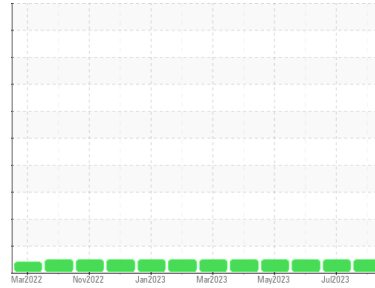




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**812031**

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>GFL0087081</b>	GFL0087079	GFL0075015
Sample Date	Client Info	<b>31 Jul 2023</b>	10 Jul 2023	17 May 2023
Machine Age	hrs	<b>3903</b>	3768	3477
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>Not Changed</b>	Not 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
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	<b>3</b>	9	35
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	2
Nickel	ppm	ASTM D5185m >4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	9	34
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	1
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	62	67
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m 1010	<b>978</b>	1030	1075
Calcium	ppm	ASTM D5185m 1070	<b>1080</b>	1134	1210
Phosphorus	ppm	ASTM D5185m 1150	<b>1017</b>	1058	1123
Zinc	ppm	ASTM D5185m 1270	<b>1265</b>	1291	1392
Sulfur	ppm	ASTM D5185m 2060	<b>3685</b>	3714	3445

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>2</b>	3	4
Sodium	ppm	ASTM D5185m	<b>3</b>	4	7
Potassium	ppm	ASTM D5185m >20	<b>7</b>	17	56

## INFRA-RED

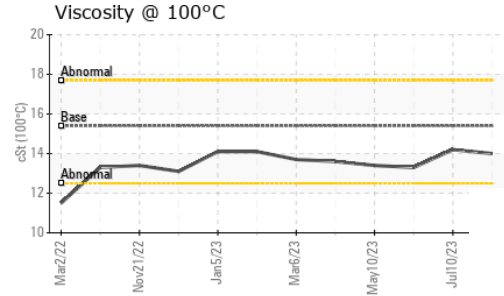
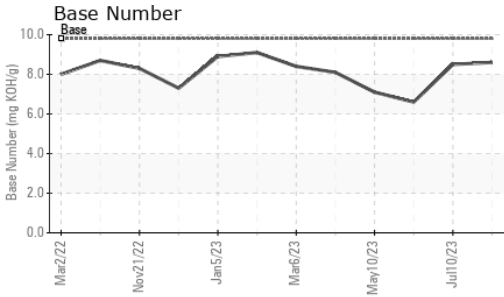
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	0.3	0.6
Nitration	Abs/cm	*ASTM D7624 >20	<b>5.5</b>	7.3	11.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.1</b>	19.8	23.3

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.4</b>	16.2	20.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.6</b>	8.5	6.6



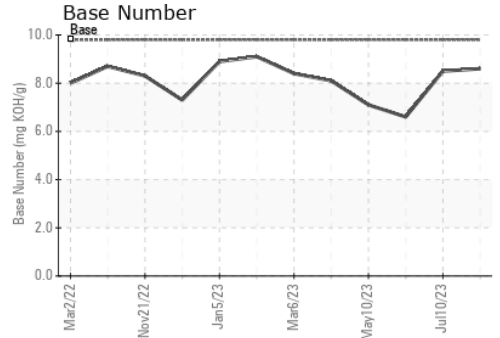
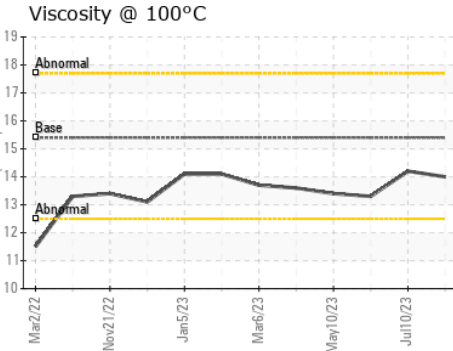
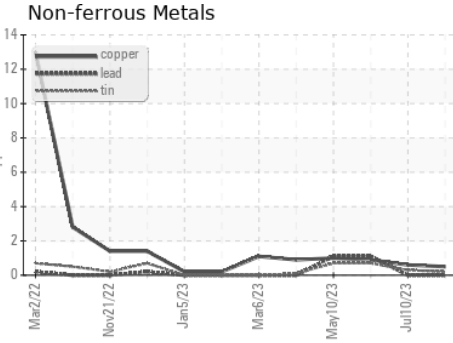
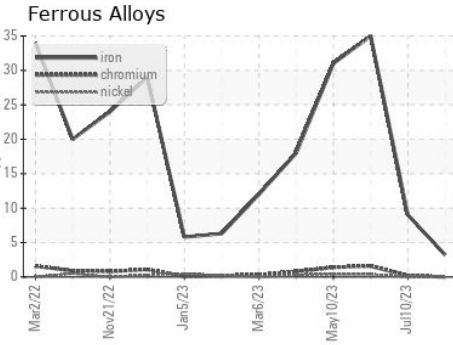
# OIL ANALYSIS REPORT



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>14.0</b>	14.2	13.3

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0087081 **Received** : 16 Aug 2023  
**Lab Number** : **05925788** **Diagnosed** : 16 Aug 2023  
**Unique Number** : 10605735 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 844 - Princeton Hauling**  
 10129 Highway 62 West  
 Princeton, KY  
 US 42445  
 Contact: Kenneth Bigers  
 kbigers@gflenv.com  
 T: (270)970-0371  
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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)