



03-Sep-2019

Robert Macial  
ArcelorMittal USA LLC  
Gary Plate Processing  
One North Buchanan Street  
Gary, IN 46402

Re: **Arcelor Mittal - Burns Harbor E.R.**

Work Order: **19082206**

Dear Robert,

ALS Environmental received 25 samples on 31-Aug-2019 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 43.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA  
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink that reads "Amanda Grzybowski".

Electronically approved by: Amanda Grzybowski

Amanda Grzybowski  
Project Manager

## Report of Laboratory Analysis

Certificate No: IN: C-MI-08

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19082206

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19082206-01	15	Aqueous		8/31/2019 08:20	8/31/2019	<input type="checkbox"/>
19082206-01	15	Aqueous		8/31/2019 08:20	8/31/2019 17:00	<input type="checkbox"/>
19082206-02	14	Aqueous		8/31/2019 09:30	8/31/2019	<input type="checkbox"/>
19082206-02	14	Aqueous		8/31/2019 09:30	8/31/2019 17:00	<input type="checkbox"/>
19082206-03	7	Aqueous		8/31/2019 09:39	8/31/2019	<input type="checkbox"/>
19082206-03	7	Aqueous		8/31/2019 09:39	8/31/2019 17:00	<input type="checkbox"/>
19082206-04	6	Aqueous		8/31/2019 09:47	8/31/2019	<input type="checkbox"/>
19082206-04	6	Aqueous		8/31/2019 09:47	8/31/2019 17:00	<input type="checkbox"/>
19082206-05	5	Aqueous		8/31/2019 09:55	8/31/2019	<input type="checkbox"/>
19082206-05	5	Aqueous		8/31/2019 09:55	8/31/2019 17:00	<input type="checkbox"/>
19082206-06	4	Aqueous		8/31/2019 10:11	8/31/2019	<input type="checkbox"/>
19082206-06	4	Aqueous		8/31/2019 10:11	8/31/2019 17:00	<input type="checkbox"/>
19082206-07	3	Aqueous		8/31/2019 10:22	8/31/2019	<input type="checkbox"/>
19082206-07	3	Aqueous		8/31/2019 10:22	8/31/2019 17:00	<input type="checkbox"/>
19082206-08	2	Aqueous		8/31/2019 10:31	8/31/2019	<input type="checkbox"/>
19082206-08	2	Aqueous		8/31/2019 10:31	8/31/2019 17:00	<input type="checkbox"/>
19082206-09	1	Aqueous		8/31/2019 10:40	8/31/2019	<input type="checkbox"/>
19082206-09	1	Aqueous		8/31/2019 10:40	8/31/2019 17:00	<input type="checkbox"/>
19082206-10	OF001	Aqueous		8/31/2019 11:01	8/31/2019	<input type="checkbox"/>
19082206-10	OF001	Aqueous		8/31/2019 11:01	8/31/2019 17:00	<input type="checkbox"/>
19082206-11	8	Aqueous		8/31/2019 11:42	8/31/2019	<input type="checkbox"/>
19082206-11	8	Aqueous		8/31/2019 11:42	8/31/2019 17:00	<input type="checkbox"/>
19082206-12	9	Aqueous		8/31/2019 11:58	8/31/2019	<input type="checkbox"/>
19082206-12	9	Aqueous		8/31/2019 11:58	8/31/2019 17:00	<input type="checkbox"/>
19082206-13	10	Aqueous		8/31/2019 12:15	8/31/2019	<input type="checkbox"/>
19082206-13	10	Aqueous		8/31/2019 12:15	8/31/2019 17:00	<input type="checkbox"/>
19082206-14	11	Aqueous		8/31/2019 12:29	8/31/2019	<input type="checkbox"/>
19082206-14	11	Aqueous		8/31/2019 12:29	8/31/2019 17:00	<input type="checkbox"/>
19082206-15	12	Aqueous		8/31/2019 12:38	8/31/2019	<input type="checkbox"/>
19082206-15	12	Aqueous		8/31/2019 12:38	8/31/2019 17:00	<input type="checkbox"/>
19082206-16	13	Aqueous		8/31/2019 12:52	8/31/2019	<input type="checkbox"/>
19082206-16	13	Aqueous		8/31/2019 12:52	8/31/2019 17:00	<input type="checkbox"/>
19082206-17	SL-1	Aqueous		8/31/2019 13:09	8/31/2019	<input type="checkbox"/>
19082206-17	SL-1	Aqueous		8/31/2019 13:09	8/31/2019 17:00	<input type="checkbox"/>
19082206-18	SL-2	Aqueous		8/31/2019 13:28	8/31/2019	<input type="checkbox"/>
19082206-18	SL-2	Aqueous		8/31/2019 13:28	8/31/2019 17:00	<input type="checkbox"/>
19082206-19	SL-3	Aqueous		8/31/2019 14:00	8/31/2019	<input type="checkbox"/>
19082206-19	SL-3	Aqueous		8/31/2019 14:00	8/31/2019 17:00	<input type="checkbox"/>
19082206-20	SL-4	Aqueous		8/31/2019 14:22	8/31/2019	<input type="checkbox"/>

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19082206

## Work Order Sample Summary

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19082206-20	SL-4	Aqueous		8/31/2019 14:22	8/31/2019 17:00	<input type="checkbox"/>
19082206-21	SL-5	Aqueous		8/31/2019 14:30	8/31/2019	<input type="checkbox"/>
19082206-21	SL-5	Aqueous		8/31/2019 14:30	8/31/2019 17:00	<input type="checkbox"/>
19082206-22	SL-6	Aqueous		8/31/2019 14:48	8/31/2019	<input type="checkbox"/>
19082206-22	SL-6	Aqueous		8/31/2019 14:48	8/31/2019 17:00	<input type="checkbox"/>
19082206-23	SL-7	Aqueous		8/31/2019 15:21	8/31/2019	<input type="checkbox"/>
19082206-23	SL-7	Aqueous		8/31/2019 15:21	8/31/2019 17:00	<input type="checkbox"/>
19082206-24	SL-8	Aqueous		8/31/2019 15:50	8/31/2019	<input type="checkbox"/>
19082206-24	SL-8	Aqueous		8/31/2019 15:50	8/31/2019 17:00	<input type="checkbox"/>
19082206-25	000	Aqueous		8/31/2019 16:24	8/31/2019	<input type="checkbox"/>
19082206-25	000	Aqueous		8/31/2019 16:24	8/31/2019 17:00	<input type="checkbox"/>

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19082206

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**Case Narrative**

Samples in this Work Order were received and analyzed at the ALS Valparaiso facility at 2400 Cumberland Drive, Valparaiso, Indiana; under Florida NELAP certification ID# E871119.

Any Batch MS/MSD results that are flagged, but not addressed in this Case Narrative, are not related to this project's sample(s); therefore the data does not require qualification.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 15  
**Collection Date:** 8/31/2019 08:20 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-01  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.50		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.83		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.1		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0031	J	0.0017	0.0050	mg/L	1	9/3/2019 13:32
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.152		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:42
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 14  
**Collection Date:** 8/31/2019 09:30 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-02  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.90		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.81		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.6		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0020	J	0.0017	0.0050	mg/L	1	9/3/2019 13:35
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.117		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:46
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 7  
**Collection Date:** 8/31/2019 09:39 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-03  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.60		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.76		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	23.1		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0021	J	0.0017	0.0050	mg/L	1	9/3/2019 13:36
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.168		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:47
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 6  
**Collection Date:** 8/31/2019 09:47 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-04  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.60		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.80		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.1		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0022	J	0.0017	0.0050	mg/L	1	9/3/2019 13:37
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.169		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:48
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 5  
**Collection Date:** 8/31/2019 09:55 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-05  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.30		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.84		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.6		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0023	J	0.0017	0.0050	mg/L	1	9/3/2019 13:38
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.125		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:49
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 4  
**Collection Date:** 8/31/2019 10:11 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-06  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b> Dissolved Oxygen (field)	7.30		0		mg/L	1	8/31/2019
			Method: A4500-O G-11		Analyst: <b>ALS</b>		
<b>PH (FIELD)</b> pH (field)	7.81		0		s.u.	1	8/31/2019
			Method: A4500-H B-11		Analyst: <b>ALS</b>		
<b>TEMPERATURE (FIELD)</b> Temperature (field)	22.2		0		°C	1	8/31/2019
			Method: A2550 B-10		Analyst: <b>ALS</b>		
<b>CYANIDE, TOTAL</b> Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:38
			Method: A4500-CN E-11		Analyst: <b>JB</b>		
<b>CYANIDE, WEAK ACID DISSOCIABLE</b> Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
			Method: KELADA-01		Analyst: <b>JB</b>		
<b>AMMONIA AS NITROGEN</b> Ammonia as Nitrogen	0.172		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:53
			Method: E350.1 R2.0		Analyst: <b>CD</b>		

