



06-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: **19090073**

Dear Robert,

ALS Environmental received 25 samples on 03-Sep-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

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19090073

**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>
19090073-01	15	Aqueous		9/3/2019 16:02	9/4/2019 10:25	<input type="checkbox"/>
19090073-01	15	Aqueous		9/3/2019 16:02	9/5/2019 09:30	<input type="checkbox"/>
19090073-02	14	Aqueous		9/3/2019 16:13	9/4/2019 10:25	<input type="checkbox"/>
19090073-02	14	Aqueous		9/3/2019 16:13	9/5/2019 09:30	<input type="checkbox"/>
19090073-03	7	Aqueous		9/3/2019 16:22	9/4/2019 10:25	<input type="checkbox"/>
19090073-03	7	Aqueous		9/3/2019 16:22	9/5/2019 09:30	<input type="checkbox"/>
19090073-04	6	Aqueous		9/3/2019 16:31	9/4/2019 10:25	<input type="checkbox"/>
19090073-04	6	Aqueous		9/3/2019 16:31	9/5/2019 09:30	<input type="checkbox"/>
19090073-05	5	Aqueous		9/3/2019 16:42	9/4/2019 10:25	<input type="checkbox"/>
19090073-05	5	Aqueous		9/3/2019 16:42	9/5/2019 09:30	<input type="checkbox"/>
19090073-06	4	Aqueous		9/3/2019 16:57	9/4/2019 10:25	<input type="checkbox"/>
19090073-06	4	Aqueous		9/3/2019 16:57	9/5/2019 09:30	<input type="checkbox"/>
19090073-07	3	Aqueous		9/3/2019 17:08	9/4/2019 10:25	<input type="checkbox"/>
19090073-07	3	Aqueous		9/3/2019 17:08	9/5/2019 09:30	<input type="checkbox"/>
19090073-08	2	Aqueous		9/3/2019 17:16	9/4/2019 10:25	<input type="checkbox"/>
19090073-08	2	Aqueous		9/3/2019 17:16	9/5/2019 09:30	<input type="checkbox"/>
19090073-09	1	Aqueous		9/3/2019 17:29	9/4/2019 10:25	<input type="checkbox"/>
19090073-09	1	Aqueous		9/3/2019 17:29	9/5/2019 09:30	<input type="checkbox"/>
19090073-10	OF001	Aqueous		9/3/2019 17:51	9/4/2019 10:25	<input type="checkbox"/>
19090073-10	OF001	Aqueous		9/3/2019 17:51	9/5/2019 09:30	<input type="checkbox"/>
19090073-11	8	Aqueous		9/3/2019 18:19	9/4/2019 10:25	<input type="checkbox"/>
19090073-11	8	Aqueous		9/3/2019 18:19	9/5/2019 09:30	<input type="checkbox"/>
19090073-12	9	Aqueous		9/3/2019 18:29	9/4/2019 10:25	<input type="checkbox"/>
19090073-12	9	Aqueous		9/3/2019 18:29	9/5/2019 09:30	<input type="checkbox"/>
19090073-13	10	Aqueous		9/3/2019 18:40	9/4/2019 10:25	<input type="checkbox"/>
19090073-13	10	Aqueous		9/3/2019 18:40	9/5/2019 09:30	<input type="checkbox"/>
19090073-14	11	Aqueous		9/3/2019 18:51	9/4/2019 10:25	<input type="checkbox"/>
19090073-14	11	Aqueous		9/3/2019 18:51	9/5/2019 09:30	<input type="checkbox"/>
19090073-15	12	Aqueous		9/3/2019 19:03	9/4/2019 10:25	<input type="checkbox"/>
19090073-15	12	Aqueous		9/3/2019 19:03	9/5/2019 09:30	<input type="checkbox"/>
19090073-16	13	Aqueous		9/3/2019 19:15	9/4/2019 10:25	<input type="checkbox"/>
19090073-16	13	Aqueous		9/3/2019 19:15	9/5/2019 09:30	<input type="checkbox"/>
19090073-17	SL-1	Aqueous		9/3/2019 19:40	9/4/2019 10:25	<input type="checkbox"/>
19090073-17	SL-1	Aqueous		9/3/2019 19:40	9/5/2019 09:30	<input type="checkbox"/>
19090073-18	SL-2	Aqueous		9/3/2019 20:20	9/4/2019 10:25	<input type="checkbox"/>
19090073-18	SL-2	Aqueous		9/3/2019 20:20	9/5/2019 09:30	<input type="checkbox"/>
19090073-19	SL-3	Aqueous		9/3/2019 20:35	9/4/2019 10:25	<input type="checkbox"/>
19090073-19	SL-3	Aqueous		9/3/2019 20:35	9/5/2019 09:30	<input type="checkbox"/>
19090073-20	SL-4	Aqueous		9/3/2019 20:47	9/4/2019 10:25	<input type="checkbox"/>

