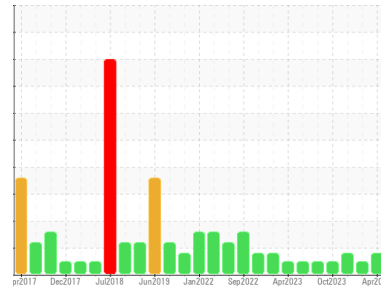




# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

**4532**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON SHP 10W30 (--- LTR)**

## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

Chromium ppm levels are abnormal. Ring wear is indicated.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0112557</b>	GFL0102593	GFL0101727
Sample Date	Client Info	<b>13 Apr 2024</b>	07 Feb 2024	30 Nov 2023
Machine Age	hrs	<b>27796</b>	27280	26745
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>Changed</b>	N/A	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	MARGINAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	▲ 2.3
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) >110	<b>68</b>	57	63
Chromium	ppm ASTM D5185(m) >4	▲ <b>5</b>	2	2
Nickel	ppm ASTM D5185(m) >2	<b>&lt;1</b>	<1	<1
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm ASTM D5185(m) >2	<b>0</b>	0	<1
Aluminum	ppm ASTM D5185(m) >25	<b>5</b>	5	3
Lead	ppm ASTM D5185(m) >45	<b>1</b>	1	2
Copper	ppm ASTM D5185(m) >85	<b>2</b>	2	2
Tin	ppm ASTM D5185(m) >4	<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) 2	<b>2</b>	2	3
Barium	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m) 50	<b>49</b>	59	61
Manganese	ppm ASTM D5185(m) 0	<b>&lt;1</b>	0	<1
Magnesium	ppm ASTM D5185(m) 950	<b>790</b>	945	981
Calcium	ppm ASTM D5185(m) 1050	<b>885</b>	1063	1078
Phosphorus	ppm ASTM D5185(m) 995	<b>795</b>	981	983
Zinc	ppm ASTM D5185(m) 1180	<b>979</b>	1164	1194
Sulfur	ppm ASTM D5185(m) 2600	<b>1823</b>	2395	2266
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >30	<b>13</b>	8	10
Sodium	ppm ASTM D5185(m)	<b>8</b>	7	8
Potassium	ppm ASTM D5185(m) >20	<b>1</b>	2	<1

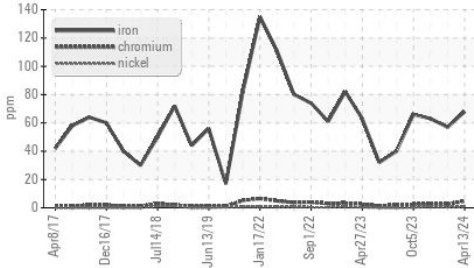
## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	<b>1.4</b>	1.3	1.3
Nitration	Abs/cm ASTM D7624* >20	<b>16.3</b>	13.3	13.1
Sulfation	Abs./1mm ASTM D7415* >30	<b>29.6</b>	26.8	26.6

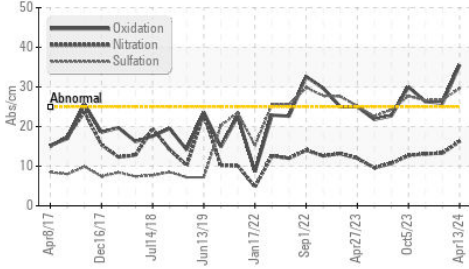


# OIL ANALYSIS REPORT

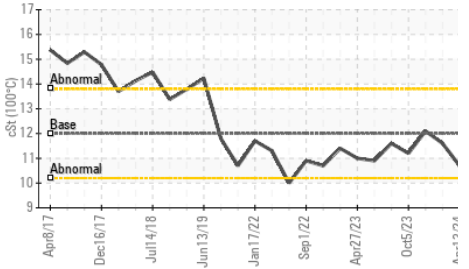
## ▲ Ferrous Alloys



## FT-IR (Direct Trend)



## Viscosity @ 100°C



## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	35.5	25.9	26.3

## VISUAL

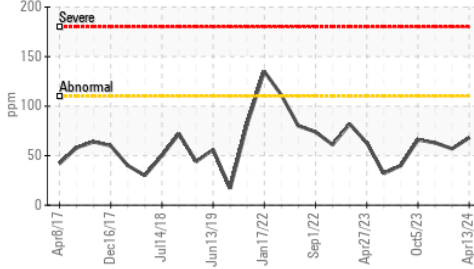
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG

## FLUID PROPERTIES

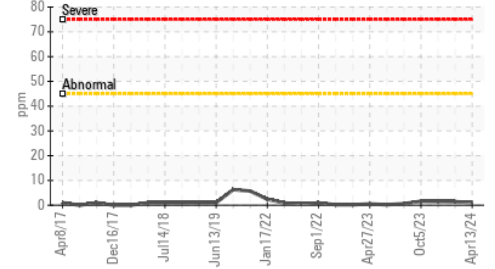
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	10.7	11.6	12.1

## GRAPHS

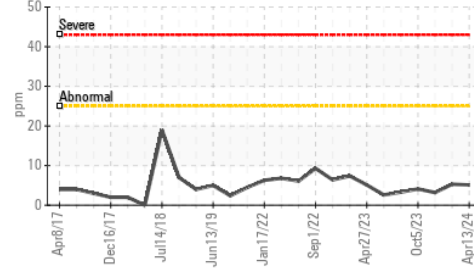
### Iron (ppm)



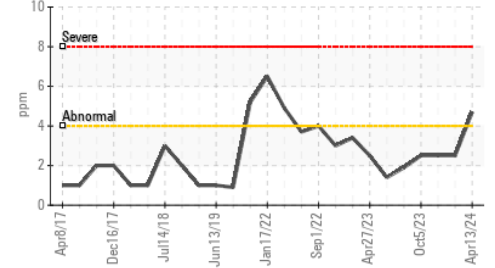
### Lead (ppm)



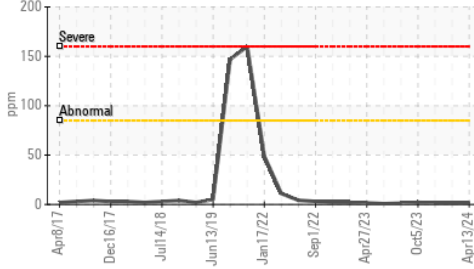
### Aluminum (ppm)



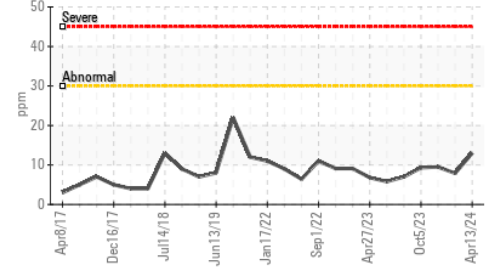
### ▲ Chromium (ppm)



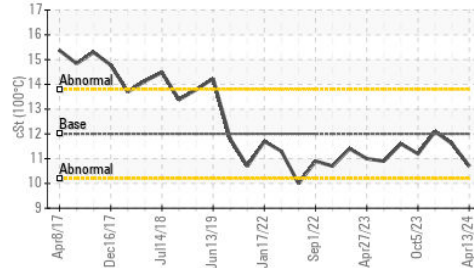
### Copper (ppm)



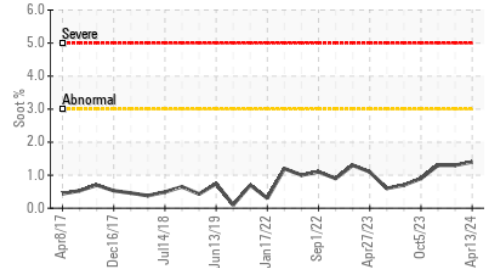
### Silicon (ppm)



### Viscosity @ 100°C



### Soot %



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0112557  
**Lab Number** : 02631529  
**Unique Number** : 5772682  
**Test Package** : MOB 1

**GFL Environmental - 554 - Edmonton SW**  
 8409 -15th Street NW  
 Edmonton, AB  
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 Contact: Tim Greig  
 tgreig@gflenv.com  
 T: (780)231-0521  
 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.