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 3  
**Collection Date:** 8/31/2019 10:22 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-07  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.20		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.83		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.1		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0020	J	0.0017	0.0050	mg/L	1	9/3/2019 13:41
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.174		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:56
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 2  
**Collection Date:** 8/31/2019 10:31 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-08  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.10		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.10		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	23.2		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0021	J	0.0017	0.0050	mg/L	1	9/3/2019 13:42
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.184		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:58
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 1  
**Collection Date:** 8/31/2019 10:40 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-09  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.70		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.77		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.7		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0023	J	0.0017	0.0050	mg/L	1	9/3/2019 13:43
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.214		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 09:59
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** OF001  
**Collection Date:** 8/31/2019 11:01 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-10  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.80		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.86		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	24.4		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0021	J	0.0017	0.0050	mg/L	1	9/3/2019 13:44
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.242		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:00
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 8  
**Collection Date:** 8/31/2019 11:42 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-11  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.90		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.81		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	25.3		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0018	J	0.0017	0.0050	mg/L	1	9/3/2019 13:46
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.172		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:01
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 9  
**Collection Date:** 8/31/2019 11:58 AM

**Work Order:** 19082206  
**Lab ID:** 19082206-12  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.10		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.79		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	24.6		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0017	J	0.0017	0.0050	mg/L	1	9/3/2019 13:47
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.139		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:02
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 10  
**Collection Date:** 8/31/2019 12:15 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-13  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							Analyst: <b>ALS</b>
Dissolved Oxygen (field)	7.40		0		mg/L	1	8/31/2019
<b>PH (FIELD)</b>							Analyst: <b>ALS</b>
pH (field)	7.72		0		s.u.	1	8/31/2019
<b>TEMPERATURE (FIELD)</b>							Analyst: <b>ALS</b>
Temperature (field)	24.7		0		°C	1	8/31/2019
<b>CYANIDE, TOTAL</b>							Analyst: <b>JB</b>
Cyanide, Total	0.0029	J	0.0017	0.0050	mg/L	1	9/3/2019 13:48
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							Analyst: <b>JB</b>
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
<b>AMMONIA AS NITROGEN</b>							Analyst: <b>CD</b>
Ammonia as Nitrogen	0.139		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:04

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 11  
**Collection Date:** 8/31/2019 12:29 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-14  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.50		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.86		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	24.3		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0034	J	0.0017	0.0050	mg/L	1	9/3/2019 13:49
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.117		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:07
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 12  
**Collection Date:** 8/31/2019 12:38 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-15  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.90		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.87		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	25.9		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0026	J	0.0017	0.0050	mg/L	1	9/3/2019 13:51
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0810		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:08
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 13  
**Collection Date:** 8/31/2019 12:52 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-16  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.10		0		mg/L	1	8/31/2019
<b>PH (FIELD)</b>							
pH (field)	7.69		0		s.u.	1	8/31/2019
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	24.9		0		°C	1	8/31/2019
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:52
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0849		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:10

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group, USA**

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-1  
**Collection Date:** 8/31/2019 01:09 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-17  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.40		0		mg/L	1	8/31/2019
<b>PH (FIELD)</b>							
pH (field)	8.19		0		s.u.	1	8/31/2019
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.7		0		°C	1	8/31/2019
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:53
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0326		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:11

