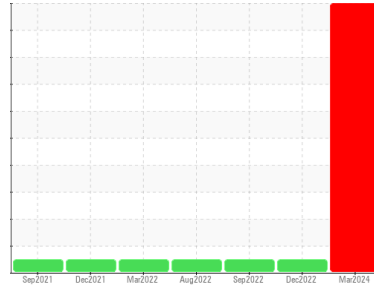




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Area
GFL2160
 Machine Id
529028

Component
Diesel Engine
 Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

▲ Contamination

Test for glycol is positive. There is a high amount of fuel present in the oil. There is a light concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Tests confirm the presence of fuel in the oil.

▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0111715	GFL0061858	GFL0051890
Sample Date	Client Info		13 Mar 2024	01 Dec 2022	15 Sep 2022
Machine Age	kms	Client Info	366473	287291	0
Oil Age	kms	Client Info	0	7520	0
Oil Changed	Client Info		Changed	Changed	N/A
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>65	46	6	7
Chromium	ppm	ASTM D5185(m)	>5	1	<1	<1
Nickel	ppm	ASTM D5185(m)	>3	<1	<1	0
Titanium	ppm	ASTM D5185(m)	>5	0	<1	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>35	16	6	5
Lead	ppm	ASTM D5185(m)	>10	<1	0	0
Copper	ppm	ASTM D5185(m)	>180	5	1	1
Tin	ppm	ASTM D5185(m)	>8	0	<1	0
Antimony	ppm	ASTM D5185(m)	>35	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		6	239	241
Barium	ppm	ASTM D5185(m)		<1	0	0
Molybdenum	ppm	ASTM D5185(m)		57	120	121
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		769	645	656
Calcium	ppm	ASTM D5185(m)		1007	1507	1513
Phosphorus	ppm	ASTM D5185(m)	1200	819	734	725
Zinc	ppm	ASTM D5185(m)	1300	941	767	773
Sulfur	ppm	ASTM D5185(m)	3200	2180	2073	2082
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

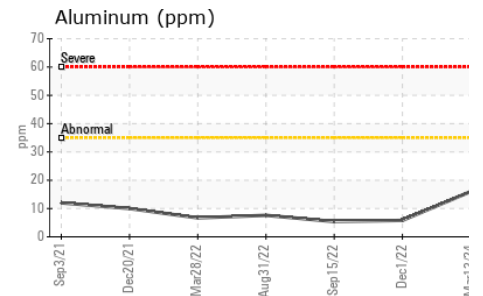
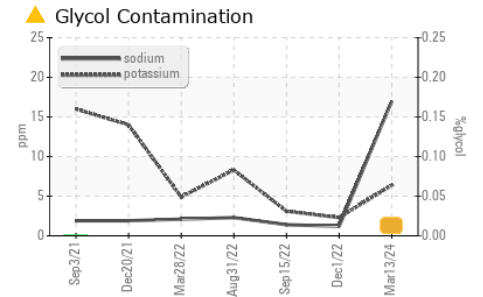
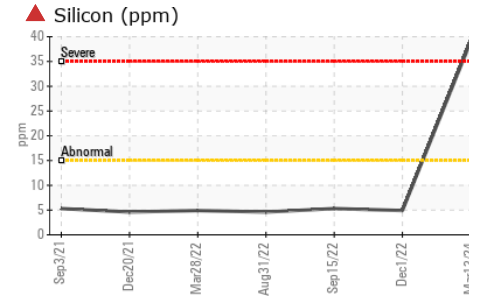
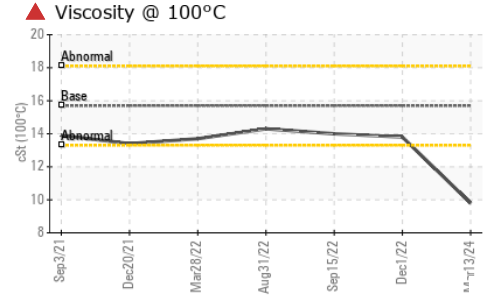
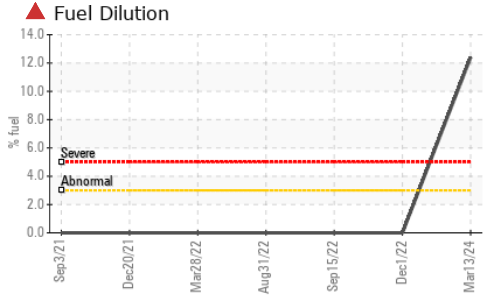
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	▲ 39	5	5
Sodium	ppm	ASTM D5185(m)		17	1	1
Potassium	ppm	ASTM D5185(m)	>20	▲ 6	2	3
Fuel	%	ASTM D7593*	>3.0	▲ 12.4	<1.0	<1.0
Glycol	%	ASTM D7922*		▲ 0.023	NEG	NEG

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.5	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	7.7	7.7	7.5
Sulfation	Abs./1mm	ASTM D7415*	>30	19.9	24.5	23.9



OIL ANALYSIS REPORT

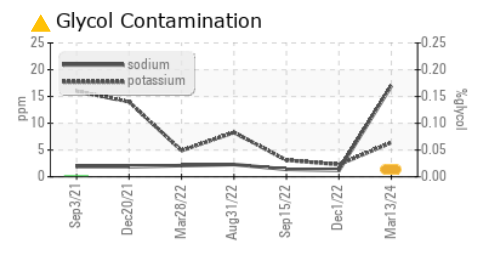
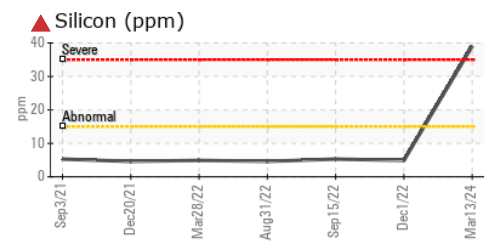
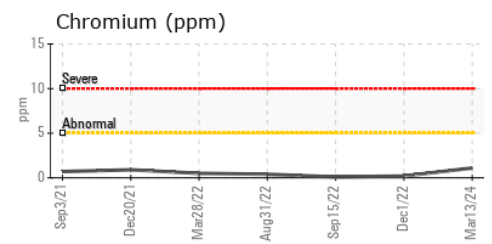
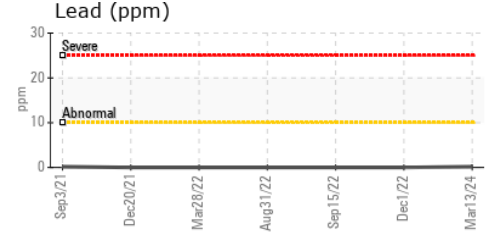
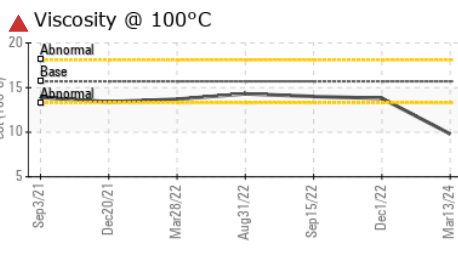
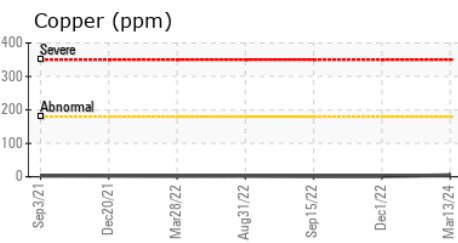
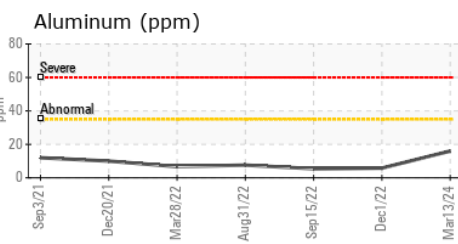
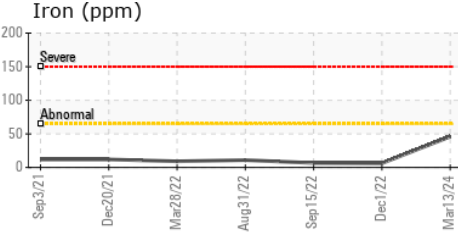


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	14.2	17.4	17.0

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	▲ 9.8	13.8	14.0

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 252 - GTA Hauling**
Sample No. : GFL0111715 **Received** : 15 Mar 2024 **3668 Weston Road**
Lab Number : 02622234 **Tested** : 18 Mar 2024 **North York, ON**
Unique Number : 5747353 **Diagnosed** : 18 Mar 2024 - Kevin Marson **CA M9L 1W2**
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel, Visual) **Contact: Amanda Cipollone**
To discuss this sample report, contact Customer Service at 1-800-268-2131. **acipollone@gflenv.com**
Test denoted () outside scope of accreditation, (m) method modified, (e) tested at external lab.*
Validity of results and interpretation are based on the sample and information as supplied.