

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

Company: BREITBURN OPERATING
Name:
ClientProj: 20-032
GTA ProjNo: 020620-3

Site Addr: KAL 1-27

Sampled By: ROB WINTERER/OMPC
Date Rec: 2/6/2020
Time Rec: 3:45 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	S WALL @ 11'	2/6/2020		SOIL
2	2 WALL	2/6/2020		SOIL
3	3 WALL	2/6/2020		SOIL
4	4 WALL	2/6/2020		SOIL
5	5 WALL	2/6/2020		SOIL
6	6 WALL	2/6/2020		SOIL
7	E. BOTTOM @ 14.2.'	2/6/2020		SOIL
8	E. BOTTOM @ 18.2.'	2/6/2020		SOIL

ELECTRONIC SIGNATURE REPORT. This is a final report for the following pages of data for the samples specified above. All analysis was performed by the methods stated and all quality control measures required were completed. All quality control information is available upon request.

Kirk Chase

Kirk L. Chase/Chemist
Grand Traverse Analytical
830 Robinwood Court
Traverse City, MI 49686
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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: S WALL @ 11'

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 1

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

SAMPLED BY: ROB WINTERER/OMPC

**THIS SAMPLE WAS RECEIVED MEOH PRESERVED.

EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	ND	50	ug/Kg (PPB)	MR	2/6/2020	2/6/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: 2 WALL

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 2

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

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EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	ND	50	ug/Kg (PPB)	MR	2/6/2020	2/6/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: 3 WALL

GTA PROJECT NO: 020620-3
GTA SAMPLE NO: 3

DATE SAMPLED: 2/6/2020
TIME SAMPLED:
DATE RECEIVED: 2/6/2020
TIME RECEIVED: 3:45 PM

SAMPLED BY: ROB WINTERER/OMPC

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EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	ND	50	ug/Kg (PPB)	MR	2/6/2020	2/6/2020	EPA 5035A
Toluene	220	50					
Ethylbenzene	72	50					
Xylene(Total)	360	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: 4 WALL

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 4

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

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EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	ND	50	ug/Kg (PPB) MR		2/6/2020	2/6/2020	EPA 5035A
Toluene	740	50					
Ethylbenzene	350	50					
Xylene(Total)	1,500	150					
1,2,4-Trimethylbenzene	820	50					
1,3,5-Trimethylbenzene	240	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: 5 WALL

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 5

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

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EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	ND	50	ug/Kg (PPB) MR		2/6/2020	2/6/2020	EPA 5035A
Toluene	300	50					
Ethylbenzene	160	50					
Xylene(Total)	710	150					
1,2,4-Trimethylbenzene	460	50					
1,3,5-Trimethylbenzene	140	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: 6 WALL

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 6

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

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EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	60	50	ug/Kg (PPB)	MR	2/6/2020	2/6/2020	EPA 5035A
Toluene	320	50					
Ethylbenzene	59	50					
Xylene(Total)	250	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: E. BOTTOM @ 14.2.'

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 7

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

SAMPLED BY: ROB WINTERER/OMPC

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EPA 8260B VOLATILE ORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Benzene	ND	50	ug/Kg (PPB) MR		2/6/2020	2/6/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

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LOD = LIMIT OF DETECTION

COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032

LOCATION: KAL 1-27

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 1

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

SAMPLED BY: MI
ROB WINTERER/OMPC

SAMPLE ANALYSIS

No: Analysis

SAMPLE ID: S WALL @ 11'

CHLORIDE EPA 300.0

Concentration

ND

LOD

51

Units

mg/Kg (PPM) LV

Analyst

LV

Date

2/6/2020

Sample

SOIL

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: BREITBURN OPERATING

GTA PROJECT NO: 020620-3

PROJECT NO: 20-032

GTA SAMPLE NO: 2

LOCATION: KAL 1-27

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

MI

SAMPLED BY: ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
SAMPLE ID: 2	WALL	ND	50	mg/Kg (PPM)	LV	2/6/2020	SOIL
	CHLORIDE EPA 300.0						

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

GTA PROJECT NO: 020620-3
GTA SAMPLE NO: 3

DATE SAMPLED: 2/6/2020
TIME SAMPLED:
DATE RECEIVED: 2/6/2020
TIME RECEIVED: 3:45 PM

MI
SAMPLED BY: ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: 3 WALL CHLORIDE EPA 300.0	ND	52	mg/Kg (PPM)	LV	2/6/2020	SOIL

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION
s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

GTA PROJECT NO: 020620-3
GTA SAMPLE NO: 4

DATE SAMPLED: 2/6/2020
TIME SAMPLED:
DATE RECEIVED: 2/6/2020
TIME RECEIVED: 3:45 PM

MI
SAMPLED BY: ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
SAMPLE ID: 4	WALL	ND	51	mg/Kg (PPM)	LV	2/6/2020	SOIL
	CHLORIDE EPA 300.0						

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION
s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

GTA PROJECT NO: 020620-3
GTA SAMPLE NO: 5

DATE SAMPLED: 2/6/2020
TIME SAMPLED:
DATE RECEIVED: 2/6/2020
TIME RECEIVED: 3:45 PM

MI
SAMPLED BY: ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: 5 WALL CHLORIDE EPA 300.0	ND	52	mg/Kg (PPM)	LV	2/6/2020	SOIL

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION
s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

GTA PROJECT NO: 020620-3
GTA SAMPLE NO: 6

DATE SAMPLED: 2/6/2020
TIME SAMPLED:
DATE RECEIVED: 2/6/2020
TIME RECEIVED: 3:45 PM

MI
SAMPLED BY: ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: 6 WALL CHLORIDE EPA 300.0	ND	52	mg/Kg (PPM)	LV	2/6/2020	SOIL

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION
s.u. = STANDARD pH UNITS REPORTED AT 25 C



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COMPANY: BREITBURN OPERATING

PROJECT NO: 20-032
LOCATION: KAL 1-27

GTA PROJECT NO: 020620-3

GTA SAMPLE NO: 7

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

SAMPLED BY: MI
ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: E. BOTTOM @ 14.2.'						
	CHLORIDE EPA 300.0	4,200	51	mg/Kg (PPM)	LV	2/6/2020	SOIL

ND = NOT DETECTED, RESULT < LOD

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s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: BREITBURN OPERATING

GTA PROJECT NO: 020620-3

PROJECT NO: 20-032

GTA SAMPLE NO: 8

LOCATION: KAL 1-27

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

SAMPLED BY: MI
ROB WINTERER/OMPC

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: E. BOTTOM @ 18.2.'						
	CHLORIDE EPA 300.0	6,200	100	mg/Kg (PPM)	LV	2/6/2020	SOIL

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COMPANY: BREITBURN OPERATING

GTA PROJECT NO: 020620-3

NAME:

SAMPLED BY: ROB WINTERER/OMPC

PROJECT NO: 20-032

DATE SAMPLED: 2/6/2020

TIME SAMPLED:

LOCATION: KAL 1-27

SAMPLE MATRIX: SOIL

DATE RECEIVED: 2/6/2020

TIME RECEIVED: 3:45 PM

MI

MOISTURE

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
SAMPLE ID: S WALL @ 11'	% MOISTURE EPA 3550C	2.4	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: 2 WALL	% MOISTURE EPA 3550C	3.0	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: 3 WALL	% MOISTURE EPA 3550C	3.8	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: 4 WALL	% MOISTURE EPA 3550C	3.8	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: 5 WALL	% MOISTURE EPA 3550C	3.9	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: 6 WALL	% MOISTURE EPA 3550C	4.4	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: E. BOTTOM @ 14.2.'	% MOISTURE EPA 3550C	4.5	0.050	% OF SAMPLE	AS	2/6/2020
SAMPLE ID: E. BOTTOM @ 18.2.'	% MOISTURE EPA 3550C	3.4	0.050	% OF SAMPLE	AS	2/6/2020

CHAIN OF CUSTODY

PROJECT NUMBER 20-032	SITE NAME/ADDRESS KAL 1-27	MAVERICK/ BREITBURN STWELL MAWB; COMPANY/NAME
SAMPLED BY ROB WINTERER	COMPANY OTWELL MAWB	GTA PROJECT # 020620-3

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
1	S. WALL @ 11'	2-6-20		SOIL	BTE+4, Chloride
2	(2) WALL	↓			
3	(3) WALL				
4	(4) WALL				
5	(5) WALL				
6	(6) WALL				
7	E. BOTTOM @ 14.2'	↓			↓ ↓
8	E. BOTTOM @ 18.5'				Chloride only

BILL TO: MAVERICK (BREITBURN)

REPORT TO:
OMPC,
MAVERICK/BB

RELEASED BY **DATE/TIME**
Polyn/Chitt 2/6/20 3:45

RECEIVED BY **DATE/TIME**
[Signature] 2/6/20 3:45
REC 410 C

REQUESTED TAT ☐ STANDARD ☒ 1 BUSINESS DAY ☐ 2 BUSINESS DAYS ☐ 3 BUSINESS DAYS