16

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Analytical Results

Date: *Wednesday, August 21, 2019*

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

Work Order/ID: 19H1314-23
Sampled: 08/20/2019 0:35
Received: 08/21/2019 0:35

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: **SM 4500-CN C/E-1999**					Analyst: **lachat4**
Total Cyanide			Prep Method: **NA**					Prep Date/Time: **08/21/2019 10:45**
Cyanide, Total	**dij**	A	***0.0050***	0.0050		mg/L	1	08/21/2019 15:22
			Method: **SW-846 9014**					Analyst: **ABG**
Free Cyanide			Prep Method: **SW-846 9014**					Prep Date/Time: **08/21/2019 15:22**
Free Cyanide		A	***0.014***	0.0062		mg/L	1	08/21/2019 16:59
			Method: **SM 4500-O C-2001**					Analyst: **DAT**
Dissolved Oxygen			Prep Method: **SM 4500-O C-2001**					Prep Date/Time: **08/21/2019 11:33**
Oxygen, Dissolved	**di**	A	***6.4***	0.20	H	mg/L	1	08/21/2019 11:33
			Method: **EPA 350.1 Rev 2.0**					Analyst: **ABG**
Nitrogen, Ammonia as N			Prep Method: **EPA 350.1 Rev 2.0**					Prep Date/Time: **08/21/2019 14:37**
Nitrogen, Ammonia (As N)	**di**	A	***0.28***	0.10		mg/L	1	08/21/2019 16:19

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)

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

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 7.4°C

Comments

No dates or times on sample containers

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?)	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®

RUSH!

CHAIN OF CUSTODY RECORD

Number 152351

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) 7.2 0.3 7.4
		☒ 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 Tolan 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

19H1314 Carey Gadzala ArcelorMittal - Burns Harbor, IN Spill Samples 08/21/2019

REQUESTED ANALYSIS

Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	DO	NH4	CN	Free Cl	Temp	pH					19H1314 Temp	19H1314 Additional Notes pH
8	8-20-19	10:19	4	AQ	G	1,2,4	X	X	X	X	X	X					25.8	7.24-01
9		10:22					X	X	X	X	X	X					25.8	7.30-02
10		10:25					X	X	X	X	X	X					26.0	7.35-03
11		10:28					X	X	X	X	X	X					26.3	7.28-04
12		10:31					X	X	X	X	X	X					26.4	7.43-05
13		10:34					X	X	X	X	X	X					24.9	7.70-06
SL-8		10:42					X	X	X	X	X	X					24.2	8.09-07
SL-7		10:47					X	X	X	X	X	X					23.9	7.98-08
SL-6		10:51					X	X	X	X	X	X					24.1	8.04-09
SL-5		10:54					X	X	X	X	X	X					24.0	8.01-10

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

Comments: when collected pH Temp

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	8-20-19 15:03		8/21/19 0800
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev.12/26/2017

MICROBAC®

CHAIN OF CUSTODY RECORD

Number 152350

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 Goldman 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 **	DO	NH4	Cn	Free Cn	Temp	pH				19H1314 Temp	Additional Notes / pH
	1	8-20	12:21	4	AQ	G	V, 2, 4										26.1	7.66 -1
	001	↓	12:28														27.1	6.72 -2
	000		11:27														21.6	7.64 -3

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
	8-20-19 15:03		8/21/19 0800
	8/21/19 1000		

rev.12/26/2017

MICROBAC®

CHAIN OF CUSTODY RECORD

Number 152365

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 Farmer Sampler Signature: Sampler Phone No.: 209-644-7585

* 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	Cl	free Cl	Temp	pH				Temp	Additional Notes: 19H1314 pH
	SL-4	8-20-19	10:57	4	AQ	G	U,2,4										24.1	8.01 -14
	SL-3		11:02														24.0	8.02 -15
	SL-2		11:06														24.2	7.97 -16
	SL-1		11:09													-17	24.2	7.99
	#7		11:43														25.3	7.50 -18
	6		11:49														25.4	7.61 -19
	5		11:55														25.4	7.71 -20
	4		12:00														25.4	7.68 -21
	3		12:06														25.3	7.68 -22
	2		12:14														25.9	7.69 -23

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

Comments: when Collected pH Temp

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	8-20-19 1503		8/21/19 0800
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	8/21/19 1000		
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev.12/26/2017