



Machine Id
924003
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

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		GFL0102871	GFL0078524	GFL0071303
Sample Date		Client Info		08 Jan 2024	20 Apr 2023	16 Mar 2023
Machine Age	hrs	Client Info		0	20058	19937
Oil Age	hrs	Client Info		20961	0	19937
Filter Age	hrs	Client Info		0	0	19937
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	12	16	68
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	1
Titanium	ppm	ASTM D5185(m)	>2	0	1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	6	6	18
Lead	ppm	ASTM D5185(m)	>40	<1	<1	3
Copper	ppm	ASTM D5185(m)	>330	6	6	41
Tin	ppm	ASTM D5185(m)	>15	<1	<1	4
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

Light fuel dilution occurring. No other contaminants were detected in the oil.

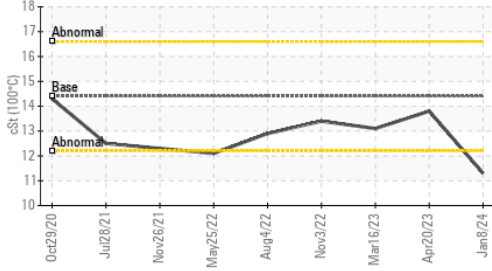
Silicon	ppm	ASTM D5185(m)	>25	4	9	▲ 30
Potassium	ppm	ASTM D5185(m)	>20	4	<1	5
Fuel	%	ASTM D7593*	>3.0	2.1	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	0.0
Soot %	%	ASTM D7844*	>4	0.3	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	7.7	5.4	8.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.7	17.9	22.2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

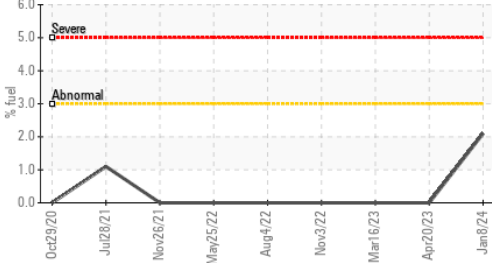
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>158	3	5	28
Boron	ppm	ASTM D5185(m)	250	33	5	4
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	100	38	57	58
Manganese	ppm	ASTM D5185(m)		0	<1	2
Magnesium	ppm	ASTM D5185(m)	450	453	933	910
Calcium	ppm	ASTM D5185(m)	3000	1624	1096	1102
Phosphorus	ppm	ASTM D5185(m)	1150	716	1066	1007
Zinc	ppm	ASTM D5185(m)	1350	837	1163	1135
Sulfur	ppm	ASTM D5185(m)	4250	2096	2649	2385
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.0	13.2	16.1
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 11.3	13.8	13.1

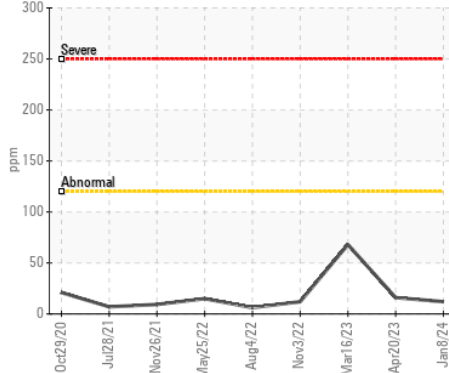
▲ Viscosity @ 100°C



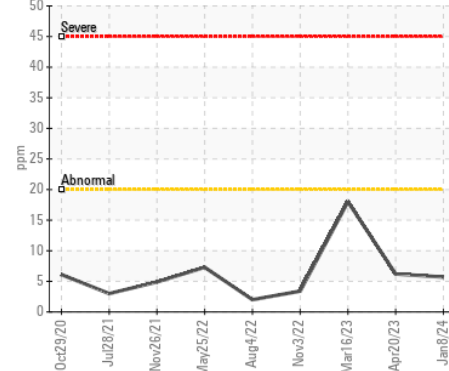
Fuel Dilution



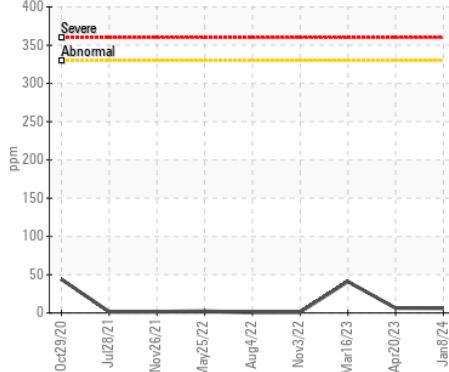
Iron (ppm)



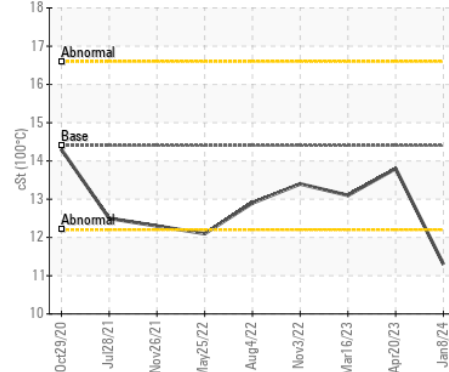
Aluminum (ppm)



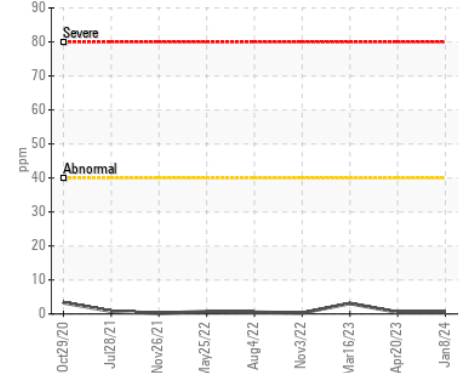
Copper (ppm)



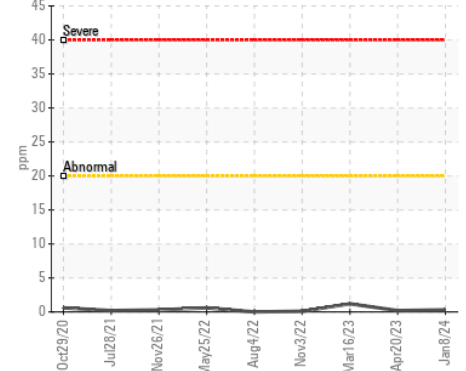
▲ Viscosity @ 100°C



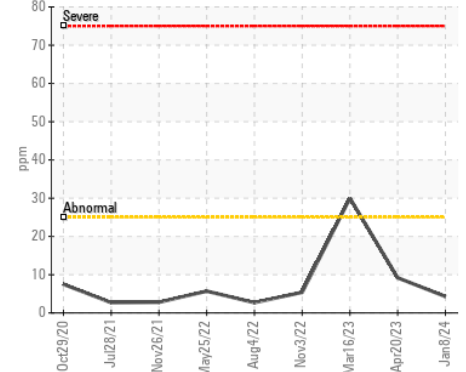
Lead (ppm)



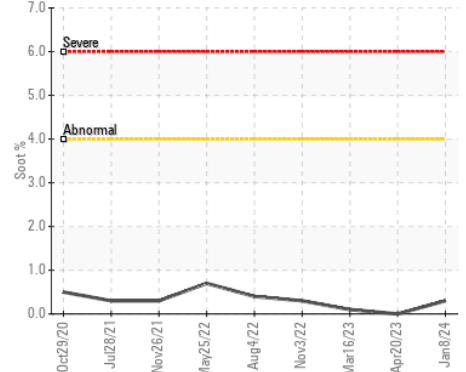
Chromium (ppm)



Silicon (ppm)



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 246 - Windsor**
Sample No. : GFL0102871 **Received** : 10 Jan 2024 **2700 Deziel Dr**
Lab Number : 02607659 **Diagnosed** : 11 Jan 2024 **Windsor, ON**
Unique Number : 5708745 **Diagnostician** : Kevin Marson **CA N8W 5H8**
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel) **Contact: Dave Varga**
dvarga@gflenv.com
T: (519)944-8009

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.