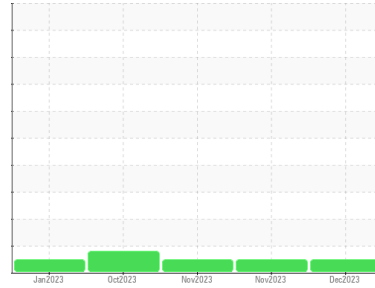




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**912014**

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>GFL0105737</b>	GFL0089131	GFL0101537
Sample Date	Client Info	<b>18 Dec 2023</b>	24 Nov 2023	16 Nov 2023
Machine Age	hrs Client Info	<b>4806</b>	4646	4614
Oil Age	hrs Client Info	<b>4646</b>	4614	4319
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Changed
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	0.6	<1.0
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >110	<b>2</b>	19	20
Chromium	ppm ASTM D5185m >4	<b>&lt;1</b>	<1	<1
Nickel	ppm ASTM D5185m >2	<b>0</b>	4	4
Titanium	ppm ASTM D5185m	<b>0</b>	0	<1
Silver	ppm ASTM D5185m >2	<b>0</b>	<1	0
Aluminum	ppm ASTM D5185m >25	<b>&lt;1</b>	2	1
Lead	ppm ASTM D5185m >45	<b>&lt;1</b>	0	0
Copper	ppm ASTM D5185m >85	<b>0</b>	40	2
Tin	ppm ASTM D5185m >4	<b>0</b>	1	<1
Vanadium	ppm ASTM D5185m	<b>&lt;1</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>1</b>	82	<1
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>56</b>	68	59
Manganese	ppm ASTM D5185m 0	<b>0</b>	1	<1
Magnesium	ppm ASTM D5185m 1010	<b>868</b>	826	889
Calcium	ppm ASTM D5185m 1070	<b>943</b>	1110	1067
Phosphorus	ppm ASTM D5185m 1150	<b>911</b>	958	956
Zinc	ppm ASTM D5185m 1270	<b>1115</b>	1101	1171
Sulfur	ppm ASTM D5185m 2060	<b>2911</b>	2683	2887

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	<b>6</b>	21	4
Sodium	ppm ASTM D5185m	<b>0</b>	4	2
Potassium	ppm ASTM D5185m >20	<b>0</b>	3	2

## INFRA-RED

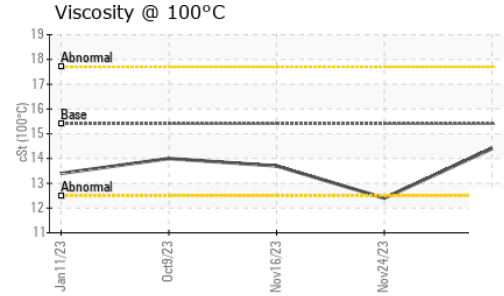
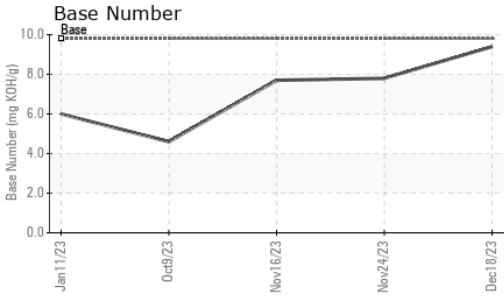
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.1</b>	0.5	0.6
Nitration	Abs/cm *ASTM D7624 >20	<b>4.9</b>	7.7	7.6
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>17.6</b>	21.4	20.1

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.2</b>	16.9	15.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>9.4</b>	7.8	7.7



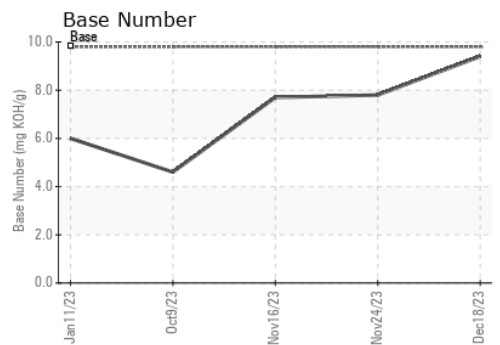
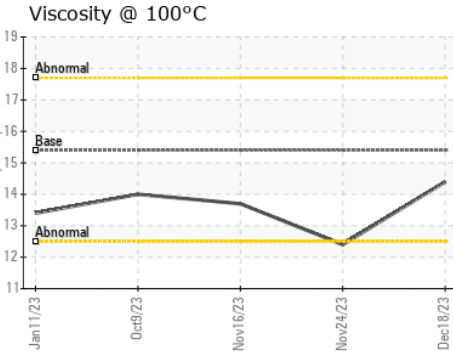
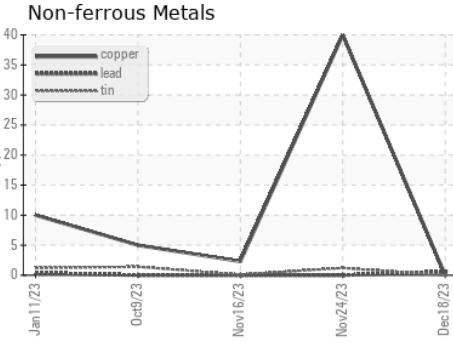
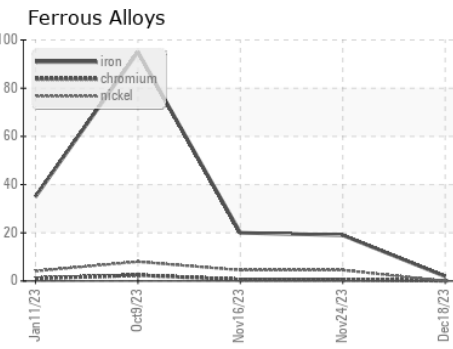
# OIL ANALYSIS REPORT



PARAMETER	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>14.4</b>	12.4	13.7

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0105737 **Received** : 20 Dec 2023  
**Lab Number** : **06040364** **Diagnosed** : 21 Dec 2023  
**Unique Number** : 10795593 **Diagnostician** : Sean Felton  
**Test Package** : FLEET ( Additional Tests: FT-IR(Diff) )

**GFL Environmental - 415 - Michigan East**  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 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)