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-2  
**Collection Date:** 8/31/2019 01:28 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-18  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.10		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.93		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.1		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:54
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0259	J	0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:12
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-3  
**Collection Date:** 8/31/2019 02:00 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-19  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.90		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.18		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.2		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:55
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0274	J	0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:13
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-4  
**Collection Date:** 8/31/2019 02:22 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-20  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.20		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.16		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.2		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:56
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0217	J	0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:15
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-5  
**Collection Date:** 8/31/2019 02:30 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-21  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.80		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.80		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.3		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 13:58
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0156	J	0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:18
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-6  
**Collection Date:** 8/31/2019 02:48 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-22  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.40		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.12		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.6		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 14:03
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:22
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-7  
**Collection Date:** 8/31/2019 03:21 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-23  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.10		0		mg/L	1	8/31/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.01		0		s.u.	1	8/31/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.9		0		°C	1	8/31/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 14:03
				Method: A4500-CN E-11			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0142	J	0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:25
				Method: E350.1 R2.0			Analyst: CD

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-8  
**Collection Date:** 8/31/2019 03:50 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-24  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b> Dissolved Oxygen (field)	7.70		0		mg/L	1	8/31/2019
			Method: A4500-O G-11		Analyst: <b>ALS</b>		
<b>PH (FIELD)</b> pH (field)	7.86		0		s.u.	1	8/31/2019
			Method: A4500-H B-11		Analyst: <b>ALS</b>		
<b>TEMPERATURE (FIELD)</b> Temperature (field)	22.3		0		°C	1	8/31/2019
			Method: A2550 B-10		Analyst: <b>ALS</b>		
<b>CYANIDE, TOTAL</b> Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 14:04
			Method: A4500-CN E-11		Analyst: <b>JB</b>		
<b>CYANIDE, WEAK ACID DISSOCIABLE</b> Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
			Method: KELADA-01		Analyst: <b>JB</b>		
<b>AMMONIA AS NITROGEN</b> Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:27
			Method: E350.1 R2.0		Analyst: <b>CD</b>		

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group, USA

Date: 03-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 000  
**Collection Date:** 8/31/2019 04:24 PM

**Work Order:** 19082206  
**Lab ID:** 19082206-25  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.40		0		mg/L	1	8/31/2019
<b>PH (FIELD)</b>							
pH (field)	7.91		0		s.u.	1	8/31/2019
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.1		0		°C	1	8/31/2019
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0017	0.0050	mg/L	1	9/3/2019 14:05
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/2/2019 15:58
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0200	J	0.00980	0.0320	mg NH3-N/L	1	9/1/2019 10:28

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**WorkOrder:** 19082206

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**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
°C	Degrees Celcius
mg NH3-N/L	Milligrams Ammonia-Nitrogen per Liter
mg/L	Milligrams per Liter
s.u.	Standard Units

Client: ArcelorMittal USA LLC

**QC BATCH REPORT**

Work Order: 19082206

Project: Arcelor Mittal - Burns Harbor E.R.

Batch ID: **141832a** Instrument ID **LACHAT** Method: **A4500-CN E-11**

<b>MBLK</b>	Sample ID: <b>MBLK-141832-141832a</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:31 PM</b>					
Client ID:	Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890105</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total U 0.0050

<b>LCS</b>	Sample ID: <b>LCS-141832-141832a</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:31 PM</b>					
Client ID:	Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890106</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2454 0.0050 0.25 0 98.2 88-116 0

<b>MS</b>	Sample ID: <b>19082206-01B MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:33 PM</b>					
Client ID: <b>15</b>	Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890108</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2686 0.0050 0.25 0.003131 106 88-116 0

<b>MS</b>	Sample ID: <b>19082206-10B MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:44 PM</b>					
Client ID: <b>OF001</b>	Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890121</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2531 0.0050 0.25 0.002129 100 88-116 0

<b>MSD</b>	Sample ID: <b>19082206-01B MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:34 PM</b>					
Client ID: <b>15</b>	Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890109</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2589 0.0050 0.25 0.003131 102 88-116 0.2686 3.68 12

<b>MSD</b>	Sample ID: <b>19082206-10B MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:45 PM</b>					
Client ID: <b>OF001</b>	Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890122</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2543 0.0050 0.25 0.002129 101 88-116 0.2531 0.473 12

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** ArcelorMittal USA LLC  
**Work Order:** 19082206  
**Project:** Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

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Batch ID: **141832a**      Instrument ID **LACHAT**      Method: **A4500-CN E-11**

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**The following samples were analyzed in this batch:**

19082206-01B	19082206-02B	19082206-03B
19082206-04B	19082206-05B	19082206-06B
19082206-07B	19082206-08B	19082206-09B
19082206-10B	19082206-11B	19082206-12B
19082206-13B	19082206-14B	19082206-15B
19082206-16B	19082206-17B	19082206-18B
19082206-19B	19082206-20B	

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ArcelorMittal USA LLC  
 Work Order: 19082206  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **141833b** Instrument ID **LACHAT** Method: **A4500-CN E-11**

MBLK		Sample ID: <b>MBLK-141833-141833b</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:57 PM</b>		
Client ID:		Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890135</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total U 0.0050

LCS		Sample ID: <b>LCS-141833-141833b</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:57 PM</b>		
Client ID:		Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890136</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.259 0.0050 0.25 0 104 88-116 0

MS		Sample ID: <b>19082206-21B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 01:59 PM</b>		
Client ID: <b>SL-5</b>		Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890138</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2583 0.0050 0.25 -0.0007694 104 88-116 0

MS		Sample ID: <b>19090002-06B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 02:11 PM</b>		
Client ID:		Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890152</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2499 0.0050 0.25 0.002808 98.8 88-116 0

MSD		Sample ID: <b>19082206-21B MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 02:00 PM</b>		
Client ID: <b>SL-5</b>		Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890139</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2535 0.0050 0.25 -0.0007694 102 88-116 0.2583 1.88 12

MSD		Sample ID: <b>19090002-06B MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/3/2019 02:12 PM</b>		
Client ID:		Run ID: <b>LACHAT_190903B</b>		SeqNo: <b>5890153</b>		Prep Date: <b>9/3/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.2539 0.0050 0.25 0.002808 100 88-116 0.2499 1.59 12

The following samples were analyzed in this batch:

19082206-21B	19082206-22B	19082206-23B
19082206-24B	19082206-25B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ArcelorMittal USA LLC  
 Work Order: 19082206  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269628c** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK		Sample ID: <b>MB-R269628-R269628c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887881</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD U 0.0050

LCS		Sample ID: <b>LCS-R269628-R269628c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887882</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.1044 0.0050 0.1 0 104 90-110 0

MS		Sample ID: <b>19082206-01C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID: <b>15</b>		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887884</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.1061 0.0050 0.1 -0.00016 106 90-110 0

MS		Sample ID: <b>19082206-10C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID: <b>OF001</b>		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887897</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.09302 0.0050 0.1 -0.00006 93.1 90-110 0

MSD		Sample ID: <b>19082206-01C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID: <b>15</b>		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887885</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.1071 0.0050 0.1 -0.00016 107 90-110 0.1061 0.891 20

MSD		Sample ID: <b>19082206-10C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID: <b>OF001</b>		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887898</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.1061 0.0050 0.1 -0.00006 106 90-110 0.09302 13.1 20

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** ArcelorMittal USA LLC  
**Work Order:** 19082206  
**Project:** Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

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Batch ID: **R269628c**      Instrument ID **SKALAR1**      Method: **Kelada-01**

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**The following samples were analyzed in this batch:**

19082206-01C	19082206-02C	19082206-03C
19082206-04C	19082206-05C	19082206-06C
19082206-07C	19082206-08C	19082206-09C
19082206-10C	19082206-11C	19082206-12C
19082206-13C	19082206-14C	19082206-15C
19082206-16C	19082206-17C	19082206-18C
19082206-19C	19082206-20C	

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ArcelorMittal USA LLC  
 Work Order: 19082206  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269628d** Instrument ID **SKALAR1** Method: **Kelada-01**

