MICROBAC®

September 11, 2019

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

Work Order No.: 19H1554

Re: Daily

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 6 sample(s) on 8/24/2019 9:00:00AM for the analyses presented in the following report as Work Order 19H1554.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.

Carey Gadzala
Project Manager

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## WORK ORDER SAMPLE SUMMARY

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Project:** Daily
**Lab Order:** 19H1554

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|---|---|---|---|---|
| 19H1554-01 | 011-Composite | 011 | 08/23/2019 00:00 | 8/24/2019 10:00:00AM |
| 19H1554-02 | 011-Grab | 011 | 08/23/2019 00:00 | 8/24/2019 10:00:00AM |
| 19H1554-03 | 001-Composite | 001 | 08/23/2019 00:00 | 8/24/2019 10:00:00AM |
| 19H1554-04 | 001-Grab | 001 | 08/23/2019 00:00 | 8/24/2019 10:00:00AM |
| 19H1554-05 | 002-Composite | 002 | 08/23/2019 00:00 | 8/24/2019 10:00:00AM |
| 19H1554-06 | 002-Grab | 002 | 08/23/2019 00:00 | 8/24/2019 10:00:00AM |

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# Field Results

**Date:** *Wednesday, September 11, 2019*

| | | | |
|---|---|---|---|
| **Client:** | Arcelor Mittal USA, Inc. | **Work Order:** | 19H1554 |
| **Client Project:** | Daily | | |
| **Client Sample ID:** | 011-Grab | **Work Order/ID:** | 19H1554-02 |
| **Sample Description:** | 011 | **Sampled:** | 08/23/2019 00:00 |
| **Matrix:** | Aqueous | **Received:** | 08/24/2019 09:00 |

| Analyses | Result | Units |
|---|---|---|
| FLD_CL_TITR | 0.00 | mg/L |
| pH | 7.6 | pH Units |

| | | | |
|---|---|---|---|
| **Client Sample ID:** | 001-Grab | **Work Order/ID:** | 19H1554-04 |
| **Sample Description:** | 001 | **Sampled:** | 08/23/2019 00:00 |
| **Matrix:** | Aqueous | **Received:** | 08/24/2019 09:00 |

| Analyses | Result | Units |
|---|---|---|
| FLD_CL_TITR | 0.00 | mg/L |
| pH | 7.48 | pH Units |

## CASE NARRATIVE

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Project:** Daily
**Lab Order:** 19H1554

The Laboratory Control Sample failed the accuracy criteria for phenol. This is considered insignificant, as the bias was high yet the sample concentration was below the reporting limit. This failure affects the following sample:

| Laboratory ID | Sample Name |
|---|---|
| 19H1554-01 | 011-Composite |
| 19H1554-03 | 001-Composite |

Report has been revised at the clients request with corrected date of sample collection 8/23/19.

Report has been revised at the clients request to include Cu and Ag for Outfall 001. 9/11/19

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# Analytical Results

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Daily
**Client Sample ID:** 011-Composite
**Sample Description:** 011
**Matrix:** Aqueous
**Work Order/ID:** 19H1554-01
**Sampled:** 08/23/2019 0:00
**Received:** 08/24/2019 10:00

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 200.7 Rev 4.4** | | | | | | Analyst: **RPL** |
| **Total Recoverable Metals by ICP** | | | | | | | | | Prep Date/Time: **08/24/2019 09:55** |
| Lead | eij | A | ***ND*** | 0.0033 | 0.0075 | U | mg/L | 1 | 08/24/2019 12:33 |
| Zinc | eij | A | ***0.014*** | 0.0073 | 0.020 | | mg/L | 1 | 08/24/2019 12:33 |
| | | | Method: **SM 4500-CN C/E-1999** | | | | | | Analyst: **AJR** |
| **Total Cyanide** | | | | | | | | | Prep Date/Time: **08/24/2019 11:00** |
| Cyanide, Total | eij | A | ***ND*** | 0.0020 | 0.0050 | U | mg/L | 1 | 08/24/2019 15:51 |
| | | | Method: **SW-846 9014** | | | | | | Analyst: **AJR** |
| **Free Cyanide** | | | | | | | | | Prep Date/Time: **08/24/2019 11:39** |
| Free Cyanide | | A | ***ND*** | | 0.0062 | | mg/L | 1 | 08/24/2019 14:11 |
| | | | Method: **EPA 350.1 Rev 2.0** | | | | | | Analyst: **AJR** |
| **Nitrogen, Ammonia as N** | | | | | | | | | Prep Date/Time: **08/24/2019 12:33** |
| Nitrogen, Ammonia (As N) | ei | A | ***0.27*** | 0.054 | 0.10 | | mg/L | 1 | 08/24/2019 14:18 |
| | | | Method: **EPA 420.4 Rev 1.0** | | | | | | Analyst: **AJR** |
| **Total Phenolics** | | | | | | | | | Prep Date/Time: **08/24/2019 12:39** |
| Phenolics, Total Recoverable | eij | A | ***ND*** | 0.0060 | 0.010 | U | mg/L | 1 | 08/24/2019 18:37 |
| | | | Method: **SM 2540 D-1997** | | | | | | Analyst: **KMT** |
| **Total Suspended Solids** | | | | | | | | | Prep Date/Time: **08/24/2019 10:35** |
| Total Suspended Solids | eij | A | ***1.4*** | 1.0 | 1.0 | | mg/L | 1 | 08/24/2019 12:00 |

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# Analytical Results

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Daily
**Client Sample ID:** 011-Grab
**Sample Description:** 011
**Matrix:** Aqueous

**Work Order/ID:** 19H1554-02
**Sampled:** 08/23/2019 0:00
**Received:** 08/24/2019 10:00

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 1664B** | | | | | | Analyst: **KMT** |
| **Oil & Grease (HEM) by SPE** | | | | | | | | | Prep Date/Time: **08/24/2019 10:07** |
| Oil & Grease (HEM) | eij | A | ***ND*** | 1.4 | 5.0 | U | mg/L | 1 | 08/24/2019 14:11 |

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# Analytical Results

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Daily
**Client Sample ID:** 001-Composite
**Sample Description:** 001
**Matrix:** Aqueous
**Work Order/ID:** 19H1554-03
**Sampled:** 08/23/2019 0:00
**Received:** 08/24/2019 10:00

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 200.7 Rev 4.4** | | | | | | Analyst: **RPL** |
| **Total Recoverable Metals by ICP** | | | | | | | | | Prep Date/Time: **08/24/2019 09:55** |
| Copper | eij | A | ***0.0040*** | 0.0013 | 0.010 | | mg/L | 1 | 08/24/2019 12:38 |
| Lead | eij | A | ***0.0046*** | 0.0033 | 0.0075 | | mg/L | 1 | 08/24/2019 12:38 |
| Zinc | eij | A | ***0.0089*** | 0.0073 | 0.020 | | mg/L | 1 | 08/24/2019 12:38 |
| | | | Method: **EPA 200.8 Rev 5.4** | | | | | | Analyst: **BTM** |
| **Total Recoverable Metals by ICP/MS** | | | | | | | | | Prep Date/Time: **09/08/2019 12:49** |
| Silver | eij | A | ***ND*** | 0.000053 | 0.00060 | U | mg/L | 1 | 09/09/2019 12:23 |
| | | | Method: **SM 4500-CN C/E-1999** | | | | | | Analyst: **AJR** |
| **Total Cyanide** | | | | | | | | | Prep Date/Time: **08/24/2019 11:00** |
| Cyanide, Total | eij | A | ***ND*** | 0.0020 | 0.0050 | U | mg/L | 1 | 08/24/2019 15:54 |
| | | | Method: **SW-846 9014** | | | | | | Analyst: **AJR** |
| **Free Cyanide** | | | | | | | | | Prep Date/Time: **08/24/2019 11:39** |
| Free Cyanide | | A | ***ND*** | | 0.0062 | | mg/L | 1 | 08/24/2019 14:12 |
| | | | Method: **EPA 350.1 Rev 2.0** | | | | | | Analyst: **AJR** |
| **Nitrogen, Ammonia as N** | | | | | | | | | Prep Date/Time: **08/24/2019 12:33** |
| Nitrogen, Ammonia (As N) | ei | A | ***0.30*** | 0.054 | 0.10 | | mg/L | 1 | 08/24/2019 14:21 |
| | | | Method: **EPA 420.4 Rev 1.0** | | | | | | Analyst: **AJR** |
| **Total Phenolics** | | | | | | | | | Prep Date/Time: **08/24/2019 12:39** |
| Phenolics, Total Recoverable | eij | A | ***0.0092*** | 0.0060 | 0.010 | | mg/L | 1 | 08/24/2019 18:38 |
| | | | Method: **SM 2540 D-1997** | | | | | | Analyst: **KMT** |
| **Total Suspended Solids** | | | | | | | | | Prep Date/Time: **08/24/2019 10:35** |
| Total Suspended Solids | eij | A | ***1.5*** | 1.0 | 1.0 | | mg/L | 1 | 08/24/2019 12:00 |

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# Analytical Results

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Daily
**Client Sample ID:** 001-Grab
**Sample Description:** 001
**Matrix:** Aqueous
**Work Order/ID:** 19H1554-04
**Sampled:** 08/23/2019 0:00
**Received:** 08/24/2019 10:00

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 1664B** | | | | | | Analyst: **KMT** |
| **Oil & Grease (HEM) by SPE** | | | | | | | | | Prep Date/Time: **08/24/2019 10:07** |
| Oil & Grease (HEM) | eij | A | ***ND*** | 1.4 | 5.0 | U | mg/L | 1 | 08/24/2019 14:11 |

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# Analytical Results

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Daily
**Client Sample ID:** 002-Composite
**Sample Description:** 002
**Matrix:** Aqueous

**Work Order/ID:** 19H1554-05
**Sampled:** 08/23/2019 0:00
**Received:** 08/24/2019 10:00

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|---|
| | | | Method: **SM 4500-CN C/E-1999** | | | | | | Analyst: **AJR** |
| **Total Cyanide** | | | | | | | | | Prep Date/Time: **08/24/2019 11:00** |
| Cyanide, Total | eij | A | ***ND*** | 0.0020 | 0.0050 | U | mg/L | 1 | 08/24/2019 15:53 |

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# Analytical Results

**Date:** *Wednesday, September 11, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Daily
**Client Sample ID:** 002-Grab
**Sample Description:** 002
**Matrix:** Aqueous

**Work Order/ID:** 19H1554-06
**Sampled:** 08/23/2019 0:00
**Received:** 08/24/2019 10:00

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 1664B** | | | | | | Analyst: **KMT** |
| **Oil & Grease (HEM) by SPE** | | | | | | | | | Prep Date/Time: **08/24/2019 10:07** |
| Oil & Grease (HEM) | eij | A | ***ND*** | 1.4 | 5.0 | U | mg/L | 1 | 08/24/2019 14:11 |

**ANALYTE TYPES: (AT)**

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte
S = Surrogate
T = Tentatively Identified Compound (TIC, concentration estimated)

**QC SAMPLE IDENTIFICATIONS**

BLK = Method Blank
DUP = Method Duplicate
BS = Method Blank Spike
MS = Matrix Spike
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CRL = Client Required Reporting Limit
PDS = Post Digestion Spike
QCS = Quality Control Standard
ICSA = Interference Check Standard "A"
ICSAB = Interference Check Standard "AB"
BSD = Method Blank Spike Duplicate
MSD = Matrix Spike Duplicate
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
OPR = Ongoing Precision and Recovery Standard
SD = Serial Dilution

**CERTIFICATIONS (Certs)**

*Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.*

[d] Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
[i] Kansas Dept Health & Env. NELAP (#E-10397)
[j] Kentucky Wastewater Laboratory Certification Program (#108202)

**FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)**

| | |
|---|---|
| **MDL:** | Minimum Detection Limit |
| **RL:** | Reporting Limit |
| **RPD:** | Relative Percent Difference |
| **U:** | The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample. |

