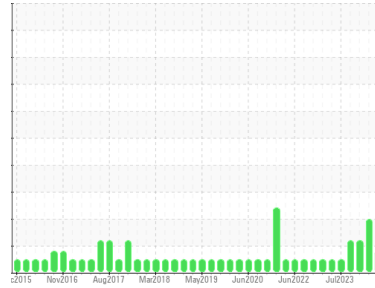




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**2515**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (11 GAL)**

## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0072135</b>	GFL0072033	GFL0072183
Sample Date	Client Info	<b>12 Mar 2024</b>	12 Dec 2023	17 Oct 2023
Machine Age	hrs	<b>28181</b>	624096	613346
Oil Age	hrs	<b>600</b>	0	0
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<b>&lt;1.0</b>	<1.0	<1.0
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 D5185m >165	<b>23</b>	12	5
Chromium	ppm ASTM D5185m >5	<b>&lt;1</b>	<1	0
Nickel	ppm ASTM D5185m >4	<b>&lt;1</b>	0	0
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	0	<1
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>2</b>	2	2
Lead	ppm ASTM D5185m >150	<b>4</b>	8	4
Copper	ppm ASTM D5185m >90	<b>▲ 144</b>	▲ 80	11
Tin	ppm ASTM D5185m >5	<b>&lt;1</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>3</b>	7	10
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>67</b>	70	67
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	0	0
Magnesium	ppm ASTM D5185m 1010	<b>989</b>	956	976
Calcium	ppm ASTM D5185m 1070	<b>1138</b>	1055	1121
Phosphorus	ppm ASTM D5185m 1150	<b>1063</b>	894	1025
Zinc	ppm ASTM D5185m 1270	<b>1323</b>	1254	1279
Sulfur	ppm ASTM D5185m 2060	<b>2814</b>	2770	3161

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	<b>8</b>	12	9
Sodium	ppm ASTM D5185m	<b>64</b>	▲ 264	▲ 197
Potassium	ppm ASTM D5185m >20	<b>3</b>	2	4

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >7.5	<b>0.7</b>	0.4	0.2
Nitration	Abs/cm *ASTM D7624 >20	<b>10.8</b>	10.1	6.5
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>22.6</b>	21.7	17.9

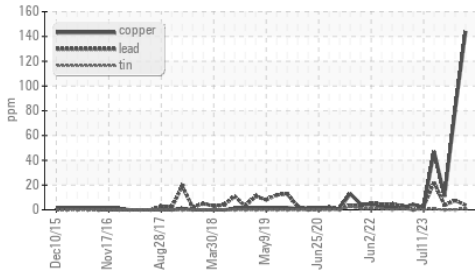
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>19.8</b>	18.1	13.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>6.6</b>	7.1	8.7

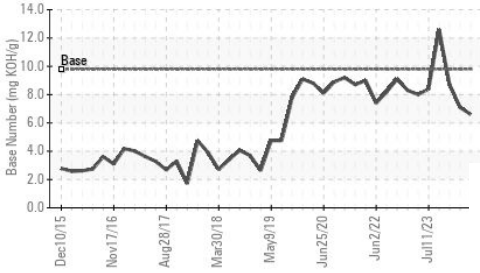


# OIL ANALYSIS REPORT

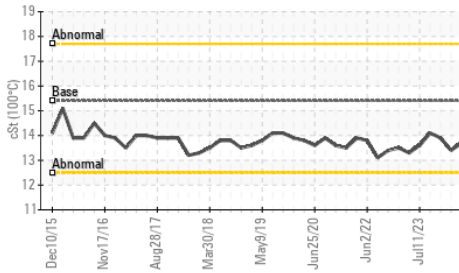
### Non-ferrous Metals



### Base Number



### Viscosity @ 100°C

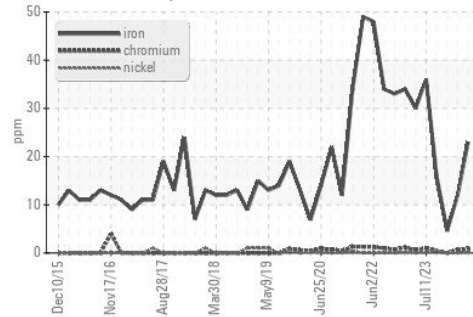


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

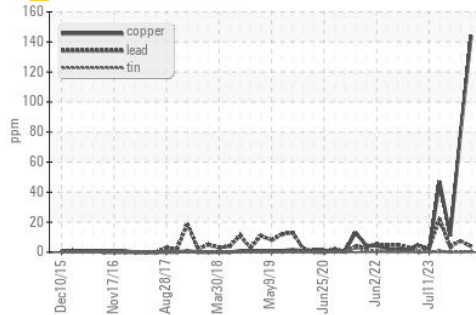
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	13.4

### GRAPHS

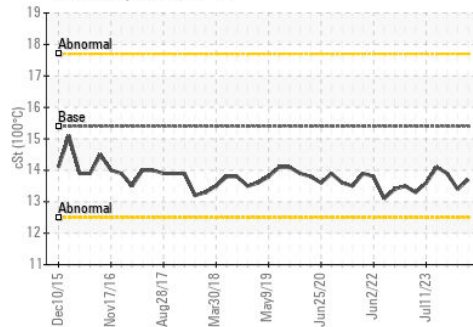
#### Ferrous Alloys



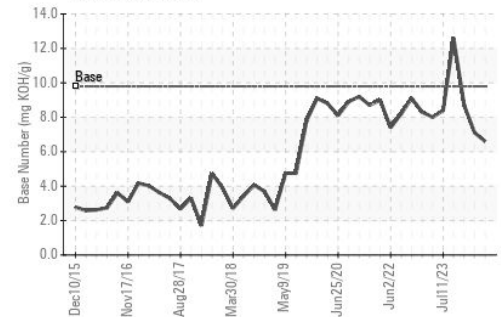
### Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0072135  
 Lab Number : 06122231  
 Unique Number : 10936382  
 Test Package : FLEET

Received : 19 Mar 2024  
 Tested : 20 Mar 2024  
 Diagnosed : 21 Mar 2024 - Jonathan Hester

GFL Environmental - 094 - Cedartown  
 2097 Buchanan Highway  
 Cedartown, GA  
 US 30125  
 Contact: WILLIAM FOSTER  
 william.foster@gflenv.com  
 T: (800)207-6618  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)