



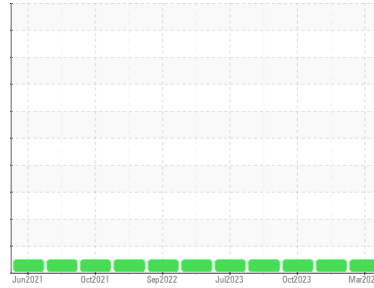
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**411005**  
Component  
**Diesel Engine**  
Fluid  
**CASTROL TECTION EXTRA SAE 15W-40 (42 LTR)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

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

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0086802</b>	GFL0086777	GFL0042862
Sample Date	Client Info		<b>12 Mar 2024</b>	22 Dec 2023	20 Oct 2023
Machine Age	hrs	Client Info	<b>9175</b>	8714	0
Oil Age	hrs	Client Info	<b>600</b>	600	0
Oil Changed	Client Info		<b>Changed</b>	Changed	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >120	<b>6</b>	9	6
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185(m) >5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m) >2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185(m) >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m) >20	<b>3</b>	4	3
Lead	ppm	ASTM D5185(m) >40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m) >330	<b>1</b>	2	2
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	<1	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 30	<b>41</b>	17	29
Barium	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)	<b>87</b>	89	88
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m) 110	<b>78</b>	65	59
Calcium	ppm	ASTM D5185(m) 2740	<b>2095</b>	2191	2176
Phosphorus	ppm	ASTM D5185(m) 1240	<b>1016</b>	980	992
Zinc	ppm	ASTM D5185(m) 1350	<b>1138</b>	1163	1165
Sulfur	ppm	ASTM D5185(m) 3520	<b>3172</b>	3097	3007
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

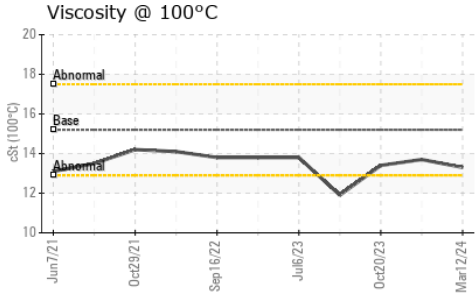
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	<b>3</b>	5	3
Sodium	ppm	ASTM D5185(m)	<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m) >20	<b>2</b>	3	1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	<b>0.1</b>	0.2	0.1
Nitration	Abs/cm	ASTM D7624* >20	<b>9.9</b>	10.7	9.5
Sulfation	Abs./1mm	ASTM D7415* >30	<b>20.0</b>	22.6	19.6



# OIL ANALYSIS REPORT



### FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>15.1</b>	17.7	15.2

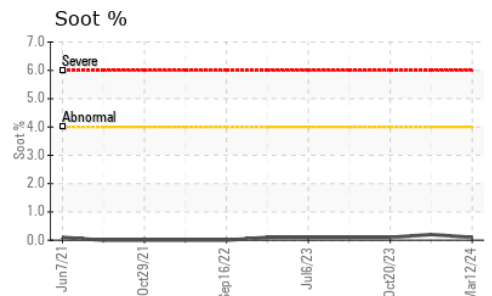
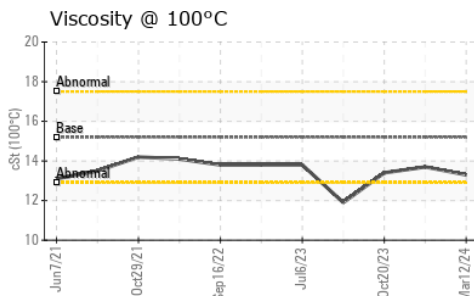
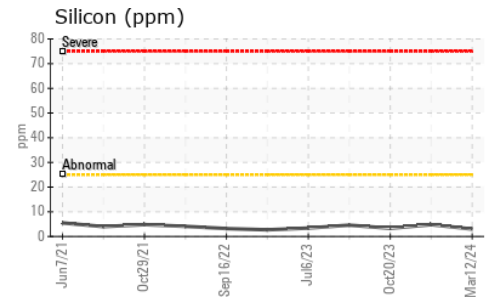
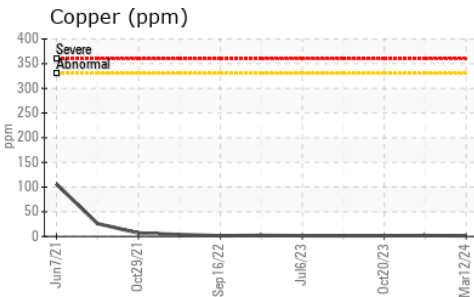
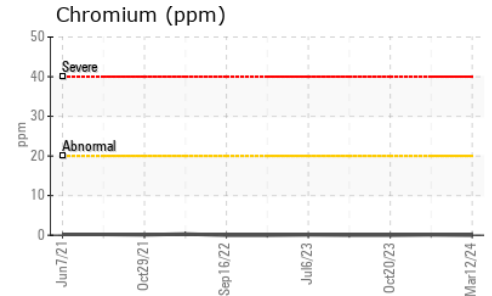
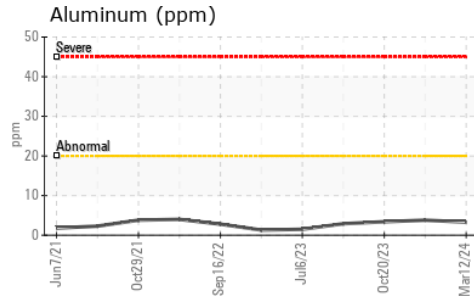
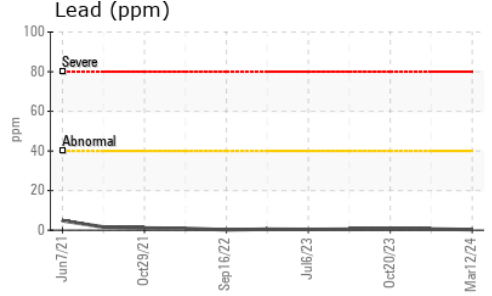
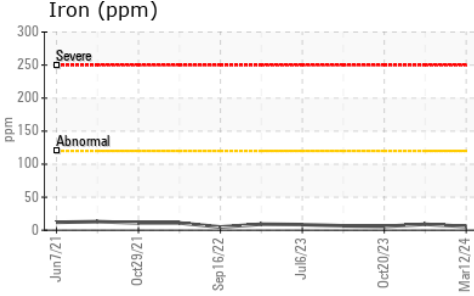
### VISUAL

	method	limit/base	current	history1	history2	
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

### FLUID PROPERTIES

	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D7279(m)	15.2	<b>13.3</b>	13.7	13.4

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0086802  
**Lab Number** : 02621929  
**Unique Number** : 5747048  
**Test Package** : MOB 1  
**Received** : 14 Mar 2024  
**Tested** : 14 Mar 2024  
**Diagnosed** : 14 Mar 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  
 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.