



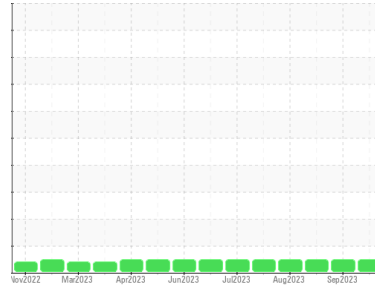
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**166**  
 Machine Id  
**413052**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## 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>GFL0091221</b>	GFL0087889	GFL0087859
Sample Date	Client Info		<b>29 Sep 2023</b>	12 Sep 2023	23 Aug 2023
Machine Age	hrs	Client Info	<b>2060</b>	1919	1785
Oil Age	hrs	Client Info	<b>200</b>	600	600
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
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>8</b>	9	6
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>1</b>	<1	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	4	2
Lead	ppm	ASTM D5185m >40	<b>1</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>21</b>	26	23
Tin	ppm	ASTM D5185m >15	<b>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>2</b>	2	<1
Barium	ppm	ASTM D5185m 0	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m 60	<b>61</b>	65	61
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>972</b>	953	1018
Calcium	ppm	ASTM D5185m 1070	<b>1015</b>	1085	1106
Phosphorus	ppm	ASTM D5185m 1150	<b>1031</b>	1039	1062
Zinc	ppm	ASTM D5185m 1270	<b>1274</b>	1260	1344
Sulfur	ppm	ASTM D5185m 2060	<b>2788</b>	3211	3701

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>8</b>	6	5
Sodium	ppm	ASTM D5185m	<b>4</b>	3	4
Potassium	ppm	ASTM D5185m >20	<b>7</b>	5	3

## INFRA-RED

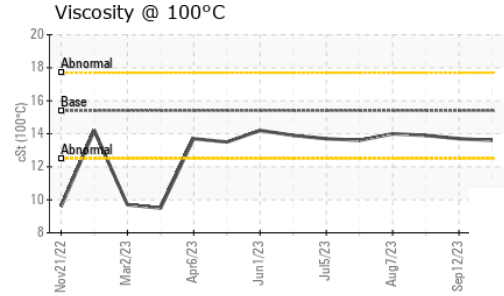
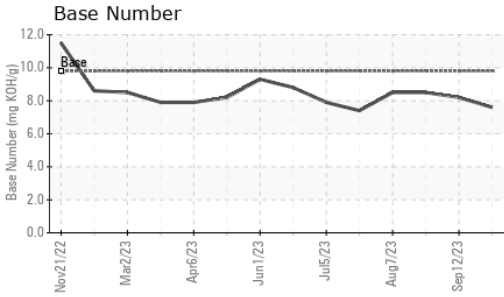
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.4</b>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.7</b>	7.2	6.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.7</b>	19.7	19.0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.7</b>	15.2	14.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.6</b>	8.2	8.5



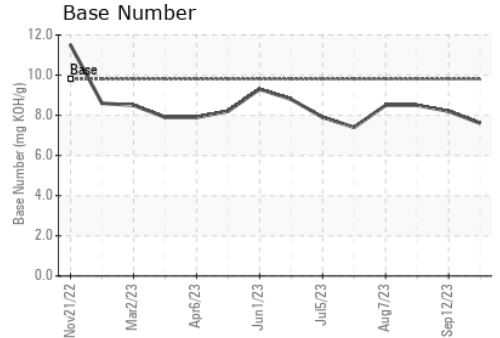
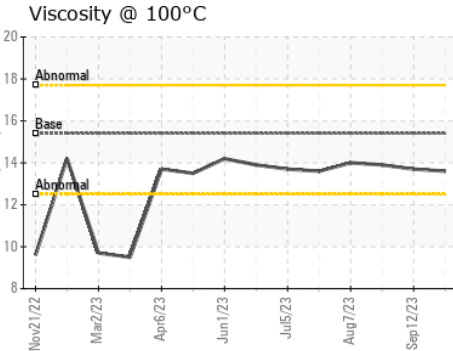
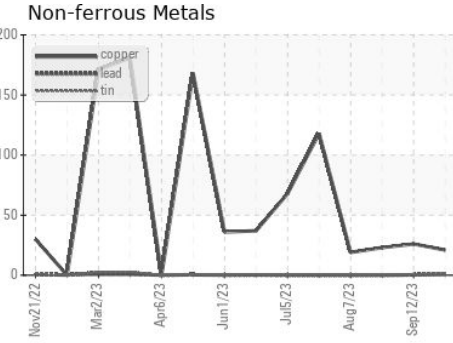
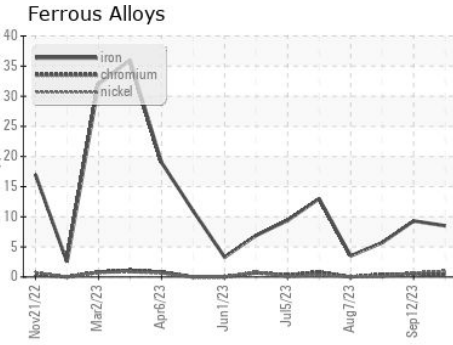
# OIL ANALYSIS REPORT



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>13.6</b>	13.7	13.9

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0091221 **Received** : 10 Oct 2023  
**Lab Number** : **05974688** **Diagnosed** : 11 Oct 2023  
**Unique Number** : 10686638 **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

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)