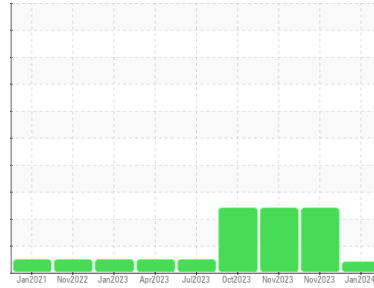




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Area  
**(EPW709)**  
Machine Id  
**410010**

Component  
**Diesel Engine**  
Fluid

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

### DIAGNOSIS

#### Recommendation

Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

#### Wear

All component wear rates are normal.

#### Contamination

Sodium and/or potassium levels are high. 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>GFL0074647</b>	GFL0074639	GFL0092486
Sample Date	Client Info	<b>18 Jan 2024</b>	10 Nov 2023	03 Nov 2023
Machine Age	hrs	<b>8688</b>	8187	8130
Oil Age	hrs	<b>558</b>	649	592
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ATTENTION</b>	ATTENTION	ATTENTION

### CONTAMINATION

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

### WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >90	<b>16</b>	16	16
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	5	4
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

### ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>4</b>	<1	2
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	5
Molybdenum	ppm	ASTM D5185m 60	<b>52</b>	23	25
Manganese	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m 1010	<b>653</b>	▲ 362	▲ 334
Calcium	ppm	ASTM D5185m 1070	<b>798</b>	▲ 407	▲ 403
Phosphorus	ppm	ASTM D5185m 1150	<b>898</b>	▲ 531	▲ 510
Zinc	ppm	ASTM D5185m 1270	<b>924</b>	▲ 634	▲ 568
Sulfur	ppm	ASTM D5185m 2060	<b>2181</b>	▲ 1425	▲ 1343

### CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>4</b>	2	2
Sodium	ppm	ASTM D5185m	<b>138</b>	41	31
Potassium	ppm	ASTM D5185m >20	<b>39</b>	27	27
Fuel	%	ASTM D3524 >3.0	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	%	*ASTM D2982	<b>0.0</b>	NEG	NEG

### INFRA-RED

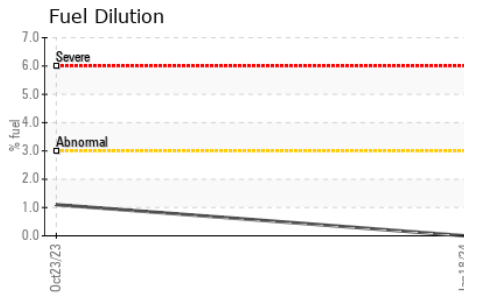
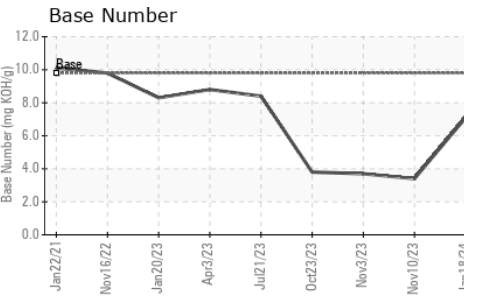
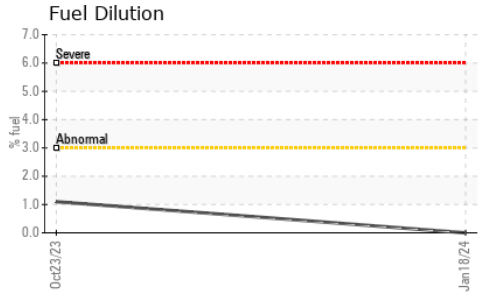
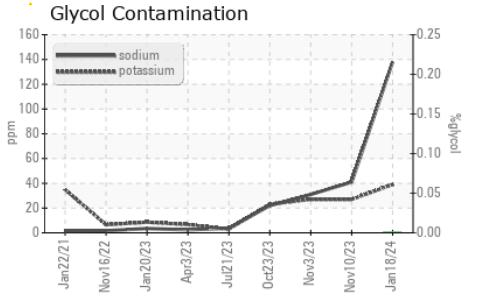
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >6	<b>1.3</b>	1.3	1.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.5</b>	6.2	6.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.5</b>	16.3	15.9

### FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>11.4</b>	8.4	8.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.1</b>	3.4	3.7



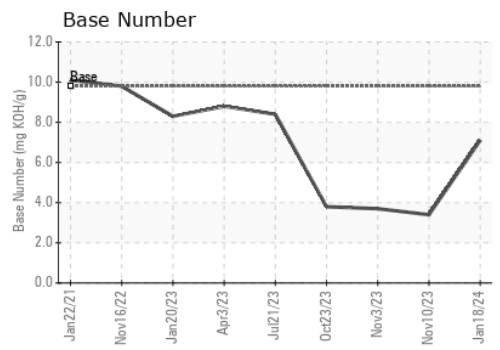
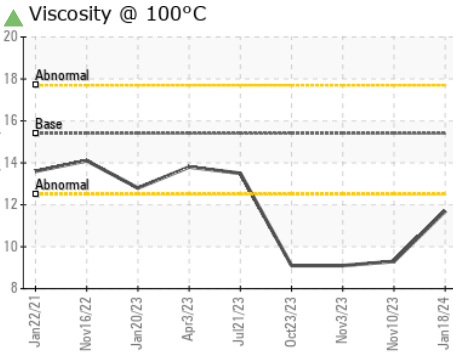
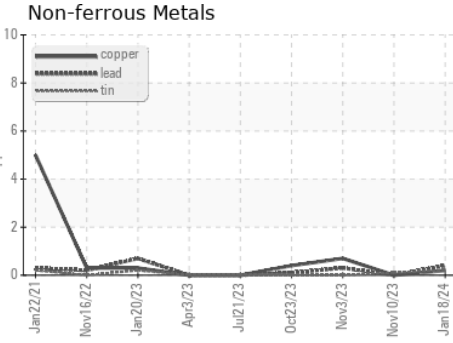
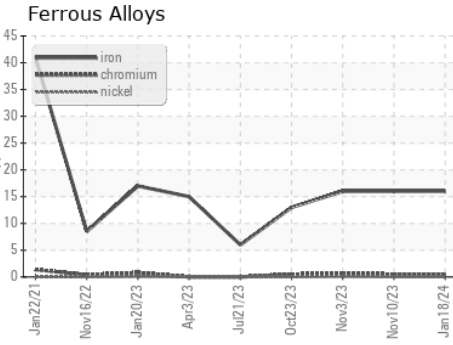
# OIL ANALYSIS REPORT



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	▲ 11.7	▲ 9.3	▲ 9.1

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0074647 **Received** : 22 Jan 2024  
**Lab Number** : 06066437 **Tested** : 05 Feb 2024  
**Unique Number** : 10843114 **Diagnosed** : 05 Feb 2024 - Doug Bogart  
**Test Package** : FLEET ( Additional Tests: FuelDilution, Glycol )

**GFL Environmental - 095 - Atlanta West**  
 2699 Cochran Industrial Blvd  
 Douglasville, GA  
 US 30127-1332  
 Contact: Darrell Welch  
 darrell.welch@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)