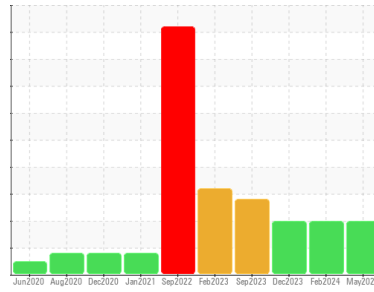




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**822009-160**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (32 QTS)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

### Wear

The aluminum level is abnormal. All other component wear rates are normal.

### Contamination

Sodium and/or potassium levels remain high. Test for glycol is negative.

### 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>GFL0114581</b>	GFL0096505	GFL0096487
Sample Date	Client Info	<b>16 May 2024</b>	09 Feb 2024	05 Dec 2023
Machine Age	hrs	<b>16136</b>	15998	15789
Oil Age	hrs	<b>119</b>	600	369
Oil Changed	Client Info	<b>Not Chngd</b>	Changed	Not Chngd
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >2.0	<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>34</b>	63	47
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	1	<1
Nickel	ppm ASTM D5185m >4	<b>0</b>	<1	0
Titanium	ppm ASTM D5185m	<b>0</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>▲ 35</b>	▲ 54	▲ 39
Lead	ppm ASTM D5185m >40	<b>1</b>	2	0
Copper	ppm ASTM D5185m >330	<b>4</b>	13	9
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>0</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>9</b>	6	7
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>72</b>	72	70
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	1	0
Magnesium	ppm ASTM D5185m 1010	<b>955</b>	910	955
Calcium	ppm ASTM D5185m 1070	<b>1106</b>	1048	1094
Phosphorus	ppm ASTM D5185m 1150	<b>1068</b>	959	1007
Zinc	ppm ASTM D5185m 1270	<b>1237</b>	1171	1253
Sulfur	ppm ASTM D5185m 2060	<b>3556</b>	2876	2935

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>5</b>	6	5
Sodium	ppm ASTM D5185m	<b>18</b>	30	18
Potassium	ppm ASTM D5185m >20	<b>▲ 108</b>	▲ 147	▲ 66
Glycol	% *ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

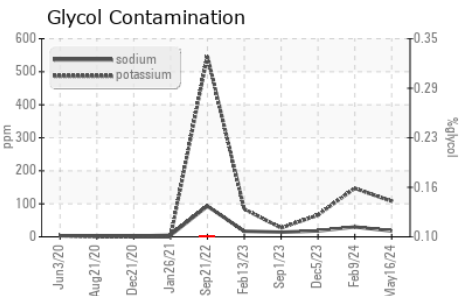
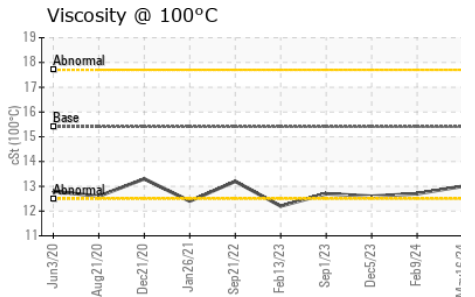
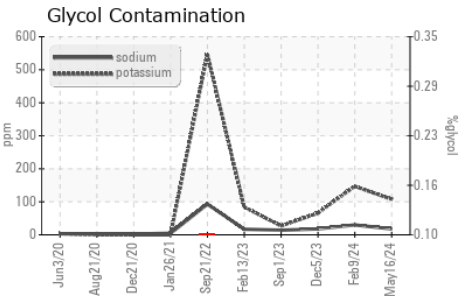
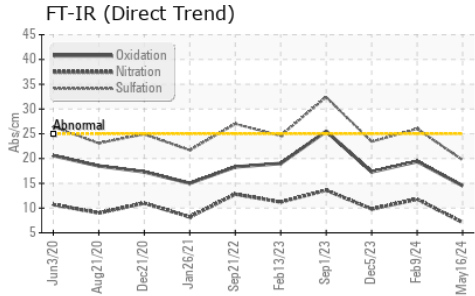
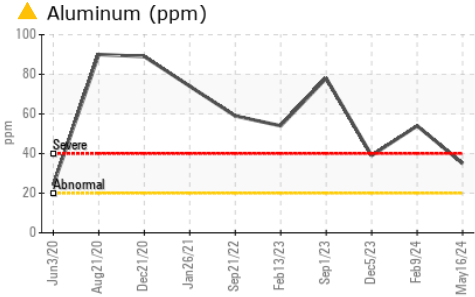
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.9</b>	2.5	2.1
Nitration	Abs/cm *ASTM D7624 >20	<b>7.1</b>	11.8	9.8
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>19.7</b>	26.0	23.4

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>14.5</b>	19.4	17.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>9.7</b>	7.7	9.1



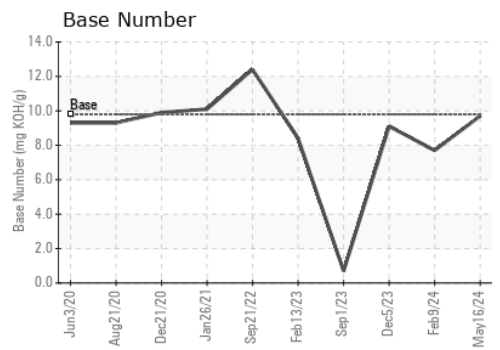
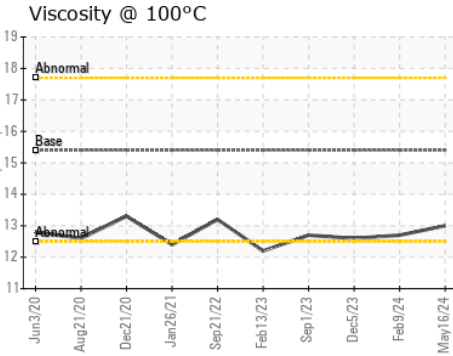
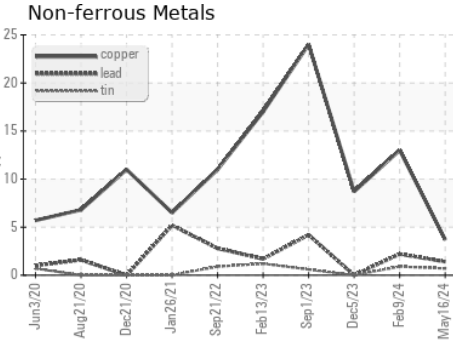
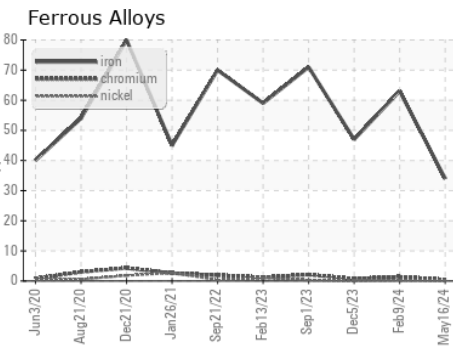
# OIL ANALYSIS REPORT



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	<b>13.0</b>	12.7	12.6

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0114581      **Received** : 21 May 2024  
**Lab Number** : **06187034**      **Tested** : 24 May 2024  
**Unique Number** : 11043786      **Diagnosed** : 24 May 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 656 - Culpeper Hauling**  
 15490 Montanus Drive  
 Culpeper, VA  
 US 22701  
 Contact: Matt Hanna  
 mhanna@gflenv.com  
 T: (540)727-0887  
 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)