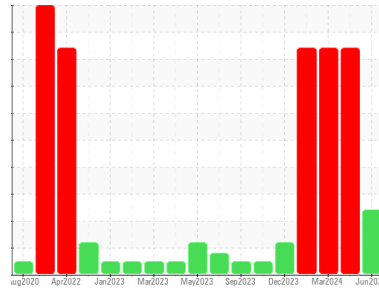




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**828018-1064**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels are high.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0113672</b>	GFL0113631	GFL0113590
Sample Date	Client Info	<b>24 Jun 2024</b>	28 Mar 2024	07 Mar 2024
Machine Age	hrs	<b>16157</b>	16119	11790
Oil Age	hrs	<b>38</b>	4329	559
Oil Changed	Client Info	<b>Not Chngd</b>	Changed	N/A
Sample Status		<b>ABNORMAL</b>	SEVERE	SEVERE

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>13</b>	5	11
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	0	0
Nickel	ppm ASTM D5185m >4	<b>1</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm ASTM D5185m >3	<b>&lt;1</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>3</b>	2	1
Lead	ppm ASTM D5185m >40	<b>0</b>	0	0
Copper	ppm ASTM D5185m >330	<b>2</b>	<1	1
Tin	ppm ASTM D5185m >15	<b>0</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>6</b>	4	2
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>79</b>	93	151
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	0
Magnesium	ppm ASTM D5185m 1010	<b>1017</b>	901	904
Calcium	ppm ASTM D5185m 1070	<b>1149</b>	1018	1013
Phosphorus	ppm ASTM D5185m 1150	<b>1081</b>	1045	943
Zinc	ppm ASTM D5185m 1270	<b>1360</b>	1186	1126
Sulfur	ppm ASTM D5185m 2060	<b>3944</b>	3562	3423

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>7</b>	4	6
Sodium	ppm ASTM D5185m	<b>26</b>	54	139
Potassium	ppm ASTM D5185m >20	<b>191</b>	428	1086
Glycol	% *ASTM D2982	<b>NEG</b>	0.10	0.20

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.1</b>	0.1	0.2
Nitration	Abs/cm *ASTM D7624 >20	<b>6.7</b>	5.3	6.7
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>17.9</b>	17.7	18.4

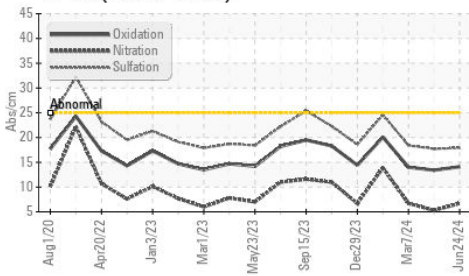
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>14.1</b>	13.4	14.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.6</b>	9.8	10.2

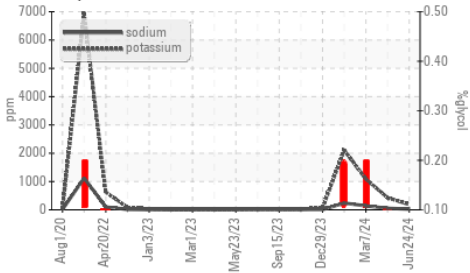


# OIL ANALYSIS REPORT

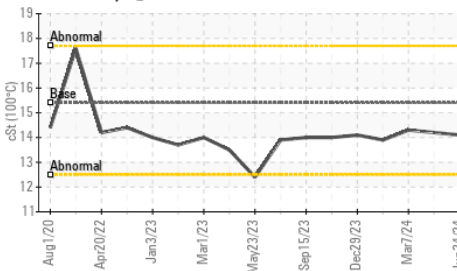
FT-IR (Direct Trend)



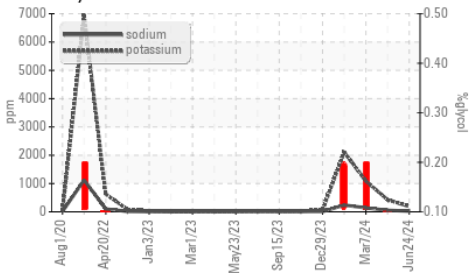
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination



## VISUAL

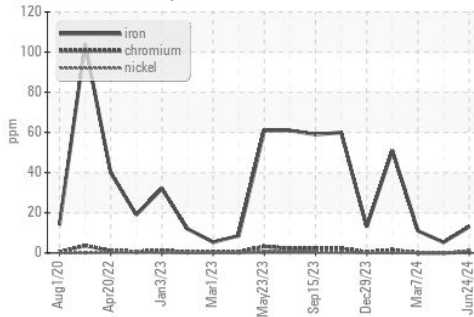
method	limit/base	current	history1	history2		
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE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

## FLUID PROPERTIES

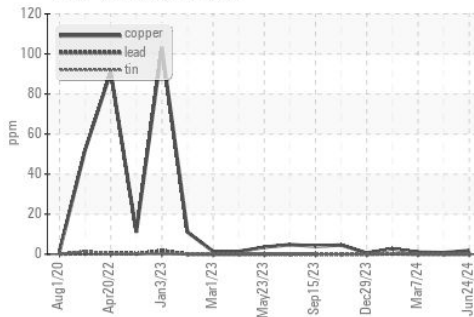
method	limit/base	current	history1	history2		
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.2	14.3

## GRAPHS

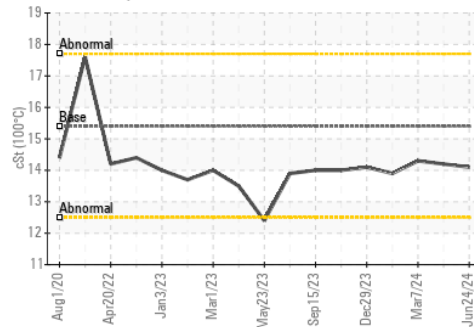
Ferrous Alloys



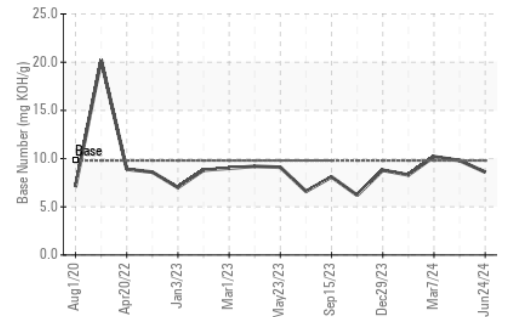
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0113672  
 Lab Number : 06223032  
 Unique Number : 11101229  
 Test Package : FLEET

GFL Environmental - 654S - Midlothian  
 12230 Deergrove Road  
 Midlothian, VA  
 US 23112  
 Contact: Corbin Umphlet  
 cumphlet@gflenv.com

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)

T:  
F: