



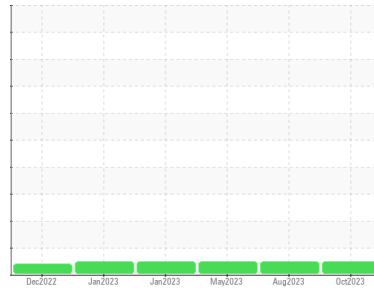
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**117M**  
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>GFL0092790</b>	GFL0080825	GFL0080734
Sample Date	Client Info		<b>31 Oct 2023</b>	28 Aug 2023	17 May 2023
Machine Age	hrs	Client Info	<b>15699</b>	15290	14527
Oil Age	hrs	Client Info	<b>14936</b>	15290	600
Oil Changed	Client Info		<b>N/A</b>	Not Changd	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>19</b>	19	20
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	<1	2
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>3</b>	5	5
Lead	ppm	ASTM D5185m >40	<b>2</b>	0	3
Copper	ppm	ASTM D5185m >330	<b>2</b>	1	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>0</b>	4	2
Barium	ppm	ASTM D5185m 0	<b>4</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>55</b>	70	61
Manganese	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>811</b>	1052	1000
Calcium	ppm	ASTM D5185m 1070	<b>979</b>	1148	1130
Phosphorus	ppm	ASTM D5185m 1150	<b>685</b>	1054	1064
Zinc	ppm	ASTM D5185m 1270	<b>1125</b>	1326	1353
Sulfur	ppm	ASTM D5185m 2060	<b>2042</b>	3329	3504

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	7	6
Sodium	ppm	ASTM D5185m	<b>7</b>	6	4
Potassium	ppm	ASTM D5185m >20	<b>6</b>	2	3

## INFRA-RED

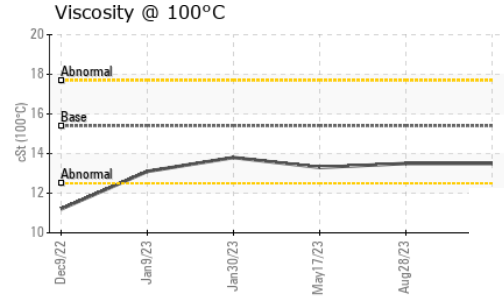
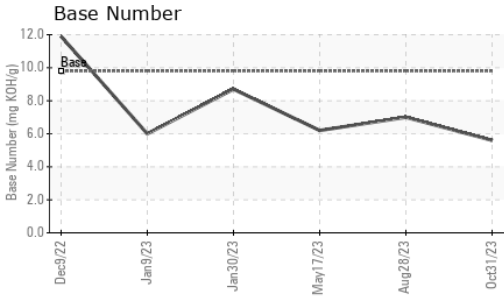
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.9</b>	0.6	0.7
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.6</b>	8.3	9.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>22.7</b>	20.3	21.9

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>19.3</b>	16.4	17.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>5.6</b>	7.0	6.2



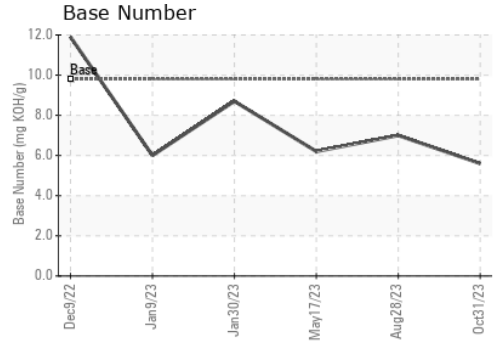
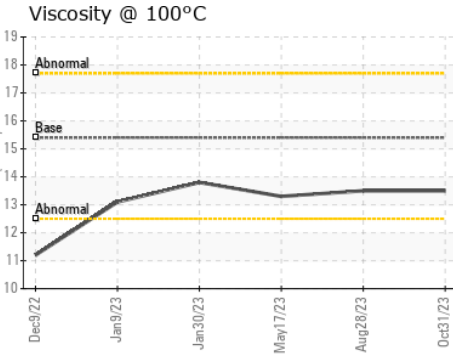
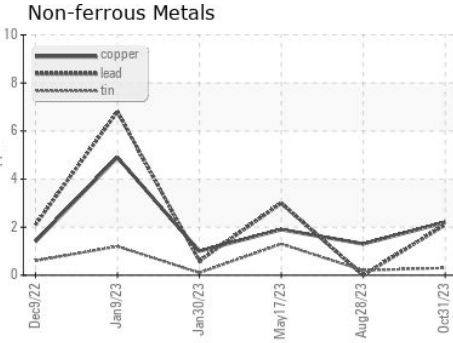
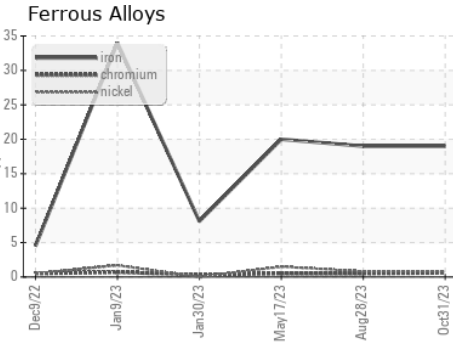
# OIL ANALYSIS REPORT



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>13.5</b>	13.5	13.3

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0092790 **Received** : 03 Nov 2023  
**Lab Number** : 05997644 **Diagnosed** : 06 Nov 2023  
**Unique Number** : 10726004 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 455 - Flint**  
 2051 W. Bristol Rd  
 Flint Township, MI  
 US 48507  
 Contact: MARK WOMBLE  
 mwomble@gflenv.com  
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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)