



Machine Id  
**401175**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (42 LTR)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0086780</b>	GFL0094425	GFL0094454
Sample Date		Client Info		<b>21 Feb 2024</b>	17 Nov 2023	18 Sep 2023
Machine Age	hrs	Client Info		<b>12594</b>	7595	7595
Oil Age	hrs	Client Info		<b>12594</b>	7595	7595
Filter Age	hrs	Client Info		<b>12594</b>	7595	7595
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	<b>6</b>	3	4
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>4</b>	4	3
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

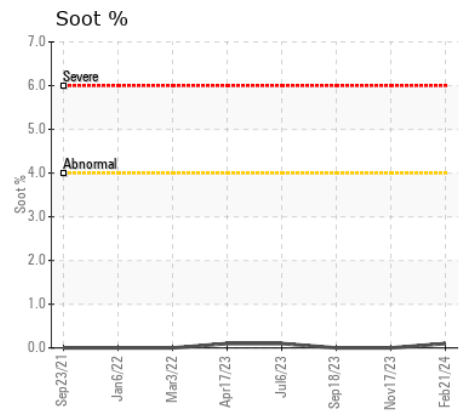
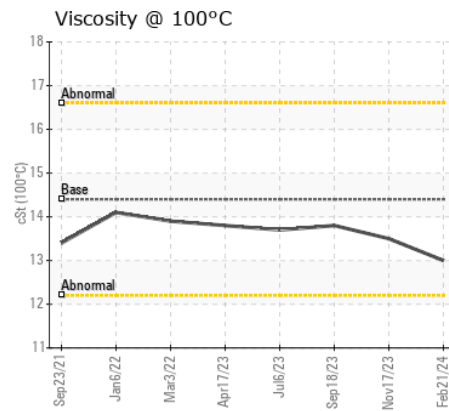
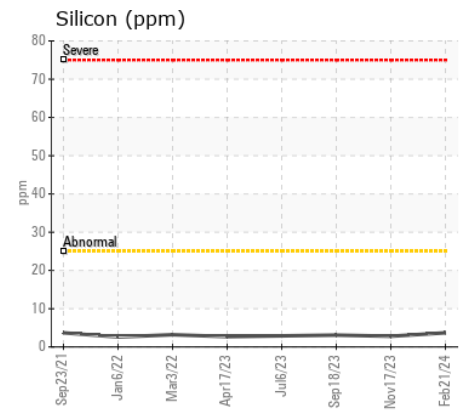
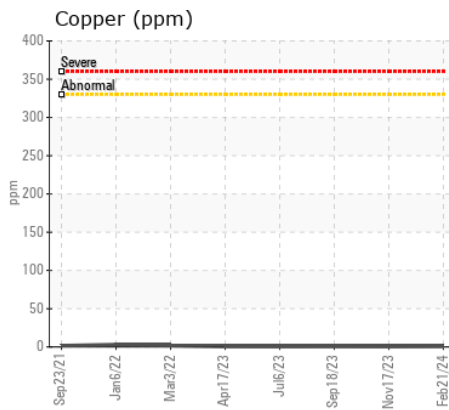
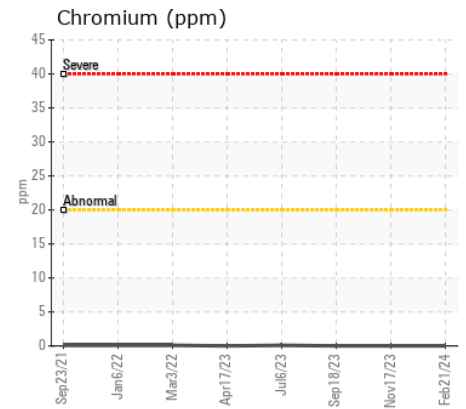
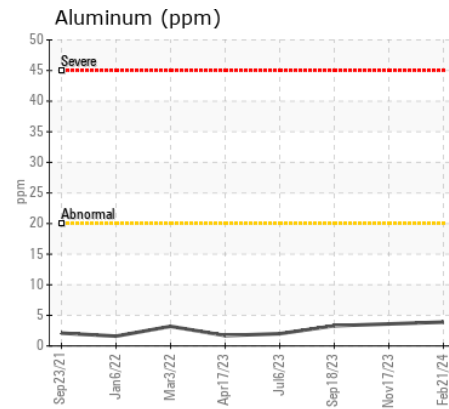
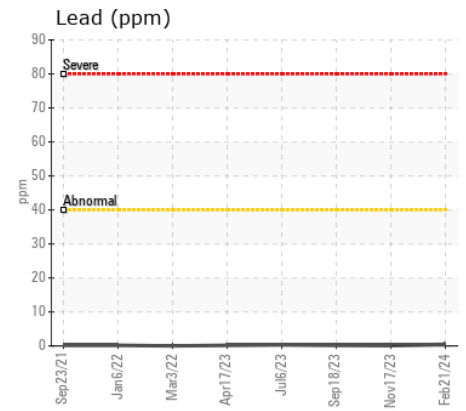
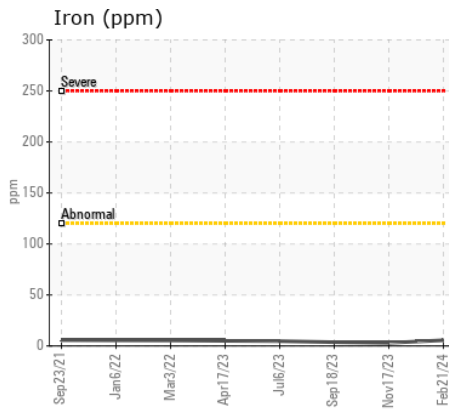
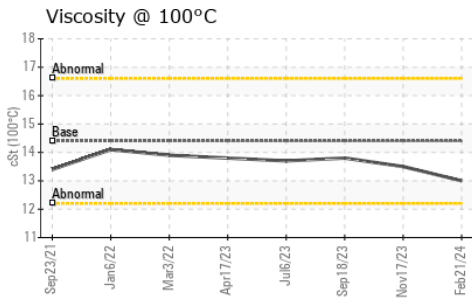
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>4</b>	3	3
Potassium	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	1
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>4	<b>0.1</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.1</b>	8.9	8.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.4</b>	19.2	19.3
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)	>158	<b>3</b>	3	4
Boron	ppm	ASTM D5185(m)	250	<b>36</b>	39	24
Barium	ppm	ASTM D5185(m)	10	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	100	<b>82</b>	86	80
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	450	<b>180</b>	58	32
Calcium	ppm	ASTM D5185(m)	3000	<b>1952</b>	2131	2137
Phosphorus	ppm	ASTM D5185(m)	1150	<b>952</b>	973	1036
Zinc	ppm	ASTM D5185(m)	1350	<b>1112</b>	1138	1139
Sulfur	ppm	ASTM D5185(m)	4250	<b>3012</b>	2976	2967
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>14.5</b>	14.4	14.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	<b>13.0</b>	13.5	13.8



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0086780  
**Lab Number** : 02617339  
**Unique Number** : 5734449  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**Received** : 22 Feb 2024  
**Tested** : 22 Feb 2024  
**Diagnosed** : 22 Feb 2024 - Wes Davis

**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  
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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.