



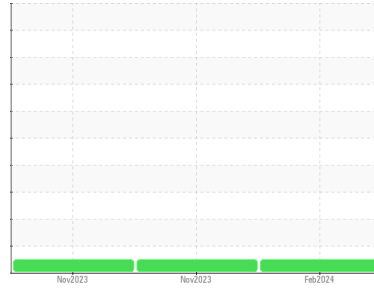
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**913047**  
 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>GFL0110089</b>	GFL0059266	GFL0059165
Sample Date	Client Info		<b>06 Feb 2024</b>	15 Nov 2023	08 Nov 2023
Machine Age	hrs	Client Info	<b>1595</b>	49961	49701
Oil Age	hrs	Client Info	<b>600</b>	49961	49701
Oil Changed	Client Info		<b>Changed</b>	N/A	Not Changd
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
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>7</b>	63	81
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	2	2
Nickel	ppm	ASTM D5185m >2	<b>0</b>	5	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	2	2
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	14	4
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	2	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	7
Barium	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	6
Molybdenum	ppm	ASTM D5185m 60	<b>52</b>	59	79
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>838</b>	876	1141
Calcium	ppm	ASTM D5185m 1070	<b>979</b>	1027	1359
Phosphorus	ppm	ASTM D5185m 1150	<b>972</b>	893	1259
Zinc	ppm	ASTM D5185m 1270	<b>1130</b>	1195	1531
Sulfur	ppm	ASTM D5185m 2060	<b>3277</b>	1800	3772

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	6	9
Sodium	ppm	ASTM D5185m	<b>0</b>	7	10
Potassium	ppm	ASTM D5185m >20	<b>3</b>	2	4

## INFRA-RED

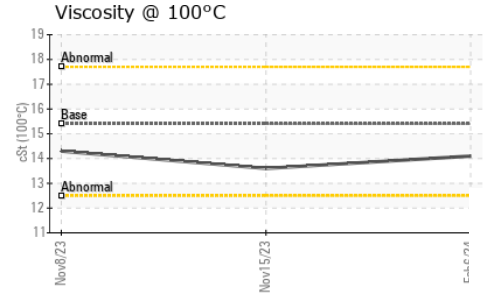
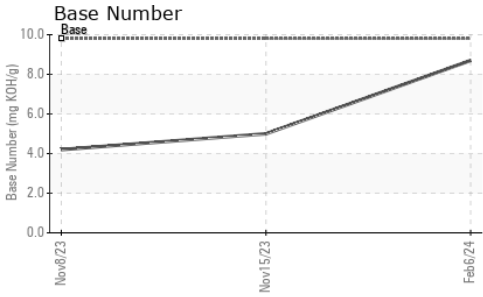
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>0.1</b>	1.3	1.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>4.5</b>	10.9	15.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.6</b>	23.6	29.1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>13.1</b>	21.5	32.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.7</b>	5.0	4.2



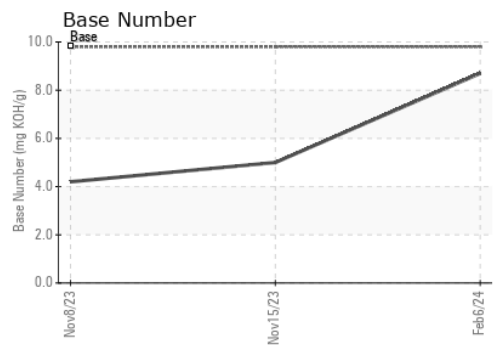
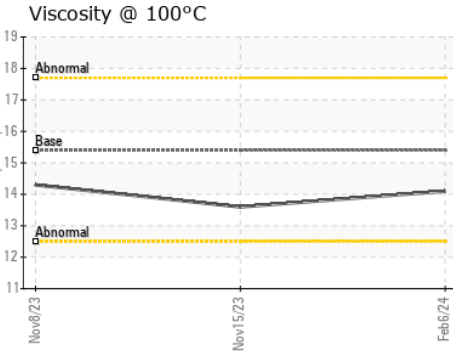
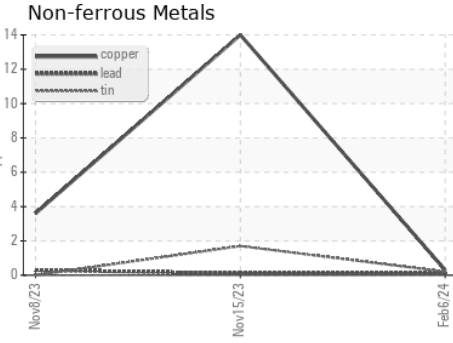
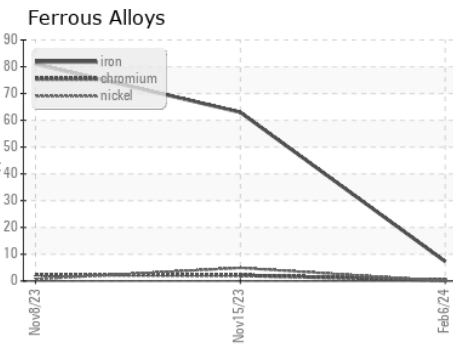
# OIL ANALYSIS REPORT



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>14.1</b>	13.6	14.3

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0110089      **Received** : 08 Feb 2024  
**Lab Number** : 06083391      **Tested** : 08 Feb 2024  
**Unique Number** : 10870836      **Diagnosed** : 08 Feb 2024 - Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 410 - Michigan West**  
 39000 Van Born Rd  
 Wayne, MI  
 US 48184  
 Contact: Belal Dgheish  
 bdgheish@gflenv.com  
 T: (734)714-2340  
 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)