<b>MBLK</b>		Sample ID: <b>MB-R269628-R269628d</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887924</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD U 0.0050

<b>LCS</b>		Sample ID: <b>LCS-R269628-R269628d</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887925</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.0924 0.0050 0.1 0 92.4 90-110 0

<b>MS</b>		Sample ID: <b>19082206-21C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID: <b>SL-5</b>		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887927</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.09882 0.0050 0.1 -0.00081 99.6 90-110 0

<b>MSD</b>		Sample ID: <b>19082206-21C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/2/2019 03:58 PM</b>		
Client ID: <b>SL-5</b>		Run ID: <b>SKALAR1_190902A</b>				SeqNo: <b>5887928</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD 0.1077 0.0050 0.1 -0.00081 108 90-110 0.09882 8.59 20

The following samples were analyzed in this batch:

19082206-21C	19082206-22C	19082206-23C
19082206-24C	19082206-25C	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ArcelorMittal USA LLC  
 Work Order: 19082206  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269600** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MBLK		Sample ID: <b>MBLK-R269600</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 09:40 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887160</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen U 0.032

MBLK		Sample ID: <b>MBLK-R269600</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 10:16 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887190</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen U 0.032

LCS		Sample ID: <b>LCS-R269600</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 09:41 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887161</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen 0.421 0.032 0.4 0 105 90-110 0

LCS		Sample ID: <b>LCS-R269600</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 10:17 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887191</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen 0.425 0.032 0.4 0 106 90-110 0

MS		Sample ID: <b>19082206-01A MS</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 09:43 AM</b>		
Client ID: <b>15</b>		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887163</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen 0.317 0.032 0.2 0.152 82.5 90-110 0 S

MS		Sample ID: <b>19082206-06A MS</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 09:54 AM</b>		
Client ID: <b>4</b>		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887172</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen 0.368 0.032 0.2 0.172 98 90-110 0

MS		Sample ID: <b>19082206-22A MS</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/1/2019 10:23 AM</b>		
Client ID: <b>SL-6</b>		Run ID: <b>VAL-LACHAT_190901A</b>			SeqNo: <b>5887196</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Ammonia as Nitrogen 0.197 0.032 0.2 -0.00142 99.2 90-110 0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ArcelorMittal USA LLC  
 Work Order: 19082206  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269600** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MSD		Sample ID: 19082206-01A MSD				Units: mg NH3-N/L		Analysis Date: 9/1/2019 09:44 AM			
Client ID: 15		Run ID: VAL-LACHAT_190901A				SeqNo: 5887164		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ammonia as Nitrogen	0.317	0.032	0.2	0.152	82.5	90-110	0.317	0	20	S	

MSD		Sample ID: 19082206-06A MSD				Units: mg NH3-N/L		Analysis Date: 9/1/2019 09:55 AM			
Client ID: 4		Run ID: VAL-LACHAT_190901A				SeqNo: 5887173		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ammonia as Nitrogen	0.368	0.032	0.2	0.172	98	90-110	0.368	0	20		

MSD		Sample ID: 19082206-22A MSD				Units: mg NH3-N/L		Analysis Date: 9/1/2019 10:24 AM			
Client ID: SL-6		Run ID: VAL-LACHAT_190901A				SeqNo: 5887197		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ammonia as Nitrogen	0.195	0.032	0.2	-0.00142	98.2	90-110	0.197	1.02	20		

The following samples were analyzed in this batch:

19082206-01A	19082206-02A	19082206-03A
19082206-04A	19082206-05A	19082206-06A
19082206-07A	19082206-08A	19082206-09A
19082206-10A	19082206-11A	19082206-12A
19082206-13A	19082206-14A	19082206-15A
19082206-16A	19082206-17A	19082206-18A
19082206-19A	19082206-20A	19082206-21A
19082206-22A	19082206-23A	19082206-24A
19082206-25A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental  
 3352 128th Avenue  
 Holland, Michigan 49424  
 (Tel) 616.399.6070  
 (Fax) 616.399.6185

# Chain of Custody Form

Page 1 of 3

Client Information		Project Information		ALS Project Manager: Amanda Gryzbowski		ALS Work Order #: 19082206									
Project Name: Receiving Water Monitoring		Parameter/Method Request for Analysis		A Ammonia											
Project Number:		Company Name: ArcelorMittal (Burns Harbor)		B Total Cyanide											
Invoice Attn: Accounts Payable		Address: 250 US 12		C Free Cyanide											
City/State/Zip: Burns Harbor, IN 46304		Phone: (219) 787-2120		D pH (Field)											
e-Mail Address:		Matrix: Water		E Temperature (Field)											
		Pres. H <sub>2</sub> O <sub>2</sub> , NaOH: 2		F Dissolved Oxygen (Field)											
		Time: 8:20													
		Date: 8-31-19													
		Time: 9:30													
		Date:													
		Time: 9:47													
		Date:													
		Time: 9:55													
		Date:													
		Time: 10:11													
		Date:													
		Time: 10:22													
		Date:													
		Time: 10:31													
		Date:													
		Time: 10:40													
		Date:													
		Time: 11:01													
		Date:													
		Time: 1630													
		Date:													
		Time: 1700													
		Date:													
		Time:													
		Time:													
		Time:													
No.	Sample Description	Date	Time	Matrix	Pres. H <sub>2</sub> O <sub>2</sub> , NaOH	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
	15	8-31-19	8:20	Water		2	X	X	X	X	X	X	7.83	21.1	7.5
	14		9:30				X	X	X	X	X	X	7.81	22.6	6.9
	7		9:47				X	X	X	X	X	X	7.76	23.1	6.6
	6		9:55				X	X	X	X	X	X	7.80	22.1	6.6
	5		10:11				X	X	X	X	X	X	7.84	22.6	6.3
	4		10:22				X	X	X	X	X	X	7.81	22.2	6.3
	3		10:31				X	X	X	X	X	X	7.83	22.1	8.2
	2		10:40				X	X	X	X	X	X	7.71	23.2	6.7
	1		11:01				X	X	X	X	X	X	7.77	22.7	7.7
	OF 001						X	X	X	X	X	X	7.86	24.4	6.8

Sampler(s): Please Print & Sign

Relinquished by: *[Signature]* Date: 8/31/19 Time: 1630

Relinquished by: *[Signature]* Date: 8/31/19 Time: 1700

Logged by (Laboratory): *[Signature]* Date: Time:

Received by: *[Signature]* Date: Time:

Received by (Laboratory): *[Signature]* Date: Time:

Checked by (Laboratory): *[Signature]* Date: Time:

Notes:

Required Turnaround Time:  5 WD Days  10 WD Days  15 WD Days  24 Hour

QC Package: (Check Box Below)

Level II: Standard QC

Level III: Standard QC + Raw Data

Level IV: SW846 Methods/CLP

Other:

Cooler Temp: 2.1°C

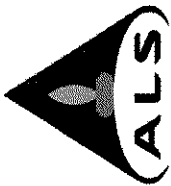
Results Due Date:



ALS Environmental  
 3352 128th Avenue  
 Holland, Michigan 49424  
 (Tel) 616.399.6070  
 (Fax) 616.399.6185

# Chain of Custody Form

Page 2 of 3



Client Information		Project Information		ALS Project Manager: Amanda Gryzbowski		ALS Work Order #: 9082206	
Purchase Order		Project Name	Receiving Water Monitoring	Parameter/Method Request for Analysis			
Work Order		Project Number		Ammonia			
Company Name	ArcelorMittal (Burns Harbor)	Company Name	ArcelorMittal (Burns Harbor)	Total Cyanide			
Send Report To		Invoice Attn.	Accounts Payable	Free Cyanide			
Address	250 US 12	Address	250 US 12	pH (Field)			
City/State/Zip	Burns Harbor, IN 46304	City/State/Zip	Burns Harbor, IN 46304	Temperature (Field)			
Phone	(219) 787-2120	Phone	(219) 787-2120	Dissolved Oxygen (Field)			
Fax		Fax					
e-Mail Address		e-Mail Address					

No.	Sample Description	Date	Time	Matrix	Pres. H <sub>2</sub> SO <sub>4</sub> , NaOH	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
8		8-31-19	11:42	Water		2	X	X	X	X	X	X	7.81	25.3	6.9
9			1:58										7.79	24.6	6.1
10			12:15										7.72	24.7	7.4
11			12:29										7.86	24.3	7.5
12			12:38										7.87	25.9	6.9
13			12:52										7.61	24.9	7.1
SL-1			1:09										8.19	21.7	7.4
SL-2			1:28										7.93	21.1	7.1
SL-3			2:00										8.18	21.2	6.9
SL-4			2:22										8.16	22.2	7.2

Sampler(s): Please Print & Sign	Shipment Method:	Required Turnaround Time:	Results Due Date:
	<input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Other	

Relinquished by:	Date:	Time:	Received by:
	8/31/19	1630	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	8/21/19	1700	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

QC Package: (Check Box Below)	Cooler Temp:
Level II: Standard QC	2.1°C
Level III: Standard QC + Raw Data	
Level IV: SW 846 Methods/CLP	
Other:	

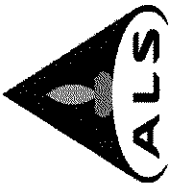
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS

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 3352 128th Avenue  
 Holland, Michigan 49424  
 (Tel) 616.399.6070  
 (Fax) 616.399.6185

# Chain of Custody Form

Page 3 of 3



Client Information		Project Information		ALS Project Manager:		ALS Work Order #:									
Purchase Order		Project Name	Receiving Water Monitoring	Amanda Gryzbowski		ALS Work Order #:	9087206								
Work Order		Project Number		Parameter/Method Request for Analysis											
Company Name	ArcelorMittal (Burns Harbor)	Company Name	ArcelorMittal (Burns Harbor)	Ammonia											
Send Report To		Invoice Attn.	Accounts Payable	Total Cyanide											
Address	250 US 12	Address	250 US 12	Free Cyanide											
City/State/Zip	Burns Harbor, IN 46304	City/State/Zip	Burns Harbor, IN 46304	pH (Field)											
Phone	(219) 787-2120	Phone	(219) 787-2120	Temperature (Field)											
Fax		Fax		Dissolved Oxygen (Field)											
e-Mail Address															
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
	SL-5	8-31-14	230	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.8	22.3	7.8
	SL-6		248										8.12	22.6	6.4
	SL-7		321										8.01	21.9	7.1
	SL-8		350										7.86	22.3	7.7
	000		4:24										7.91	21.1	8.4
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:		Results Due Date:									
				<input type="checkbox"/> STD 10-WK Days <input type="checkbox"/> 5-WK Days <input type="checkbox"/> 2-WK Days <input type="checkbox"/> 24-Hour <input type="checkbox"/> Other											
Relinquished by:	Date:	Time:	Received by:	Notes:											
<i>[Signature]</i>	8/31/14	1630	<i>[Signature]</i>												
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.											
<i>[Signature]</i>	8/31/14	1700	<i>[Signature]</i>	3.1°C											
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	QC Package: (Check Box Below)											
				<input type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Standard QC + Raw Data <input checked="" type="checkbox"/> Level IV: SW846 Methods/CLP Other:											

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS

Sample Receipt Checklist

Client Name: **ARCELORMITTAL-BURNSHARBO**

Date/Time Received: **31-Aug-19 00:00**

Work Order: **19082206**

Received by: **PW**

Checklist completed by Amanda Przybowski 03-Sep-19  
eSignature Date

Reviewed by: Amanda Przybowski 03-Sep-19  
eSignature Date

Matrices: Aqueous

Carrier name: ALSHN

Shipping container/cooler in good condition? Yes  No  Not Present

Custody seals intact on shipping container/cooler? Yes  No  Not Present

Custody seals intact on sample bottles? Yes  No  Not Present

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Container/Temp Blank temperature in compliance? Yes  No

Sample(s) received on ice? Yes  No

Temperature(s)/Thermometer(s): 2.1

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 8/31/19 17:00

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  N/A

pH adjusted? Yes  No  N/A

pH adjusted by:

Login Notes:

-----

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: