



WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
GFL216
Machine Id
5547
Component
Diesel Engine
Fluid
CASTROL TECTION EXTRA SAE 15W-40 (40 LTR)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0121949	GFL0061859	GFL0049961
Sample Date		Client Info		28 Apr 2024	02 Dec 2022	10 Jun 2022
Machine Age	kms	Client Info		727642	693537	20912
Oil Age	kms	Client Info		0	0	451
Filter Age	kms	Client Info		0	0	451
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				SEVERE	MARGINAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	40	9	15
Chromium	ppm	ASTM D5185(m)	>20	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>5	1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	7	3	3
Lead	ppm	ASTM D5185(m)	>40	10	<1	<1
Copper	ppm	ASTM D5185(m)	>330	2	<1	2
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

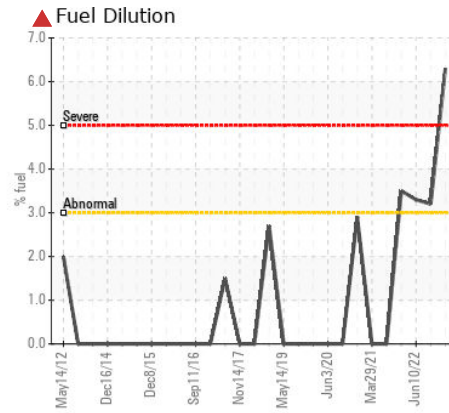
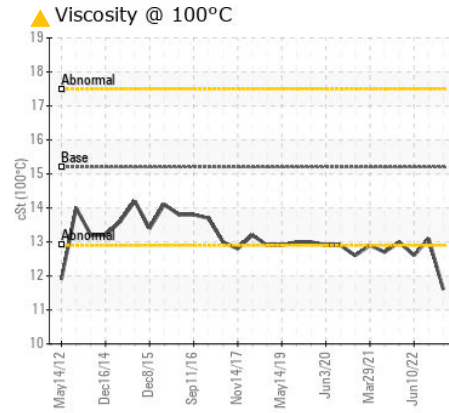
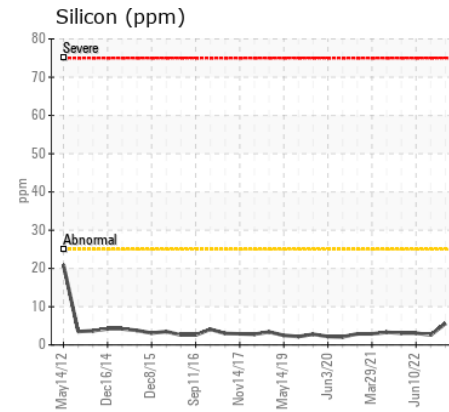
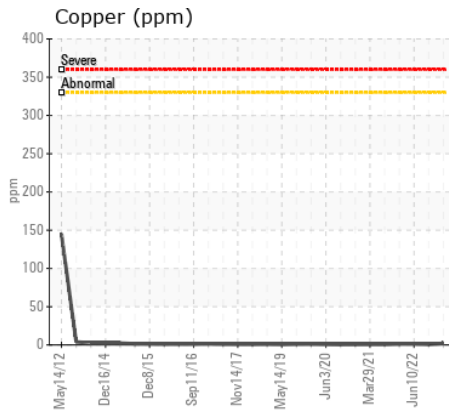
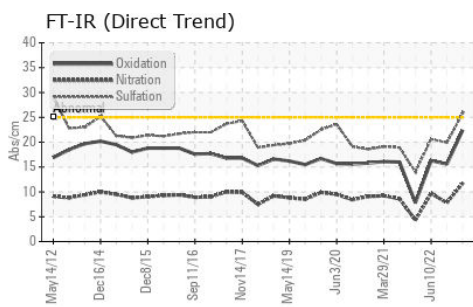
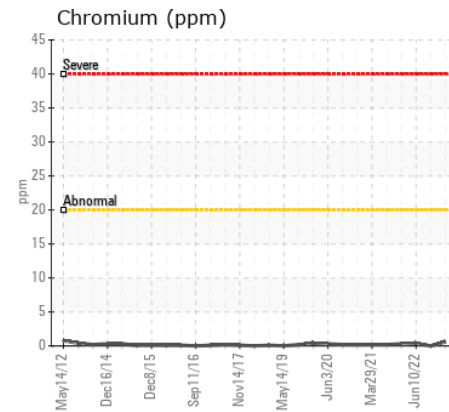
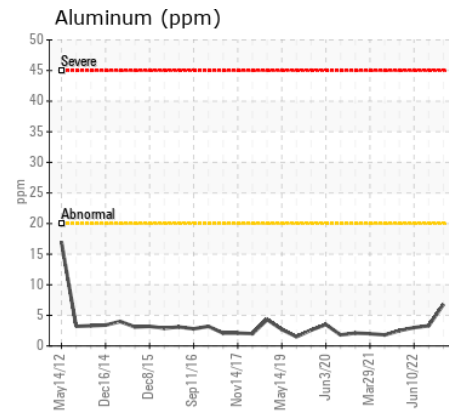
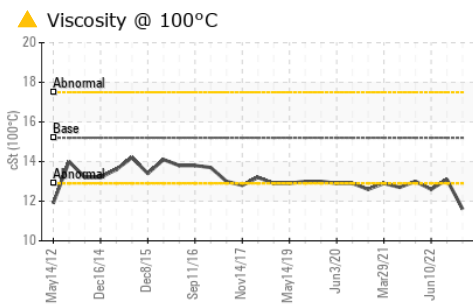
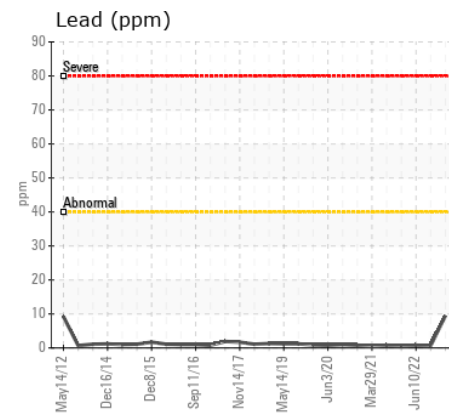
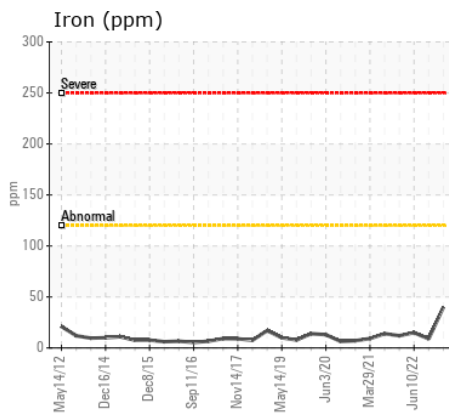
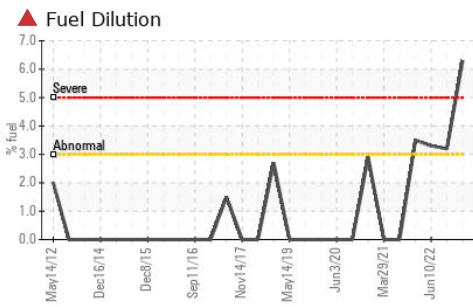
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	6	3	3
Potassium	ppm	ASTM D5185(m)	>20	1	<1	1
Fuel	%	ASTM D7593*	>3.0	▲ 6.3	▲ 3.2	▲ 3.3
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>4	0.6	0	0
Nitration	Abs/cm	ASTM D7624*	>20	11.7	7.8	9.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.8	19.9	20.6
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185(m)		8	4	2
Boron	ppm	ASTM D5185(m)	30	49	4	4
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		97	57	57
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	110	683	930	969
Calcium	ppm	ASTM D5185(m)	2740	1286	1069	1016
Phosphorus	ppm	ASTM D5185(m)	1240	659	1044	1049
Zinc	ppm	ASTM D5185(m)	1350	781	1152	1174
Sulfur	ppm	ASTM D5185(m)	3520	1942	2587	2555
Oxidation	Abs/.1mm	ASTM D7414*	>25	22.4	15.6	16.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.2	▲ 11.6	13.1	12.6



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0121949
Lab Number : 02635537
Unique Number : 5776690
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 252 - GTA Hauling
 3668 Weston Road
 North York, ON
 CA M9L 1W2
 Contact: Amanda Cipollone
 acipollone@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 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.