



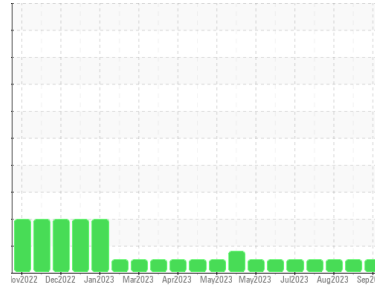
# OIL ANALYSIS REPORT

## Sample Rating Trend

**NORMAL**



Area  
**166**  
Machine Id  
**413005**  
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>GFL0091215</b>	GFL0087891	GFL0091208
Sample Date	Client Info		<b>27 Sep 2023</b>	06 Sep 2023	17 Aug 2023
Machine Age	hrs	Client Info	<b>41588</b>	36805	36805
Oil Age	hrs	Client Info	<b>200</b>	1200	600
Oil Changed	Client Info		<b>Not Chngd</b>	Changed	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>4</b>	3	12
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	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>3</b>	2	3
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>1</b>	6	48
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>&lt;1</b>	2	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m 60	<b>84</b>	77	64
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>1264</b>	1141	1051
Calcium	ppm	ASTM D5185m 1070	<b>1361</b>	1276	1106
Phosphorus	ppm	ASTM D5185m 1150	<b>1373</b>	1242	1047
Zinc	ppm	ASTM D5185m 1270	<b>1671</b>	1510	1305
Sulfur	ppm	ASTM D5185m 2060	<b>4442</b>	4156	3055

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	5	6
Sodium	ppm	ASTM D5185m	<b>3</b>	3	5
Potassium	ppm	ASTM D5185m >20	<b>2</b>	2	7

## INFRA-RED

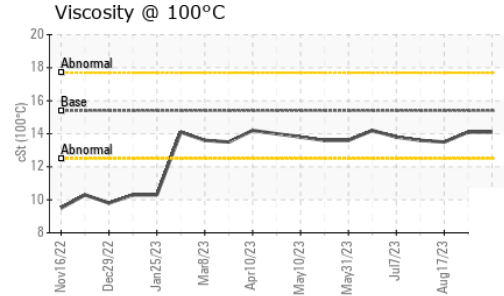
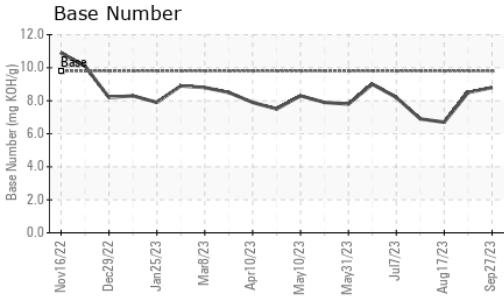
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.1</b>	0.1	0.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>5.4</b>	5.5	8.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.9</b>	18.2	19.7

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.0</b>	14.0	16.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.8</b>	8.5	6.7



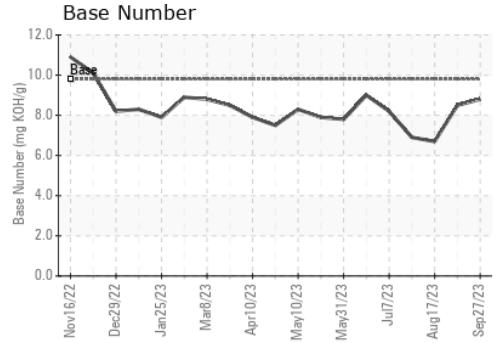
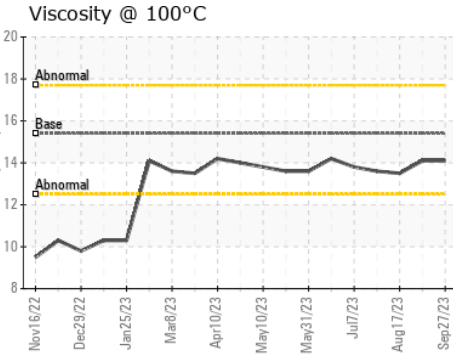
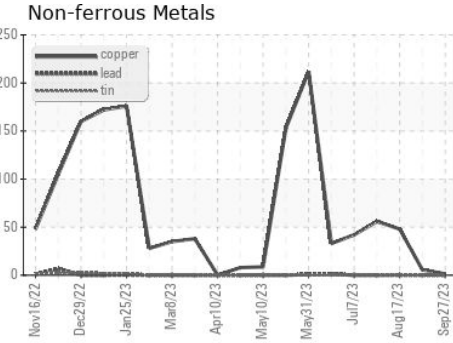
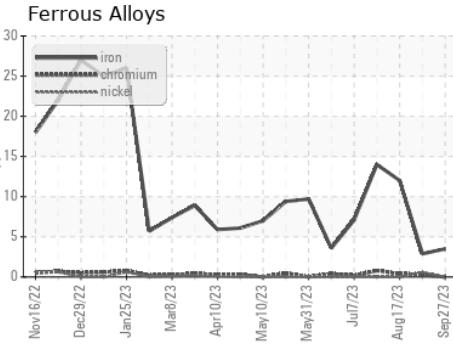
# OIL ANALYSIS REPORT



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>14.1</b>	14.1	13.5

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0091215 **Received** : 03 Oct 2023  
**Lab Number** : **05967376** **Diagnosed** : 05 Oct 2023  
**Unique Number** : 10673927 **Diagnostician** : Jonathan Hester  
**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  
 T:  
 F:

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)