



**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

[www.gtanalytical.com](http://www.gtanalytical.com)

Company: BREITBURN OPERATING  
Name:  
ClientProj: 20-157  
GTA ProjNo: 100621-1

Site Addr: JOSEPH 1  
Sampled By: WPM/OMPC  
Date Rec: 10/6/2021  
Time Rec: 9:50 AM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	MW-1D	10/5/2021	4:15 PM	WATER
2	MW-2	10/5/2021	4:43 PM	WATER
3	MW-3D	10/5/2021	1:13 PM	WATER
4	MW-4	10/5/2021	2:45 PM	WATER
5	MW-8	10/5/2021	2:05 PM	WATER
6	MW-9	10/5/2021	3:30 PM	WATER

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 Ph: 231-929-0905  
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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: MW-1D

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 1  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 4:15 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM  
SAMPLED BY: WPM/OMPC

**EPA 8260B VOLATILE ORGANICS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Benzene	1,900	25	ug/L (PPB)	MR		10/8/2021	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	103	1.0					
Xylene(Total)	39	3.0					

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: 20-157  
LOCATION: JOSEPH 1  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: MW-2

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 2  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 4:43 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM  
SAMPLED BY: WPM/OMPC

**EPA 8260B VOLATILE ORGANICS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Benzene	ND	1.0	ug/L (PPB)	MR		10/8/2021	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					

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COMPANY: BREITBURN OPERATING  
 PROJECT NO: 20-157  
 LOCATION: JOSEPH 1  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-3D

GTA PROJECT NO: 100621-1  
 GTA SAMPLE NO: 3  
 DATE SAMPLED: 10/5/2021  
 TIME SAMPLED: 1:13 PM  
 DATE RECEIVED: 10/6/2021  
 TIME RECEIVED: 9:50 AM

SAMPLED BY: WPM/OMPC

**EPA 8260B VOLATILE ORGANICS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Benzene	ND	1.0	ug/L (PPB)	MR		10/8/2021	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					

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COMPANY: BREITBURN OPERATING  
 PROJECT NO: 20-157  
 LOCATION: JOSEPH 1  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-4

GTA PROJECT NO: 100621-1  
 GTA SAMPLE NO: 4  
 DATE SAMPLED: 10/5/2021  
 TIME SAMPLED: 2:45 PM  
 DATE RECEIVED: 10/6/2021  
 TIME RECEIVED: 9:50 AM

SAMPLED BY: WPM/OMPC

**EPA 8260B VOLATILE ORGANICS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Benzene	ND	1.0	ug/L (PPB)	MR		10/8/2021	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	1.3	1.0					
Xylene(Total)	ND	3.0					

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COMPANY: BREITBURN OPERATING  
 PROJECT NO: 20-157  
 LOCATION: JOSEPH 1  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-8

GTA PROJECT NO: 100621-1  
 GTA SAMPLE NO: 5  
 DATE SAMPLED: 10/5/2021  
 TIME SAMPLED: 2:05 PM  
 DATE RECEIVED: 10/6/2021  
 TIME RECEIVED: 9:50 AM

SAMPLED BY: WPM/OMPC

**EPA 8260B VOLATILE ORGANICS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Benzene	ND	1.0	ug/L (PPB)	MR		10/8/2021	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.  
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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 1  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 4:15 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM

MI  
SAMPLED BY: WPM/OMPC

**SAMPLE ANALYSIS**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-1D						
	CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	TR	10/7/2021	WATER
	CONDUCTIVITY SM2510-B	730	1.0	uS/cm@25C	TR	10/7/2021	WATER

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



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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 2  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 4:43 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM

MI  
SAMPLED BY: WPM/OMPC

**SAMPLE ANALYSIS**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-2						
	CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	TR	10/7/2021	WATER
	CONDUCTIVITY SM2510-B	860	1.0	uS/cm@25C	TR	10/7/2021	WATER

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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 3  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 1:13 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM

MI  
SAMPLED BY: WPM/OMPC

**SAMPLE ANALYSIS**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-3D						
	CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	TR	10/7/2021	WATER
	CONDUCTIVITY SM2510-B	250	1.0	uS/cm@25C	TR	10/7/2021	WATER

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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 4  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 2:45 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM

MI  
SAMPLED BY: WPM/OMPC

**SAMPLE ANALYSIS**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-4						
	CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	TR	10/7/2021	WATER
	CONDUCTIVITY SM2510-B	710	1.0	uS/cm@25C	TR	10/7/2021	WATER

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LOD = LIMIT OF DETECTION  
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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 5  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 2:05 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM

MI  
SAMPLED BY: WPM/OMPC

**SAMPLE ANALYSIS**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-8						
	CHLORIDE EPA 300.0	20	10	mg/L (PPM)	TR	10/7/2021	WATER
	CONDUCTIVITY SM2510-B	740	1.0	uS/cm@25C	TR	10/7/2021	WATER

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



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COMPANY: BREITBURN OPERATING  
PROJECT NO: 20-157  
LOCATION: JOSEPH 1

GTA PROJECT NO: 100621-1  
GTA SAMPLE NO: 6  
DATE SAMPLED: 10/5/2021  
TIME SAMPLED: 3:30 PM  
DATE RECEIVED: 10/6/2021  
TIME RECEIVED: 9:50 AM

MI  
SAMPLED BY: WPM/OMPC

**SAMPLE ANALYSIS**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-9						
	CHLORIDE EPA 300.0	17	10	mg/L (PPM)	TR	10/7/2021	WATER
	CONDUCTIVITY SM2510-B	840	1.0	uS/cm@25C	TR	10/7/2021	WATER

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

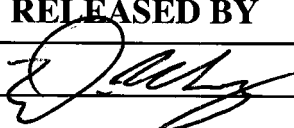
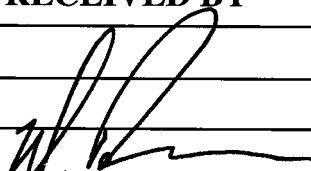
**CHAIN OF CUSTODY**

PROJECT NUMBER 20-157	SITE NAME/ADDRESS Joseph 1	COMPANY/NAME Breitourn
SAMPLED BY WPM	COMPANY O/MPC	GTA PROJECT # 100621-1

**SAMPLE INFORMATION**

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
	MW-1D	10-5-21	1615	H <sub>2</sub> O	BTEX, Chlorides, Conductivity
	MW-2	↓	1643	↓	↓
	MW-3D	↓	1313	↓	↓
	MW-4	↓	1445	↓	↓
	MW-8	↓	1405	↓	↓
	MW-9	↓	1530	↓	Chlorides, Conductivity

<b>BILL TO:</b>	TempRec: <input type="checkbox"/> .1°C	On Ice? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<b>REPORT TO:</b>
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<b>RELEASED BY</b> 	<b>DATE/TIME</b> 10-6-21 947	<b>RECEIVED BY</b> 	<b>DATE/TIME</b> 10-6-21 9:50A
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REQUESTED TAT  STANDARD  1 BUSINESS DAY  2 BUSINESS DAYS  3 BUSINESS DAYS