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19090073

## 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>
19090073-20	SL-4	Aqueous		9/3/2019 20:47	9/5/2019 09:30	<input type="checkbox"/>
19090073-21	SL-5	Aqueous		9/3/2019 20:59	9/4/2019 10:25	<input type="checkbox"/>
19090073-21	SL-5	Aqueous		9/3/2019 20:59	9/5/2019 09:30	<input type="checkbox"/>
19090073-22	SL-6	Aqueous		9/3/2019 21:13	9/4/2019 10:25	<input type="checkbox"/>
19090073-22	SL-6	Aqueous		9/3/2019 21:13	9/5/2019 09:30	<input type="checkbox"/>
19090073-23	SL-7	Aqueous		9/3/2019 21:34	9/4/2019 10:25	<input type="checkbox"/>
19090073-23	SL-7	Aqueous		9/3/2019 21:34	9/5/2019 09:30	<input type="checkbox"/>
19090073-24	SL-8	Aqueous		9/3/2019 22:11	9/4/2019 10:25	<input type="checkbox"/>
19090073-24	SL-8	Aqueous		9/3/2019 22:11	9/5/2019 09:30	<input type="checkbox"/>
19090073-25	000	Aqueous		9/3/2019 22:42	9/4/2019 10:25	<input type="checkbox"/>
19090073-25	000	Aqueous		9/3/2019 22:42	9/5/2019 09:30	<input type="checkbox"/>

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19090073

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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: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 15  
**Collection Date:** 9/3/2019 04:02 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-01  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.53		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	23.3		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/6/2019 13:27
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:09
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.157		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:47
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 14  
**Collection Date:** 9/3/2019 04:13 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-02  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.80		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	23.2		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/6/2019 13:27
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:10
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0913		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:48
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 7  
**Collection Date:** 9/3/2019 04:22 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-03  
**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	9/3/2019
							Analyst: <b>ALS</b>
							Method: A4500-O G-11
<b>PH (FIELD)</b>							
pH (field)	7.69		0		s.u.	1	9/3/2019
							Analyst: <b>ALS</b>
							Method: A4500-H B-11
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.6		0		°C	1	9/3/2019
							Analyst: <b>ALS</b>
							Method: A2550 B-10
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/6/2019 13:27
							Analyst: <b>JB</b>
							Method: KELADA-01
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.00216	J	0.00200	0.00500	mg/L	1	9/5/2019 16:11
							Analyst: <b>CD</b>
							Prep: A4500-CN C-11 / 9/5/19
							Method: A4500-CN E-11
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.164		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:50
							Analyst: <b>CD</b>
							Method: E350.1 R2.0

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 6  
**Collection Date:** 9/3/2019 04:31 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-04  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.79		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.1		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/6/2019 13:27
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:12
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.165		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:51
				Method: E350.1 R2.0			Analyst: CD

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



# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 5  
**Collection Date:** 9/3/2019 04:42 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-05  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	6.70		0		mg/L	1	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.87		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.7		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/6/2019 13:27
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:13
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.171		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:54
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 4  
**Collection Date:** 9/3/2019 04:57 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-06  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.90		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.9		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/6/2019 13:27
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:14
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.159		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:56
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 3  
**Collection Date:** 9/3/2019 05:08 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-07  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.65		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.2		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:16
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.141		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:57
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 2  
**Collection Date:** 9/3/2019 05:16 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-08  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.78		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.9		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:19
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.141		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 13:58
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 1  
**Collection Date:** 9/3/2019 05:29 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-09  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.89		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.5		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:20
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.134		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:02
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** OF001  
**Collection Date:** 9/3/2019 05:51 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-10  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.62		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.2		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:21
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0419		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:05
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 8  
**Collection Date:** 9/3/2019 06:19 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-11  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.74		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.3		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:22
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.159		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:07
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 9  
**Collection Date:** 9/3/2019 06:29 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-12  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.75		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.6		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:23
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.148		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:08
				Method: E350.1 R2.0			Analyst: CD

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



# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 10  
**Collection Date:** 9/3/2019 06:40 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-13  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.73		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.5		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:25
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.151		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:09
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 11  
**Collection Date:** 9/3/2019 06:51 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-14  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.69		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.9		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:26
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.148		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:13
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 12  
**Collection Date:** 9/3/2019 07:03 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-15  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.84		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.9		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:27
				Method: A4500-CN E-11		Prep: A4500-CN C-11 / 9/5/19	Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.118		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:16
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 13  
**Collection Date:** 9/3/2019 07:15 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-16  
**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)	7.60		0		mg/L	1	9/3/2019
<b>PH (FIELD)</b>							Analyst: <b>ALS</b>
pH (field)	7.53		0		s.u.	1	9/3/2019
<b>TEMPERATURE (FIELD)</b>							Analyst: <b>ALS</b>
Temperature (field)	18.5		0		°C	1	9/3/2019
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							Analyst: <b>JB</b>
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
<b>CYANIDE, TOTAL</b>							Analyst: <b>CD</b>
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:28
<b>AMMONIA AS NITROGEN</b>							Analyst: <b>CD</b>
Ammonia as Nitrogen	0.0411		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:20

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-1  
**Collection Date:** 9/3/2019 07:40 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-17  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.12		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	19.2		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:29
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.103		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:21
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-2  
**Collection Date:** 9/3/2019 08:20 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-18  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.31		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.9		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:32
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.101		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:22
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-3  
**Collection Date:** 9/3/2019 08:35 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-19  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.30		0		mg/L	1	9/3/2019
							Analyst: <b>ALS</b>
							Method: A4500-O G-11
<b>PH (FIELD)</b>							
pH (field)	8.10		0		s.u.	1	9/3/2019
							Analyst: <b>ALS</b>
							Method: A4500-H B-11
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.1		0		°C	1	9/3/2019
							Analyst: <b>ALS</b>
							Method: A2550 B-10
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
							Analyst: <b>JB</b>
							Method: KELADA-01
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:34
							Analyst: <b>CD</b>
							Prep: A4500-CN C-11 / 9/5/19
							Method: A4500-CN E-11
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0246	J	0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:23
							Analyst: <b>CD</b>
							Method: E350.1 R2.0

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-4  
**Collection Date:** 9/3/2019 08:47 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-20  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.90		0		mg/L	1	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.89		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	17.6		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:35
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:27
				Method: E350.1 R2.0			Analyst: CD

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



# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-5  
**Collection Date:** 9/3/2019 08:59 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-21  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.10		0		mg/L	1	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.03		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	17.9		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:38
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:31
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-6  
**Collection Date:** 9/3/2019 09:13 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-22  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.17		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	17.5		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:39
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.138		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:32
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-7  
**Collection Date:** 9/3/2019 09:34 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-23  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	7.60		0		mg/L	1	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.00		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.1		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:40
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:33
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-8  
**Collection Date:** 9/3/2019 10:11 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-24  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.96		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	17.8		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:42
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:34
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 06-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 000  
**Collection Date:** 9/3/2019 10:42 PM

**Work Order:** 19090073  
**Lab ID:** 19090073-25  
**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	9/3/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.83		0		s.u.	1	9/3/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.5		0		°C	1	9/3/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/5/2019 12:24
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.00200	0.00500	mg/L	1	9/5/2019 16:43
				Method: A4500-CN E-11	Prep: A4500-CN C-11 / 9/5/19		Analyst: CD
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.102		0.00980	0.0320	mg NH3-N/L	1	9/4/2019 14:35
				Method: E350.1 R2.0			Analyst: CD

**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:** 19090073

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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: 19090073

Project: Arcelor Mittal - Burns Harbor E.R.

Batch ID: **R269880c** Instrument ID **SKALAR1** Method: **Kelada-01**

<b>MBLK</b>	Sample ID: <b>MB-R269880-R269880c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 12:24 PM</b>			
Client ID:	Run ID: <b>SKALAR1_190905A</b>			SeqNo: <b>5896443</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-R269880-R269880c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 12:24 PM</b>			
Client ID:	Run ID: <b>SKALAR1_190905A</b>			SeqNo: <b>5896444</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 0.1054 0.0050 0.1 0 105 90-110 0

<b>MS</b>	Sample ID: <b>19090073-10C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 12:24 PM</b>			
Client ID: <b>OF001</b>	Run ID: <b>SKALAR1_190905A</b>			SeqNo: <b>5896429</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 0.0987 0.0050 0.1 -0.00181 101 90-110 0

<b>MS</b>	Sample ID: <b>19090073-21C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 12:24 PM</b>			
Client ID: <b>SL-5</b>	Run ID: <b>SKALAR1_190905A</b>			SeqNo: <b>5896446</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 -0.00161 106 90-110 0

<b>MSD</b>	Sample ID: <b>19090073-10C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 12:24 PM</b>			
Client ID: <b>OF001</b>	Run ID: <b>SKALAR1_190905A</b>			SeqNo: <b>5896430</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 0.09807 0.0050 0.1 -0.00181 99.9 90-110 0.0987 0.64 20

<b>MSD</b>	Sample ID: <b>19090073-21C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 12:24 PM</b>			
Client ID: <b>SL-5</b>	Run ID: <b>SKALAR1_190905A</b>			SeqNo: <b>5896447</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 0.1028 0.0050 0.1 -0.00161 104 90-110 0.1044 1.54 20

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



**Client:** ArcelorMittal USA LLC  
**Work Order:** 19090073  
**Project:** Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

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Batch ID: **R269880c**      Instrument ID **SKALAR1**      Method: **Kelada-01**

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

19090073-07C	19090073-08C	19090073-09C
19090073-10C	19090073-11C	19090073-12C
19090073-13C	19090073-14C	19090073-15C
19090073-16C	19090073-17C	19090073-18C
19090073-19C	19090073-20C	19090073-21C
19090073-22C	19090073-23C	19090073-24C
19090073-25C		

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090073  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269969** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK		Sample ID: <b>MB-R269969-R269969</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/6/2019 01:27 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190906B</b>				SeqNo: <b>5899307</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-R269969-R269969</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/6/2019 01:27 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190906B</b>				SeqNo: <b>5899308</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>19090073-02C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/6/2019 01:27 PM</b>		
Client ID: <b>14</b>		Run ID: <b>SKALAR1_190906B</b>				SeqNo: <b>5899311</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 0.1023 0.0050 0.1 -0.00034 103 90-110 0

MSD		Sample ID: <b>19090073-02C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/6/2019 01:27 PM</b>		
Client ID: <b>14</b>		Run ID: <b>SKALAR1_190906B</b>				SeqNo: <b>5899312</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 0.1027 0.0050 0.1 -0.00034 103 90-110 0.1023 0.42 20

The following samples were analyzed in this batch:

19090073-01C	19090073-02C	19090073-03C
19090073-04C	19090073-05C	19090073-06C

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

**Client:** ArcelorMittal USA LLC  
**Work Order:** 19090073  
**Project:** Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **142002**      Instrument ID **VAL-LACHAT**      Method: **A4500-CN E-11**

<b>MBLK</b>	Sample ID: <b>MBLK-142002-142002</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 04:05 PM</b>			
Client ID:	Run ID: <b>VAL-LACHAT_190905B</b>			SeqNo: <b>5897042</b>		Prep Date: <b>9/5/2019</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-142002-142002</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 04:07 PM</b>			
Client ID:	Run ID: <b>VAL-LACHAT_190905B</b>			SeqNo: <b>5897043</b>		Prep Date: <b>9/5/2019</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      0.104      0.0050      0.1      0      104      90-110      0

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

19090073-01B	19090073-02B	19090073-03B
19090073-04B	19090073-05B	19090073-06B
19090073-07B	19090073-08B	19090073-09B
19090073-10B	19090073-11B	19090073-12B
19090073-13B	19090073-14B	19090073-15B
19090073-16B	19090073-17B	19090073-18B
19090073-19B	19090073-20B	

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090073  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: 142004 Instrument ID VAL-LACHAT Method: A4500-CN E-11

<b>MBLK</b>	Sample ID: <b>MBLK-142004-142004</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 04:36 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190905B</b>		SeqNo: <b>5897069</b>		Prep Date: <b>9/5/2019</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-142004-142004</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 04:37 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190905B</b>		SeqNo: <b>5897070</b>		Prep Date: <b>9/5/2019</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 0.103 0.0050 0.1 0 103 90-110 0

<b>MS</b>	Sample ID: <b>19090105-05A MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 04:47 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190905B</b>		SeqNo: <b>5897079</b>		Prep Date: <b>9/5/2019</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 0.101 0.0050 0.1 0.0004685 101 70-130 0

<b>MSD</b>	Sample ID: <b>19090105-05A MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/5/2019 04:48 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190905B</b>		SeqNo: <b>5897080</b>		Prep Date: <b>9/5/2019</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 0.0965 0.0050 0.1 0.0004685 96 70-130 0.101 4.56 30

The following samples were analyzed in this batch:

19090073-21B	19090073-22B	19090073-23B
19090073-24B	19090073-25B	

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090073  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269801** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

<b>MBLK</b>	Sample ID: <b>MBLK-R269801</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 01:34 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893591</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

<b>MBLK</b>	Sample ID: <b>MBLK-R269801</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 02:10 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893621</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

<b>MBLK</b>	Sample ID: <b>MBLK-R269801</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 02:49 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893654</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

<b>LCS</b>	Sample ID: <b>LCS-R269801</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 01:35 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893592</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 0.381 0.032 0.4 0 95.2 90-110 0

<b>LCS</b>	Sample ID: <b>LCS-R269801</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 02:11 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893623</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 0.388 0.032 0.4 0 97 90-110 0

<b>LCS</b>	Sample ID: <b>LCS-R269801</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 02:50 PM</b>					
Client ID:	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893655</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 0.389 0.032 0.4 0 97.2 90-110 0

<b>MS</b>	Sample ID: <b>19090073-04A MS</b>		Units: <b>mg NH3-N/L</b>		Analysis Date: <b>9/4/2019 01:52 PM</b>					
Client ID: <b>6</b>	Run ID: <b>VAL-LACHAT_190904A</b>		SeqNo: <b>5893606</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 0.356 0.032 0.2 0.165 95.5 90-110 0

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090073  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269801** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MS		Sample ID: 19090073-09A MS				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:03 PM		
Client ID: 1		Run ID: VAL-LACHAT_190904A				SeqNo: 5893615		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 0.315 0.032 0.2 0.134 90.5 90-110 0

MS		Sample ID: 19090073-15A MS				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:17 PM		
Client ID: 12		Run ID: VAL-LACHAT_190904A				SeqNo: 5893628		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 0.272 0.032 0.2 0.118 77 90-110 0 S

MS		Sample ID: 19090073-19A MS				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:25 PM		
Client ID: SL-3		Run ID: VAL-LACHAT_190904A				SeqNo: 5893634		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 0.205 0.032 0.2 0.0246 90.2 90-110 0

MS		Sample ID: 19090103-09B MS				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:56 PM		
Client ID:		Run ID: VAL-LACHAT_190904A				SeqNo: 5893660		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 0.258 0.032 0.2 0.0773 90.4 90-110 0

MSD		Sample ID: 19090073-04A MSD				Units: mg NH3-N/L		Analysis Date: 9/4/2019 01:53 PM		
Client ID: 6		Run ID: VAL-LACHAT_190904A				SeqNo: 5893607		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 0.346 0.032 0.2 0.165 90.5 90-110 0.356 2.85 20

MSD		Sample ID: 19090073-09A MSD				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:04 PM		
Client ID: 1		Run ID: VAL-LACHAT_190904A				SeqNo: 5893616		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 0.312 0.032 0.2 0.134 89 90-110 0.315 0.957 20 S

MSD		Sample ID: 19090073-15A MSD				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:19 PM		
Client ID: 12		Run ID: VAL-LACHAT_190904A				SeqNo: 5893629		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 0.268 0.032 0.2 0.118 75 90-110 0.272 1.48 20 S

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090073  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R269801** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MSD		Sample ID: 19090073-19A MSD				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:26 PM		
Client ID: SL-3		Run ID: VAL-LACHAT_190904A				SeqNo: 5893635		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	0.206	0.032	0.2	0.0246	90.7	90-110	0.205	0.487	20	

MSD		Sample ID: 19090103-09B MSD				Units: mg NH3-N/L		Analysis Date: 9/4/2019 02:59 PM		
Client ID:		Run ID: VAL-LACHAT_190904A				SeqNo: 5893663		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	0.25	0.032	0.2	0.0773	86.4	90-110	0.258	3.15	20	S

The following samples were analyzed in this batch:

19090073-01A	19090073-02A	19090073-03A
19090073-04A	19090073-05A	19090073-06A
19090073-07A	19090073-08A	19090073-09A
19090073-10A	19090073-11A	19090073-12A
19090073-13A	19090073-14A	19090073-15A
19090073-16A	19090073-17A	19090073-18A
19090073-19A	19090073-20A	19090073-21A
19090073-22A	19090073-23A	19090073-24A
19090073-25A		

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



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# Chain of Custody Form

Page 1 of 3

Client Information		Project Information		ALS Project Manager: Amanda Gryzbowski		ALS Work Order #: 19090073									
Purchase Order	Project Name	Receiving Water Monitoring	Parameter/Method Request for Analysis												
Work Order	Project Number		A Ammonia												
Company Name	Company Name	ArcelorMittal (Burns Harbor)	B Total Cyanide												
Send Report To	Invoice Attn.	Accounts Payable	C Free Cyanide												
Address	Address	250 US 12	D pH (Field)												
City/State/Zip	City/State/Zip	Burns Harbor, IN 46304	E Temperature (Field)												
Phone	Phone	(219) 787-2120	F Dissolved Oxygen (Field)												
Fax	Fax														
e-Mail Address															
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
1		9/3/19	4:02 PM	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.53	23.3	6.9
2			4:13	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.80	23.2	7.5
3			4:22	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.69	22.6	7.3
4			4:31	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.71	22.1	7.2
5			4:42	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.87	20.7	6.7
6			4:57	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.90	20.9	7.4
7			5:08	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.65	21.2	7.1
8			5:16	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.78	20.9	7.8
9			5:29	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.89	20.5	4.6
10	OFO01		5:51	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.62	21.2	6.9

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	

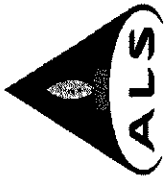
  

Relinquished by:	Date:	Time:	Received by:	Notes:
<i>[Signature]</i>	9-4-19	0730	<i>[Signature]</i>	Rec'd 9/5/19 0930 2222 HW 24.2
Relinquished by:	Date:	Time:	Received by (Laboratory):	QC Package: (Check Box Below)
<i>[Signature]</i>	9-4-19		A HULL	Level II: Standard QC <input type="checkbox"/>
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	Level III: Standard QC + Raw Data <input type="checkbox"/>
				Level IV: SW846 Methods/CLP <input type="checkbox"/>
				Other: <input type="checkbox"/>

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

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# Chain of Custody Form

Page 2 of 3

ALS Project Manager: Amanda Gryzbowski		ALS Work Order #: 19090073													
Parameter/Method Request for Analysis															
Project Information															
Purchase Order	Project Name	Receiving Water Monitoring	A Ammonia												
Work Order	Project Number		B Total Cyanide												
Company Name	ArcelorMittal (Burns Harbor)		C Free Cyanide												
Send Report To	Invoice Attn.	Accounts Payable	D pH (Field)												
Address	250 US 12		E Temperature (Field)												
City/State/Zip	Burns Harbor, IN 46304		F Dissolved Oxygen (Field)												
Phone	(219) 787-2120														
Fax															
e-Mail Address															
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
11		9/3/19	6:19 PM	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.74	22.3	6.8
12			6:29	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.75	22.6	7.8
13			6:40	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.73	22.5	6.8
14			6:51	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.69	22.9	7.2
15			7:03	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.84	20.9	7.4
16			7:15	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.53	18.5	7.6
17	SL-1		7:40	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.12	19.2	6.8
18	SL-2		8:20	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.31	18.9	7.1
19	SL-3		8:35	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	8.0	18.1	8.3
20	SL-4		8:47	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.89	17.6	7.9
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:		Results Due Date:									
Relinquished by:		Date:	Time:	Received by:		Time:		STANDARD 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> 24 Hour <input type="checkbox"/> Other <input type="checkbox"/>		Notes: Rec'd 9/5/19 0930 22L HW 2.4°C					
Relinquished by:		Date:	Time:	Received by (Laboratory):		Time:		Cooler Temp.		QC Package: (Check Box Below)					
Relinquished by:		Date:	Time:	Received by (Laboratory):		Time:		11		Level II: Standard QC <input type="checkbox"/>					
Relinquished by:		Date:	Time:	Checked by (Laboratory):		Time:				Level III: Standard QC + Raw Data <input type="checkbox"/>					
Relinquished by:		Date:	Time:	Checked by (Laboratory):		Time:				Level IV: SW846 Methods/CLP <input type="checkbox"/>					
Relinquished by:		Date:	Time:	Checked by (Laboratory):		Time:				Other: <input type="checkbox"/>					

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Sample Receipt Checklist

Client Name: **ARCELORMITTAL-BURNSHARBO**

Date/Time Received: **03-Sep-19 00:00**

Work Order: **19090073**

Received by: **JH**

Checklist completed by Diane Shaw 05-Sep-19  
eSignature Date

Reviewed by: Amanda Przybowski 05-Sep-19  
eSignature Date

Matrices: Aqueous

Carrier name: ALSHN

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>1.1</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>9/4/19 10:25</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:			

Login Notes: Holland - 2.4/2.4 c SR2

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: