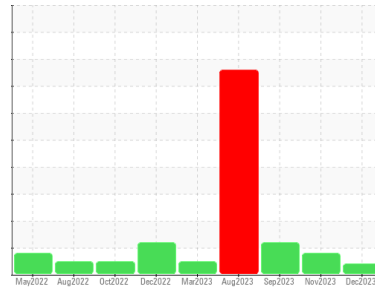




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Machine Id  
**811057**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

### DIAGNOSIS

#### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

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

#### ▲ Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is suitable for further service.

### SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	<b>GFL0099584</b>	GFL0099576	GFL0084338	
Sample Date	Client Info	<b>06 Dec 2023</b>	30 Nov 2023	11 Sep 2023	
Machine Age	kms	Client Info	<b>66308</b>	65621	56251
Oil Age	kms	Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>Not Changed</b>	Changed	Changed	
Sample Status		<b>ABNORMAL</b>	MARGINAL	ABNORMAL	

### CONTAMINATION

method	limit/base	current	history1	history2	
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)	>100	<b>8</b>	37	22
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	2	1
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	2
Aluminum	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	2	7
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)	0	<b>2</b>	2	2
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	60	<b>59</b>	55	56
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	1
Magnesium	ppm	ASTM D5185(m)	1010	<b>950</b>	870	914
Calcium	ppm	ASTM D5185(m)	1070	<b>1012</b>	955	959
Phosphorus	ppm	ASTM D5185(m)	1150	<b>984</b>	897	1003
Zinc	ppm	ASTM D5185(m)	1270	<b>1168</b>	1103	1115
Sulfur	ppm	ASTM D5185(m)	2060	<b>2570</b>	2259	2396
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

### CONTAMINANTS

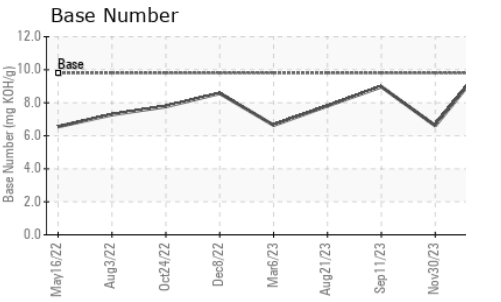
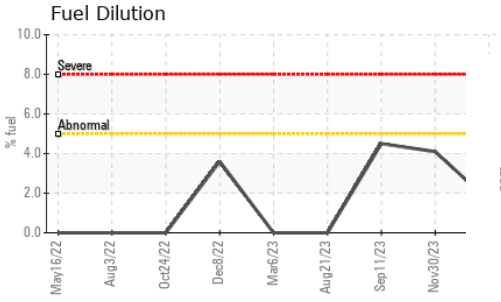
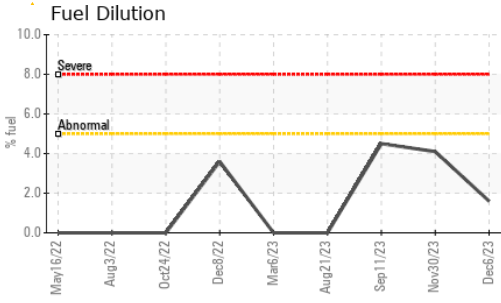
method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>25	<b>3</b>	5	8
Sodium	ppm	ASTM D5185(m)		<b>1</b>	2	3
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Fuel	%	ASTM D7593*	>5	<b>1.6</b>	▲ 4.1	▲ 4.5

### INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	ASTM D7844*	>3	<b>0</b>	0.4	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>5.5</b>	10.1	6.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.5</b>	21.8	20.2



# OIL ANALYSIS REPORT

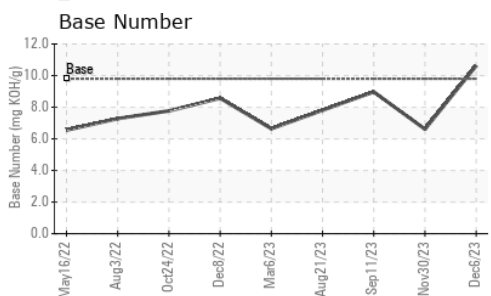
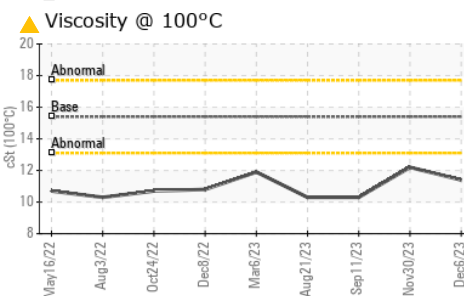
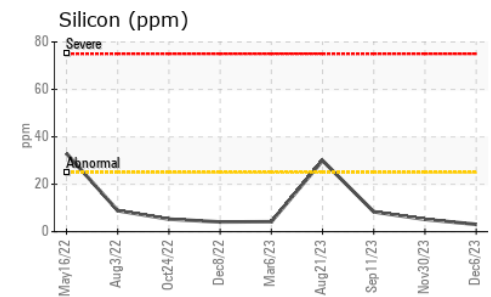
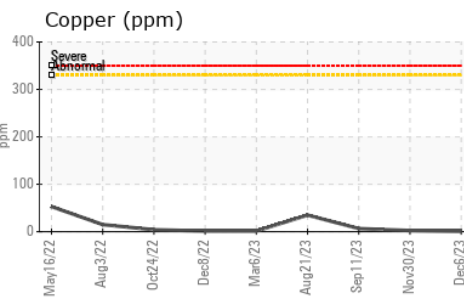
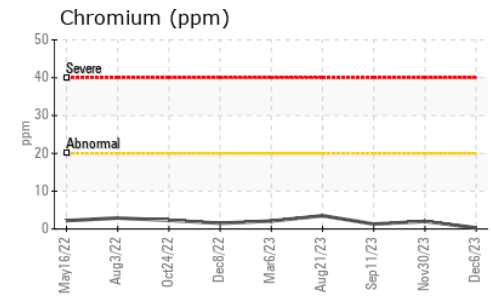
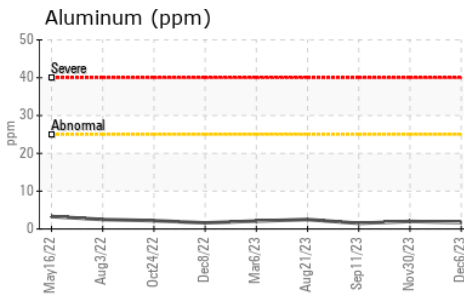
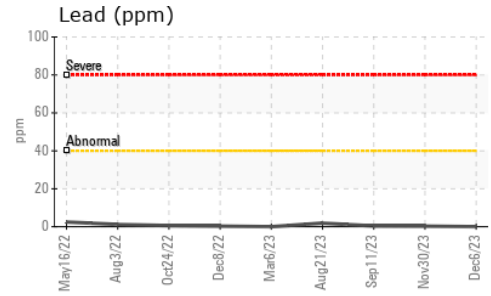
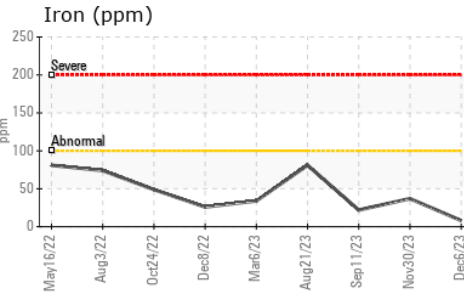


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	14.6	20.7	17.3
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	10.62	6.61	8.97

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 11.4	12.2	▲ 10.3

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County  
**Sample No.** : GFL0099584 **Received** : 14 Dec 2023  
**Lab Number** : 02603008 **Diagnosed** : 18 Dec 2023  
**Unique Number** : 5696093 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

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.

Contact: GFL Calgary  
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 T: (403)369-6163