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September 23, 2019

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

Work Order No.: 19I0859

Re: LLHg - 01

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 3 sample(s) on 9/16/2019 8:00:00AM for the analyses presented in the following report as Work Order 19I0859.

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

Microbac Laboratories, Inc.
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WORK ORDER SAMPLE SUMMARY

Client: Arcelor Mittal USA, Inc.
Project: LLHg - 01
Lab Order: 19I0859

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19I0859-01	Field Blank		09/15/2019 07:52	9/16/2019 8:00:00AM
19I0859-02	001	001	09/15/2019 07:55	9/16/2019 8:00:00AM
19I0859-03	001- DUP	001	09/15/2019 07:58	9/16/2019 8:00:00AM

CASE NARRATIVE   **Date:**   *Monday, September 23, 2019*

Client: Arcelor Mittal USA, Inc.
Project: LLHg - 01
Lab Order: 19I0859

B - the Method Blank contained mercury at a level above the reporting limit. This does not impact the data, as the concentration in the sample was below the reporting limit. This nonconformance is associated with the following sample:

Laboratory ID	Sample Name
19I0859-01	Field Blank

The average of the three Method Blanks contained mercury above the level required for the reference method. This nonconformance is associated with the following samples:

Laboratory ID	Sample Name
19I0859-02	001
19I0859-03	001- DUP

Analytical Results

Date: *Monday, September 23, 2019*

Client:	Arcelor Mittal USA, Inc.
Client Project:	LLHg - 01

Client Sample ID:	Field Blank	**Work Order/ID:**	19I0859-01
Sample Description:		**Sampled:**	09/15/2019 7:52
Matrix:	Aqueous	**Received:**	09/16/2019 8:00

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 1631E**						Analyst: **BTM**
Total Mercury using CVAFS - Heated Preparation									Prep Date/Time: **09/18/2019 09:09**
Mercury	eijlm	A	*ND*	0.118	0.500	B	ng/L	1	09/19/2019 12:52

Analytical Results

Date: *Monday, September 23, 2019*

Client:	Arcelor Mittal USA, Inc.
Client Project:	LLHg - 01

Client Sample ID:	001		**Work Order/ID:**	19I0859-02
Sample Description:	001		**Sampled:**	09/15/2019 7:55
Matrix:	Aqueous		**Received:**	09/16/2019 8:00

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 1631E**					Analyst: **BTM**	
Total Mercury using CVAFS - Heated Preparation								Prep Date/Time: **09/18/2019 09:09**	
Mercury	eijlm	A	*0.654*	0.118	0.500	B	ng/L	1	09/19/2019 12:54

Analytical Results

Client:	Arcelor Mittal USA, Inc.
Client Project:	LLHg - 01
Client Sample ID:	001- DUP
Sample Description:	001
Matrix:	Aqueous

Work Order/ID:	19I0859-03
Sampled:	09/15/2019 7:58
Received:	09/16/2019 8:00

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: **EPA 1631E**						Analyst: **BTM**
Total Mercury using CVAFS - Heated Preparation									Prep Date/Time: **09/18/2019 09:09**
Mercury	eijlm	A	*0.674*	0.118	0.500	B	ng/L	1	09/19/2019 12:56

ANALYTE TYPES: (AT)

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

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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)

[l] North Carolina DENR NPDES effluent, surface water (#597)

[m] New York State Department of Health (#12006)

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B:	The target analyte was detected in the method blank at or above the reported quantitation limit.
MDL:	Minimum Detection Limit
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler   Temp: ºC

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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

CHAIN OF CUSTODY RECORD

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Number **152908**
Instructions on back

Report Address
Client Name: ArcelorMittal

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

Contact: TERI KIRK

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

Location: L. L. Hg

by (PRINT): PSG

Sampler Signature:

Sampler Phone No.: 219 769 8378

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

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

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

PO No.:

Compliance Monitoring? ☐ Yes ☐ No
☐ Agency/Program

REQUESTED ANALYSIS

Additional Notes: 19I0859
-01
-02
-03

* 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

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	L.L. Hg	
	FLD Blank 177988	9-15-19	0752	1	AQ	G	U	X	
	001 179715	↓	0755	1	↓	G	U	X	
	001 DUP 177987	↓	0758	1	↓	G	U	X	

Sample Disposition ☐ Dispose as appropriate ☐ Return ☐ Archive

Possible Hazard Identification ☐ Hazardous ☐ Non-Hazardous ☐ Radioactive
Comments

Relinquished By (signature)   Date/Time 9-15-19 0920   Received By (signature)   Date/Time

Relinquished By (signature)   Date/Time   Received By (signature)   Date/Time

Relinquished By (signature)   Date/Time   Received By (signature) Frank Strug 09-16-19 0800   Date/Time

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rev.12/26/2017

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After Hours Sample Receipt Form

Client Name: _ARCELOR BURNS HARBOR_

	Received By: Initials / Date / Time
Delivery By	
[ ] Client (name) _____	
[ ] 3rd party / Courier (name) _____	
[X] Microbac Field Services:(name) _P. GOODPASTEW_	_Frank Sorug FJS_
[ ] Unknown (samples left in vestibule)	
Container Conditions	_9-16-19_
Shipping container /cooler in good condition? [X] Yes [ ] No If No, describe: _____	_0800_
Shipment Temp _____ °C	
Sample(s) received on ice? [ ] Yes [X] No	
Cooler custody seals present & intact? [ ] Yes [ ] No [X] Not Present	
*Note: do not open container unless you need to perform sample analysis prior to Login.	

	Handled By: Initials / Date / Time
Sample Handling	
Is immediate analysis required? [ ] Yes (continue) [X] No (go to Storage) (If pre-Login analysis must be performed, measure the sample temperature using the non-contact thermometer.)	
Samples removed for analysis: Note sample description for each sample removed) Sample ID _____ Analysis _____	
ample ID _____ Analysis _____	
ample ID _____ Analysis _____	

	Stored By: Initials / Date / Time
ntainer / samples transferred to:	
[ ] Walk-in Cooler	
[X] other (specify) _WALL STORAGE_	