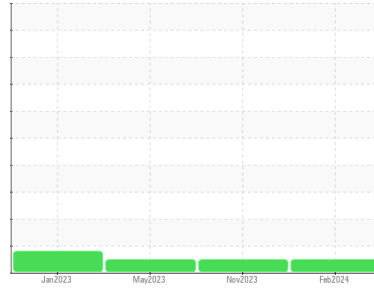




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**229042-603253**

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>GFL0110886</b>	GFL0103003	GFL0064684
Sample Date	Client Info	<b>14 Feb 2024</b>	21 Nov 2023	03 May 2023
Machine Age	hrs	<b>2028</b>	5611	5036
Oil Age	hrs	<b>5611</b>	575	4720
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >100	<b>55</b>	57	55
Chromium	ppm ASTM D5185m >20	<b>1</b>	2	2
Nickel	ppm ASTM D5185m >2	<b>&lt;1</b>	1	<1
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >25	<b>6</b>	6	8
Lead	ppm ASTM D5185m >40	<b>&lt;1</b>	<1	0
Copper	ppm ASTM D5185m >330	<b>6</b>	2	2
Tin	ppm ASTM D5185m >15	<b>0</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>3</b>	1	6
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>60</b>	65	68
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>1001</b>	1000	1027
Calcium	ppm ASTM D5185m 1070	<b>1103</b>	1110	1096
Phosphorus	ppm ASTM D5185m 1150	<b>1115</b>	973	1068
Zinc	ppm ASTM D5185m 1270	<b>1323</b>	1270	1331
Sulfur	ppm ASTM D5185m 2060	<b>3217</b>	3282	3661

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>9</b>	10	11
Sodium	ppm ASTM D5185m	<b>2</b>	0	0
Potassium	ppm ASTM D5185m >20	<b>&lt;1</b>	3	3

## INFRA-RED

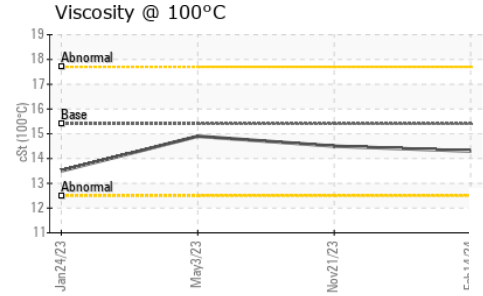
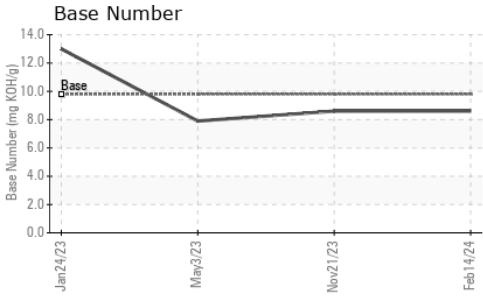
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.3</b>	0.4	0.7
Nitration	Abs/cm *ASTM D7624 >20	<b>7.9</b>	8.6	9.5
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.5</b>	19.6	18.9

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>15.1</b>	16.5	17.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.6</b>	8.6	7.9



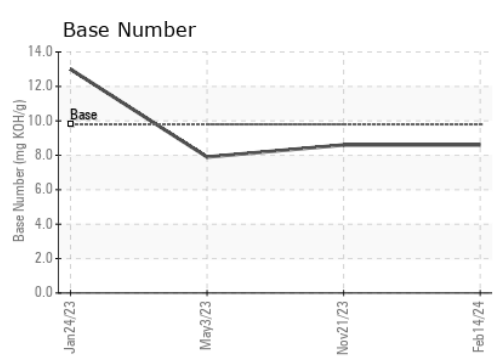
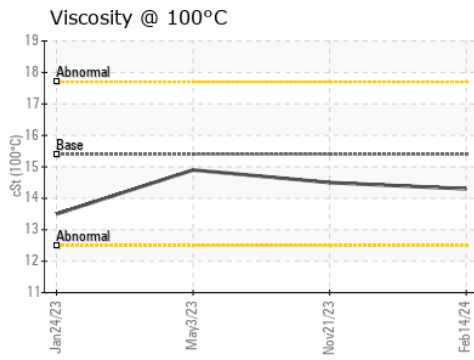
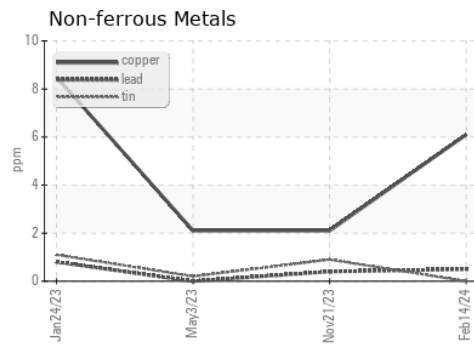
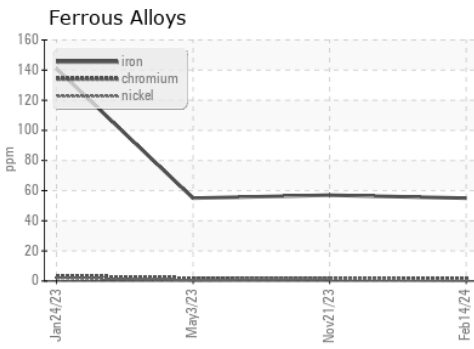
# OIL ANALYSIS REPORT



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>14.3</b>	14.5	14.9

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0110886 **Received** : 23 Feb 2024  
**Lab Number** : 06098983 **Tested** : 26 Feb 2024  
**Unique Number** : 10897213 **Diagnosed** : 26 Feb 2024 - Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 814 - Little Rock Hauling**  
 4005 Hwy 161 N.  
 Little Rock, AR  
 US 72117  
 Contact: Brad Koenig  
 bkoenig@gflenv.com  
 T:  
 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)