



Area
GFL216
Machine Id
911049
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0121958	GFL0099670	GFL0089252
Sample Date		Client Info		05 Jun 2024	22 Nov 2023	11 Aug 2023
Machine Age	kms	Client Info		47707	29928	20338
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

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185(m)	>120	41	19	25
Chromium	ppm	ASTM D5185(m)	>20	1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	3	2	2
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	8	2	2
Lead	ppm	ASTM D5185(m)	>40	<1	<1	1
Copper	ppm	ASTM D5185(m)	>330	11	16	39
Tin	ppm	ASTM D5185(m)	>15	2	1	1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

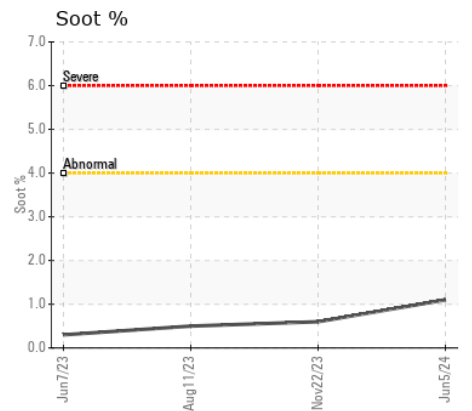
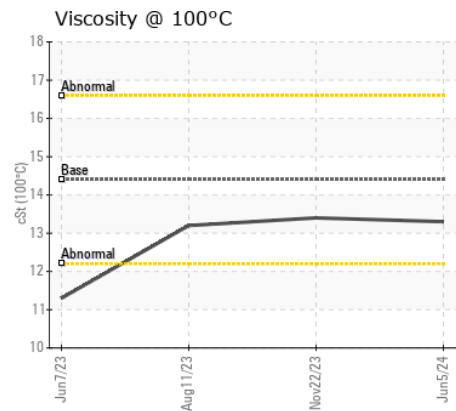
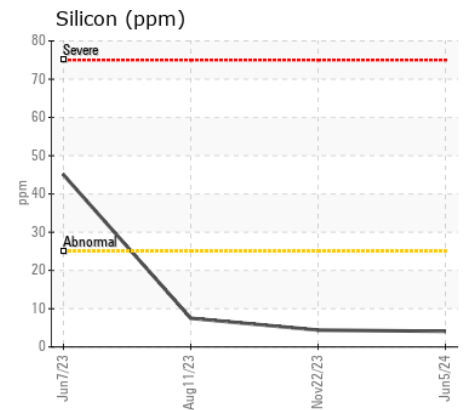
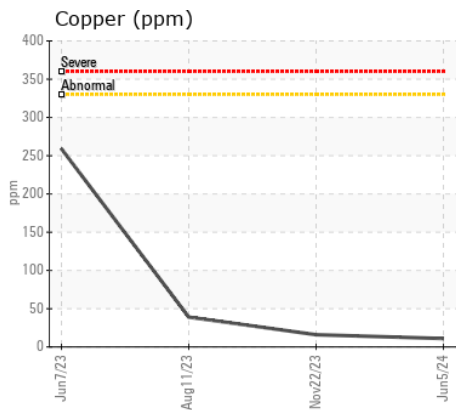
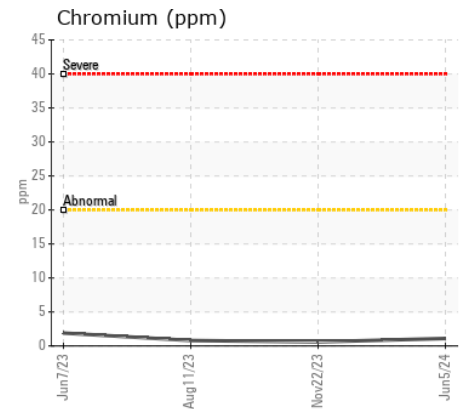
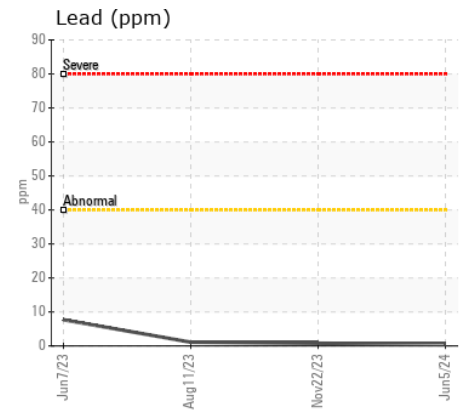
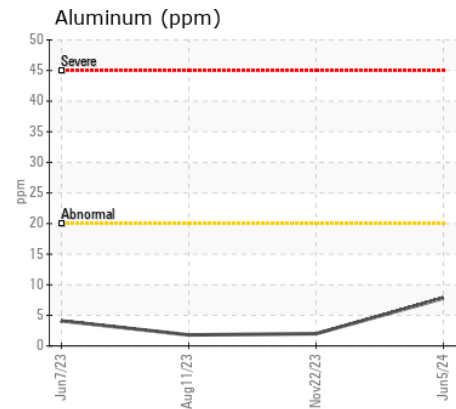
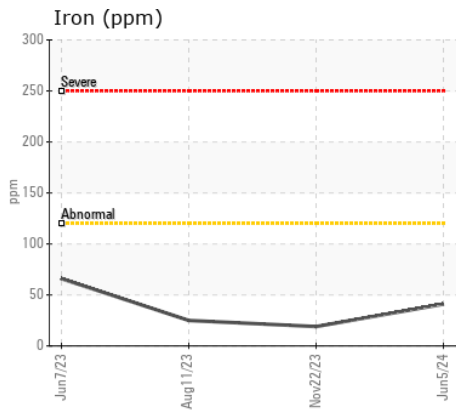
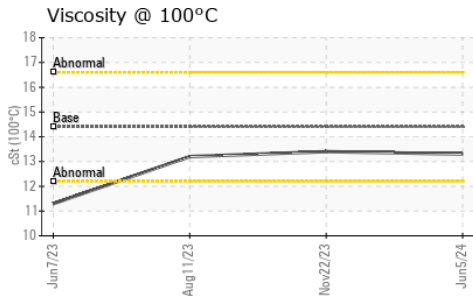
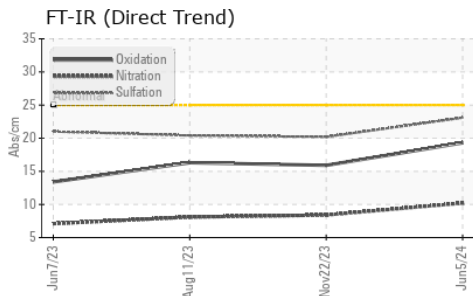
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	4	8
Potassium	ppm	ASTM D5185(m)	>20	23	3	3
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	1.1	0.6	0.5
Nitration	Abs/cm	ASTM D7624*	>20	10.2	8.4	8.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.1	20.2	20.4
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)	>158	7	5	5
Boron	ppm	ASTM D5185(m)	250	2	4	4
Barium	ppm	ASTM D5185(m)	10	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	100	62	59	57
Manganese	ppm	ASTM D5185(m)		1	<1	1
Magnesium	ppm	ASTM D5185(m)	450	1011	937	888
Calcium	ppm	ASTM D5185(m)	3000	1098	1029	1142
Phosphorus	ppm	ASTM D5185(m)	1150	960	906	969
Zinc	ppm	ASTM D5185(m)	1350	1195	1144	1162
Sulfur	ppm	ASTM D5185(m)	4250	2012	2087	2026
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.3	15.9	16.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	13.3	13.4	13.2



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0121958
Lab Number : 02640407
Unique Number : 5789569
Test Package : MOB 1
Received : 07 Jun 2024
Tested : 07 Jun 2024
Diagnosed : 07 Jun 2024 - Wes Davis

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.