



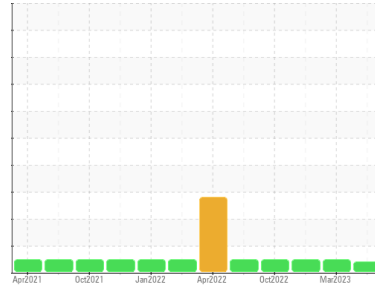
# OIL ANALYSIS REPORT

## Sample Rating Trend

## VISCOSITY



Machine Id  
**411008**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA DURON SHP 15W40, however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade on your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

#### Fluid Condition

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

### SAMPLE INFORMATION

method	limit/base	current	history 1	history 2
Sample Number	Client Info	<b>GFL0082569</b>	GFL0071305	GFL0063906
Sample Date	Client Info	<b>05 Jun 2023</b>	29 Mar 2023	29 Dec 2022
Machine Age	kms Client Info	<b>219058</b>	5455	4981
Oil Age	kms Client Info	<b>0</b>	0	519
Oil Changed	Client Info	<b>N/A</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	NORMAL

### CONTAMINATION

method	limit/base	current	history 1	history 2
Glycol	WC Method	<b>NEG</b>	NEG	NEG

### WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm ASTM D5185(m)	>120	<b>10</b>	7	8
Chromium	ppm ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0
Nickel	ppm ASTM D5185(m)	>5	<b>2</b>	3	<1
Titanium	ppm ASTM D5185(m)	>2	<b>0</b>	<1	<1
Silver	ppm ASTM D5185(m)	>2	<b>0</b>	0	<1
Aluminum	ppm ASTM D5185(m)	>20	<b>1</b>	2	1
Lead	ppm ASTM D5185(m)	>40	<b>&lt;1</b>	<1	<1
Copper	ppm ASTM D5185(m)	>330	<b>1</b>	1	1
Tin	ppm ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Antimony	ppm ASTM D5185(m)		<b>0</b>	0	<1
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	history 1	history 2	
Boron	ppm ASTM D5185(m)	0	<b>24</b>	3	2
Barium	ppm ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m)	60	<b>45</b>	60	59
Manganese	ppm ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185(m)	1010	<b>580</b>	951	966
Calcium	ppm ASTM D5185(m)	1070	<b>1650</b>	1125	1131
Phosphorus	ppm ASTM D5185(m)	1150	<b>872</b>	1072	1075
Zinc	ppm ASTM D5185(m)	1270	<b>958</b>	1192	1205
Sulfur	ppm ASTM D5185(m)	2060	<b>2195</b>	2596	2599
Lithium	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1

### CONTAMINANTS

method	limit/base	current	history 1	history 2	
Silicon	ppm ASTM D5185(m)	>25	<b>5</b>	2	3
Sodium	ppm ASTM D5185(m)		<b>2</b>	1	1
Potassium	ppm ASTM D5185(m)	>20	<b>1</b>	1	<1
Fuel	% ASTM D7593*	>3.0	<b>0.7</b>	<1.0	<1.0

### INFRA-RED

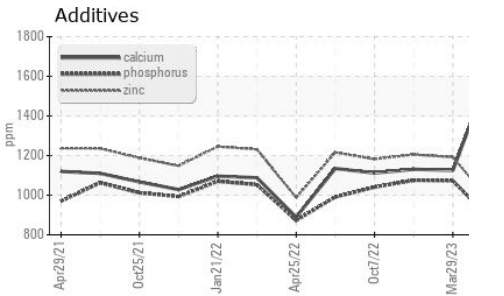
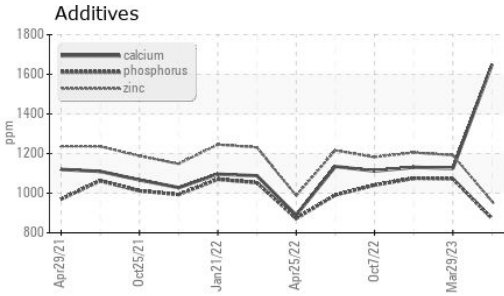
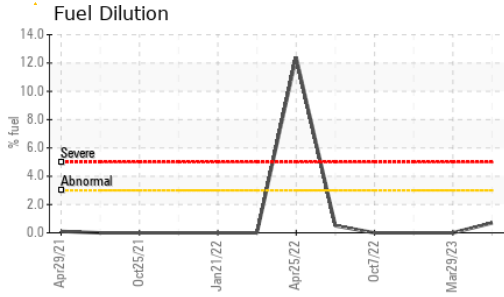
method	limit/base	current	history 1	history 2	
Soot %	% ASTM D7844*	>4	<b>0.2</b>	0.1	0
Nitration	Abs/cm ASTM D7624*	>20	<b>9.4</b>	8.2	6.2
Sulfation	Abs.1mm ASTM D7415*	>30	<b>22.1</b>	21.4	17.0

### FLUID DEGRADATION

method	limit/base	current	history 1	history 2	
Oxidation	Abs.1mm ASTM D7414*	>25	<b>20.7</b>	14.9	10.6



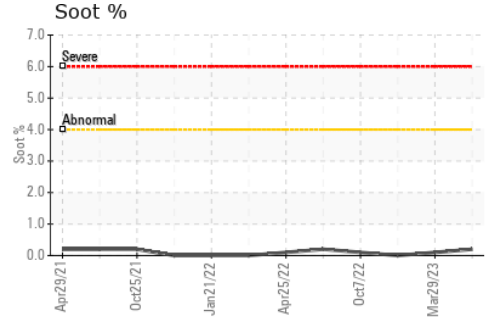
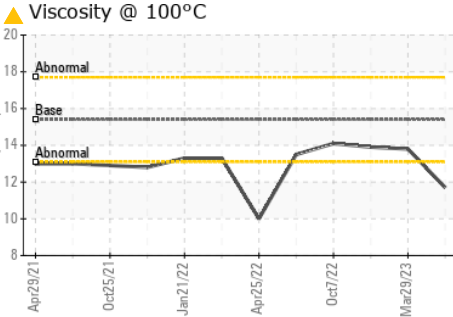
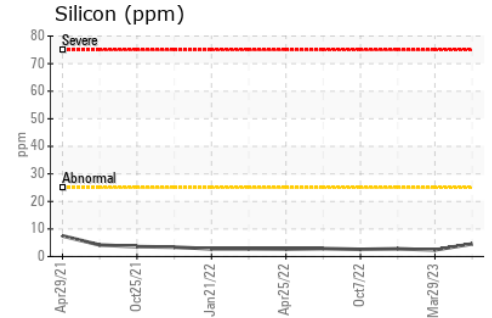
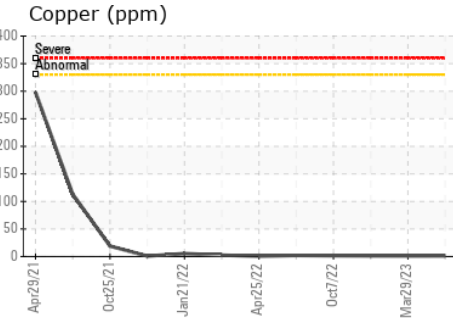
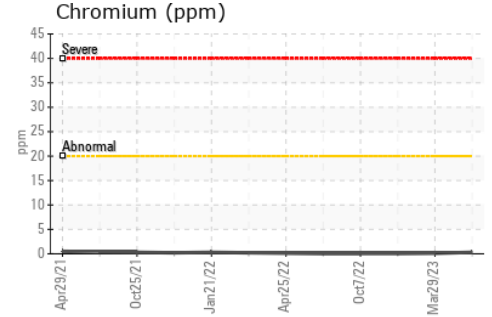
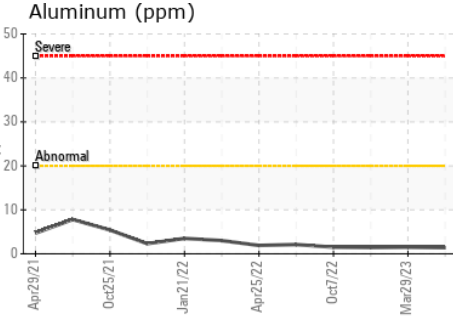
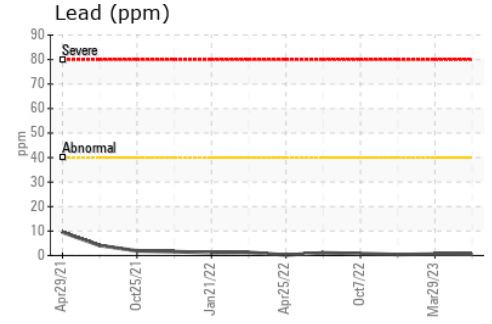
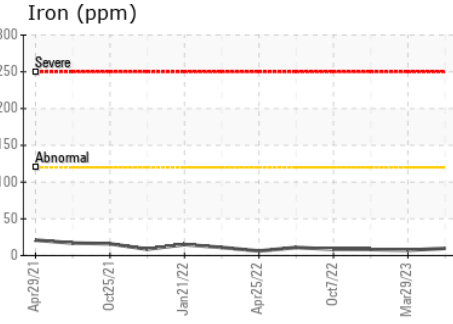
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D7279(m)	▲ 11.7	13.8	13.9

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0082569  
**Lab Number** : 02569038  
**Unique Number** : 5606084  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel )  
**Received** : 11 Jul 2023  
**Diagnosed** : 12 Jul 2023  
**Diagnostician** : Kevin Marson  
 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.

**GFL Environmental - 246 - Windsor**  
 2700 Deziel Dr  
 Windsor, ON  
 CA N8W 5H8  
 Contact: Dave Varga  
 dvarga@gflenv.com  
 T: (519)944-8009  
 F: