

Area
GFL216
Machine Id
4602
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0121960	GFL0111708	GFL0101407
Sample Date		Client Info		28 May 2024	05 Mar 2024	06 Dec 2023
Machine Age	kms	Client Info		417369	409314	399238
Oil Age	kms	Client Info		0	0	0
Filter Age	kms	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	4	8	5
Chromium	ppm	ASTM D5185(m)	>20	0	<1	0
Nickel	ppm	ASTM D5185(m)	>15	<1	<1	1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	2	1
Lead	ppm	ASTM D5185(m)	>40	0	2	<1
Copper	ppm	ASTM D5185(m)	>330	12	68	2
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

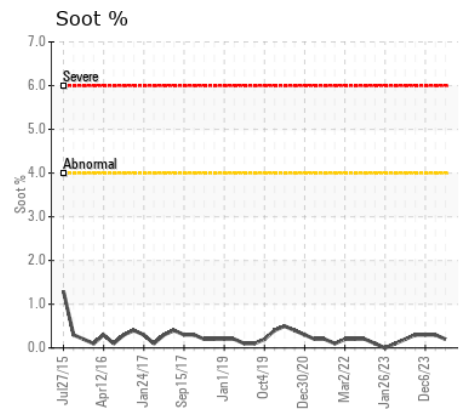
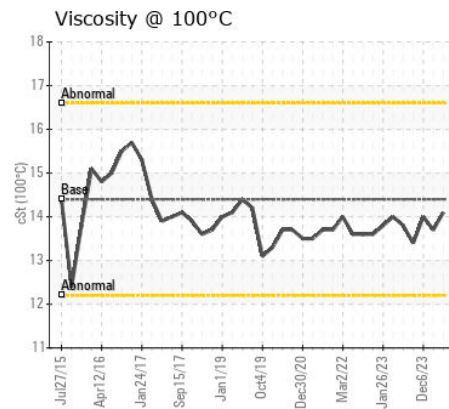
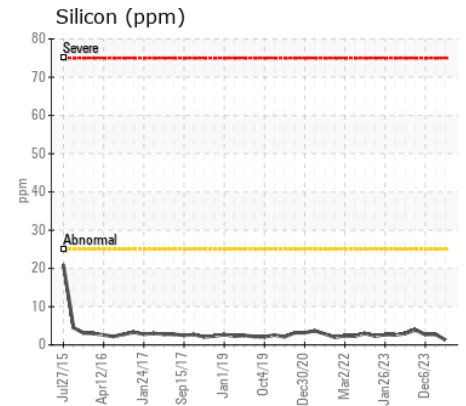
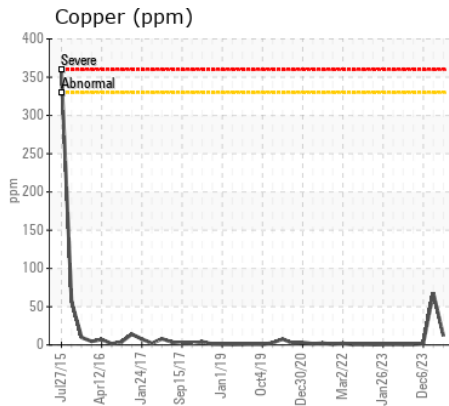
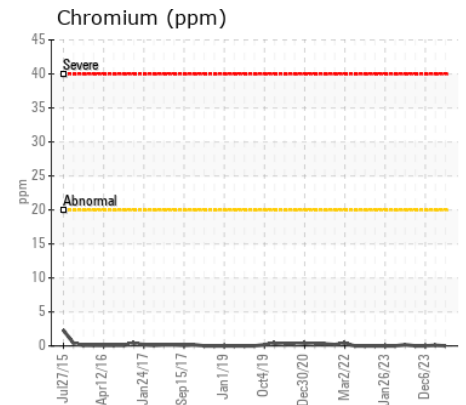
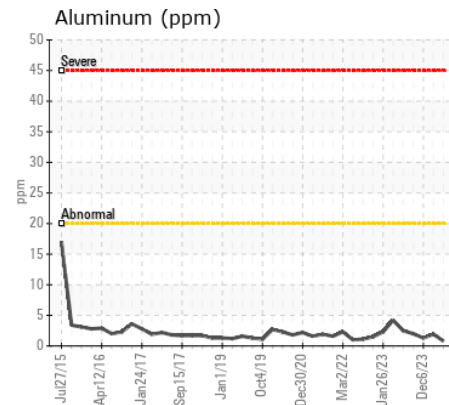
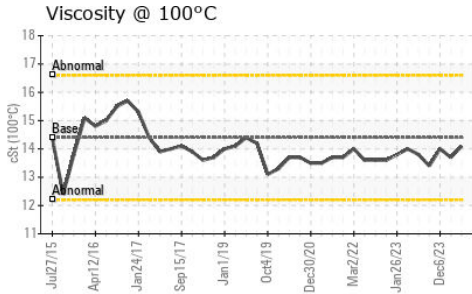
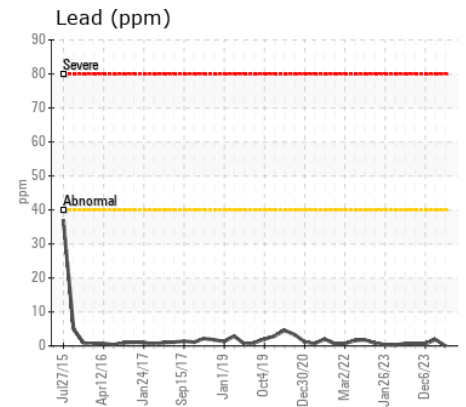
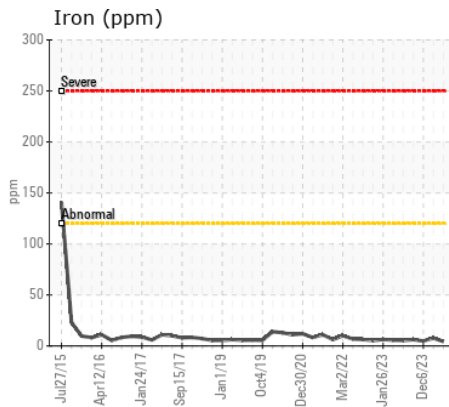
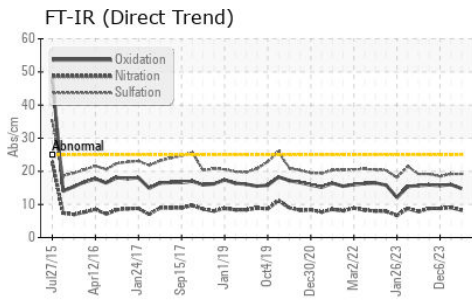
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	1	3	3
Potassium	ppm	ASTM D5185(m)	>20	1	2	<1
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>4	0.2	0.3	0.3
Nitration	Abs/cm	ASTM D7624*	>20	8.2	9.1	8.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.2	19.2	18.5
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>216	3	5	3
Boron	ppm	ASTM D5185(m)	250	3	2	2
Barium	ppm	ASTM D5185(m)	10	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	100	59	57	59
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	450	957	938	953
Calcium	ppm	ASTM D5185(m)	3000	1021	1030	1049
Phosphorus	ppm	ASTM D5185(m)	1150	1012	981	975
Zinc	ppm	ASTM D5185(m)	1350	1156	1143	1185
Sulfur	ppm	ASTM D5185(m)	4250	2532	2645	2553
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.8	16.0	15.7
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	14.1	13.7	14.0



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0121960
Lab Number : 02638786
Unique Number : 5787948
Test Package : MOB 1

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.

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F: