



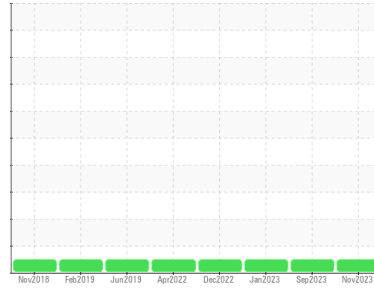
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**428047-402364**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### 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>GFL0046122</b>	GFL0046123	GFL0039525
Sample Date	Client Info		<b>01 Nov 2023</b>	19 Sep 2023	24 Jan 2023
Machine Age	hrs	Client Info	<b>450</b>	0	10158
Oil Age	hrs	Client Info	<b>450</b>	600	450
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>3</b>	15	14
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>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	1	2
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	2
Copper	ppm	ASTM D5185m >330	<b>0</b>	3	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	<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>5</b>	3	2
Barium	ppm	ASTM D5185m 0	<b>0</b>	12	0
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	63	66
Manganese	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m 1010	<b>860</b>	834	837
Calcium	ppm	ASTM D5185m 1070	<b>1021</b>	1298	1223
Phosphorus	ppm	ASTM D5185m 1150	<b>978</b>	954	957
Zinc	ppm	ASTM D5185m 1270	<b>1194</b>	1151	1235
Sulfur	ppm	ASTM D5185m 2060	<b>2844</b>	2923	2526

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	5	6
Sodium	ppm	ASTM D5185m	<b>2</b>	11	13
Potassium	ppm	ASTM D5185m >20	<b>0</b>	18	3

## INFRA-RED

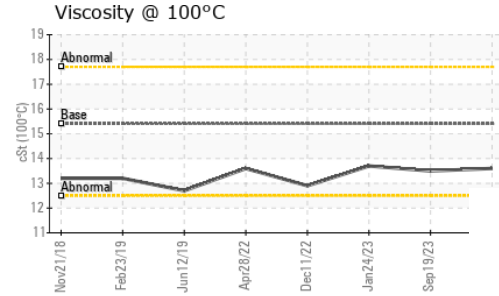
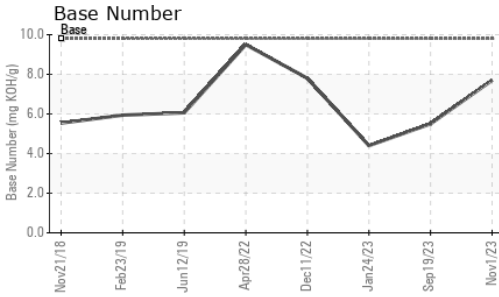
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.2</b>	0.4	0.4
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.1</b>	9.9	11.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.0</b>	22.7	24.6

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.0</b>	18.7	20.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.7</b>	5.5	4.4



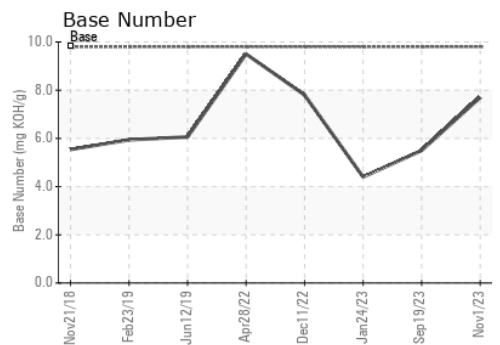
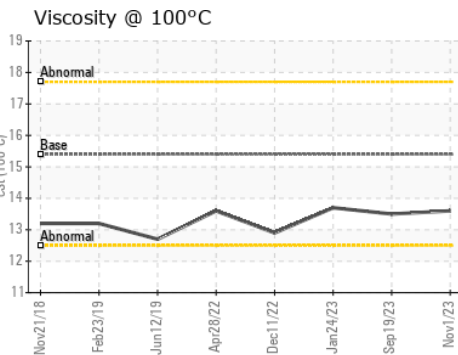
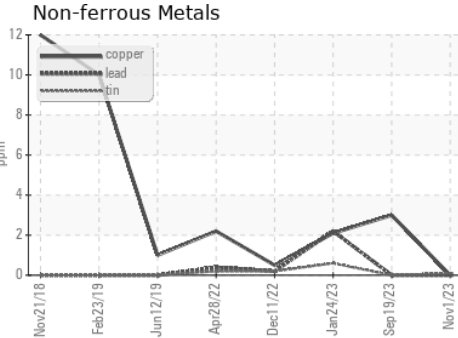
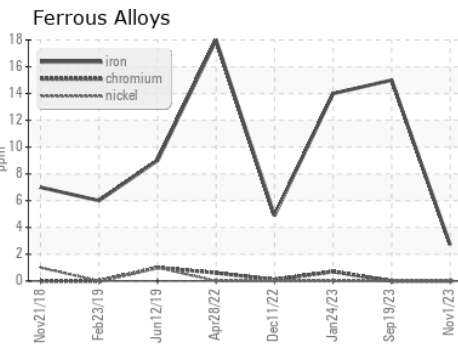
# OIL ANALYSIS REPORT



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>	13.5	13.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0046122 **Received** : 02 Nov 2023  
**Lab Number** : **05997236** **Diagnosed** : 03 Nov 2023  
**Unique Number** : 10725596 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 834 - Chillicothe Hauling**  
 201 Mitchell Road  
 Chillicothe, MO  
 US 64601  
 Contact: Terry McKiddy  
 tmckiddy@gflenv.com  
 T: (816)225-6699  
 F:

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)