

August 23, 2019

Report to:

Randall Miller  
North Park Engineering & Consulting, Inc  
P.O. Box 395  
Walden, CO 80480

Bill to:

Randall Miller  
North Park Engineering & Consulting, Inc  
P.O. Box 395  
Walden, CO 80480

cc: Mark Brown

Project ID: Markus Production

ACZ Project ID: L53949

Randall Miller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 16, 2019. This project has been assigned to ACZ's project number, L53949. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L53949. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 22, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and  
approved this report.



**North Park Engineering & Consulting, Inc**

Project ID: Markus Production

Sample ID: PIT WATER

ACZ Sample ID: **L53949-01**

Date Sampled: 08/15/19 17:10

Date Received: 08/16/19

Sample Matrix: Surface Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**

Extract Method: **5030C**

**Workgroup: WG479901**

Analyst: jel

Extract Date: 08/20/19 12:48

Analysis Date: 08/20/19 12:48

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	5	*	ug/L	5	5
Ethylbenzene	100-41-4		U	5	*	ug/L	5	5
m p Xylene	1330-20-7		U	5	*	ug/L	10	10
o Xylene	95-47-6		U	5	*	ug/L	5	5
Toluene	108-88-3		U	5	*	ug/L	5	5
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	107.8		5		%	70	130

**North Park Engineering & Consulting, Inc**

Project ID: Markus Production

Sample ID: PIT WATER

ACZ Sample ID: **L53949-01**

Date Sampled: 08/15/19 17:10

Date Received: 08/16/19

Sample Matrix: Surface Water

**Diesel Range Organics (C10-C28)**

Analysis Method: **M8015D GC/FID**

Extract Method: **M3511**

**Workgroup:** WG479688

Analyst: kfm

Extract Date: 08/16/19 11:30

Analysis Date: 08/20/19 21:26

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28		0.53		0.0617	*	mg/L	0.247	0.494
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
OTP	84-15-1	28.79		0.0617	*	%	70	130

**North Park Engineering & Consulting, Inc**

Project ID: Markus Production

Sample ID: TB190814-4

ACZ Sample ID: **L53949-02**

Date Sampled: 08/15/19 17:10

Date Received: 08/16/19

Sample Matrix: Surface Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**

Extract Method: **5030C**

**Workgroup: WG479901**

Analyst: jel

Extract Date: 08/20/19 12:17

Analysis Date: 08/20/19 12:17

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	1	1
Ethylbenzene	100-41-4		U	1		ug/L	1	1
m p Xylene	1330-20-7		U	1		ug/L	2	2
o Xylene	95-47-6		U	1		ug/L	1	1
Toluene	108-88-3		U	1		ug/L	1	1
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	108.1		1		%	70	130

ACZ Project ID: **L53949**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
<b>L53949-01</b>	WG479901	Benzene	M8021B GC/PID	DF	Sample required dilution due to high sediment.
		Ethylbenzene	M8021B GC/PID	DF	Sample required dilution due to high sediment.
		m p Xylene	M8021B GC/PID	DF	Sample required dilution due to high sediment.
		o Xylene	M8021B GC/PID	DF	Sample required dilution due to high sediment.
		Toluene	M8021B GC/PID	DF	Sample required dilution due to high sediment.
	WG479688	OTP	M8015D GC/FID	S7	Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
		TPH C10 to C28	M8015D GC/FID	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

No certification qualifiers associated with this analysis

North Park Engineering & Consulting, Inc  
Markus Production

ACZ Project ID: L53949  
Date Received: 08/16/2019 08:10  
Received By:  
Date Printed: 8/19/2019

#### Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Is the Chain of Custody form or other directive shipping papers present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Does this project require special handling procedures such as CLP protocol?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) Are any samples NRC licensable material?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) If samples are received past hold time, proceed with requested short hold time analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Is the Chain of Custody form complete and accurate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A change was made in the Sample Identification: Date:Time section prior to ACZ custody.			

#### Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) Are all labels on containers and are they intact and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) For preserved bottle types, was the pH checked and within limits? <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12) Is there sufficient sample volume to perform all requested work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Is the custody seal intact on all containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14) Are samples that require zero headspace acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15) Are all sample containers appropriate for analytical requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) Is there an Hg-1631 trip blank present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17) Is there a VOA trip blank present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18) Were all samples received within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NA indicates Not Applicable

#### Chain of Custody Related Remarks

#### Client Contact Remarks

#### Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
4716	2.8	<=6.0	14	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

North Park Engineering & Consulting, Inc  
Markus Production

ACZ Project ID: L53949

Date Received: 08/16/2019 08:10

Received By:

Date Printed: 8/19/2019

<sup>1</sup> The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



153949

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

## Report to:

Name: Randy Miller  
Company: North Park Engineering  
E-mail: randy@npeng.com

Address: 70 Box 395  
Walden, CO 80480  
Telephone: 970-218-4774

**Copy of Report to:**

Name: Mark Brown  
Company: Markus Production

E-mail: mark@markusproduction.com  
Telephone: 720-350-8858

**Invoice to:**

Name: Randy Miller  
Company: North Park Engineering  
E-mail: randy@npeng.com

Address: PO Box 325  
Walden, CO 80480  
Telephone: 970-218-4974

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES	
NO	<input checked="" type="checkbox"/>

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

**Are samples for SDWA Compliance Monitoring?**

Yes		No	X
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**If yes, please include state forms. Results will be reported to PQL for Colorado.**

Sampler's Name: Randall Miller Sampler's Site Information State CO Zip code 80450 Time Zone MTN

\*Sampler's Signature: Robert Mills

\*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

## PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #:	BTX TPH
PO#:	Markus Production
Reporting state for compliance testing:	
Check box if samples include NRC licensed material?	

# of Containers	BTX-TPH							
2	X							
2	X							
2	X							
2	X <sup>2</sup>							
2	X							
2	X							
46	X							
W								

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

## REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:

DATE:TIME

RECEIVED BY:

DATE-TIME

Hamell MW6	8/16/19 5:30	JJC	8-16-19 08:03