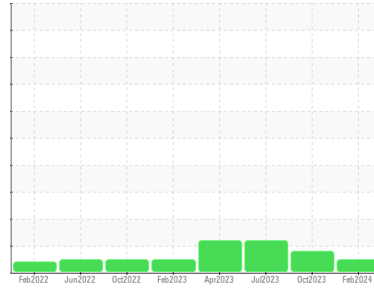




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**412031**

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>GFL0104559</b>	GFL0092622	GFL0082505
Sample Date	Client Info	<b>08 Feb 2024</b>	18 Oct 2023	17 Jul 2023
Machine Age	hrs	<b>4484</b>	3848	3336
Oil Age	hrs	<b>643</b>	512	602
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Changed
Sample Status		<b>NORMAL</b>	MARGINAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	▲ 3.7	▲ 6.1
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>13</b>	7	12
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm ASTM D5185m >4	<b>3</b>	2	1
Titanium	ppm ASTM D5185m	<b>0</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	<1	<1
Aluminum	ppm ASTM D5185m >20	<b>3</b>	3	2
Lead	ppm ASTM D5185m >40	<b>&lt;1</b>	0	<1
Copper	ppm ASTM D5185m >330	<b>4</b>	2	2
Tin	ppm ASTM D5185m >15	<b>1</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>0</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>	0	0
Barium	ppm ASTM D5185m 0	<b>0</b>	0	<1
Molybdenum	ppm ASTM D5185m 60	<b>59</b>	57	58
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>929</b>	929	857
Calcium	ppm ASTM D5185m 1070	<b>1064</b>	1001	1016
Phosphorus	ppm ASTM D5185m 1150	<b>923</b>	1003	901
Zinc	ppm ASTM D5185m 1270	<b>1196</b>	1240	1124
Sulfur	ppm ASTM D5185m 2060	<b>2711</b>	2687	2491

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>4</b>	4	4
Sodium	ppm ASTM D5185m	<b>2</b>	3	1
Potassium	ppm ASTM D5185m >20	<b>5</b>	8	7

## INFRA-RED

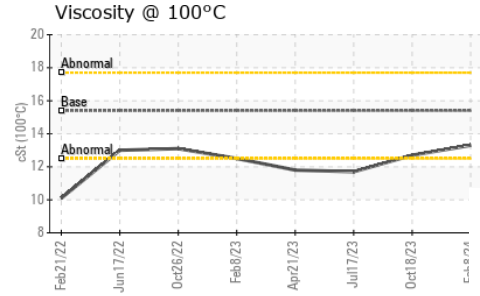
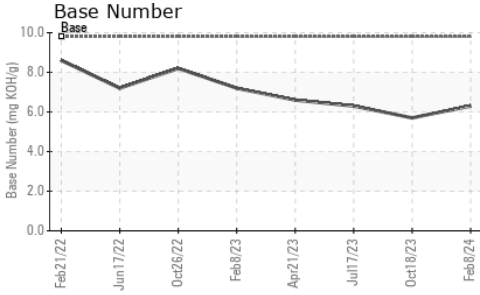
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.5</b>	0.4	0.4
Nitration	Abs/cm *ASTM D7624 >20	<b>9.7</b>	8.7	8.8
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>20.3</b>	20.6	20.4

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>16.9</b>	17.7	17.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>6.3</b>	5.7	6.3



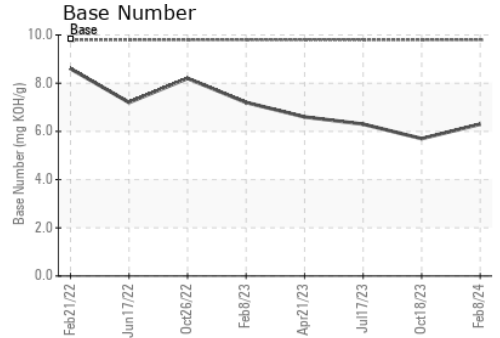
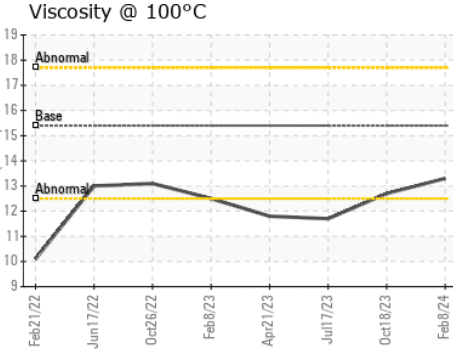
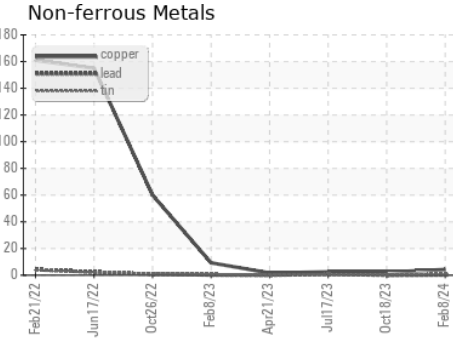
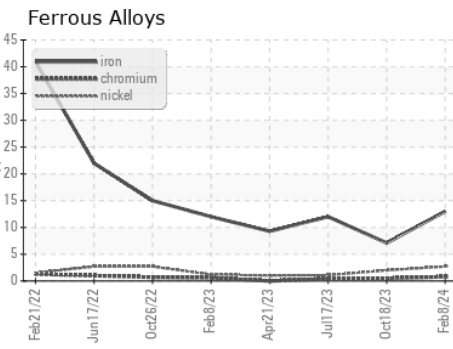
# OIL ANALYSIS REPORT



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	13.3	12.7 ▲ 11.7

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0104559  
 Lab Number : 06088098  
 Unique Number : 10875543  
 Test Package : FLEET

Received : 13 Feb 2024  
 Tested : 14 Feb 2024  
 Diagnosed : 14 Feb 2024 - Wes Davis

GFL Environmental - 947 - WB Horicon HC  
 N7296 County Rd V  
 Horicon, WI  
 US 53032  
 Contact: Tim Kieffer  
 tim.kieffer@gflenv.com  
 T: (608)219-0288  
 F:

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)