August 23, 2019

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

Work Order No.: 19H1496

Re: Ammonia-Storm Ditch

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 8 sample(s) on 8/23/2019 10:00:00AM for the analyses presented in the following report as Work Order 19H1496.

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:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Project:** Ammonia-Storm Ditch
**Lab Order:** 19H1496

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|---|---|---|---|---|
| 19H1496-01 | Plate Mill Storm Ditch | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-02 | Plate Mill Storm Ditch | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-03 | Cannon Storm Ditch | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-04 | NW Storm Ditch | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-05 | SWTP Effluent/Clarifiers | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-06 | 999 | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-07 | 031 | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |
| 19H1496-08 | 001 | | 08/23/2019 00:00 | 8/23/2019 10:00:00AM |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** Plate Mill Storm Ditch
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-01
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***ND*** | 0.10 | | mg/L | 1 | 08/23/2019 15:37 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** Plate Mill Storm Ditch
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-02
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***0.17*** | 0.10 | | mg/L | 1 | 08/23/2019 15:39 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** Cannon Storm Ditch
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-03
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***0.11*** | 0.10 | | mg/L | 1 | 08/23/2019 15:42 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** NW Storm Ditch
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-04
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***ND*** | 0.10 | | mg/L | 1 | 08/23/2019 15:44 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** SWTP Effluent/Clarifiers
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-05
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***0.17*** | 0.10 | | mg/L | 1 | 08/23/2019 15:46 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** 999
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-06
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***0.20*** | 0.10 | | mg/L | 1 | 08/23/2019 15:49 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** 031
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-07
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***ND*** | 0.10 | | mg/L | 1 | 08/23/2019 15:51 |

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# Analytical Results

**Date:** *Friday, August 23, 2019*

**Client:** Arcelor Mittal USA, Inc.
**Client Project:** Ammonia-Storm Ditch
**Client Sample ID:** 001
**Sample Description:**
**Matrix:** Aqueous

**Work Order/ID:** 19H1496-08
**Sampled:** 08/23/2019 0:00
**Received:** 08/23/2019 10:00

| Analyses | Certs | AT | Result | RL | Qual | Units | DF | Analyzed |
|---|---|---|---|---|---|---|---|---|
| | | | Method: **EPA 350.1 Rev 2.0** | | | | Analyst: **ABG** | |
| **Nitrogen, Ammonia as N** | | | Prep Method: **EPA 350.1 Rev 2.0** | | | | Prep Date/Time: **08/23/2019 14:32** | |
| Nitrogen, Ammonia (As N) | **di** | A | ***0.30*** | 0.10 | | mg/L | 1 | 08/23/2019 15:54 |

**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)

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

**RL:** Reporting Limit
**RPD:** Relative Percent Difference

**Cooler Receipt Log**

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

**Comments**

No time. Samples preserved at lab

**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?) | No |
| 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 152312

*Instructions on back*

RUSH!

**Lab Report Address**
Client Name: Arcelor mittal BH
Address:
City, State, Zip:
Contact: Terri 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) 2.9
Therm ID -0.3
Holding Time 2.6
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

REQUESTED ANALYSIS

| Lab ID | Client Sample ID | Date Collected | Time Collected | No. of Containers | Matrix | Grab / Comp | Preservative Types ** | Ammonia | | | | | | | | | | 19H1496 Additional Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Storm Ditch Main | 8/23/19 | | 1 | | G | | | | | | | | | | | | -01 |
| | Stor- Ditch Plate | ↓ | | 1 | | ↓ | | | | | | | | | | | | -02 |
| | Stor- Ditch Cannon | | | 1 | | | | | | | | | | | | | | -03 |
| | Stor- Ditch N/W | | | 1 | | | | | | | | | | | | | | -04 |
| | SWTP clarifier | | | 1 | | | | | | | | | | | | | | -05 |
| | 999 | | | 1 | | | | | | | | | | | | | | -06 |
| | ~~OH~~ 031 | | | 1 | | | | | | | | | | | | | | -07 |
| | 001 Flume | ↓ | | 1 | | ↓ | | | | | | | | | | | | -08 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

19H1496
ArcelorMittal - Burns Harbor, IN
Carey Gadzala
Ammonia-Storm Ditch
08/23/2019

Hazard Identification ☐ Hazardous ☐ Non-Hazardous ☐ Radioactive

Sample Disposition ☐ Dispose as appropriate ☐ Return ☐ Archive

| Relinquished By (signature) | Date/Time | Received By (signature) | Date/Time |
|---|---|---|---|
| | 8/23/19 0840 | | 8/23/19 0840 |
| | 8/23/19 1000 | | |
| | | | 8/23/19 1000 |

2017