



11-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: **19090440**

Dear Robert,

ALS Environmental received 25 samples on 09-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 45.

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:** 19090440

**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>
19090440-01	15	Aqueous		9/8/2019 09:03	9/9/2019 07:00	<input type="checkbox"/>
19090440-01	15	Aqueous		9/8/2019 09:03	9/9/2019 13:00	<input type="checkbox"/>
19090440-02	14	Aqueous		9/8/2019 09:15	9/9/2019 07:00	<input type="checkbox"/>
19090440-02	14	Aqueous		9/8/2019 09:15	9/9/2019 13:00	<input type="checkbox"/>
19090440-03	7	Aqueous		9/8/2019 09:27	9/9/2019 07:00	<input type="checkbox"/>
19090440-03	7	Aqueous		9/8/2019 09:27	9/9/2019 13:00	<input type="checkbox"/>
19090440-04	6	Aqueous		9/8/2019 09:38	9/9/2019 07:00	<input type="checkbox"/>
19090440-04	6	Aqueous		9/8/2019 09:38	9/9/2019 13:00	<input type="checkbox"/>
19090440-05	5	Aqueous		9/8/2019 09:50	9/9/2019 07:00	<input type="checkbox"/>
19090440-05	5	Aqueous		9/8/2019 09:50	9/9/2019 13:00	<input type="checkbox"/>
19090440-06	4	Aqueous		9/8/2019 10:01	9/9/2019 07:00	<input type="checkbox"/>
19090440-06	4	Aqueous		9/8/2019 10:01	9/9/2019 13:00	<input type="checkbox"/>
19090440-07	3	Aqueous		9/8/2019 10:10	9/9/2019 07:00	<input type="checkbox"/>
19090440-07	3	Aqueous		9/8/2019 10:10	9/9/2019 13:00	<input type="checkbox"/>
19090440-08	2	Aqueous		9/8/2019 10:18	9/9/2019 07:00	<input type="checkbox"/>
19090440-08	2	Aqueous		9/8/2019 10:18	9/9/2019 13:00	<input type="checkbox"/>
19090440-09	1	Aqueous		9/8/2019 10:28	9/9/2019 07:00	<input type="checkbox"/>
19090440-09	1	Aqueous		9/8/2019 10:28	9/9/2019 13:00	<input type="checkbox"/>
19090440-10	OF001	Aqueous		9/8/2019 10:47	9/9/2019 07:00	<input type="checkbox"/>
19090440-10	OF001	Aqueous		9/8/2019 10:47	9/9/2019 13:00	<input type="checkbox"/>
19090440-11	8	Aqueous		9/8/2019 11:16	9/9/2019 07:00	<input type="checkbox"/>
19090440-11	8	Aqueous		9/8/2019 11:16	9/9/2019 13:00	<input type="checkbox"/>
19090440-12	9	Aqueous		9/8/2019 11:24	9/9/2019 07:00	<input type="checkbox"/>
19090440-12	9	Aqueous		9/8/2019 11:24	9/9/2019 13:00	<input type="checkbox"/>
19090440-13	10	Aqueous		9/8/2019 11:35	9/9/2019 07:00	<input type="checkbox"/>
19090440-13	10	Aqueous		9/8/2019 11:35	9/9/2019 13:00	<input type="checkbox"/>
19090440-14	11	Aqueous		9/8/2019 11:48	9/9/2019 07:00	<input type="checkbox"/>
19090440-14	11	Aqueous		9/8/2019 11:48	9/9/2019 13:00	<input type="checkbox"/>
19090440-15	12	Aqueous		9/8/2019 12:00	9/9/2019 07:00	<input type="checkbox"/>
19090440-15	12	Aqueous		9/8/2019 12:00	9/9/2019 13:00	<input type="checkbox"/>
19090440-16	13	Aqueous		9/8/2019 12:20	9/9/2019 07:00	<input type="checkbox"/>
19090440-16	13	Aqueous		9/8/2019 12:20	9/9/2019 13:00	<input type="checkbox"/>
19090440-17	SL-1	Aqueous		9/8/2019 12:40	9/9/2019 07:00	<input type="checkbox"/>
19090440-17	SL-1	Aqueous		9/8/2019 12:40	9/9/2019 13:00	<input type="checkbox"/>
19090440-18	SL-2	Aqueous		9/8/2019 12:55	9/9/2019 07:00	<input type="checkbox"/>
19090440-18	SL-2	Aqueous		9/8/2019 12:55	9/9/2019 13:00	<input type="checkbox"/>
19090440-19	SL-3	Aqueous		9/8/2019 13:30	9/9/2019 07:00	<input type="checkbox"/>
19090440-19	SL-3	Aqueous		9/8/2019 13:30	9/9/2019 13:00	<input type="checkbox"/>
19090440-20	SL-4	Aqueous		9/8/2019 13:42	9/9/2019 07:00	<input type="checkbox"/>

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19090440

## 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>
19090440-20	SL-4	Aqueous		9/8/2019 13:42	9/9/2019 13:00	<input type="checkbox"/>
19090440-21	SL-5	Aqueous		9/8/2019 14:06	9/9/2019 07:00	<input type="checkbox"/>
19090440-21	SL-5	Aqueous		9/8/2019 14:06	9/9/2019 13:00	<input type="checkbox"/>
19090440-22	SL-6	Aqueous		9/8/2019 14:26	9/9/2019 07:00	<input type="checkbox"/>
19090440-22	SL-6	Aqueous		9/8/2019 14:26	9/9/2019 13:00	<input type="checkbox"/>
19090440-23	SL-7	Aqueous		9/8/2019 14:52	9/9/2019 07:00	<input type="checkbox"/>
19090440-23	SL-7	Aqueous		9/8/2019 14:52	9/9/2019 13:00	<input type="checkbox"/>
19090440-24	SL-8	Aqueous		9/8/2019 15:40	9/9/2019 07:00	<input type="checkbox"/>
19090440-24	SL-8	Aqueous		9/8/2019 15:40	9/9/2019 13:00	<input type="checkbox"/>
19090440-25	000	Aqueous		9/8/2019 16:17	9/9/2019 07:00	<input type="checkbox"/>
19090440-25	000	Aqueous		9/8/2019 16:17	9/9/2019 13:00	<input type="checkbox"/>

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**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Work Order:** 19090440

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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: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 15  
**Collection Date:** 9/8/2019 09:03 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-01  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.64		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.4		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.123		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:10
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 14  
**Collection Date:** 9/8/2019 09:15 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-02  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.50		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.65		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.4		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0881		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:12
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 7  
**Collection Date:** 9/8/2019 09:27 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-03  
**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	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.63		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.8		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0013	J	0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.148		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:15
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 6  
**Collection Date:** 9/8/2019 09:38 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-04  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.60		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.59		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.6		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0016	J	0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.175		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:16
			Method: E350.1 R2.0				Analyst: CD

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



# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 5  
**Collection Date:** 9/8/2019 09:50 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-05  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.50		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: <b>ALS</b>
<b>PH (FIELD)</b>							
pH (field)	7.67		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: <b>ALS</b>
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.8		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: <b>ALS</b>
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0017	J	0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: <b>JB</b>
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: <b>JB</b>
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.146		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:20
			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: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 4  
**Collection Date:** 9/8/2019 10:01 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-06  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.70		0		mg/L	1	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.70		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	20.7		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0016	J	0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.103		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:21
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

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

**Work Order:** 19090440  
**Lab ID:** 19090440-07  
**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)	9.00		0		mg/L	1	9/8/2019
<b>PH (FIELD)</b>							Analyst: <b>ALS</b>
pH (field)	7.73		0		s.u.	1	9/8/2019
<b>TEMPERATURE (FIELD)</b>							Analyst: <b>ALS</b>
Temperature (field)	21.1		0		°C	1	9/8/2019
<b>CYANIDE, TOTAL</b>							Analyst: <b>JB</b>
Cyanide, Total	0.0013	J	0.0012	0.0050	mg/L	1	9/10/2019 12:38
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							Analyst: <b>JB</b>
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/11/2019 09:51
<b>AMMONIA AS NITROGEN</b>							Analyst: <b>CD</b>
Ammonia as Nitrogen	0.0948		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:22

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 2  
**Collection Date:** 9/8/2019 10:18 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-08  
**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	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.77		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.1		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	0.0012	J	0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD		U	0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0988		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:24
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 1  
**Collection Date:** 9/8/2019 10:28 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-09  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.50		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.64		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	22.9		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.155		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:25
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** OF001  
**Collection Date:** 9/8/2019 10:47 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-10  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.80		0		mg/L	1	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.63		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	23.3		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.242		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:26
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 8  
**Collection Date:** 9/8/2019 11:16 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-11  
**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	9/8/2019
<b>PH (FIELD)</b>							
pH (field)	7.34		0		s.u.	1	9/8/2019
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.3		0		°C	1	9/8/2019
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.125		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:30

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 9  
**Collection Date:** 9/8/2019 11:24 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-12  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.26		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.3		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.144		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:36
				Method: E350.1 R2.0			Analyst: CD

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



# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 10  
**Collection Date:** 9/8/2019 11:35 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-13  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.37		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.5		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.116		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:37
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 11  
**Collection Date:** 9/8/2019 11:48 AM

**Work Order:** 19090440  
**Lab ID:** 19090440-14  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.52		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	23.8		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0534		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:38
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 12  
**Collection Date:** 9/8/2019 12:00 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-15  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.50		0		mg/L	1	9/8/2019
<b>PH (FIELD)</b>							
pH (field)	7.14		0		s.u.	1	9/8/2019
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.2		0		°C	1	9/8/2019
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0875		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:39

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 13  
**Collection Date:** 9/8/2019 12:20 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-16  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.35		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	21.1		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0876		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:41
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-1  
**Collection Date:** 9/8/2019 12:40 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-17  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.50		0		mg/L	1	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.63		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	19.2		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:44
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-2  
**Collection Date:** 9/8/2019 12:55 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-18  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.60		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.69		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	19.3		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:45
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-3  
**Collection Date:** 9/8/2019 01:30 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-19  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	9.20		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.84		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.4		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:47
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-4  
**Collection Date:** 9/8/2019 01:42 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-20  
**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	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.73		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.1		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0344		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:48
			Method: E350.1 R2.0				Analyst: CD

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



# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-5  
**Collection Date:** 9/8/2019 02:06 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-21  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.60		0		mg/L	1	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.63		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.5		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:49
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-6  
**Collection Date:** 9/8/2019 02:26 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-22  
**Matrix:** AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DISSOLVED OXYGEN (FIELD)</b>							
Dissolved Oxygen (field)	8.50		0		mg/L	1	9/8/2019
			Method: A4500-O G-11				Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.84		0		s.u.	1	9/8/2019
			Method: A4500-H B-11				Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.4		0		°C	1	9/8/2019
			Method: A2550 B-10				Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
			Method: KELADA-01				Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
			Method: KELADA-01				Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:50
			Method: E350.1 R2.0				Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-7  
**Collection Date:** 9/8/2019 02:52 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-23  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.85		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.3		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:51
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** SL-8  
**Collection Date:** 9/8/2019 03:40 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-24  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	8.02		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.3		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:53
				Method: E350.1 R2.0			Analyst: CD

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

# ALS Group, USA

Date: 11-Sep-19

**Client:** ArcelorMittal USA LLC  
**Project:** Arcelor Mittal - Burns Harbor E.R.  
**Sample ID:** 000  
**Collection Date:** 9/8/2019 04:17 PM

**Work Order:** 19090440  
**Lab ID:** 19090440-25  
**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	9/8/2019
				Method: A4500-O G-11			Analyst: ALS
<b>PH (FIELD)</b>							
pH (field)	7.69		0		s.u.	1	9/8/2019
				Method: A4500-H B-11			Analyst: ALS
<b>TEMPERATURE (FIELD)</b>							
Temperature (field)	18.1		0		°C	1	9/8/2019
				Method: A2550 B-10			Analyst: ALS
<b>CYANIDE, TOTAL</b>							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	9/10/2019 12:38
				Method: KELADA-01			Analyst: JB
<b>CYANIDE, WEAK ACID DISSOCIABLE</b>							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	9/11/2019 09:51
				Method: KELADA-01			Analyst: JB
<b>AMMONIA AS NITROGEN</b>							
Ammonia as Nitrogen	0.0666		0.00980	0.0320	mg NH3-N/L	1	9/9/2019 11:54
				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:** 19090440

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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: 19090440

Project: Arcelor Mittal - Burns Harbor E.R.

Batch ID: **R270193b** Instrument ID **SKALAR1** Method: **Kelada-01**

<b>MBLK</b>	Sample ID: <b>MB-R270193-R270193b</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>					
Client ID:	Run ID: <b>SKALAR1_190910A</b>		SeqNo: <b>5908304</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, Total U 0.0050

<b>LCS</b>	Sample ID: <b>LCS-R270193-R270193b</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>					
Client ID:	Run ID: <b>SKALAR1_190910A</b>		SeqNo: <b>5908305</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, Total 0.09559 0.0050 0.1 0 95.6 90-110 0

<b>MS</b>	Sample ID: <b>19090418-21B MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>					
Client ID:	Run ID: <b>SKALAR1_190910A</b>		SeqNo: <b>5908307</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, Total 0.1015 0.0050 0.1 0.00013 101 90-110 0

<b>MS</b>	Sample ID: <b>19090440-05B MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>					
Client ID: <b>5</b>	Run ID: <b>SKALAR1_190910A</b>		SeqNo: <b>5908320</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, Total 0.1053 0.0050 0.1 0.00174 104 90-110 0

<b>MSD</b>	Sample ID: <b>19090418-21B MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>					
Client ID:	Run ID: <b>SKALAR1_190910A</b>		SeqNo: <b>5908308</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, Total 0.1015 0.0050 0.1 0.00013 101 90-110 0.1015 0.0493 20

<b>MSD</b>	Sample ID: <b>19090440-05B MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>					
Client ID: <b>5</b>	Run ID: <b>SKALAR1_190910A</b>		SeqNo: <b>5908321</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, Total 0.1053 0.0050 0.1 0.00174 104 90-110 0.1053 0.0095 20

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



**Client:** ArcelorMittal USA LLC  
**Work Order:** 19090440  
**Project:** Arcelor Mittal - Burns Harbor E.R.

## QC BATCH REPORT

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Batch ID: **R270193b**      Instrument ID **SKALAR1**      Method: **Kelada-01**

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

19090440-01B	19090440-02B	19090440-03B
19090440-04B	19090440-05B	19090440-06B
19090440-07B	19090440-08B	19090440-09B
19090440-10B	19090440-11B	19090440-12B
19090440-13B	19090440-14B	19090440-15B

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090440  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270193c** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK		Sample ID: <b>MB-R270193-R270193c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908334</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, Total U 0.0050

LCS		Sample ID: <b>LCS-R270193-R270193c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908335</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, Total 0.1079 0.0050 0.1 0 108 90-110 0

MS		Sample ID: <b>19090440-17B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID: <b>SL-1</b>		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908340</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, Total 0.1052 0.0050 0.1 0.00021 105 90-110 0

MS		Sample ID: <b>19090503-01B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908354</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, Total 0.09416 0.0050 0.1 0.00049 93.7 90-110 0

MS		Sample ID: <b>19090503-07B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908364</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, Total 0.1054 0.0050 0.1 0.00054 105 90-110 0

MS		Sample ID: <b>19090503-13B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID:		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908374</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, Total 0.1017 0.0050 0.1 0.00077 101 90-110 0

MSD		Sample ID: <b>19090440-17B MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/10/2019 12:38 PM</b>		
Client ID: <b>SL-1</b>		Run ID: <b>SKALAR1_190910A</b>				SeqNo: <b>5908341</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, Total 0.1069 0.0050 0.1 0.00021 107 90-110 0.1052 1.59 20

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

**Client:** ArcelorMittal USA LLC  
**Work Order:** 19090440  
**Project:** Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270193c**      Instrument ID **SKALAR1**      Method: **Kelada-01**

MSD		Sample ID: 19090503-01B MSD				Units: mg/L		Analysis Date: 9/10/2019 12:38 PM		
Client ID:		Run ID: SKALAR1_190910A				SeqNo: 5908355		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	0.09509	0.0050	0.1	0.00049	94.6	90-110	0.09416	0.983	20	

MSD		Sample ID: 19090503-07B MSD				Units: mg/L		Analysis Date: 9/10/2019 12:38 PM		
Client ID:		Run ID: SKALAR1_190910A				SeqNo: 5908365		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	0.1053	0.0050	0.1	0.00054	105	90-110	0.1054	0.019	20	

MSD		Sample ID: 19090503-13B MSD				Units: mg/L		Analysis Date: 9/10/2019 12:38 PM		
Client ID:		Run ID: SKALAR1_190910A				SeqNo: 5908375		Prep Date:		DF: 1
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	0.00077	103	90-110	0.1017	2.28	20	

The following samples were analyzed in this batch:

19090440-16B	19090440-17B	19090440-18B
19090440-19B	19090440-20B	19090440-21B
19090440-22B	19090440-23B	19090440-24B
19090440-25B		

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090440  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270286b** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK		Sample ID: <b>MB-R270286-R270286b</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>				SeqNo: <b>5910731</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-R270286-R270286b</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>				SeqNo: <b>5910732</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 0.09775 0.0050 0.1 0 97.8 90-110 0

MS		Sample ID: <b>19090418-21C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>				SeqNo: <b>5910734</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 0.103 0.0050 0.1 -0.00085 104 90-110 0

MS		Sample ID: <b>19090440-05C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID: <b>5</b>		Run ID: <b>SKALAR1_190911A</b>				SeqNo: <b>5910779</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 0.1055 0.0050 0.1 -0.00021 106 90-110 0

MSD		Sample ID: <b>19090418-21C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>				SeqNo: <b>5910735</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 0.1042 0.0050 0.1 -0.00085 105 90-110 0.103 1.1 20

MSD		Sample ID: <b>19090440-05C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID: <b>5</b>		Run ID: <b>SKALAR1_190911A</b>				SeqNo: <b>5910780</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 0.1067 0.0050 0.1 -0.00021 107 90-110 0.1055 1.11 20

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

**Client:** ArcelorMittal USA LLC  
**Work Order:** 19090440  
**Project:** Arcelor Mittal - Burns Harbor E.R.

## QC BATCH REPORT

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Batch ID: **R270286b**      Instrument ID **SKALAR1**      Method: **Kelada-01**

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

19090440-01C	19090440-02C	19090440-03C
19090440-04C	19090440-05C	19090440-06C
19090440-07C	19090440-08C	19090440-09C
19090440-10C	19090440-11C	19090440-12C
19090440-13C	19090440-14C	19090440-15C

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090440  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270286c** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK		Sample ID: <b>MB-R270286-R270286c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>		SeqNo: <b>5910793</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-R270286-R270286c</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>		SeqNo: <b>5910794</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 0.1088 0.0050 0.1 0 109 90-110 0

MS		Sample ID: <b>19090440-17C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID: <b>SL-1</b>		Run ID: <b>SKALAR1_190911A</b>		SeqNo: <b>5910799</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 0.1079 0.0050 0.1 -0.00037 108 90-110 0

MS		Sample ID: <b>19090503-01C MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>		SeqNo: <b>5910812</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 0.09362 0.0050 0.1 -0.00089 94.5 90-110 0

MSD		Sample ID: <b>19090440-17C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID: <b>SL-1</b>		Run ID: <b>SKALAR1_190911A</b>		SeqNo: <b>5910800</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 0.1111 0.0050 0.1 -0.00037 112 90-110 0.1079 2.99 20 S

MSD		Sample ID: <b>19090503-01C MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/11/2019 09:51 AM</b>		
Client ID:		Run ID: <b>SKALAR1_190911A</b>		SeqNo: <b>5910813</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 0.09383 0.0050 0.1 -0.00089 94.7 90-110 0.09362 0.224 20

The following samples were analyzed in this batch:

19090440-16C	19090440-17C	19090440-18C
19090440-19C	19090440-20C	19090440-21C
19090440-22C	19090440-23C	19090440-24C
19090440-25C		

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090440  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270077** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MBLK		Sample ID: <b>MBLK-R270077</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 10:19 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903579</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-R270077</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 10:55 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903635</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-R270077</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 11:33 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903667</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-R270077</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 10:20 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903580</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

LCS		Sample ID: <b>LCS-R270077</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 10:56 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903636</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 0.391 0.032 0.4 0 97.8 90-110 0

LCS		Sample ID: <b>LCS-R270077</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 11:35 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903668</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

MS		Sample ID: <b>19090418-04A MS</b>			Units: <b>mg NH3-N/L</b>			Analysis Date: <b>9/9/2019 10:26 AM</b>		
Client ID:		Run ID: <b>VAL-LACHAT_190909A</b>			SeqNo: <b>5903611</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 0.337 0.032 0.2 0.158 89.5 90-110 0 S

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

Client: ArcelorMittal USA LLC  
 Work Order: 19090440  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270077** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MS		Sample ID: 19090418-10A MS				Units: mg NH3-N/L		Analysis Date: 9/9/2019 10:38 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903621		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 0.402 0.032 0.2 0.25 76 90-110 0 S

MS		Sample ID: 19090418-17A MS				Units: mg NH3-N/L		Analysis Date: 9/9/2019 10:51 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903632		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 0.0538 98.1 90-110 0

MS		Sample ID: 19090418-22A MS				Units: mg NH3-N/L		Analysis Date: 9/9/2019 11:04 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903643		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 0.202 0.032 0.2 0.0104 95.8 90-110 0

MS		Sample ID: 19090440-04A MS				Units: mg NH3-N/L		Analysis Date: 9/9/2019 11:18 AM		
Client ID: 6		Run ID: VAL-LACHAT_190909A				SeqNo: 5903654		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 0.338 0.032 0.2 0.175 81.5 90-110 0 S

MS		Sample ID: 19090440-11A MS				Units: mg NH3-N/L		Analysis Date: 9/9/2019 11:31 AM		
Client ID: 8		Run ID: VAL-LACHAT_190909A				SeqNo: 5903665		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 0.125 95 90-110 0

MSD		Sample ID: 19090418-04A MSD				Units: mg NH3-N/L		Analysis Date: 9/9/2019 10:27 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903612		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 0.337 0.032 0.2 0.158 89.5 90-110 0.337 0 20 S

MSD		Sample ID: 19090418-10A MSD				Units: mg NH3-N/L		Analysis Date: 9/9/2019 10:39 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903622		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 0.403 0.032 0.2 0.25 76.5 90-110 0.402 0.248 20 S

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



Client: ArcelorMittal USA LLC  
 Work Order: 19090440  
 Project: Arcelor Mittal - Burns Harbor E.R.

# QC BATCH REPORT

Batch ID: **R270077** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MSD		Sample ID: 19090418-17A MSD				Units: mg NH3-N/L		Analysis Date: 9/9/2019 10:52 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903633		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 0.245 0.032 0.2 0.0538 95.6 90-110 0.25 2.02 20

MSD		Sample ID: 19090418-22A MSD				Units: mg NH3-N/L		Analysis Date: 9/9/2019 11:06 AM		
Client ID:		Run ID: VAL-LACHAT_190909A				SeqNo: 5903644		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 0.201 0.032 0.2 0.0104 95.3 90-110 0.202 0.496 20

MSD		Sample ID: 19090440-04A MSD				Units: mg NH3-N/L		Analysis Date: 9/9/2019 11:19 AM		
Client ID: 6		Run ID: VAL-LACHAT_190909A				SeqNo: 5903655		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 0.34 0.032 0.2 0.175 82.5 90-110 0.338 0.59 20 S

MSD		Sample ID: 19090440-11A MSD				Units: mg NH3-N/L		Analysis Date: 9/9/2019 11:32 AM		
Client ID: 8		Run ID: VAL-LACHAT_190909A				SeqNo: 5903666		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 0.309 0.032 0.2 0.125 92 90-110 0.315 1.92 20

The following samples were analyzed in this batch:

19090440-01A	19090440-02A	19090440-03A
19090440-04A	19090440-05A	19090440-06A
19090440-07A	19090440-08A	19090440-09A
19090440-10A	19090440-11A	19090440-12A
19090440-13A	19090440-14A	19090440-15A
19090440-16A	19090440-17A	19090440-18A
19090440-19A	19090440-20A	19090440-21A
19090440-22A	19090440-23A	19090440-24A
19090440-25A		

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:		ALS Work Order #:	
Purchase Order		Project Name	Receiving Water Monitoring	Amanda Gryzbowski		19090440	Parameter/Method Request for Analysis
Work Order		Project Number					
Company Name	ArcelorMittal (Burns Harbor)	Company Name	ArcelorMittal (Burns Harbor)				
Send Report To		Invoice Attn.	Accounts Payable				
Address	250 US 12	Address	250 US 12				
City/State/Zip	Burns Harbor, IN 46304	City/State/Zip	Burns Harbor, IN 46304				
Phone	(219) 787-2120	Phone	(219) 787-2120				
Fax		Fax					
e-Mail Address							

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
1		9/8/19	9:03	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.64	21.4	7.8
2		9/8/19	9:15	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.65	21.4	8.5
3		9/8/19	9:27	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.63	21.8	8.2
4		9/8/19	9:38	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.59	21.6	8.6
5		9/8/19	9:50	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.67	20.8	8.5
6		9/8/19	10:01	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.70	20.7	8.7
7		9/8/19	10:10	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.73	21.1	9
8		9/8/19	10:18	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.77	21.1	8.1
9		9/8/19	10:28	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.64	22.9	8.3
10	OFO01	9/18/19	10:47	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.63	23.3	8.8

Sampler(s): Please Print & Sign	Shipment Method:	Required Turnaround Time:	Results Due Date:
Michael Hual		5 WK Days <input type="checkbox"/> 24 Hour <input type="checkbox"/>	
Received by:	Received by (Laboratory):	Checked by (Laboratory):	Notes:
B. Dwe			Rec'd 9/19/19 1300 22.8 L
Relinquished by:	Date:	Time:	QC Package: (Check Box Below)
B. Dwe	9/8/19	4:22	Level II: Standard QC <input type="checkbox"/>
Logged by (Laboratory):	Date:	Time:	Level III: Standard QC + Raw Data <input type="checkbox"/>
	9-9-19	0100	Level IV: SW846 Methods/CLP <input type="checkbox"/>
			Other: <input type="checkbox"/>

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# Chain of Custody Form

Page 2 of 3



ALS Project Manager: Amanda Gryzbowski		ALS Work Order #: 19090440	
Project Information		Parameter/Method Request for Analysis	
Purchase Order	Project Name	A Ammonia	
Work Order	Project Number	B Total Cyanide	
Company Name	Company Name	C Free Cyanide	
Send Report To	Invoice Attn.	D pH (Field)	
Address	Address	E Temperature (Field)	
City/State/Zip	City/State/Zip	F Dissolved Oxygen (Field)	
Phone	Phone		
Fax	Fax		
e-Mail Address	Fax		

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	pH	Temp. °C	DO
11		9/8/19	11:12	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.34	21.3	7.7
12			11:24	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.26	21.3	7.8
13			11:35	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.37	21.6	8.3
14			11:48	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.52	23.8	8.1
15			12:00	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.14	21.2	8.5
16			12:10	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.35	21.1	8.3
17	SL-1		12:40	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.63	17.2	8.5
18	SL-2		12:55	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.69	19.3	8.6
19	SL-3		1:30	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.84	18.4	9.2
20	SL-4		1:42	Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X	X	X	X	X	X	7.73	18.1	8.1

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: <i>Michael (initials)</i>	Received by:	Notes: Rec'd 9/19/19 1300 272L	
Date: 9/8	Time: 4:22		
Relinquished by: <i>[Signature]</i>	Received by (Laboratory):	QC Package: (Check Box Below)	
Date: 9-9-19	Time: 0700	Level II: Standard QC	
Logged by (Laboratory):	Checked by (Laboratory):	Level III: Standard QC + Raw Data	X
		Level IV: SW846 Methods/CLP	
		Other:	

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# Chain of Custody Form

Page 3 of 3

ALS Project Manager: Amanda Gryzbowski		ALS Work Order #: 19090440	
Parameter/Method Request for Analysis			
Project Information		A Ammonia	
Project Name: Receiving Water Monitoring		B Total Cyanide	
Project Number:		C Free Cyanide	
Company Name: ArcelorMittal (Burns Harbor)		D pH (Field)	
Invoice Attn: Accounts Payable		E Temperature (Field)	
250 US 12		F Dissolved Oxygen (Field)	
Address:			
City/State/Zip: Burns Harbor, IN 46304			
Phone: (219) 787-2120			
Fax:			
e-Mail Address:			
Client Information			
Purchase Order	Project Name	Project Number	Project Date
Work Order	Receiving Water Monitoring		
Company Name: ArcelorMittal (Burns Harbor)	Company Name: ArcelorMittal (Burns Harbor)	Invoice Attn: Accounts Payable	250 US 12
Send Report To	Address:	City/State/Zip: Burns Harbor, IN 46304	Phone: (219) 787-2120
Address:	250 US 12		
City/State/Zip: Burns Harbor, IN 46304			
Phone: (219) 787-2120			
Fax:			
e-Mail Address:			
No.	Sample Description	Date	Time
21	SL-5	9/8/19	2:06
22	SL-6		2:26
23	SL-7		2:58
24	SL-8		3:40
25	OOO	9/8/19	4:17
26			
27			
28			
29			
30			
Matrix	Pres.	# Bottles	A B C D E F
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Water	H <sub>2</sub> SO <sub>4</sub> , NaOH	2	X X X X X X
Temp. °C	pH	DO	
18.5	7.63	8.6	
18.4	7.84	8.5	
18.3	7.85	8.3	
18.3	8.02	7.9	
19.1	7.69	7.8	
Sampler(s): Please Print & Sign			
Relinquished by: M. ...		Date: 9/8	
Time: 4:22		Time: 4:22	
Relinquished by: ...		Date: 9-9-19	
Time: 6:00		Time: 6:00	
Logged by (Laboratory):		Date:	
Time:		Time:	
Received by:		Time:	
Received by (Laboratory):		Time:	
Checked by (Laboratory):		Time:	
Notes: Recd 9/9/19 300 2220		QC Package: (Check Box Below)	
Level II: Standard QC		<input checked="" type="checkbox"/>	
Level III: Standard QC + Raw Data		<input type="checkbox"/>	
Level IV: SW846 Methods/CLP		<input type="checkbox"/>	
Other:		<input type="checkbox"/>	
Cooler Temp. 1.8		Results Due Date:	
Required Turnaround Time: <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Shipment Method:	
STANDARD 10 WK Days <input type="checkbox"/> Other		Results Due Date:	

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Sample Receipt Checklist

Client Name: **ARCELORMITTAL-BURNSHARBO**

Date/Time Received: **09-Sep-19 00:00**

Work Order: **19090440**

Received by: **CD**

Checklist completed by Diane Shaw 09-Sep-19  
eSignature Date

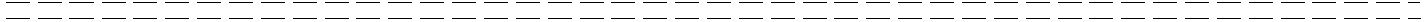
Reviewed by: Amanda Przybowski 09-Sep-19  
eSignature Date

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):	<input type="text" value="1.6"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="9/9/19 07:00"/>		
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 checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes: Holland - 2.2/2.2 c SR2



Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

CorrectiveAction: