



02-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: **19082180**

Dear Robert,

ALS Environmental received 25 samples on 30-Aug-2019 for the analyses presented in the following report.

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

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

The total number of pages in this report is 43.

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

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

Sincerely,

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

Electronically approved by: Amanda Grzybowski

Amanda Grzybowski
Project Manager

Report of Laboratory Analysis

Certificate No: VL: E871119

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Work Order: 19082180

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>
19082180-01	15	Aqueous		8/30/2019 11:53	8/30/2019 19:10	<input type="checkbox"/>
19082180-01	15	Aqueous		8/30/2019 11:53	8/31/2019 11:30	<input type="checkbox"/>
19082180-02	14	Aqueous		8/30/2019 12:02	8/30/2019 19:10	<input type="checkbox"/>
19082180-02	14	Aqueous		8/30/2019 12:02	8/31/2019 11:30	<input type="checkbox"/>
19082180-03	7	Aqueous		8/30/2019 12:10	8/30/2019 19:10	<input type="checkbox"/>
19082180-03	7	Aqueous		8/30/2019 12:10	8/31/2019 11:30	<input type="checkbox"/>
19082180-04	6	Aqueous		8/30/2019 12:17	8/30/2019 19:10	<input type="checkbox"/>
19082180-04	6	Aqueous		8/30/2019 12:17	8/31/2019 11:30	<input type="checkbox"/>
19082180-05	5	Aqueous		8/30/2019 12:23	8/30/2019 19:10	<input type="checkbox"/>
19082180-05	5	Aqueous		8/30/2019 12:23	8/31/2019 11:30	<input type="checkbox"/>
19082180-06	4	Aqueous		8/30/2019 12:30	8/30/2019 19:10	<input type="checkbox"/>
19082180-06	4	Aqueous		8/30/2019 12:30	8/31/2019 11:30	<input type="checkbox"/>
19082180-07	3	Aqueous		8/30/2019 12:40	8/30/2019 19:10	<input type="checkbox"/>
19082180-07	3	Aqueous		8/30/2019 12:40	8/31/2019 11:30	<input type="checkbox"/>
19082180-08	2	Aqueous		8/30/2019 12:49	8/30/2019 19:10	<input type="checkbox"/>
19082180-08	2	Aqueous		8/30/2019 12:49	8/31/2019 11:30	<input type="checkbox"/>
19082180-09	1	Aqueous		8/30/2019 12:58	8/30/2019 19:10	<input type="checkbox"/>
19082180-09	1	Aqueous		8/30/2019 12:58	8/31/2019 11:30	<input type="checkbox"/>
19082180-10	OF001	Aqueous		8/30/2019 13:20	8/30/2019 19:10	<input type="checkbox"/>
19082180-10	OF001	Aqueous		8/30/2019 13:20	8/31/2019 11:30	<input type="checkbox"/>
19082180-11	8	Aqueous		8/30/2019 13:45	8/30/2019 19:10	<input type="checkbox"/>
19082180-11	8	Aqueous		8/30/2019 13:45	8/31/2019 11:30	<input type="checkbox"/>
19082180-12	9	Aqueous		8/30/2019 14:00	8/30/2019 19:10	<input type="checkbox"/>
19082180-12	9	Aqueous		8/30/2019 14:00	8/31/2019 11:30	<input type="checkbox"/>
19082180-13	10	Aqueous		8/30/2019 14:09	8/30/2019 19:10	<input type="checkbox"/>
19082180-13	10	Aqueous		8/30/2019 14:09	8/31/2019 11:30	<input type="checkbox"/>
19082180-14	11	Aqueous		8/30/2019 14:16	8/30/2019 19:10	<input type="checkbox"/>
19082180-14	11	Aqueous		8/30/2019 14:16	8/31/2019 11:30	<input type="checkbox"/>
19082180-15	12	Aqueous		8/30/2019 14:25	8/30/2019 19:10	<input type="checkbox"/>
19082180-15	12	Aqueous		8/30/2019 14:25	8/31/2019 11:30	<input type="checkbox"/>
19082180-16	13	Aqueous		8/30/2019 14:35	8/30/2019 19:10	<input type="checkbox"/>
19082180-16	13	Aqueous		8/30/2019 14:35	8/31/2019 11:30	<input type="checkbox"/>
19082180-17	SL-1	Aqueous		8/30/2019 14:50	8/30/2019 19:10	<input type="checkbox"/>
19082180-17	SL-1	Aqueous		8/30/2019 14:50	8/31/2019 11:30	<input type="checkbox"/>
19082180-18	SL-2	Aqueous		8/30/2019 15:12	8/30/2019 19:10	<input type="checkbox"/>
19082180-18	SL-2	Aqueous		8/30/2019 15:12	8/31/2019 11:30	<input type="checkbox"/>
19082180-19	SL-3	Aqueous		8/30/2019 15:25	8/30/2019 19:10	<input type="checkbox"/>
19082180-19	SL-3	Aqueous		8/30/2019 15:25	8/31/2019 11:30	<input type="checkbox"/>
19082180-20	SL-4	Aqueous		8/30/2019 15:36	8/30/2019 19:10	<input type="checkbox"/>

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Work Order: 19082180

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>
19082180-20	SL-4	Aqueous		8/30/2019 15:36	8/31/2019 11:30	<input type="checkbox"/>
19082180-21	SL-5	Aqueous		8/30/2019 15:45	8/30/2019 19:10	<input type="checkbox"/>
19082180-21	SL-5	Aqueous		8/30/2019 15:45	8/31/2019 11:30	<input type="checkbox"/>
19082180-22	SL-6	Aqueous		8/30/2019 15:59	8/30/2019 19:10	<input type="checkbox"/>
19082180-22	SL-6	Aqueous		8/30/2019 15:59	8/31/2019 11:30	<input type="checkbox"/>
19082180-23	SL-7	Aqueous		8/30/2019 16:24	8/30/2019 19:10	<input type="checkbox"/>
19082180-23	SL-7	Aqueous		8/30/2019 16:24	8/31/2019 11:30	<input type="checkbox"/>
19082180-24	SL-8	Aqueous		8/30/2019 16:45	8/30/2019 19:10	<input type="checkbox"/>
19082180-24	SL-8	Aqueous		8/30/2019 16:45	8/31/2019 11:30	<input type="checkbox"/>
19082180-25	000	Aqueous		8/30/2019 17:35	8/30/2019 19:10	<input type="checkbox"/>
19082180-25	000	Aqueous		8/30/2019 17:35	8/31/2019 11:30	<input type="checkbox"/>

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Work Order: 19082180

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: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 15
Collection Date: 8/30/2019 11:53 AM

Work Order: 19082180
Lab ID: 19082180-01
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.00		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.74		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	24.6		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.106		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:23

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 14
Collection Date: 8/30/2019 12:02 PM

Work Order: 19082180
Lab ID: 19082180-02
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.10		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.61		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	24.4		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.120		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:27

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 7
Collection Date: 8/30/2019 12:10 PM

Work Order: 19082180
Lab ID: 19082180-03
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.80		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.56		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	24.7		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.186		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:28
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 6
Collection Date: 8/30/2019 12:17 PM

Work Order: 19082180
Lab ID: 19082180-04
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.60		0		mg/L	1	8/30/2019
			Method: A4500-O G-11				Analyst: ALS
PH (FIELD)							
pH (field)	7.60		0		s.u.	1	8/30/2019
			Method: A4500-H B-11				Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	23.9		0		°C	1	8/30/2019
			Method: A2550 B-10				Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
			Method: KELADA-01				Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
			Method: KELADA-01				Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.188		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:29
			Method: E350.1 R2.0				Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 5
Collection Date: 8/30/2019 12:23 PM

Work Order: 19082180
Lab ID: 19082180-05
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.30		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.66		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	25.1		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.194		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:33

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 4
Collection Date: 8/30/2019 12:30 PM

Work Order: 19082180
Lab ID: 19082180-06
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.30		0		mg/L	1	8/30/2019
			Method: A4500-O G-11				Analyst: ALS
PH (FIELD)							
pH (field)	7.68		0		s.u.	1	8/30/2019
			Method: A4500-H B-11				Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	25.2		0		°C	1	8/30/2019
			Method: A2550 B-10				Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
			Method: KELADA-01				Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
			Method: KELADA-01				Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.200		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:36
			Method: E350.1 R2.0				Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 3
Collection Date: 8/30/2019 12:40 PM

Work Order: 19082180
Lab ID: 19082180-07
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.20		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.76		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	25.7		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.213		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:37

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 2
Collection Date: 8/30/2019 12:49 PM

Work Order: 19082180
Lab ID: 19082180-08
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.60		0		mg/L	1	8/30/2019
			Method: A4500-O G-11				Analyst: ALS
PH (FIELD)							
pH (field)	7.77		0		s.u.	1	8/30/2019
			Method: A4500-H B-11				Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	25.5		0		°C	1	8/30/2019
			Method: A2550 B-10				Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
			Method: KELADA-01				Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
			Method: KELADA-01				Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.222		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:39
			Method: E350.1 R2.0				Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 1
Collection Date: 8/30/2019 12:58 PM

Work Order: 19082180
Lab ID: 19082180-09
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.10		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.83		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	26.7		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.270		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:40

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: OF001
Collection Date: 8/30/2019 01:20 PM

Work Order: 19082180
Lab ID: 19082180-10
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.30		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.81		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	27.6		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.345		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:43
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 8
Collection Date: 8/30/2019 01:45 PM

Work Order: 19082180
Lab ID: 19082180-11
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	5.40		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.75		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	24.1		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.128		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:47

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 9
Collection Date: 8/30/2019 02:00 PM

Work Order: 19082180
Lab ID: 19082180-12
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.00		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.79		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	24.1		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.113		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:51
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 10
Collection Date: 8/30/2019 02:09 PM

Work Order: 19082180
Lab ID: 19082180-13
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.80		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.81		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	24.3		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0962		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:52
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 11
Collection Date: 8/30/2019 02:16 PM

Work Order: 19082180
Lab ID: 19082180-14
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.40		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.89		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	24.6		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0663		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:53
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 12
Collection Date: 8/30/2019 02:25 PM

Work Order: 19082180
Lab ID: 19082180-15
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.60		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.76		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	21.6		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0631		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:54
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 13
Collection Date: 8/30/2019 02:35 PM

Work Order: 19082180
Lab ID: 19082180-16
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.80		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.91		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	21.1		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0703		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:55

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-1
Collection Date: 8/30/2019 02:50 PM

Work Order: 19082180
Lab ID: 19082180-17
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.70		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	7.20		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	20.1		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0628		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:57

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-2
Collection Date: 8/30/2019 03:12 PM

Work Order: 19082180
Lab ID: 19082180-18
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.90		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	8.09		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	22.7		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0623		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 20:58

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-3
Collection Date: 8/30/2019 03:25 PM

Work Order: 19082180
Lab ID: 19082180-19
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	7.60		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	8.11		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	21.1		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0474		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:02
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-4
Collection Date: 8/30/2019 03:36 PM

Work Order: 19082180
Lab ID: 19082180-20
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	7.30		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	8.12		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	22.3		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0413		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:05
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-5
Collection Date: 8/30/2019 03:45 PM

Work Order: 19082180
Lab ID: 19082180-21
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	8.00		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	8.12		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	21.6		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0438		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:06

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-6
Collection Date: 8/30/2019 03:59 PM

Work Order: 19082180
Lab ID: 19082180-22
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	7.90		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	8.09		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	21.9		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0236	J	0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:08
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-7
Collection Date: 8/30/2019 04:24 PM

Work Order: 19082180
Lab ID: 19082180-23
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.20		0		mg/L	1	8/30/2019
PH (FIELD)							
pH (field)	8.02		0		s.u.	1	8/30/2019
TEMPERATURE (FIELD)							
Temperature (field)	22.7		0		°C	1	8/30/2019
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:09

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: SL-8
Collection Date: 8/30/2019 04:45 PM

Work Order: 19082180
Lab ID: 19082180-24
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	7.50		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.91		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	20.5		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	U		0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:10
				Method: E350.1 R2.0			Analyst: CD

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

ALS Group, USA

Date: 02-Sep-19

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
Sample ID: 000
Collection Date: 8/30/2019 05:35 PM

Work Order: 19082180
Lab ID: 19082180-25
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED OXYGEN (FIELD)							
Dissolved Oxygen (field)	6.60		0		mg/L	1	8/30/2019
				Method: A4500-O G-11			Analyst: ALS
PH (FIELD)							
pH (field)	7.87		0		s.u.	1	8/30/2019
				Method: A4500-H B-11			Analyst: ALS
TEMPERATURE (FIELD)							
Temperature (field)	20.4		0		°C	1	8/30/2019
				Method: A2550 B-10			Analyst: ALS
CYANIDE, TOTAL							
Cyanide, Total	U		0.0012	0.0050	mg/L	1	8/31/2019 14:12
				Method: KELADA-01			Analyst: JB
CYANIDE, WAD							
Cyanide, WAD	U		0.0011	0.0050	mg/L	1	8/31/2019 19:05
				Method: KELADA-01			Analyst: JB
AMMONIA AS NITROGEN							
Ammonia as Nitrogen	0.0166	J	0.00980	0.0320	mg NH3-N/L	1	8/30/2019 21:11
				Method: E350.1 R2.0			Analyst: CD

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

Client: ArcelorMittal USA LLC
Project: Arcelor Mittal - Burns Harbor E.R.
WorkOrder: 19082180

**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: 19082180

Project: Arcelor Mittal - Burns Harbor E.R.

Batch ID: **R269592a** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK	Sample ID: MBLK-R269592a		Units: mg/L		Analysis Date: 8/31/2019 02:12 PM					
Client ID:	Run ID: SKALAR1_190831A		SeqNo: 5886941		Prep Date:		DF: 1			
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: LCS-R269592a		Units: mg/L		Analysis Date: 8/31/2019 02:12 PM					
Client ID:	Run ID: SKALAR1_190831A		SeqNo: 5886942		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.1006 0.0050 0.1 0 101 90-110 0

MS	Sample ID: 19082180-01B MS		Units: mg/L		Analysis Date: 8/31/2019 02:12 PM					
Client ID: 15	Run ID: SKALAR1_190831A		SeqNo: 5886944		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.1019 0.0050 0.1 -0.00089 103 90-110 0

MS	Sample ID: 19082180-10B MS		Units: mg/L		Analysis Date: 8/31/2019 02:12 PM					
Client ID: OF001	Run ID: SKALAR1_190831A		SeqNo: 5886957		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.1009 0.0050 0.1 -0.00034 101 90-110 0

MSD	Sample ID: 19082180-01B MSD		Units: mg/L		Analysis Date: 8/31/2019 02:12 PM					
Client ID: 15	Run ID: SKALAR1_190831A		SeqNo: 5886945		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.1037 0.0050 0.1 -0.00089 105 90-110 0.1019 1.8 20

MSD	Sample ID: 19082180-10B MSD		Units: mg/L		Analysis Date: 8/31/2019 02:12 PM					
Client ID: OF001	Run ID: SKALAR1_190831A		SeqNo: 5886958		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.101 0.0050 0.1 -0.00034 101 90-110 0.1009 0.149 20

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

Client: ArcelorMittal USA LLC
Work Order: 19082180
Project: Arcelor Mittal - Burns Harbor E.R.

QC BATCH REPORT

Batch ID: **R269592a** Instrument ID **SKALAR1** Method: **Kelada-01**

The following samples were analyzed in this batch:

19082180-01B	19082180-02B	19082180-03B
19082180-04B	19082180-05B	19082180-06B
19082180-07B	19082180-08B	19082180-09B
19082180-10B	19082180-11B	19082180-12B
19082180-13B	19082180-14B	19082180-15B
19082180-16B	19082180-17B	19082180-18B
19082180-19B	19082180-20B	

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

Client: ArcelorMittal USA LLC
 Work Order: 19082180
 Project: Arcelor Mittal - Burns Harbor E.R.

QC BATCH REPORT

Batch ID: **R269592b** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK		Sample ID: MBLK-R269592b				Units: mg/L		Analysis Date: 8/31/2019 02:12 PM		
Client ID:		Run ID: SKALAR1_190831A				SeqNo: 5886973		Prep Date:		DF: 1
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: LCS-R269592b				Units: mg/L		Analysis Date: 8/31/2019 02:12 PM		
Client ID:		Run ID: SKALAR1_190831A				SeqNo: 5886974		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.09998 0.0050 0.1 0 100 90-110 0

MS		Sample ID: 19082180-21B MS				Units: mg/L		Analysis Date: 8/31/2019 02:12 PM		
Client ID: SL-5		Run ID: SKALAR1_190831A				SeqNo: 5886976		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.09998 0.0050 0.1 -0.00147 101 90-110 0

MSD		Sample ID: 19082180-21B MSD				Units: mg/L		Analysis Date: 8/31/2019 02:12 PM		
Client ID: SL-5		Run ID: SKALAR1_190831A				SeqNo: 5886977		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.1002 0.0050 0.1 -0.00147 102 90-110 0.09998 0.22 20

The following samples were analyzed in this batch:

19082180-21B	19082180-22B	19082180-23B
19082180-24B	19082180-25B	

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

Client: ArcelorMittal USA LLC
Work Order: 19082180
Project: Arcelor Mittal - Burns Harbor E.R.

QC BATCH REPORT

Batch ID: **R269598a** Instrument ID **SKALAR1** Method: **Kelada-01**

MBLK	Sample ID: MB-R269598-R269598a		Units: mg/L		Analysis Date: 8/31/2019 07:05 PM					
Client ID:	Run ID: SKALAR1_190831B		SeqNo: 5887027		Prep Date:					
					DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, WAD U 0.0050

The following samples were analyzed in this batch:

19082180-01C	19082180-02C	19082180-03C
19082180-04C	19082180-05C	19082180-06C
19082180-07C	19082180-08C	19082180-09C
19082180-10C	19082180-11C	19082180-12C
19082180-13C	19082180-14C	19082180-15C
19082180-16C	19082180-17C	19082180-18C
19082180-19C	19082180-20C	

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

Client: ArcelorMittal USA LLC
 Work Order: 19082180
 Project: Arcelor Mittal - Burns Harbor E.R.

QC BATCH REPORT

Batch ID: **R269583** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MBLK	Sample ID: MBLK-R269583		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:05 PM					
Client ID:	Run ID: VAL-LACHAT_190830C		SeqNo: 5886654		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 U 0.032

MBLK	Sample ID: MBLK-R269583		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:41 PM					
Client ID:	Run ID: VAL-LACHAT_190830C		SeqNo: 5886684		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 U 0.032

LCS	Sample ID: LCS-R269583		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:06 PM					
Client ID:	Run ID: VAL-LACHAT_190830C		SeqNo: 5886655		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 0.421 0.032 0.4 0 105 90-110 0

LCS	Sample ID: LCS-R269583		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:42 PM					
Client ID:	Run ID: VAL-LACHAT_190830C		SeqNo: 5886685		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 0.419 0.032 0.4 0 105 90-110 0

MS	Sample ID: 19082180-01A MS		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:24 PM					
Client ID: 15	Run ID: VAL-LACHAT_190830C		SeqNo: 5886670		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 0.298 0.032 0.2 0.106 96 90-110 0

MS	Sample ID: 19082180-05A MS		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:34 PM					
Client ID: 5	Run ID: VAL-LACHAT_190830C		SeqNo: 5886678		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 0.359 0.032 0.2 0.194 82.5 90-110 0 S

MS	Sample ID: 19082180-11A MS		Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:48 PM					
Client ID: 8	Run ID: VAL-LACHAT_190830C		SeqNo: 5886690		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 0.295 0.032 0.2 0.128 83.5 90-110 0 S

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

Client: ArcelorMittal USA LLC
 Work Order: 19082180
 Project: Arcelor Mittal - Burns Harbor E.R.

QC BATCH REPORT

Batch ID: **R269583** Instrument ID **VAL-LACHAT** Method: **E350.1 R2.0**

MS		Sample ID: 19082180-19A MS				Units: mg NH3-N/L		Analysis Date: 8/30/2019 09:03 PM		
Client ID: SL-3		Run ID: VAL-LACHAT_190830C				SeqNo: 5886702		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	0.235	0.032	0.2	0.0474	93.8	90-110		0		
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MSD		Sample ID: 19082180-01A MSD				Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:25 PM		
Client ID: 15		Run ID: VAL-LACHAT_190830C				SeqNo: 5886671		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	0.299	0.032	0.2	0.106	96.5	90-110	0.298	0.335	20	
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MSD		Sample ID: 19082180-05A MSD				Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:35 PM		
Client ID: 5		Run ID: VAL-LACHAT_190830C				SeqNo: 5886679		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	0.357	0.032	0.2	0.194	81.5	90-110	0.359	0.559	20	S
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MSD		Sample ID: 19082180-11A MSD				Units: mg NH3-N/L		Analysis Date: 8/30/2019 08:49 PM		
Client ID: 8		Run ID: VAL-LACHAT_190830C				SeqNo: 5886691		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	0.295	0.032	0.2	0.128	83.5	90-110	0.295	0	20	S
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MSD		Sample ID: 19082180-19A MSD				Units: mg NH3-N/L		Analysis Date: 8/30/2019 09:04 PM		
Client ID: SL-3		Run ID: VAL-LACHAT_190830C				SeqNo: 5886703		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	0.216	0.032	0.2	0.0474	84.3	90-110	0.235	8.43	20	S
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The following samples were analyzed in this batch:

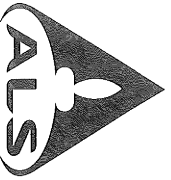
19082180-01A	19082180-02A	19082180-03A
19082180-04A	19082180-05A	19082180-06A
19082180-07A	19082180-08A	19082180-09A
19082180-10A	19082180-11A	19082180-12A
19082180-13A	19082180-14A	19082180-15A
19082180-16A	19082180-17A	19082180-18A
19082180-19A	19082180-20A	19082180-21A
19082180-22A	19082180-23A	19082180-24A
19082180-25A		

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

Client: ArcelorMittal USA LLC
Work Order: 19082180
Project: Arcelor Mittal - Burns Harbor E.R.

QC BATCH REPORT

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



Cincinnati, OH
+1 513 733 5336
Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511
Holland, MI
+1 616 399 6070

Chain of Custody Form

Houston, TX
+1 281 530 5656
Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903
Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168
York, PA
+1 717 505 5280

Page 1 of 3

COC ID: 41593

Customer Information

Project Information

ALS Project Manager:

ALS Work Order #:

Parameter/Method Request for Analysis

Purchase Order		Project Name	Receiving Water Monitoring		A	NH4													
Work Order		Project Number			B	Cn (total)													
Company Name	AMBRH	Bill To Company			C	Free CN													
Send Report To		Invoice Attn			D														
Address		Address			E	PH (field tested)													
City/State/Zip		City/State/Zip			F	Temp c (field tested)													
Phone		Phone			G														
Fax		Fax			H														
e-Mail Address		e-Mail Address			I														
					J														

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	15	8/30/19	1153	AD	43, v	2	X	X	X			7.7H	24.6	24.6			6.0
2	14		1202									7.6I	24.4	24.4			5.1
3	7		1210									7.5G	24.7	24.7			5.8
4	6		1217									7.6	23.9	23.9			5.6
5	5		1223									7.6G	25.1	25.1			5.3
6	4		1230									7.6H	25.2	25.2			5.3
7	3		1240									7.7I	25.7	25.7			5.2
8	2		1249									7.7J	25.5	25.5			5.6
9	1		1258									7.8K	26.7	26.7			6.1
10	OF001		120									7.8L	27.6	27.6			6.3

Relinquished by: [Signature] Date: 8/30-19 Time: 740 Received by: [Signature]

Relinquished by: [Signature] Date: 8-30-19 Time: 1910 Received by (Laboratory): [Signature]

Logged by (Laboratory): [Signature] Date: _____ Time: _____ Checked by (Laboratory): _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Ne₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Shipments Method: 10 BD 5 BD 2 BD 3 BD 1 BD

Turnaround Time in Business Days (BD): Other _____

Notes: Cooler ID _____ Cooler Temp 1.0°C

QC Package: (Check One Box Below)

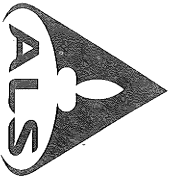
Level II Std QC TRRP Checklist

Level III Std QC/Raw Date TRRP Level IV

Level IV SW846/CLP Other _____

Results Due Date: _____

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.



Cincinnati, OH +1 513 733 5336
 Fort Collins, CO +1 970 490 1511
 Everett, WA +1 425 356 2600
 Holland, MI +1 616 399 6070

Chain of Custody Form

Houston, TX +1 281 530 5656
 Spring City, PA +1 610 948 4903
 South Charleston, WV +1 304 356 3168
 Middletown, PA +1 717 944 5541
 Salt Lake City, UT +1 801 266 7700
 York, PA +1 717 505 5280

Page 3 of 3

COC ID: 41596

Customer Information

Project Information

ALS Project Manager:

ALS Work Order #:

Purchase Order		Project Name	Receiving water Monitoring		Parameter/Method Request for Analysis	NH ₄	
Work Order		Project Number				CN (totals)	
Company Name	AMRH	Bill To Company				Free CN	
Send Report To		Invoice Attn				PH (field tested)	
Address		Address				Temp °C (field tested)	
City/State/Zip		City/State/Zip				D.O. (field tested)	
Phone		Phone				PH (field tested)	
Fax		Fax				D.O. (field tested)	
e-Mail Address		e-Mail Address				D.O. (field tested)	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SL-5	8-30-19	3:45	AQ	43, V	2	X	X	X		8.12	21.6	8.0				
2	SL-6		3:59				X	X	X		8.09	21.4	7.9				
3	SL-7		4:24				X	X	X		8.07	22.7	6.2				
4	SL-8		4:45				X	X	X		7.91	20.5	7.5				
5	000		5:35				X	X	X		7.87	20.4	6.6				
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign

Shipment Method: 10 BD 5 BD 3 BD 2 BD 1 BD

Turnaround Time in Business Days (BD): 10 BD 5 BD 3 BD 2 BD 1 BD

Results Due Date: _____

Refrigerated by: _____ Date: 8-30-19 Time: 17:40

Received by: _____

Refrigerated by: _____ Date: 8-30-19 Time: 19:10

Received by: _____

QC Packages: (Check One Box Below)

Level II Std QC TRRP Checklist

Level III Std QC/Raw Date TRRP Level IV

Level IV SW846/CLP Other _____

Notes: Cooler ID _____ Cooler Temp _____ 10°C

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Sample Receipt Checklist

Client Name: ARCELORMITTAL-BURNSHARBO

Date/Time Received: 30-Aug-19 00:00

Work Order: 19082180

Received by: KRW

Checklist completed by Amanda Przybowski 31-Aug-19
eSignature Date

Reviewed by: Amanda Przybowski 31-Aug-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>1.0</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>8/30/19 19:10</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 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:			

Login Notes: Holland - 1.8/1.8 C

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: