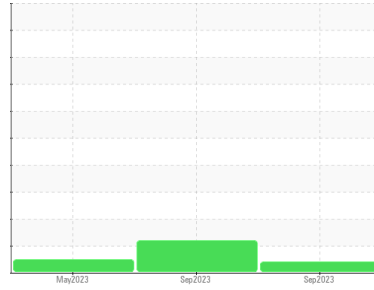




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Machine Id  
**219004**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

### 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

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. 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>GFL0094208</b>	GFL0094204	GFL0082009	
Sample Date	Client Info	<b>19 Sep 2023</b>	13 Sep 2023	01 May 2023	
Machine Age	hrs	Client Info	<b>2257</b>	2257	2257
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>Not Chngd</b>	Changed	Changed	
Sample Status		<b>ABNORMAL</b>	ABNORMAL	NORMAL	

### CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	▲ 2	<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>13</b>	78	36
Chromium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	1	<1
Nickel	ppm ASTM D5185(m) >4	<b>&lt;1</b>	<1	<1
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	<1
Silver	ppm ASTM D5185(m) >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185(m) >20	<b>2</b>	9	6
Lead	ppm ASTM D5185(m) >40	<b>0</b>	0	0
Copper	ppm ASTM D5185(m) >330	<b>&lt;1</b>	2	2
Tin	ppm ASTM D5185(m) >15	<b>0</b>	0	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) 250	<b>&lt;1</b>	2	10
Barium	ppm ASTM D5185(m) 10	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m) 100	<b>59</b>	59	58
Manganese	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185(m) 450	<b>996</b>	985	907
Calcium	ppm ASTM D5185(m) 3000	<b>1041</b>	1034	1070
Phosphorus	ppm ASTM D5185(m) 1150	<b>1094</b>	1086	1061
Zinc	ppm ASTM D5185(m) 1350	<b>1191</b>	1202	1136
Sulfur	ppm ASTM D5185(m) 4250	<b>2815</b>	2746	2604
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>6</b>	8	5
Sodium	ppm ASTM D5185(m) >216	<b>2</b>	2	1
Potassium	ppm ASTM D5185(m) >20	<b>0</b>	<1	<1

### INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	<b>0</b>	0.2	0.1
Nitration	Abs/cm ASTM D7624* >20	<b>4.8</b>	8.2	9.6
Sulfation	Abs/.1mm ASTM D7415* >30	<b>18.2</b>	19.1	18.9

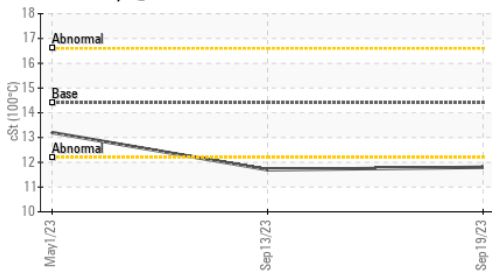
### FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414* >25	<b>13.1</b>	15.3	16.3



# OIL ANALYSIS REPORT

▲ Viscosity @ 100°C

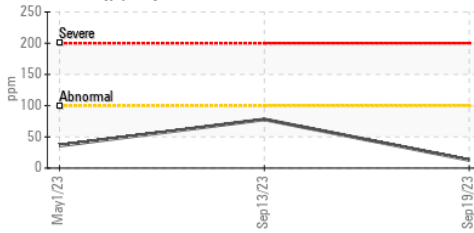


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

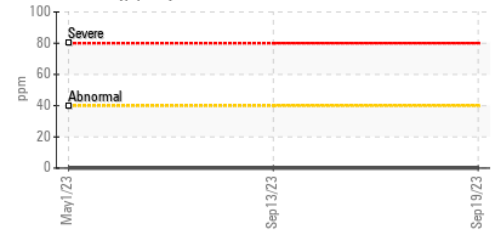
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	▲ 11.8	▲ 11.7	13.2

## GRAPHS

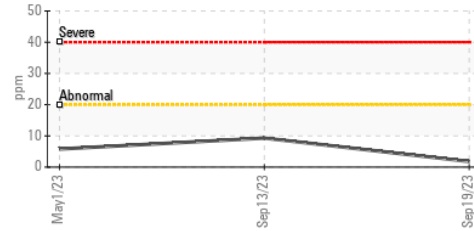
Iron (ppm)



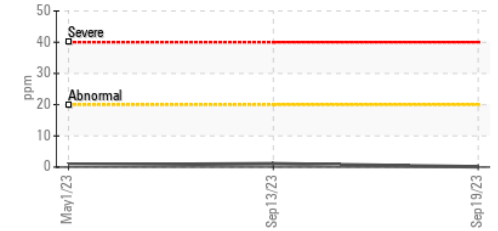
Lead (ppm)



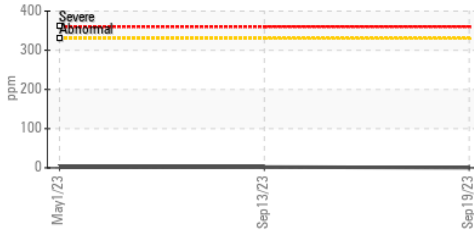
Aluminum (ppm)



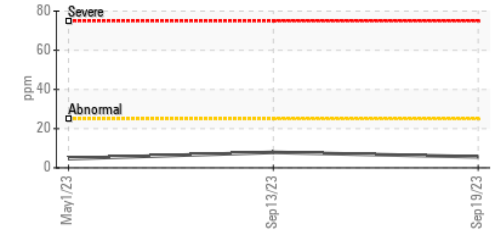
Chromium (ppm)



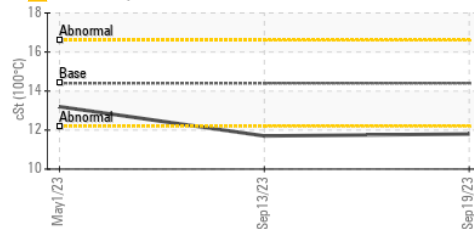
Copper (ppm)



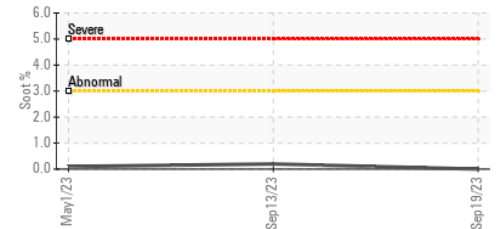
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0094208  
**Lab Number** : 02584330  
**Unique Number** : 5645395  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**GFL Environmental - 217 - Aurora**  
 14131 BAYVIEW AVE, AURORA YARD  
 AURORA, ON  
 CA L4G 0K6  
 Contact: Scott Ewan  
 SEwan@gflenv.com  
 T: (647)286-7468  
 F: (905)713-2445

*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.*