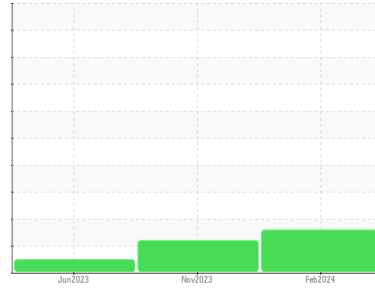




# OIL ANALYSIS REPORT

## Sample Rating Trend



GLYCOL



Machine Id  
**781M**

Component  
**Diesel Engine**

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

### DIAGNOSIS

#### Recommendation

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

#### Wear

All component wear rates are normal.

#### Contamination

Sodium and/or potassium levels are high. Fuel content negligible. Test for glycol is negative.

#### Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0108947</b>	GFL0101572	GFL0069838
Sample Date	Client Info	<b>29 Feb 2024</b>	16 Nov 2023	06 Jun 2023
Machine Age	hrs	<b>19504</b>	19695	8185
Oil Age	hrs	<b>19695</b>	0	600
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ATTENTION</b>	ATTENTION	NORMAL

### CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG

### WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >90	<b>25</b>	13	22
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm ASTM D5185m >2	<b>0</b>	0	0
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>4</b>	1	2
Lead	ppm ASTM D5185m >40	<b>&lt;1</b>	<1	<1
Copper	ppm ASTM D5185m >330	<b>2</b>	1	2
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	0	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	2
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>54</b>	66	60
Manganese	ppm ASTM D5185m 0	<b>0</b>	0	<1
Magnesium	ppm ASTM D5185m 1010	<b>723</b>	892	987
Calcium	ppm ASTM D5185m 1070	<b>907</b>	1049	1162
Phosphorus	ppm ASTM D5185m 1150	<b>952</b>	958	1037
Zinc	ppm ASTM D5185m 1270	<b>1087</b>	1168	1316
Sulfur	ppm ASTM D5185m 2060	<b>2499</b>	2783	3429

### CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>9</b>	6	4
Sodium	ppm ASTM D5185m	<b>124</b>	210	15
Potassium	ppm ASTM D5185m >20	<b>5</b>	9	3
Fuel	% ASTM D3524 >3.0	<b>1.4</b>	<1.0	<1.0
Glycol	% *ASTM D2982	<b>NEG</b>	0.0	NEG

### INFRA-RED

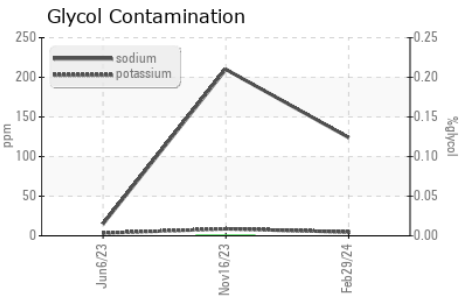
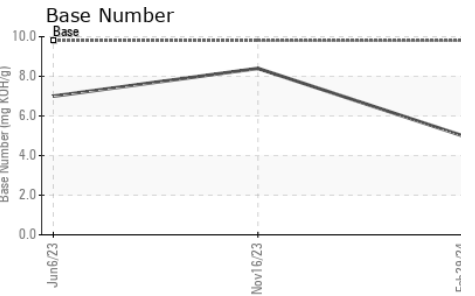
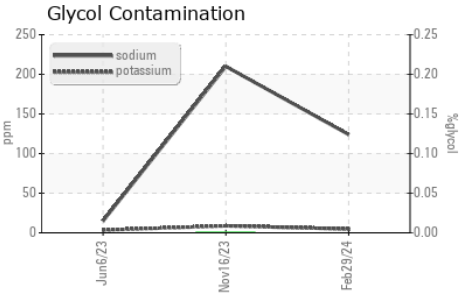
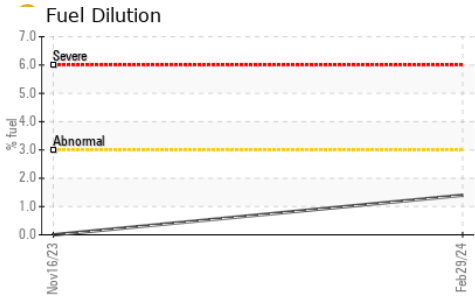
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	<b>0.7</b>	0.3	0.5
Nitration	Abs/cm *ASTM D7624 >20	<b>9.2</b>	8.6	8.8
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>22.5</b>	20.1	22.3

### FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>18.6</b>	16.0	19.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>5.0</b>	8.4	7.0



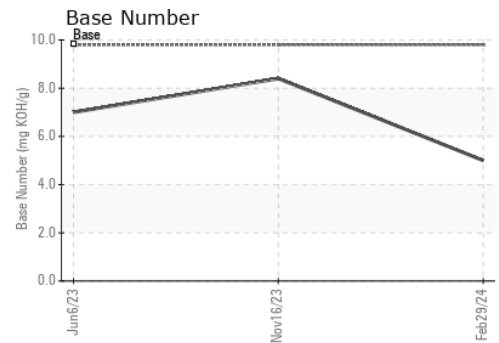
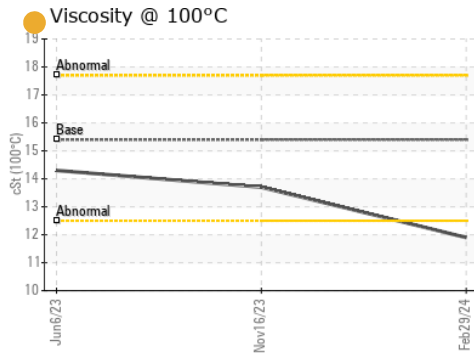
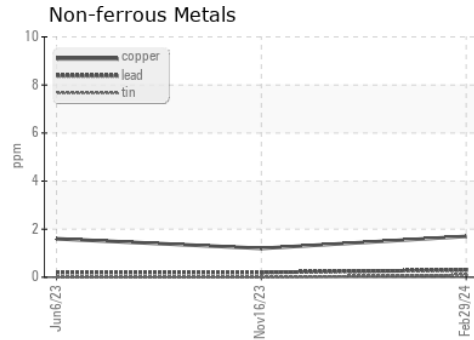
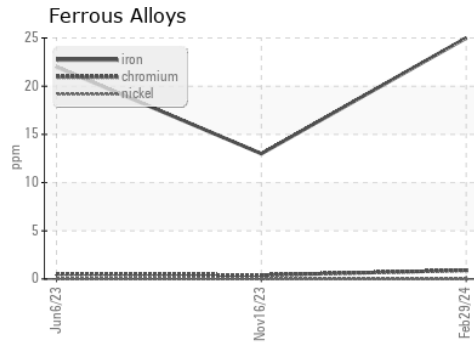
# OIL ANALYSIS REPORT



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	● 11.9	13.7	14.3

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0108947 **Received** : 04 Mar 2024  
**Lab Number** : 06106920 **Tested** : 06 Mar 2024  
**Unique Number** : 10910417 **Diagnosed** : 06 Mar 2024 - Sean Felton  
**Test Package** : FLEET ( Additional Tests: FuelDilution, Glycol, PercentFuel )

**GFL Environmental - 415 - Michigan East**  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 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)