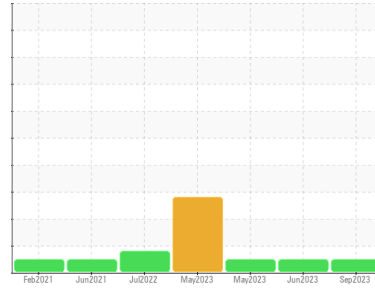




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**426023-4676**

Component  
**Diesel Engine**

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

## 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>GFL0091836</b>	GFL0074370	GFL0074350	
Sample Date	Client Info	<b>18 Sep 2023</b>	05 Jun 2023	30 May 2023	
Machine Age	mls	Client Info	<b>531435</b>	35937	35905
Oil Age	mls	Client Info	<b>531435</b>	0	0
Oil Changed	Client Info	<b>Changed</b>	N/A	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	2.9
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >120	<b>18</b>	3	4
Chromium	ppm	ASTM D5185m >20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	<1	<1
Lead	ppm	ASTM D5185m >40	<b>2</b>	0	<1
Copper	ppm	ASTM D5185m >330	<b>3</b>	<1	0
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>5</b>	3	5
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>63</b>	58	58
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>931</b>	970	961
Calcium	ppm	ASTM D5185m 1070	<b>1090</b>	1047	1045
Phosphorus	ppm	ASTM D5185m 1150	<b>1010</b>	1026	1073
Zinc	ppm	ASTM D5185m 1270	<b>1213</b>	1256	1325
Sulfur	ppm	ASTM D5185m 2060	<b>3069</b>	3760	3467

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>4</b>	5	2
Sodium	ppm	ASTM D5185m	<b>2</b>	1	1
Potassium	ppm	ASTM D5185m >20	<b>1</b>	<1	3

## INFRA-RED

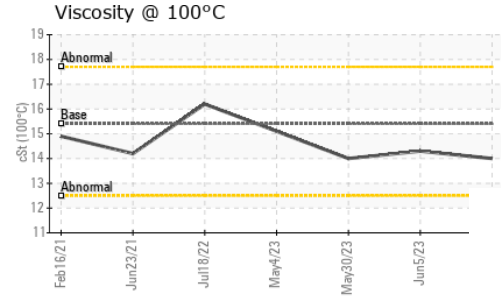
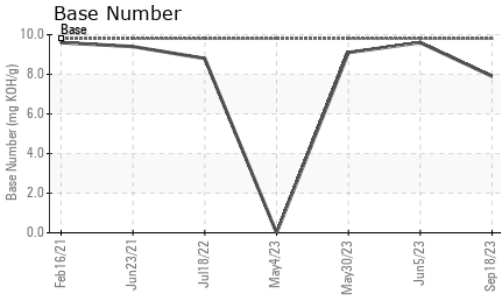
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	<b>2.7</b>	0.3	1.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	4.6	5.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>23.5</b>	18.2	19.4

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.3</b>	13.1	13.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.9</b>	9.6	9.1



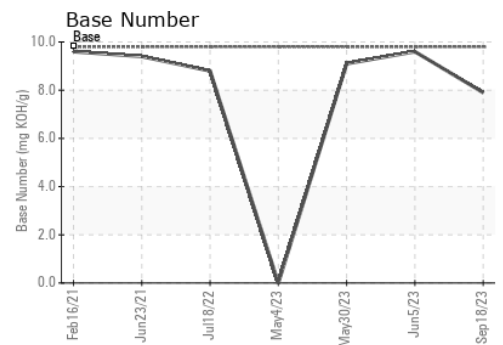
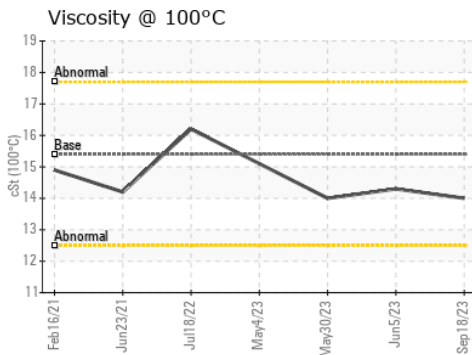
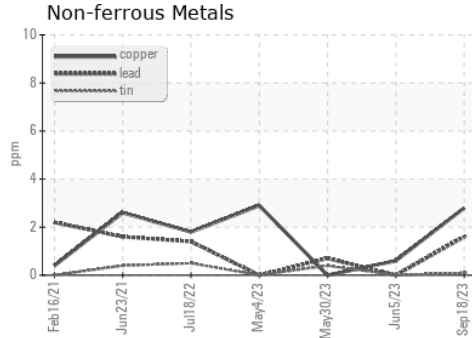
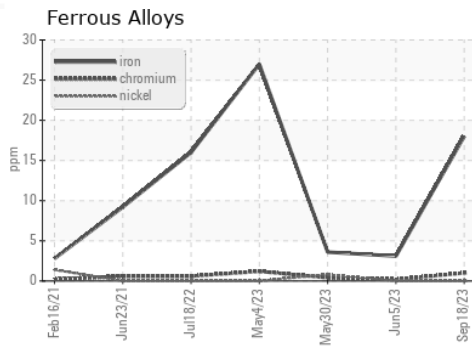
# OIL ANALYSIS REPORT



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>14.0</b>	14.3	14.0

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0091836 **Received** : 19 Sep 2023  
**Lab Number** : **05955166** **Diagnosed** : 20 Sep 2023  
**Unique Number** : 10656379 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 654 - Richmond Hauling**  
 11800 Lewis Road  
 Chester, VA  
 US 23831  
 Contact: Steven Palmore  
 spalmore@gflenv.com

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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F: