



# OIL ANALYSIS REPORT

Sample Rating Trend

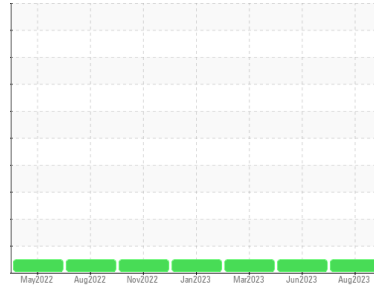
**NORMAL**



Machine Id  
**912046**

Component  
**Diesel Engine**

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



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### 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>GFL0090497</b>	GFL0083944	GFL0078721
Sample Date	Client Info	<b>03 Aug 2023</b>	06 Jun 2023	31 Mar 2023
Machine Age	hrs	<b>4754</b>	4158	3560
Oil Age	hrs	<b>596</b>	625	590
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>13</b>	16	17
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>5</b>	<1	<1
Lead	ppm ASTM D5185m >40	<b>0</b>	0	0
Copper	ppm ASTM D5185m >330	<b>&lt;1</b>	<1	0
Tin	ppm ASTM D5185m >15	<b>0</b>	0	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>2</b>	6	6
Barium	ppm ASTM D5185m 0	<b>0</b>	2	0
Molybdenum	ppm ASTM D5185m 60	<b>64</b>	63	61
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>991</b>	855	903
Calcium	ppm ASTM D5185m 1070	<b>1165</b>	1081	1017
Phosphorus	ppm ASTM D5185m 1150	<b>1057</b>	990	939
Zinc	ppm ASTM D5185m 1270	<b>1268</b>	1198	1207
Sulfur	ppm ASTM D5185m 2060	<b>3669</b>	3394	3308

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>2</b>	2	3
Sodium	ppm ASTM D5185m	<b>4</b>	3	1
Potassium	ppm ASTM D5185m >20	<b>13</b>	2	2

## INFRA-RED

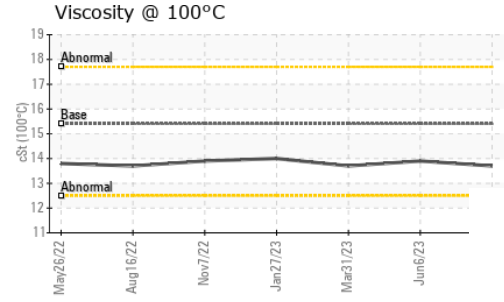
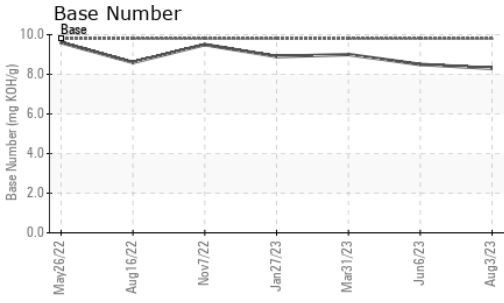
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.5</b>	0.8	1
Nitration	Abs/cm *ASTM D7624 >20	<b>7.1</b>	7.5	7.7
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.2</b>	20.3	20.0

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.7</b>	15.8	14.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.3</b>	8.5	9.0



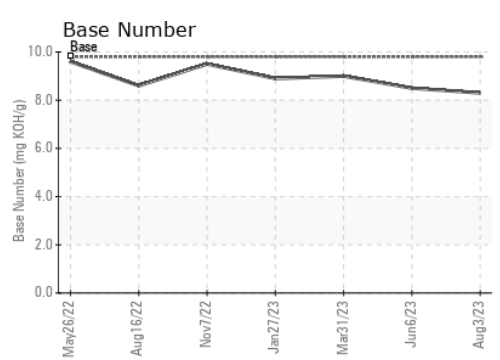
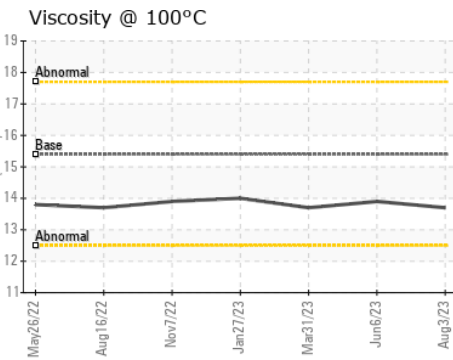
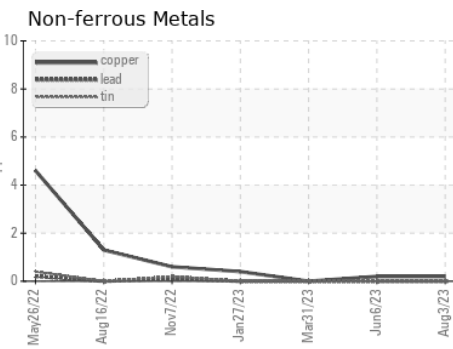
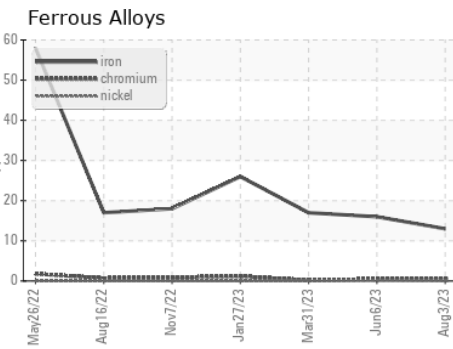
# OIL ANALYSIS REPORT



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	<b>13.7</b>	13.9	13.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0090497 **Received** : 08 Aug 2023  
**Lab Number** : **05919162** **Diagnosed** : 09 Aug 2023  
**Unique Number** : 10591076 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 622 - Traverse City Hauling**  
 160 Hughes Dr  
 Traverse City, MI  
 US 49686  
 Contact: GARY BREWER

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)

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