

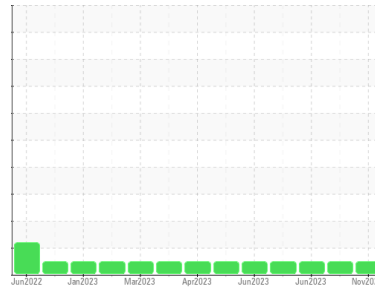


# OIL ANALYSIS REPORT



Area  
**166**  
Machine Id  
**422043-25**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

Sample Rating Trend



**NORMAL**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### 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>GFL0091253</b>	GFL0087856	GFL0087808
Sample Date	Client Info	<b>06 Nov 2023</b>	22 Aug 2023	27 Jun 2023
Machine Age	hrs	<b>38751</b>	38751	27656
Oil Age	hrs	<b>600</b>	600	0
Oil Changed	Client Info	<b>Not Chngd</b>	Not Chngd	Changed
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<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 >120	<b>2</b>	2	4
Chromium	ppm ASTM D5185m >20	<b>0</b>	0	<1
Nickel	ppm ASTM D5185m >5	<b>0</b>	0	0
Titanium	ppm ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>1</b>	4	0
Lead	ppm ASTM D5185m >40	<b>1</b>	0	<1
Copper	ppm ASTM D5185m >330	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	<1
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>&lt;1</b>	1	6
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>57</b>	62	58
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>954</b>	1044	859
Calcium	ppm ASTM D5185m 1070	<b>1010</b>	1121	1017
Phosphorus	ppm ASTM D5185m 1150	<b>1000</b>	1144	975
Zinc	ppm ASTM D5185m 1270	<b>1223</b>	1379	1154
Sulfur	ppm ASTM D5185m 2060	<b>3052</b>	4069	2960

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>3</b>	3	3
Sodium	ppm ASTM D5185m	<b>2</b>	2	<1
Potassium	ppm ASTM D5185m >20	<b>0</b>	0	<1

## INFRA-RED

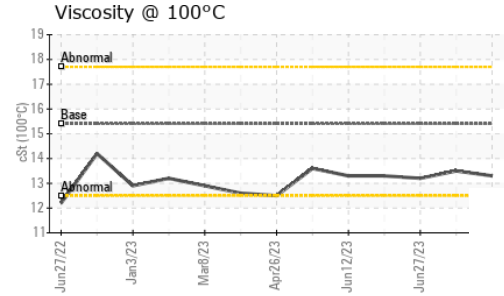
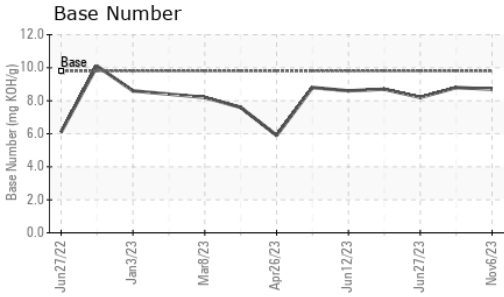
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.1</b>	0.1	0.2
Nitration	Abs/cm *ASTM D7624 >20	<b>6.6</b>	6.0	7.1
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.0</b>	17.9	19.2

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>14.4</b>	14.2	16.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.7</b>	8.8	8.2



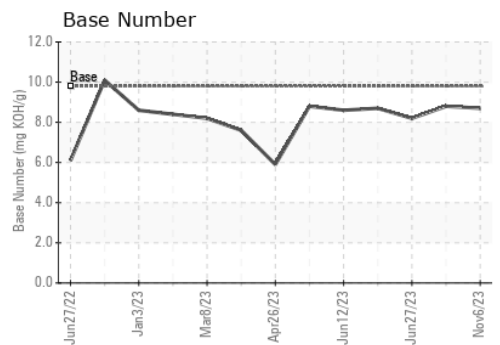
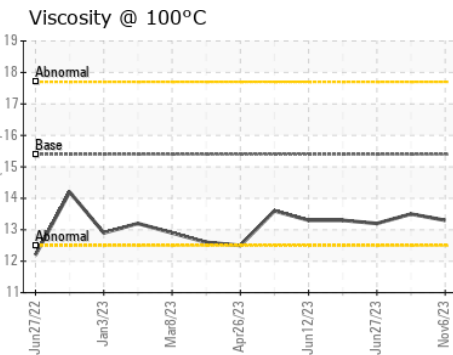
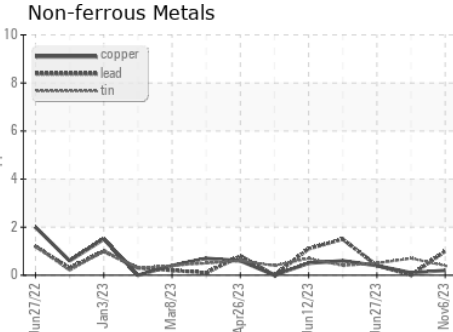
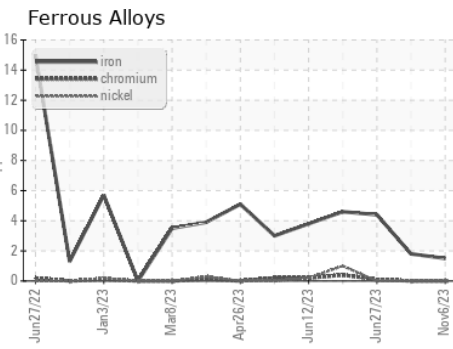
# OIL ANALYSIS REPORT



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	<b>13.3</b>	13.5	13.2

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0091253 **Received** : 09 Nov 2023  
**Lab Number** : **06003356** **Diagnosed** : 10 Nov 2023  
**Unique Number** : 10737118 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 166 - Phenix City**  
 18 Old Brickyard Rd  
 Phenix City, AL  
 US 36869  
 Contact: DEAN PEACE JR  
 dean.peace@gflenv.com

Certificate L2367  
 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)