



September 22, 2019

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

Work Order No.: 19I1313

Re: NPDES Parameters

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 3 sample(s) on 9/22/2019 9:20:00AM for the analyses presented in the following report as Work Order 19I1313.

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.

A handwritten signature in black ink that reads "Carey Gadzala". The signature is written in a cursive, flowing style.

Carey Gadzala
Project Manager

[Microbac Laboratories, Inc.](http://www.microbac.com)

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WORK ORDER SAMPLE SUMMARY**Date:** *Sunday, September 22, 2019*

Client: Arcelor Mittal USA, Inc.
Project: NPDES Parameters
Lab Order: 1911313

| Lab Sample ID | Client Sample ID | Tag Number | Collection Date | Date Received |
|----------------------|-------------------------|-------------------|------------------------|----------------------|
| 1911313-01 | 001-Composite | 001 | 09/22/2019 07:45 | 9/22/2019 9:20:00AM |
| 1911313-02 | 011-Composite | 011 | 09/22/2019 07:22 | 9/22/2019 9:20:00AM |
| 1911313-03 | 002-Composite | 002 | 09/22/2019 08:15 | 9/22/2019 9:20:00AM |

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Analytical Results

Date: Sunday, September 22, 2019

| | | | |
|----------------------------|--------------------------|-----------------------|-----------------|
| Client: | Arcelor Mittal USA, Inc. | Work Order/ID: | 1911313-01 |
| Client Project: | NPDES Parameters | Sampled: | 09/22/2019 7:45 |
| Client Sample ID: | 001-Composite | Received: | 09/22/2019 9:20 |
| Sample Description: | 001 | | |
| Matrix: | Aqueous | | |

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed | | |
|-------------------------------|-------|----|------------------------------------|--------|--------|------|--------------------|----|------------------|---|--|
| | | | Method: SM 4500-CN C/E-1999 | | | | Analyst: EF | | | | |
| | | | | | | | | | | Prep Date/Time: 09/22/2019 09:58 | |
| Total Cyanide | | | | | | | | | | | |
| Cyanide, Total | ejj | A | 0.0034 | 0.0020 | 0.0050 | | mg/L | 1 | 09/22/2019 12:33 | | |
| | | | Method: SW-846 9014 | | | | Analyst: EF | | | | |
| | | | | | | | | | | Prep Date/Time: 09/22/2019 10:27 | |
| Free Cyanide | | | | | | | | | | | |
| Free Cyanide | | A | ND | 0.0018 | 0.0062 | | mg/L | 1 | 09/22/2019 12:22 | | |
| | | | Method: EPA 350.1 Rev 2.0 | | | | Analyst: EF | | | | |
| | | | | | | | | | | Prep Date/Time: 09/22/2019 10:11 | |
| Nitrogen, Ammonia as N | | | | | | | | | | | |
| Nitrogen, Ammonia (As N) | ei | A | 0.38 | 0.054 | 0.10 | | mg/L | 1 | 09/22/2019 12:04 | | |

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Analytical Results

Date: Sunday, September 22, 2019

| | | | |
|----------------------------|--------------------------|-----------------------|-----------------|
| Client: | Arcelor Mittal USA, Inc. | Work Order/ID: | 1911313-02 |
| Client Project: | NPDES Parameters | Sampled: | 09/22/2019 7:22 |
| Client Sample ID: | 011-Composite | Received: | 09/22/2019 9:20 |
| Sample Description: | 011 | | |
| Matrix: | Aqueous | | |

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed | |
|-------------------------------|-------|----|---|--------|--------|------|--------------------|----|------------------|--|
| | | | Method: SM 4500-CN C/E-1999 | | | | Analyst: EF | | | |
| | | | Prep Date/Time: 09/22/2019 09:58 | | | | | | | |
| Total Cyanide | | | | | | | | | | |
| Cyanide, Total | ejj | A | 0.0033 | 0.0020 | 0.0050 | | mg/L | 1 | 09/22/2019 12:42 | |
| | | | Method: SW-846 9014 | | | | Analyst: EF | | | |
| | | | Prep Date/Time: 09/22/2019 10:27 | | | | | | | |
| Free Cyanide | | | | | | | | | | |
| Free Cyanide | | A | ND | 0.0018 | 0.0062 | | mg/L | 1 | 09/22/2019 12:23 | |
| | | | Method: EPA 350.1 Rev 2.0 | | | | Analyst: EF | | | |
| | | | Prep Date/Time: 09/22/2019 10:11 | | | | | | | |
| Nitrogen, Ammonia as N | | | | | | | | | | |
| Nitrogen, Ammonia (As N) | ei | A | 0.23 | 0.054 | 0.10 | | mg/L | 1 | 09/22/2019 12:11 | |

