



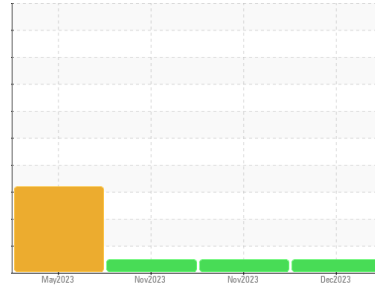
# OIL ANALYSIS REPORT

## Sample Rating Trend

**NORMAL**



Machine Id  
**4542M**  
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>GFL0105599</b>	GFL0089106	GFL0089120
Sample Date	Client Info		<b>12 Dec 2023</b>	24 Nov 2023	21 Nov 2023
Machine Age	hrs	Client Info	<b>24982</b>	249823	24804
Oil Age	hrs	Client Info	<b>0</b>	249823	0
Oil Changed	Client Info		<b>N/A</b>	Changed	N/A
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	0.4
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>10</b>	13	6
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	2	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	1	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	3	<1
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>0</b>	45	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>2</b>	16	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>59</b>	58	58
Manganese	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>976</b>	856	1009
Calcium	ppm	ASTM D5185m 1070	<b>1061</b>	1055	1095
Phosphorus	ppm	ASTM D5185m 1150	<b>1066</b>	1032	977
Zinc	ppm	ASTM D5185m 1270	<b>1328</b>	1170	1359
Sulfur	ppm	ASTM D5185m 2060	<b>3200</b>	2789	3276

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	10	3
Sodium	ppm	ASTM D5185m	<b>5</b>	3	5
Potassium	ppm	ASTM D5185m >20	<b>0</b>	6	<1

## INFRA-RED

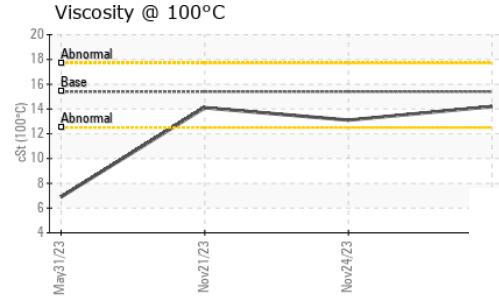
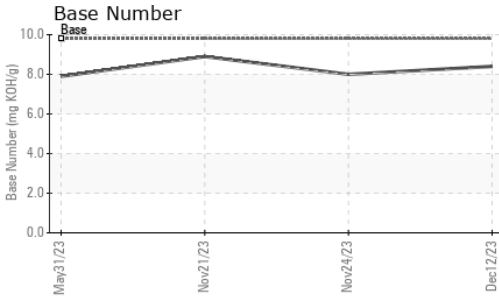
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>0.1</b>	0.3	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.6</b>	6.9	5.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.7</b>	20.1	18.3

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.9</b>	15.5	14.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.4</b>	8.0	8.9



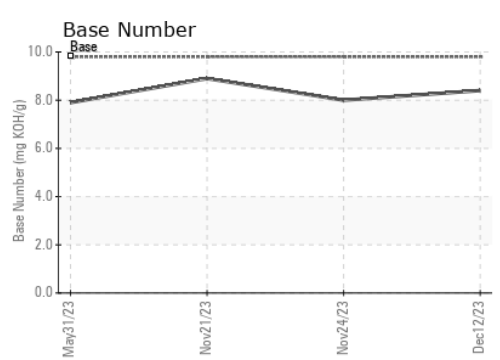
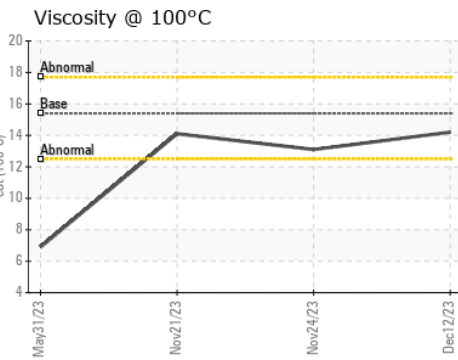
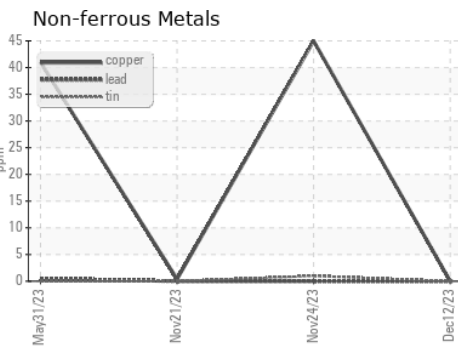
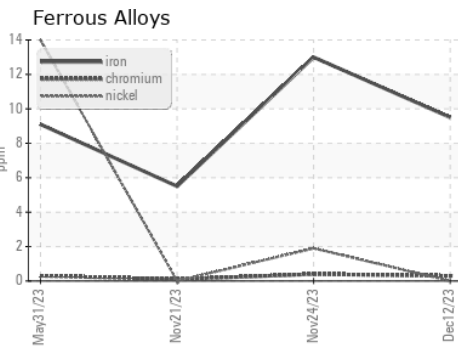
# OIL ANALYSIS REPORT



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>14.2</b>	13.1	14.1

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0105599 **Received** : 14 Dec 2023  
**Lab Number** : 06034423 **Diagnosed** : 15 Dec 2023  
**Unique Number** : 10789652 **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)