



Admiralty
ENVIRONMENTAL

641 W. Willoughby Ave., Suite 301 Juneau, AK 99801 (907) 463-4415 (480) 247-4476 (f)

Mr. Paul Berry
Gustavus Disposal and Recycling Center
P.O. Box 1
Gustavus, AK 99826

November 7, 2019

Gustavus Disposal and Recycling Center Compliance Sampling

Date of Collection: October 28, 2019
Sampling Location: Gustavus, Alaska

Summary

Two samples from the Gustavus Disposal and Recycling Center were received at Admiralty Environmental, Juneau, AK on October 29, 2019.

The samples were analyzed for chemical oxygen demand and electrical conductivity. Samples were forwarded to Microbac Laboratories, Merrillville, IN for analysis of total recoverable metals. All laboratory acceptance criteria were met for all samples.

A complete report of the final lab results is enclosed. The official laboratory report follows this letter, and includes the analytical results, case narrative, chain of custody form, and cooler receipt form.

Kind Regards,

Diana Cote
Admiralty Environmental



641 W. Willoughby Ave., Suite 301 Juneau, AK 99801
 (907) 463 - 4415 Fax (480) 247 - 4476
 www.admiraltyenvironmental.com

Gustavus Disposal and Recycling Center

ADEC Compliance

October 28, 2019

Juneau, AK

Analytical Report

Admiralty Environmental EPA ID AK 00976

AE 23850

Sample Location	Monitor Well 3	Monitor Well 6
Date & Time Sampled	10/28/2019; 13:48	10/28/2019; 15:15
COD (mg/L)	< 15	< 15
Conductivity (µs/cm)	673	574

Quality Control:

Analysis	MB	LCS	LCS Duplicate	RPD	Date/Time Commenced	Holding Time Met
COD	<15	101.0%	100.2%	0.8%	11/01/2019; 11:45	Yes
EC	---	---	---	---	11/01/2019; 14:20	Yes

Analysis Description:

Analysis	Method	MDL	PQL	Unit
COD	SM 5220D	4.0	15	mg/L
EC	SM 2510B	0.4	2.0	µs/cm

Case Narrative:

All sample analysis QA/QC parameters were met for this event.

Key:

COD	Chemical Oxygen Demand
EC	Electrical Conductivity
LCS	Laboratory Control Standard
MB	Method Blank
MDL	Method Detection Limit
mg/L	Milligrams Per Liter
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference

David Wetzel
 President, Admiralty Environmental
 dwetzel@admiraltyenv.com



Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Project Description

Gustavus Disposal and Recycling Center /AE 23850

For:

David Wetzel

Admiralty Environmental, LLC

641 W. Willoughby Ave, Suite 301

Juneau, AK 99801-

Carey Gadzala

Project Manager

Wednesday, November 6, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Chicagoland. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

Microbac Laboratories, Inc.

250 West 84th Drive | Merrillville, IN 46410 | 219.769.8378 p | www.microbac.com



Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Admiralty Environmental, LLC

David Wetzel
641 W. Willoughby Ave, Suite 301
Juneau, AK 99801-

Project Name: Gustavus Disposal and Recycling

Center /AE 23850
Project / PO Number: N/A
Received: 10/31/2019
Reported: 11/06/2019

Sample Summary Report

<u>Sample Name</u>	<u>Laboratory ID</u>	<u>Client Matrix</u>	<u>Sample Type</u>	<u>Sample Begin</u>	<u>Sample Taken</u>	<u>Lab Received</u>
Monitor Well (MW) 3, MW3	19J1610-01	Aqueous			10/28/19 13:48	10/31/19 11:20
Monitor Well 6, MW6	19J1610-02	Aqueous			10/28/19 15:15	10/31/19 11:20



Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Analytical Testing Parameters

Client Sample ID: Monitor Well (MW) 3, MW3	Collection Date: 10/28/2019 13:48
Sample Matrix: Aqueous	
Lab Sample ID: 19J1610-01	

Metals	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.8 Rev 5.4/EPA 200.8 Rev 5.4								
Arsenic	2.6	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Barium	42	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Cadmium	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Chromium	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Copper	1.2	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Lead	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Manganese	74	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Nickel	1.6	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Selenium	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM
Zinc	6.8	2.0	ppb	1		11/01/19 0829	11/01/19 1453	BTM

SW-846 7470/EPA 245.1 Rev 3.0

Mercury	<0.20	0.20	ppb	1		11/02/19 0711	11/06/19 1418	KMD
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Wet Chemistry

EPA 200.8 Rev 5.4/SM 2340 B-1997

Hardness Calcium/Magnesium (As CaCO3)	360	66	mg/L	20		11/01/19 0829	11/04/19 1516	BTM
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Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Client Sample ID: Monitor Well 6, MW6	Collection Date: 10/28/2019 15:15
Sample Matrix: Aqueous	
Lab Sample ID: 19J1610-02	

Metals	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.8 Rev 5.4/EPA 200.8 Rev 5.4								
Arsenic	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Barium	14	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Cadmium	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Chromium	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Copper	2.3	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Lead	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Manganese	2.8	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Nickel	1.6	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Selenium	<1.0	1.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
Zinc	<2.0	2.0	ppb	1		11/01/19 0829	11/01/19 1506	BTM
SW-846 7470/EPA 245.1 Rev 3.0								
Mercury	<0.20	0.20	ppb	1		11/02/19 0711	11/06/19 1422	KMD
Wet Chemistry								
EPA 200.8 Rev 5.4/SM 2340 B-1997								
Hardness Calcium/Magnesium (As CaCO3)	310	66	mg/L	20		11/01/19 0829	11/04/19 1521	BTM



Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Batch Quality Control Summary: Microbac Laboratories, Inc. - Chicagoland

Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B147446 - 200.8_PR - EPA 200.8 Rev 5.4										
Blank (B147446-BLK1)				Prepared & Analyzed: 11/01/2019						
Arsenic	<1.0	1.0	ppb							
Barium	<1.0	1.0	ppb							
Cadmium	<1.0	1.0	ppb							
Chromium	<1.0	1.0	ppb							
Copper	<1.0	1.0	ppb							
Lead	<1.0	1.0	ppb							
Manganese	<1.0	1.0	ppb							
Nickel	<1.0	1.0	ppb							
Selenium	<1.0	1.0	ppb							
Zinc	<2.0	2.0	ppb							
LCS (B147446-BS1)				Prepared & Analyzed: 11/01/2019						
Arsenic	199	1.0	ppb	200		99.4	85-115			
Barium	226	1.0	ppb	220		103	85-115			
Cadmium	21.6	1.0	ppb	20		108	85-115			
Chromium	194	1.0	ppb	200		96.9	85-115			
Copper	19.7	1.0	ppb	20		98.7	85-115			
Lead	206	1.0	ppb	200		103	85-115			
Manganese	19.9	1.0	ppb	20		99.3	85-115			
Nickel	198	1.0	ppb	200		99.0	85-115			
Selenium	208	1.0	ppb	200		104	85-115			
Zinc	223	2.0	ppb	200		111	85-115			
Matrix Spike (B147446-MS1)		Source: 19J1610-01		Prepared & Analyzed: 11/01/2019						
Arsenic	218	1.0	ppb	200	2.57	108	70-130			
Barium	271	1.0	ppb	220	41.5	104	70-130			
Cadmium	20.5	1.0	ppb	20	ND	103	70-130			
Chromium	203	1.0	ppb	200	ND	102	70-130			
Copper	19.9	1.0	ppb	20	1.17	93.7	70-130			
Lead	195	1.0	ppb	200	ND	97.4	70-130			
Manganese	93.3	1.0	ppb	20	73.7	98.3	70-130			
Nickel	200	1.0	ppb	200	1.56	99.0	70-130			
Selenium	217	1.0	ppb	200	ND	108	70-130			
Zinc	211	2.0	ppb	200	6.82	102	70-130			
Matrix Spike Dup (B147446-MSD1)		Source: 19J1610-01		Prepared & Analyzed: 11/01/2019						
Arsenic	216	1.0	ppb	200	2.57	107	70-130	0.954	20	
Barium	271	1.0	ppb	220	41.5	104	70-130	0.154	20	
Cadmium	20.7	1.0	ppb	20	ND	104	70-130	0.845	20	
Chromium	203	1.0	ppb	200	ND	101	70-130	0.429	20	
Copper	20.0	1.0	ppb	20	1.17	94.4	70-130	0.689	20	
Lead	196	1.0	ppb	200	ND	98.0	70-130	0.517	20	
Manganese	93.4	1.0	ppb	20	73.7	98.4	70-130	0.0314	20	
Nickel	199	1.0	ppb	200	1.56	98.7	70-130	0.317	20	



Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B147446 - 200.8_PR - EPA 200.8 Rev 5.4										
Matrix Spike Dup (B147446-MSD1)			Source: 19J1610-01		Prepared & Analyzed: 11/01/2019					
Selenium	216	1.0	ppb	200	ND	108	70-130	0.480	20	
Zinc	208	2.0	ppb	200	6.82	101	70-130	1.50	20	
Batch B147503 - HGPREP_W - EPA 245.1 Rev 3.0										
Blank (B147503-BLK1)			Prepared: 11/02/2019 Analyzed: 11/06/2019							
Mercury	<0.20	0.20	ppb							
LCS (B147503-BS1)			Prepared: 11/02/2019 Analyzed: 11/06/2019							
Mercury	1.74	0.20	ppb	2.0		87.2	85-115			
Matrix Spike (B147503-MS1)			Source: 19J1610-01		Prepared: 11/02/2019 Analyzed: 11/06/2019					
Mercury	1.79	0.20	ppb	2.0	ND	89.7	70-130			
Matrix Spike (B147503-MS2)			Source: 19J1610-02		Prepared: 11/02/2019 Analyzed: 11/06/2019					
Mercury	1.77	0.20	ppb	2.0	ND	88.4	70-130			
Matrix Spike Dup (B147503-MSD1)			Source: 19J1610-01		Prepared: 11/02/2019 Analyzed: 11/06/2019					
Mercury	1.78	0.20	ppb	2.0	ND	89.2	70-130	0.559	20	
Matrix Spike Dup (B147503-MSD2)			Source: 19J1610-02		Prepared: 11/02/2019 Analyzed: 11/06/2019					
Mercury	1.77	0.20	ppb	2.0	ND	88.7	70-130	0.339	20	
Wet Chemistry										
Wet Chemistry	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B147446 - 200.8_PR - SM 2340 B-1997										
Blank (B147446-BLK1)			Prepared & Analyzed: 11/01/2019							
Calcium	<0.50	0.50	mg/L							
Magnesium	<0.50	0.50	mg/L							
LCS (B147446-BS1)			Prepared & Analyzed: 11/01/2019							
Calcium	2.09	0.50	mg/L	2.0		105	80-120			
Magnesium	2.09	0.50	mg/L	2.0		104	80-120			
Matrix Spike (B147446-MS1)			Source: 19J1610-01		Prepared & Analyzed: 11/01/2019					
Calcium	132	0.50	mg/L	2.0	131	72.6	75-125			
Magnesium	11.6	0.50	mg/L	2.0	9.30	116	75-125			
Matrix Spike Dup (B147446-MSD1)			Source: 19J1610-01		Prepared & Analyzed: 11/01/2019					
Calcium	131	0.50	mg/L	2.0	131	24.7	75-125	0.727	20	
Magnesium	11.6	0.50	mg/L	2.0	9.30	117	75-125	0.0439	20	



Admiralty Environmental
 641 W. Willoughby Ave., Suite 301
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 (907) 463-4415 fax (480) 247-4476

CHAIN OF CUSTODY/TRANSMITTAL RECORD
 PAGE 1 OF 1

PROJECT NAME: Gustavus Disposal and Recycling Center					ADEC Compliance					AE 23850								
REPORT TO: Paul Berry dumpmaster@gustavus-ak.gov			PHONE#: 907-697-2118		# of Bottles	TR Metals (As, Ba, Cd, Cr, Cu, Pb, Mn, Ni, Se, Zn), Mercury, and Hardness	COD	EC										
ADDRESS: PO Box 88, Gustavus AK 99826 1			SAMPLED BY: Paul Berry PWB															
Samples taken in the presence of: <i>Rainey Averlar</i>																		
FIELD RESULTS																		
DATE	TIME	SITE DESCRIPTION / IDENTIFIER			MATRIX								pH	Temp	D.O.			
10/28/19	13:48	Monitor Well (MW) 3, MW 3			H ₂ O	3	1	1	1				7.61	8.1c	—			
10/28/19	15:15	Monitor Well 6, MW 6			H ₂ O	3	1	1	1				7.26	7.6c	—			
RELINQUISHED BY:		RECEIVED BY:			RELINQUISHED BY:		RECEIVED BY:					Section to Be Completed by Receiving Laboratory						
Signature		Signature			Signature		Signature											
Printed Name		Printed Name			Printed Name		Printed Name											
Date		Date			Date		Date											
Time		Time			Time		Time											
Paul Berry		Laurel Smith			Paul Berry		Laurel Smith					Temp/Loc:	3.05					
10/29/2019		10/29/19			10/29/2019		10/29/2019					Thermo ID#:	Lab#7					
9:00 AM		1500			9:00 AM		1500					Condition of Custody Seals:	✓					
												Initialed By:	LS					
												Shipped Via:	SeaPlanes					



Admiralty Environmental Cooler Receipt Form

Client: **Admiralty Environmental, LLC**
Project: **Gustavus Disposal and Recycling Center**

AE# AE 23850

Date Opened: **10/29/2019** Opened by: **L. Smith**

A. External Cooler Conditions

• Local Sampling Event

1. Project ID: **n/a**

2. COC Attached? **n/a** Properly Completed? **n/a** Signed by AE employee? **n/a**

Small Temp. Blank **n/a** (temp in Celsius)
Large Temp. Blank: **n/a** (temp in Celsius)

• Air-Transported Sampling Event

1. Project ID: **Groundwater**

2. COC Attached? **yes** Properly Completed? **yes** Signed by AE employee? **yes**

3. Airbill attached? **yes** Airbill #: **3149843**

4. Custody Seals? **yes**

5. Seals intact? **yes**

Temp. Blank: **3.05** (temp in Celsius)

COMMENTS:

B. Sample Conditions

Number of Samples Received: **2** Packing type: **Cooler**

Number of Bottles Received: **6**

1. Samples in proper bags? **yes**

2. Bottles intact? **yes**

3. Sufficient sample volume? **yes**

4. Labels agree with COC? **yes**

5. Samples delivered within holding time? **yes**

6. Sample preservation checked? **yes, accepted**

Problems encountered: **no**

Was the project manager called? **no**

COMMENTS:

Signature: *Rachel Smith*

Date and time: 10/29/19; 1500



19J1610
Admiralty - Juneau, AK
Gustavus Disposal and Recycling Center / AE 23850
10/31/2019



Admiralty Environmental
641 W. Willoughby Ave., Suite 301
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(907) 463-4415 fax (480) 247-4476

CHAIN OF CUSTODY/TRANSMITTAL RECORD
PAGE 1 OF 1

NAME: Gustavus Disposal and Recycling Center				ADEC Compliance				AE 23850					
O: Paul Berry dumpmaster@gustavus-ak.gov		PHONE#: 907-697-2118		# of Bottles	TR Metals (As, Ba, Cd, Cr, Cu, Pb, Mn, Ni, Se, Zn), Mercury, and Hardness								
PO Box 88, Gustavus AK 99826		SAMPLED BY: PUB Paul Berry											
Taken in the presence of: Karly Averator													
FIELD RESULTS													
DATE	TIME	SITE DESCRIPTION / IDENTIFIER		MATRIX						pH	Temp	D.O.	
10/28/19	13:48	Monitor Well (MW) 3, MW 3		H ₂ O	1					7.61	8.1c	-	01
10/28/19	15:15	Monitor Well 6, MW 6		H ₂ O	1					7.26	7.6c	-	02
RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:		Section to be Completed by Receiving Laboratory					
Signature Paul Berry		Signature Laurel Smith jr		Signature Z. Cui AKWA		Signature Nicole Rainwater		Temp/Loc: 305					
Printed Name Paul Berry		Printed Name Laurel Smith jr		Printed Name Z. Cui AKWA		Printed Name Nicole Rainwater		Thermo ID#: 16117					
Date 10/29/2019		Date 10/29/19		Date 10/30/2019		Date 10-31-19		Condition of Custody Seals: <input checked="" type="checkbox"/>					
Time 9:00 AM		Time 1500		Time 0830		Time 1120		Initialed By: LS					
								Shipped Via: FedEx					

0.5-0.3-0.2c



Microbac Laboratories, Inc. - Chicagoland

CERTIFICATE OF ANALYSIS

19J1610

Definitions

mg/L: milligrams per liter
RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 0.2°C

Comments

Received alkalinity bottle on 4/12/19

Cooler Inspection Checklist

Table with 4 columns: Question, Yes, No, and Answer. Rows include items like 'Ice Present or not required?', 'Shipping containers sealed or not required?', etc.

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Carey Gadzala (handwritten signature)

Carey Gadzala
Project Manager
carey.gadzala@microbac.com
11/06/2019 16:56