**Cooler Receipt Log**

**Cooler ID:** Default Cooler Temp: 6.0°C

**Cooler Inspection Checklist**

| | |
|---|---|
| Ice Present or not required? | Yes |
| Shipping containers sealed or not required? | Yes |
| Custody seals intact or not required? | Yes |
| Chain of Custody (COC) Present? | Yes |
| COC includes customer information? | Yes |
| Relinquished and received signature on COC? | Yes |
| Sample collector identified on COC? | Yes |
| Sample type identified on COC? | Yes |
| Correct type of Containers Received | Yes |
| Correct number of containers listed on COC? | Yes |
| Containers Intact? | Yes |
| COC includes requested analyses? | Yes |
| Enough sample volume for indicated tests received? | Yes |
| Sample labels match COC (Name, Date & Time?) | Yes |
| Samples arrived within hold time? | Yes |
| Correct preservatives on COC or not required? | Yes |
| Chemical preservations checked or not required? | Yes |
| Preservation checks meet method requirements? | Yes |
| VOA vials have zero headspace, or not recd.? | Yes |

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# CHAIN OF CUSTODY RECORD

Number 152278

*Instructions on back*

RUSH!

**Lab Report Address**
Client Name: ArcelorMittal BH
Address:
City, State, Zip:
Contact: T Kirk
Telephone No.:

**Invoice Address**
Client Name:
Address:
City, State, Zip:
Contact:
Telephone No.:

**Turnaround Time**
☐ Routine (5 to 7 business days)
☐ RUSH* (notify lab)
(needed by)

**Report Type**
☐ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD

*TO BE COMPLETED BY MICROBAC*
Temperature Upon Receipt (°C) 6.3
Therm ID -03
Holding Time 60
Samples Received on Ice? ☒ Yes ☐ No ☐ N/A
Custody Seals Intact? ☐ Yes ☐ No ☒ N/A

Send Report via: ☐ Mail ☐ Fax ☐ e-mail (address)
Send Invoice via: ☐ Mail ☐ Fax ☐ e-mail (address)

Project:
Location:
PO No.:
Compliance Monitoring? ☐ Yes ☐ No
☐ Agency/Program

Sampled by (PRINT): Warren Howard
Sampler Signature:
Sampler Phone No.:

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

19H1554
Carey Gadzala
ArcelorMittal - Burns Harbor, IN
Daily
08/24/2019

REQUESTED ANALYSIS

| Client Sample ID | Date Collected | Time Collected | No. of Containers | Matrix | Grab / Comp | Preservative Types ** | Ammonia | TSS | Phenol | Zn | Cn | Pb | FOG | pH | Res Cl | | 19H1554 Additional Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 8/23/19 | | 2 | | C | | X | X | X | X | X | X | | | | | -01 |
| 001 | 8/24/19 | | 3 | | G | | | | | | | | X | X | X | | -02 |
| 011 | 8/23/19 | | 2 | | C | | X | X | X | X | X | X | X | | | | -03 |
| 011 | 8/24/19 | | 3 | | G | | | | | | | | X | X | X | | -04 |
| 002 | 8/23/19 | | 1 | | C | | | | | | X | | | | | | -05 |
| 002 | 8/24/19 | | 2 | | G | | | | | | | | X | | | | -06 |
| | | | | | | | | | | | | | | | | | |
| Lagoon Channel Inlet | 8/24/19 | 0705 | 1 | | G | | | | | | X | | | | | | |
| South lagoon Inlet | 8/24/19 | 0710 | 1 | | G | | | | | | X | | | | | | |
| 011 | 8/24/19 | 0715 | 1 | | G | | | | | | X | | | | | | |

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

Comments
001 PH = 7.48
011 PH = 7.56

| Relinquished By (signature) | Date/Time | Received By (signature) | Date/Time |
|---|---|---|---|
| | 8/24/19 0730 | | 8/24/19 0740 |
| | 8/24/19 0900 | | |
| | | | 8/24/19 0900 |

rev.12/26/2017