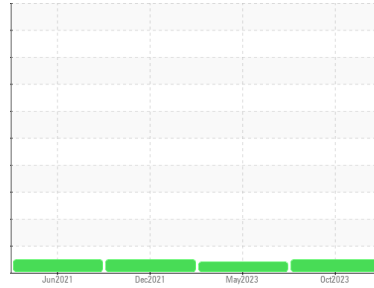




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**4443**

Component  
**Diesel Engine**

Fluid  
**CASTROL TECTION EXTRA SAE 15W-40 (--- 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>GFL0094395</b>	GFL0042865	GFL0032456
Sample Date	Client Info		<b>20 Oct 2023</b>	04 May 2023	15 Dec 2021
Machine Age	kms	Client Info	<b>661473</b>	71288	661473
Oil Age	kms	Client Info	<b>0</b>	0	17475
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	1.4	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	<b>4</b>	30	4
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>3</b>	5	2
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	0	1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	<1	<1
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>35</b>	28	26
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>80</b>	53	74
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	110	<b>55</b>	286	22
Calcium	ppm	ASTM D5185(m)	2740	<b>2162</b>	2120	2133
Phosphorus	ppm	ASTM D5185(m)	1240	<b>1016</b>	1136	987
Zinc	ppm	ASTM D5185(m)	1350	<b>1170</b>	1255	1127
Sulfur	ppm	ASTM D5185(m)	3520	<b>3112</b>	2974	3027
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>	6	4
Sodium	ppm	ASTM D5185(m)		<b>3</b>	3	5
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	3	<1

## INFRA-RED

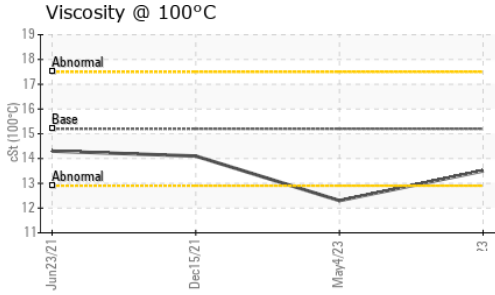
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0</b>	0.4	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.9</b>	10.0	2.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.8</b>	22.5	12.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>14.2</b>	18.2	4.6



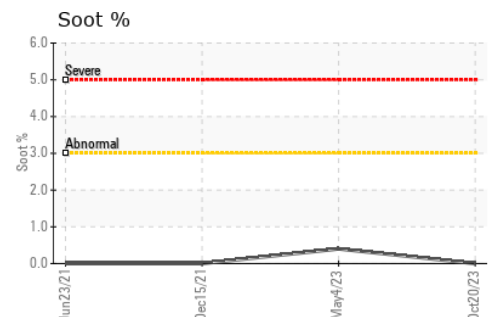
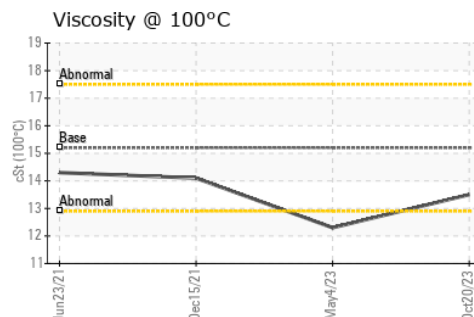
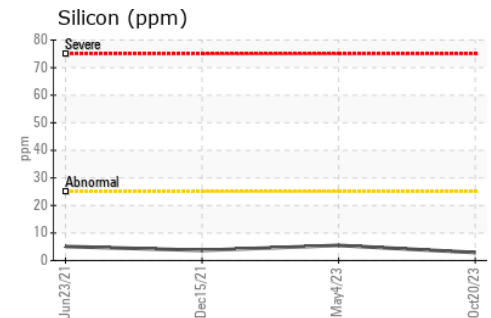
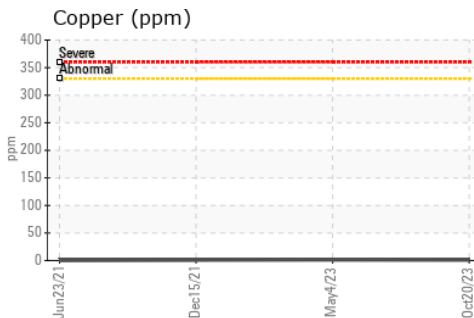
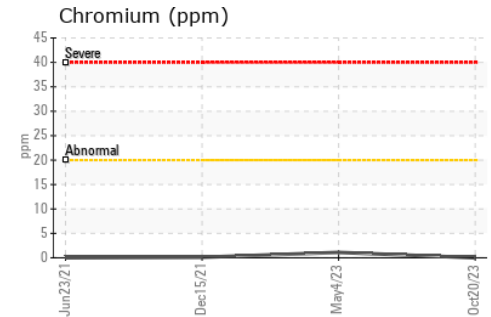
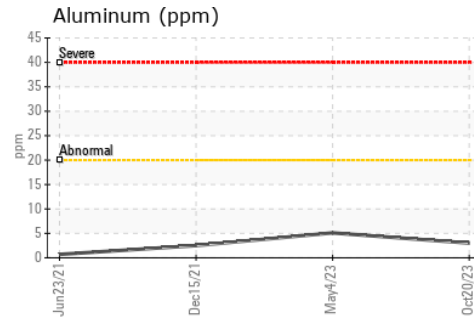
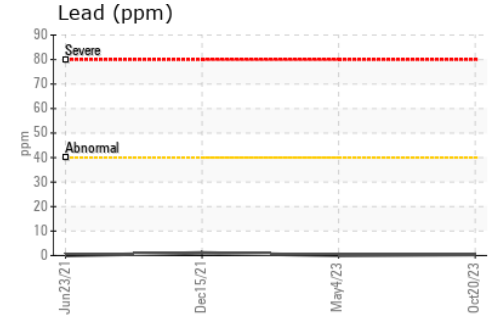
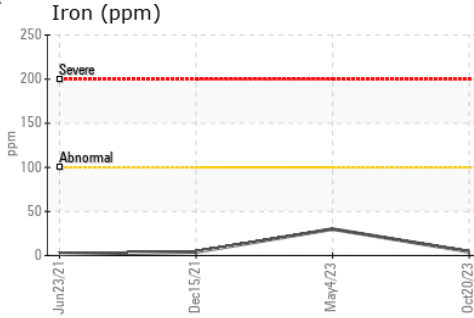
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.2	13.5	▲ 12.3 14.1

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0094395  
**Lab Number** : 02590846  
**Unique Number** : 5667925  
**Test Package** : MOB 1

**Received** : 23 Oct 2023  
**Diagnosed** : 23 Oct 2023  
**Diagnostician** : Kevin Marson  
**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.