



Machine Id
414022
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (36 LTR)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0118954	GFL0086779	GFL0086778
Sample Date		Client Info		05 Jun 2024	21 Feb 2024	22 Dec 2023
Machine Age	hrs	Client Info		1592	792	622
Oil Age	hrs	Client Info		1592	792	600
Filter Age	hrs	Client Info		1592	792	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	13	10	29
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	1	2
Titanium	ppm	ASTM D5185(m)	>2	<1	<1	0
Silver	ppm	ASTM D5185(m)	>2	<1	1	<1
Aluminum	ppm	ASTM D5185(m)	>20	3	4	6
Lead	ppm	ASTM D5185(m)	>40	7	11	13
Copper	ppm	ASTM D5185(m)	>330	273	455	415
Tin	ppm	ASTM D5185(m)	>15	<1	<1	3
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

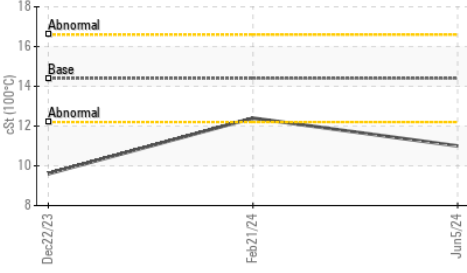
Silicon	ppm	ASTM D5185(m)	>25	6	16	55
Potassium	ppm	ASTM D5185(m)	>20	4	7	10
Fuel	%	ASTM D7593*	>3.0	0.1	<1.0	1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>4	0.1	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	10.4	9.9	10.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.8	18.9	24.3
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

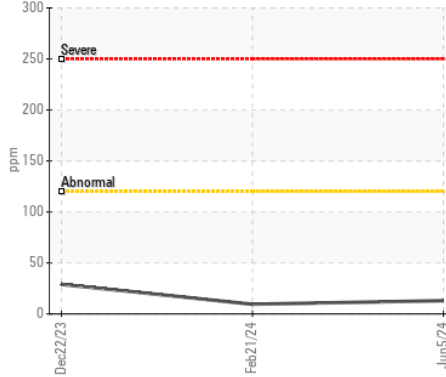
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>158	2	2	3
Boron	ppm	ASTM D5185(m)	250	34	84	258
Barium	ppm	ASTM D5185(m)	10	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	100	92	90	117
Manganese	ppm	ASTM D5185(m)		<1	<1	4
Magnesium	ppm	ASTM D5185(m)	450	41	153	687
Calcium	ppm	ASTM D5185(m)	3000	2208	2039	1421
Phosphorus	ppm	ASTM D5185(m)	1150	999	974	661
Zinc	ppm	ASTM D5185(m)	1350	1167	1081	767
Sulfur	ppm	ASTM D5185(m)	4250	2967	3129	2014
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.0	15.2	22.6
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 11.0	12.4	▲ 9.6

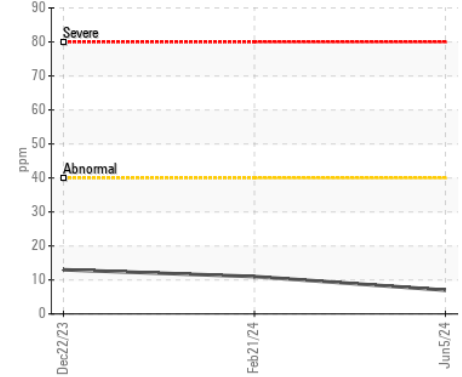
▲ Viscosity @ 100°C



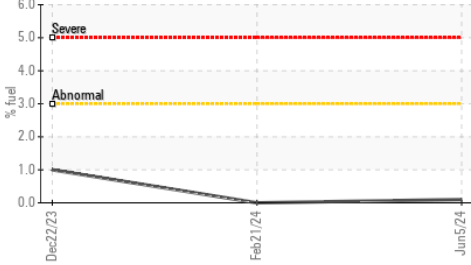
Iron (ppm)



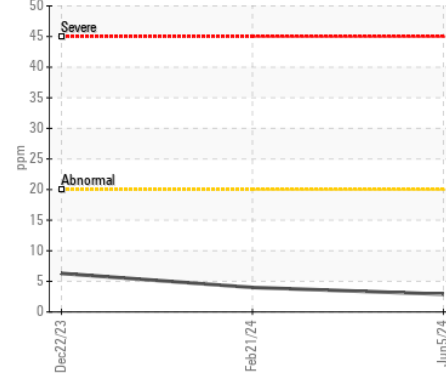
Lead (ppm)



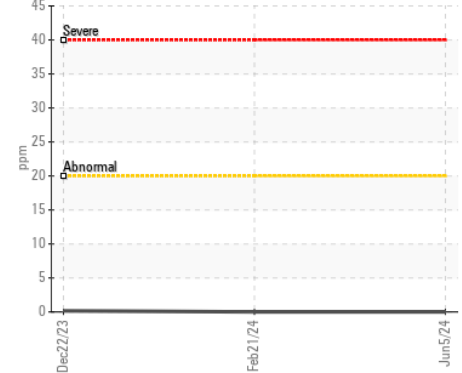
Fuel Dilution



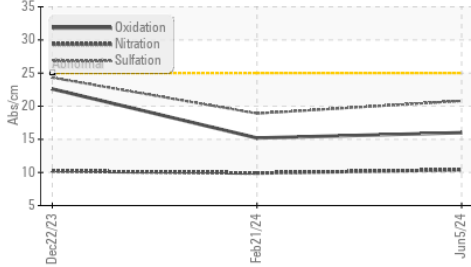
Aluminum (ppm)



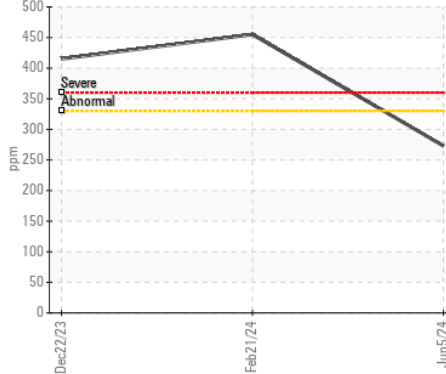
Chromium (ppm)



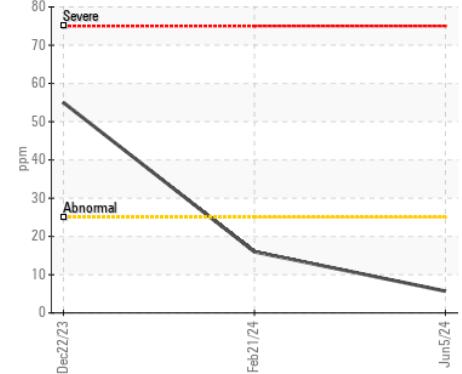
FT-IR (Direct Trend)



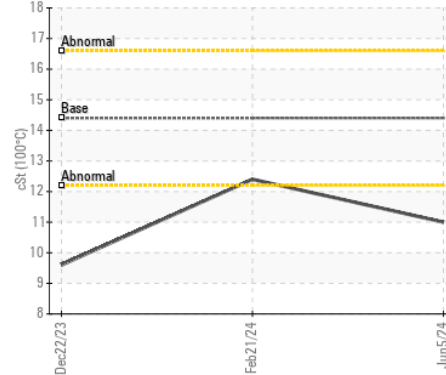
Copper (ppm)



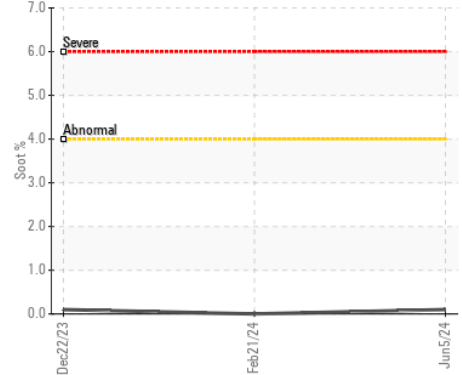
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0118954 **Received** : 06 Jun 2024
Lab Number : 02640080 **Tested** : 07 Jun 2024
Unique Number : 5789242 **Diagnosed** : 07 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD
 ORANGEVILLE, ON
 CA L9W 3X5
 Contact: GLENN COOK
 gcook@gflenv.com
 T: (519)940-4167
 F:

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.