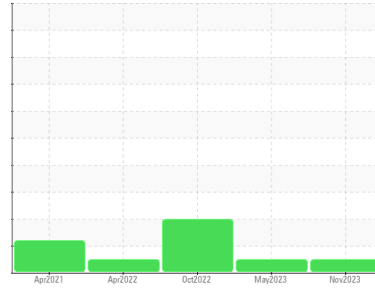




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**565M**  
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>GFL0089173</b>	GFL0069905	GFL0057047
Sample Date	Client Info	<b>21 Nov 2023</b>	21 May 2023	25 Oct 2022
Machine Age	hrs	<b>16402</b>	15324	14735
Oil Age	hrs	<b>2600</b>	600	600
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>NORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<b>&lt;1.0</b>	<1.0	<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 >90	<b>43</b>	15	▲ 91
Chromium	ppm ASTM D5185m >20	<b>2</b>	<1	4
Nickel	ppm ASTM D5185m >2	<b>&lt;1</b>	<1	2
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	0	<1
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>3</b>	3	7
Lead	ppm ASTM D5185m >40	<b>0</b>	<1	2
Copper	ppm ASTM D5185m >330	<b>1</b>	<1	2
Tin	ppm ASTM D5185m >15	<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>&lt;1</b>	4	3
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>58</b>	57	61
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>940</b>	935	886
Calcium	ppm ASTM D5185m 1070	<b>1023</b>	1031	1091
Phosphorus	ppm ASTM D5185m 1150	<b>940</b>	1002	979
Zinc	ppm ASTM D5185m 1270	<b>1283</b>	1229	1198
Sulfur	ppm ASTM D5185m 2060	<b>2920</b>	3402	3253

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>13</b>	6	19
Sodium	ppm ASTM D5185m	<b>74</b>	7	▲ 130
Potassium	ppm ASTM D5185m >20	<b>2</b>	5	5

## INFRA-RED

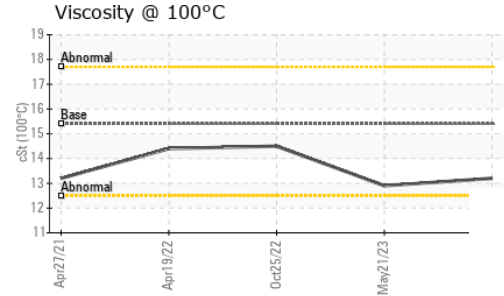
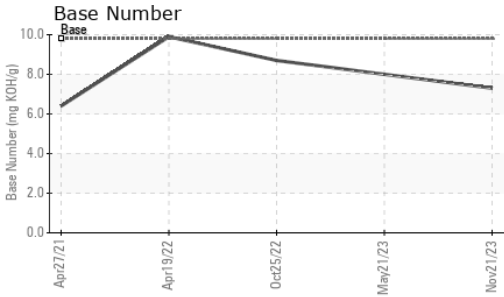
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	<b>0.7</b>	0.3	1.3
Nitration	Abs/cm *ASTM D7624 >20	<b>10.6</b>	10.1	13.3
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>21.3</b>	19.8	25.9

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>18.2</b>	16.3	22
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>7.3</b>	8.0	8.7



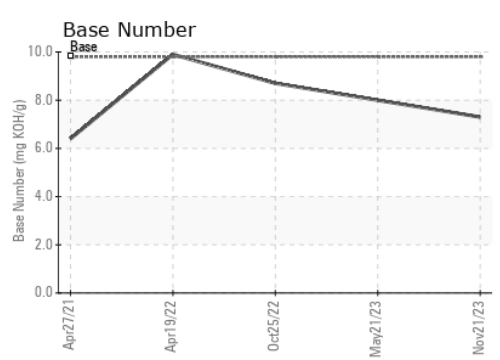
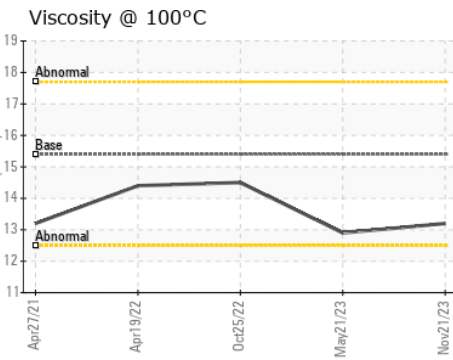
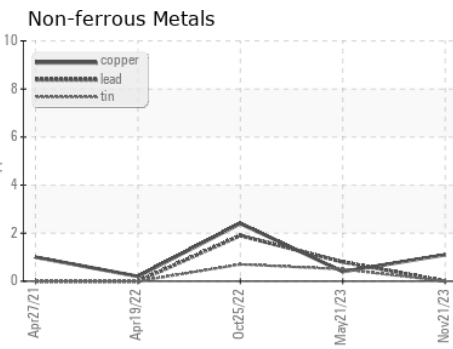
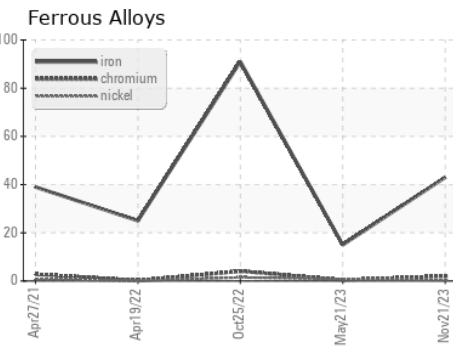
# OIL ANALYSIS REPORT



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>13.2</b>	12.9	14.5

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0089173 **Received** : 24 Nov 2023  
**Lab Number** : **06016118** **Diagnosed** : 27 Nov 2023  
**Unique Number** : 10755262 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**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)