

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

Company: FIFE LAKE AREA UTILITY AUTHORITY

Name:

ClientProj: ANNUAL & BIMONTHLY

GTA ProjNo: 083021-1

Site Addr: 10701 VAN'S LANE

FIFE LAKE

Sampled By: RAY RAVARY/FLAUA

Date Rec: 8/30/2021

Time Rec: 12:40 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	MW-15	8/30/2021	11:28 AM	WATER
2	MW-14	8/30/2021	10:56 AM	WATER
3	MW-13	8/30/2021	10:21 AM	WATER
4	MW-12	8/30/2021	11:40 AM	WATER
5	MW-5	8/30/2021	11:05 AM	WATER
6	MW-7	8/30/2021	11:17 AM	WATER
7	EFFLUENT	8/30/2021	12:01 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
Fx: 231-929-0894
SP: 231-590-0291
kirk@gtanalytical.com

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: MW-15

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 1
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 11:28 AM
SAMPLE MATRIX: WATER

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	200	10	mg/L (PPM)	TR	9/2/2021
ALKALINITY SM 4500CO2D (CARBONATE)	<10	10	mg/L (PPM)	TR	9/2/2021
AMMONIA-N EPA 350.1	<0.015	0.015	mg/L (PPM)	KC	9/7/2021
CALCIUM DISS EPA 200.8	190	5.0	mg/L (PPM)	MR	9/8/2021
CHLORIDE EPA 300.0	35	10	mg/L (PPM)	LV	8/31/2021
CONDUCTIVITY SM2510-B	520	1.0	uS/cm@25C	LV	8/31/2021
IRON DISS EPA 200.8	<0.50	0.50	mg/L (PPM)	MR	9/8/2021
MAGNESIUM DISS EPA 200.8	19	0.50	mg/L (PPM)	MR	9/8/2021
MANGANESE DISS EPA 200.8	<0.050	0.050	mg/L (PPM)	MR	9/8/2021
NITRATE-N EPA 300.0	4.5	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
POTASSIUM DISS EPA 200.8	38	0.50	mg/L (PPM)	MR	9/8/2021
SODIUM DISS EPA 200.8	36	0.50	mg/L (PPM)	MR	9/8/2021
SULFATE EPA 300.0	15	1.0	mg/L (PPM)	LV	8/31/2021
TOTAL INORGANIC NITROGEN	4.5	0.22	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	<0.010	0.010	mg/L (PPM)	LV	9/9/2021

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: MW-14

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 2
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 10:56 AM
SAMPLE MATRIX: WATER

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	240	10	mg/L (PPM)	TR	9/2/2021
ALKALINITY SM 4500CO2D (CARBONATE)	<10	10	mg/L (PPM)	TR	9/2/2021
AMMONIA-N EPA 350.1	<0.015	0.015	mg/L (PPM)	KC	9/7/2021
CALCIUM DISS EPA 200.8	240	5.0	mg/L (PPM)	MR	9/8/2021
CHLORIDE EPA 300.0	44	10	mg/L (PPM)	LV	8/31/2021
CONDUCTIVITY SM2510-B	560	1.0	uS/cm@25C	LV	8/31/2021
IRON DISS EPA 200.8	<0.50	0.50	mg/L (PPM)	MR	9/8/2021
MAGNESIUM DISS EPA 200.8	14	0.50	mg/L (PPM)	MR	9/8/2021
MANGANESE DISS EPA 200.8	<0.050	0.050	mg/L (PPM)	MR	9/8/2021
NITRATE-N EPA 300.0	2.4	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
POTASSIUM DISS EPA 200.8	29	0.50	mg/L (PPM)	MR	9/8/2021
SODIUM DISS EPA 200.8	39	0.50	mg/L (PPM)	MR	9/8/2021
SULFATE EPA 300.0	7.2	1.0	mg/L (PPM)	LV	8/31/2021
TOTAL INORGANIC NITROGEN	2.4	0.22	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	<0.010	0.010	mg/L (PPM)	LV	9/9/2021

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: MW-13

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 3
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 10:21 AM
SAMPLE MATRIX: WATER

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	300	10	mg/L (PPM)	TR	9/2/2021
ALKALINITY SM 4500CO2D (CARBONATE)	<10	10	mg/L (PPM)	TR	9/2/2021
AMMONIA-N EPA 350.1	<0.015	0.015	mg/L (PPM)	KC	9/7/2021
CALCIUM DISS EPA 200.8	270	5.0	mg/L (PPM)	MR	9/8/2021
CHLORIDE EPA 300.0	13	10	mg/L (PPM)	LV	8/31/2021
CONDUCTIVITY SM2510-B	570	1.0	uS/cm@25C	LV	8/31/2021
IRON DISS EPA 200.8	<0.50	0.50	mg/L (PPM)	MR	9/8/2021
MAGNESIUM DISS EPA 200.8	22	0.50	mg/L (PPM)	MR	9/8/2021
MANGANESE DISS EPA 200.8	<0.050	0.050	mg/L (PPM)	MR	9/8/2021
NITRATE-N EPA 300.0	2.9	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
POTASSIUM DISS EPA 200.8	29	0.50	mg/L (PPM)	MR	9/8/2021
SODIUM DISS EPA 200.8	12	0.50	mg/L (PPM)	MR	9/8/2021
SULFATE EPA 300.0	4.2	1.0	mg/L (PPM)	LV	8/31/2021
TOTAL INORGANIC NITROGEN	2.9	0.22	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	<0.010	0.010	mg/L (PPM)	LV	9/9/2021

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: MW-12

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 4
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 11:40 AM
SAMPLE MATRIX: WATER

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	210	10	mg/L (PPM)	TR	9/2/2021
ALKALINITY SM 4500CO2D (CARBONATE)	<10	10	mg/L (PPM)	TR	9/2/2021
AMMONIA-N EPA 350.1	<0.015	0.015	mg/L (PPM)	KC	9/7/2021
CALCIUM DISS EPA 200.8	74	0.50	mg/L (PPM)	MR	9/8/2021
CHLORIDE EPA 300.0	21	10	mg/L (PPM)	LV	8/31/2021
CONDUCTIVITY SM2510-B	480	1.0	uS/cm@25C	LV	8/31/2021
IRON DISS EPA 200.8	<0.50	0.50	mg/L (PPM)	MR	9/8/2021
MAGNESIUM DISS EPA 200.8	19	0.50	mg/L (PPM)	MR	9/8/2021
MANGANESE DISS EPA 200.8	<0.050	0.050	mg/L (PPM)	MR	9/8/2021
NITRATE-N EPA 300.0	4.0	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
POTASSIUM DISS EPA 200.8	34	0.50	mg/L (PPM)	MR	9/8/2021
SODIUM DISS EPA 200.8	20	0.50	mg/L (PPM)	MR	9/8/2021
SULFATE EPA 300.0	12	1.0	mg/L (PPM)	LV	8/31/2021
TOTAL INORGANIC NITROGEN	4.0	0.22	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	0.039	0.010	mg/L (PPM)	LV	9/9/2021

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: MW-5

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 5
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 11:05 AM
SAMPLE MATRIX: WATER

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	200	10	mg/L (PPM)	TR	9/2/2021
ALKALINITY SM 4500CO2D (CARBONATE)	<10	10	mg/L (PPM)	TR	9/2/2021
AMMONIA-N EPA 350.1	<0.015	0.015	mg/L (PPM)	KC	9/7/2021
CALCIUM DISS EPA 200.8	53	0.50	mg/L (PPM)	MR	9/8/2021
CHLORIDE EPA 300.0	69	10	mg/L (PPM)	LV	8/31/2021
CONDUCTIVITY SM2510-B	600	1.0	uS/cm@25C	LV	8/31/2021
IRON DISS EPA 200.8	0.74	0.50	mg/L (PPM)	MR	9/8/2021
MAGNESIUM DISS EPA 200.8	11	0.50	mg/L (PPM)	MR	9/8/2021
MANGANESE DISS EPA 200.8	<0.050	0.050	mg/L (PPM)	MR	9/8/2021
NITRATE-N EPA 300.0	1.7	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
POTASSIUM DISS EPA 200.8	37	0.50	mg/L (PPM)	MR	9/8/2021
SODIUM DISS EPA 200.8	65	0.50	mg/L (PPM)	MR	9/8/2021
SULFATE EPA 300.0	84	1.0	mg/L (PPM)	LV	8/31/2021
TOTAL INORGANIC NITROGEN	1.7	0.22	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	0.020	0.010	mg/L (PPM)	LV	9/9/2021

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: MW-7

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 6
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 11:17 AM
SAMPLE MATRIX: WATER

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	120	10	mg/L (PPM)	TR	9/2/2021
ALKALINITY SM 4500CO2D (CARBONATE)	<10	10	mg/L (PPM)	TR	9/2/2021
AMMONIA-N EPA 350.1	<0.015	0.015	mg/L (PPM)	KC	9/7/2021
CALCIUM DISS EPA 200.8	1.9	0.50	mg/L (PPM)	MR	9/8/2021
CHLORIDE EPA 300.0	19	10	mg/L (PPM)	LV	8/31/2021
CONDUCTIVITY SM2510-B	260	1.0	uS/cm@25C	LV	8/31/2021
IRON DISS EPA 200.8	<0.50	0.50	mg/L (PPM)	MR	9/8/2021
MAGNESIUM DISS EPA 200.8	14	0.50	mg/L (PPM)	MR	9/8/2021
MANGANESE DISS EPA 200.8	<0.050	0.050	mg/L (PPM)	MR	9/8/2021
NITRATE-N EPA 300.0	0.28	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
POTASSIUM DISS EPA 200.8	40	0.50	mg/L (PPM)	MR	9/8/2021
SODIUM DISS EPA 200.8	29	0.50	mg/L (PPM)	MR	9/8/2021
SULFATE EPA 300.0	2.5	1.0	mg/L (PPM)	LV	8/31/2021
TOTAL INORGANIC NITROGEN	0.28	0.22	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	<0.010	0.010	mg/L (PPM)	LV	9/9/2021

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: FIFE LAKE AREA UTILITY AUTHORITY
PROJECT NO: ANNUAL & BIMONTHLY
LOCATION: 10701 VAN'S LANE
FIFE LAKE
MI
SAMPLED BY: RAY RAVARY/FLAUA
SAMPLE ID: EFFLUENT

GTA PROJECT NO: 083021-1
GTA SAMPLE NO: 7
DATE RECEIVED: 8/30/2021
TIME RECEIVED: 12:40 PM
DATE SAMPLED: 8/30/2021
TIME SAMPLED: 12:01 PM
SAMPLE MATRIX: WATER

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
AMMONIA-N EPA 350.1	<0.075	0.075	mg/L (PPM)	KC	9/7/2021
CHLORIDE EPA 300.0	220	10	mg/L (PPM)	LV	8/31/2021
NITRATE-N EPA 300.0	0.74	0.10	mg/L (PPM)	LV	8/31/2021
NITRITE-N EPA 300.0	<0.10	0.10	mg/L (PPM)	LV	8/31/2021
SODIUM EPA 200.8	180	5.0	mg/L (PPM)	MR	9/9/2021
TOTAL INORGANIC NITROGEN	0.74	0.28	mg/L (PPM)	LV/KC	9/7/2021
TOTAL PHOSPHORUS EPA 365.3	0.26	0.020	mg/L (PPM)	LV	9/9/2021

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 Annual monitoring wells	SITE NAME/ADDRESS 10701 Vans Lane	COMPANY/NAME FLAUA
SAMPLED BY Ray Ravary	COMPANY FLAUA	GTA PROJECT # 003021-1 Annual monitoring wells

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
2	15	8-30-21	1128	w/w	Annual monitoring wells
2	14		1056		
2	13		1021		
2	12		1140		
2	5		1105		
2	7		1117		
2	EFF	✓	1201	w/w	Bi monthly EFF

BILL TO: FLAUA 40 H&R Block Kingsley	TempRec: ☐ 3.0 C	On Ice? ☒ Y ☐ N	REPORT TO: FLAUA (A) Att. net RRAVARY (A) provide. net
RELEASED BY Ray Ravary	DATE/TIME 8-30-21 1240	RECEIVED BY [Signature]	DATE/TIME 8/30/21 1240
REQUESTED TAT ☐ STANDARD ☐ 1 BUSINESS DAY ☐ 2 BUSINESS DAYS ☐ 3 BUSINESS DAYS			