



# OIL ANALYSIS REPORT

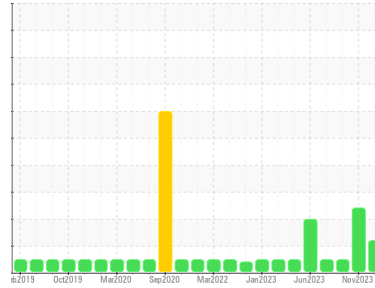
Sample Rating Trend

GLYCOL

Machine Id  
**925039-260315**

Component  
**Diesel Engine**

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



## DIAGNOSIS

### Recommendation

We advise that you check for possible 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. Fuel content negligible.

### 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>GFL0102409</b>	GFL0098601	GFL0087164
Sample Date	Client Info	<b>06 Dec 2023</b>	03 Nov 2023	10 Aug 2023
Machine Age	hrs	<b>22913</b>	22741	22596
Oil Age	hrs	<b>0</b>	0	600
Oil Changed	Client Info	<b>N/A</b>	Not Changd	Changed
Sample Status		<b>ABNORMAL</b>	SEVERE	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 >110	<b>18</b>	24	25
Chromium	ppm ASTM D5185m >4	<b>&lt;1</b>	3	1
Nickel	ppm ASTM D5185m >2	<b>&lt;1</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	<1
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >25	<b>3</b>	1	2
Lead	ppm ASTM D5185m >45	<b>1</b>	0	3
Copper	ppm ASTM D5185m >85	<b>2</b>	<1	2
Tin	ppm ASTM D5185m >4	<b>&lt;1</b>	0	<1
Vanadium	ppm ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	<1

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>5</b>	0	1
Barium	ppm ASTM D5185m 0	<b>12</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>64</b>	51	61
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>906</b>	788	992
Calcium	ppm ASTM D5185m 1070	<b>995</b>	873	1139
Phosphorus	ppm ASTM D5185m 1150	<b>1022</b>	845	1014
Zinc	ppm ASTM D5185m 1270	<b>1173</b>	1080	1275
Sulfur	ppm ASTM D5185m 2060	<b>3399</b>	2381	3548

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	<b>12</b>	3	12
Sodium	ppm ASTM D5185m	<b>▲ 184</b>	4	43
Potassium	ppm ASTM D5185m >20	<b>6</b>	2	5
Fuel	% ASTM D3524 >5	<b>0.1</b>	12.9	<1.0
Glycol	% *ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

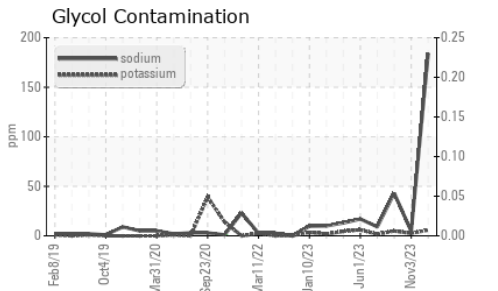
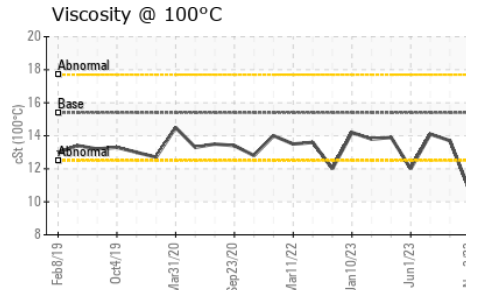
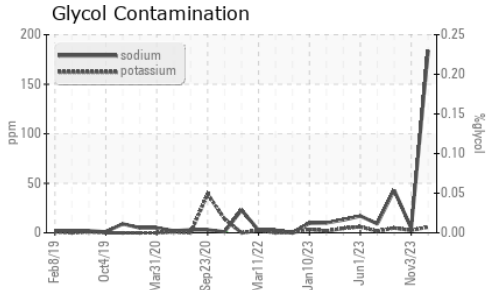
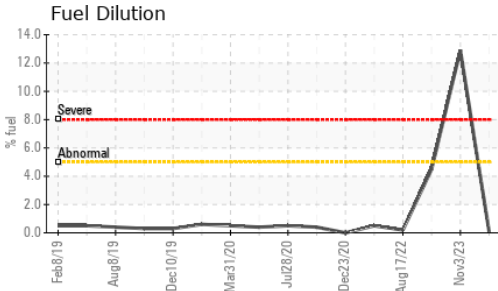
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.6</b>	0.4	0.7
Nitration	Abs/cm *ASTM D7624 >20	<b>8.1</b>	12.5	7.8
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>19.7</b>	25.6	19.5

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>14.9</b>	22.1	14.7
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.5</b>	5.5	8.2



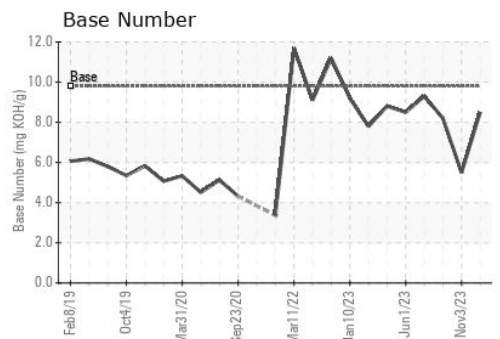
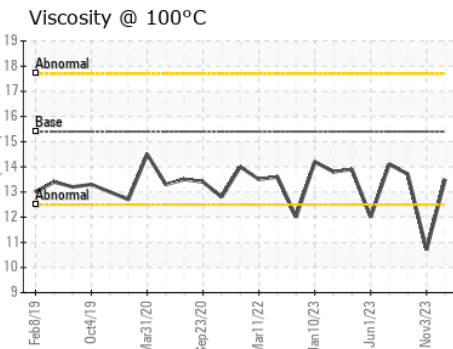
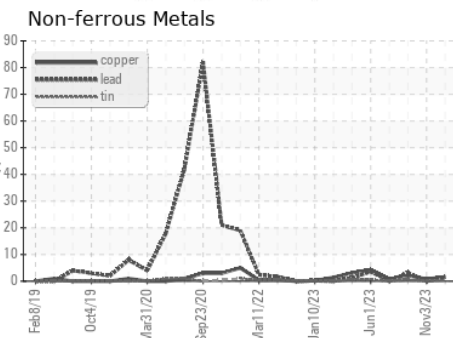
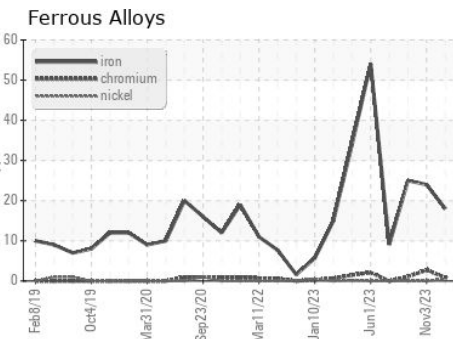
# OIL ANALYSIS REPORT



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	13.5	▲ 10.7	13.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0102409 **Received** : 14 Dec 2023  
**Lab Number** : 06035094 **Diagnosed** : 20 Dec 2023  
**Unique Number** : 10790323 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol, PercentFuel )

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Robert Hart  
 rhart@gflenv.com  
 T: (580)461-1509  
 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)