Analytical Results

Date: Sunday, September 22, 2019

| | | | |
|----------------------------|--------------------------|-----------------------|-----------------|
| Client: | Arcelor Mittal USA, Inc. | Work Order/ID: | 1911313-03 |
| Client Project: | NPDES Parameters | Sampled: | 09/22/2019 8:15 |
| Client Sample ID: | 002-Composite | Received: | 09/22/2019 9:20 |
| Sample Description: | 002 | | |
| Matrix: | Aqueous | | |

| Analyses | Certs | AT | Result | MDL | RL | Qual | Units | DF | Analyzed | |
|---|-------|----|------------------------------------|--------|--------|------|--------------------|----|------------------|--|
| | | | Method: SM 4500-CN C/E-1999 | | | | Analyst: EF | | | |
| Prep Date/Time: 09/22/2019 09:58 | | | | | | | | | | |
| Total Cyanide | | | | | | | | | | |
| Cyanide, Total | ejj | A | ND | 0.0020 | 0.0050 | U | mg/L | 1 | 09/22/2019 12:43 | |
| | | | Method: SW-846 9014 | | | | Analyst: EF | | | |
| Prep Date/Time: 09/22/2019 10:27 | | | | | | | | | | |
| Free Cyanide | | | | | | | | | | |
| Free Cyanide | | A | ND | 0.0018 | 0.0062 | | mg/L | 1 | 09/22/2019 12:25 | |

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: 7.1°C
 MICROBAC®

Comments

No time

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? | No |
| 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

ArcelorMittal Burns Harbor/Microbac Labs

Daily During Zebra Muscle Treatment

Lab Work No: _____

* Date Obtained: 9-22-19
 ** Sample Date: 9-21-19

| Location | Time | Sampler | Type | Preserved | Cooled | Containers | | | Parameters | Comments |
|----------|-------|---------|------|-----------|--------|------------|-----|-----------|-------------------------|----------|
| | | | | | | Type | Qty | Vol. (ml) | | |
| 001 | 07:45 | CD | Grab | No | No | plastic | 1 | 500 | total residual chlorine | 0.00 |
| 002 | 08:15 | 1 | Grab | No | No | plastic | 1 | 500 | total residual chlorine | 0.00 |
| 003 | 08:02 | 1 | Grab | No | No | plastic | 1 | 500 | total residual chlorine | 0.00 |
| DUP 002 | | | Grab | No | No | plastic | 1 | 500 | total residual chlorine | 0.00 |

* From composite sample bottle for that day

Relinquished by: CD
 Received by: B. Old

Date: 9-22-19 Time: 08:36
 Date: 9/22/19 Time: 08:36

Env 684 Rev 1 07/04/15
 1911313 Carey Gadzala
 ArcelorMittal - Burns Harbor, IN
 NPDES Parameters
 09/21/2019



Microbac Laboratories, Inc. - Chicagoland Division

**Total Residual Chlorine - Amperometric Titration - SM Method 4500-ClE - 2000
for Arcelor Mittal - Burns Harbor**

Date/Time: 9/22/19 0830
 Analyst: Bto
 pH Paper Lot #: HJ626
 LCS ID: A9074

STD ID / Lot #
 KI Solution: 146367
 Acetate buffer: 147996
 PAO Titrant: 145348
 Exp. Date 6/30/20
7/29/20
5/31/20

| Sample ID | Sample Vol. (mL) | pH (pH Units) | Titrant Start (mL) | Titrant Stop (mL) | Titrant Vol. (mL) | Result (mg/L) |
|-----------------|------------------|---------------|--------------------|-------------------|-------------------|---------------|
| Blank | 200 | 4.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LCS | | 4.0 | | 0.05 | 0.05 | 0.05 |
| Outfall 001 | | 4.0 | | 0.00 | 0.00 | 0.00 |
| Outfall 002 | | 4.0 | | 0.00 | 0.00 | 0.00 |
| Outfall 003 | | 4.0 | | 0.00 | 0.00 | 0.00 |
| Outfall 011 | | | | | | |
| Outfall 011 Dup | | | | | | |
| Outfall 002 Dup | | 4.0 | | 0.00 | 0.00 | 0.00 |

Date/Time: _____
 Analyst: _____
 pH Paper Lot #: _____
 LCS ID: _____
 STD ID / Lot # _____
 KI Solution: _____
 Acetate buffer: _____
 PAO Titrant: _____
 Exp. Date _____

| Sample ID | Sample Vol. (ml) | pH (pH Units) | Titrant Start (ml) | Titrant Stop (ml) | Titrant Vol. (ml) | Result (mg/L) |
|-----------------|------------------|---------------|--------------------|-------------------|-------------------|---------------|
| Blank | | | | | | |
| LCS | | | | | | |
| Outfall 001 | | | | | | |
| Outfall 002 | | | | | | |
| Outfall 003 | | | | | | |
| Outfall 011 | | | | | | |
| Outfall 011 Dup | | | | | | |
| Outfall Dup | | | | | | |

Chlorine, mg/L = (Titrant Vol., mL) (200 mL) / (Sample Vol., mL)

revision: a_01_2016