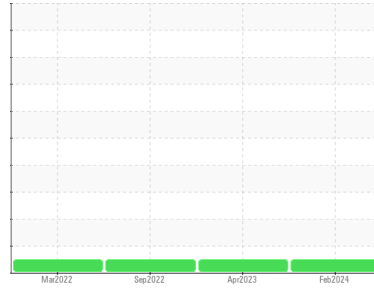




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**227028**

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>GFL0092539</b>	GFL0071638	GFL0053522
Sample Date	Client Info	<b>12 Feb 2024</b>	21 Apr 2023	22 Sep 2022
Machine Age	hrs	<b>22324</b>	21283	20693
Oil Age	hrs	<b>596</b>	590	591
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>9</b>	9	9
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	0	<1
Nickel	ppm ASTM D5185m >4	<b>&lt;1</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm ASTM D5185m >3	<b>&lt;1</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>2</b>	2	6
Lead	ppm ASTM D5185m >40	<b>5</b>	3	4
Copper	ppm ASTM D5185m >330	<b>2</b>	<1	1
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	0	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>2</b>	3	15
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>59</b>	65	61
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>930</b>	1071	904
Calcium	ppm ASTM D5185m 1070	<b>1035</b>	1183	1093
Phosphorus	ppm ASTM D5185m 1150	<b>948</b>	1090	972
Zinc	ppm ASTM D5185m 1270	<b>1179</b>	1355	1106
Sulfur	ppm ASTM D5185m 2060	<b>3685</b>	3575	3321

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>4</b>	4	4
Sodium	ppm ASTM D5185m	<b>8</b>	6	4
Potassium	ppm ASTM D5185m >20	<b>5</b>	2	<1

## INFRA-RED

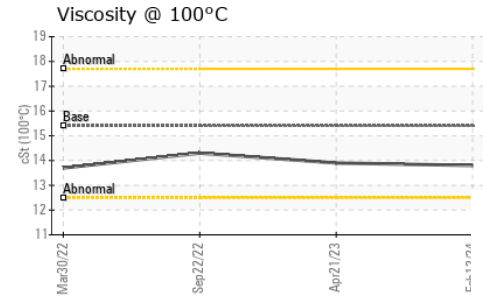
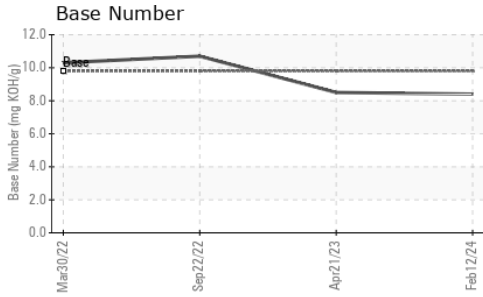
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.6</b>	0.7	0.9
Nitration	Abs/cm *ASTM D7624 >20	<b>6.7</b>	7.0	8.1
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.3</b>	17.0	20.8

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.6</b>	13.9	15.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.4</b>	8.5	10.7



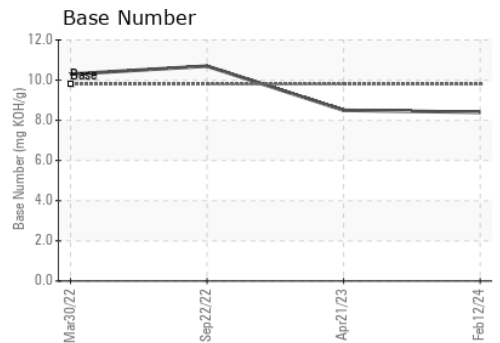
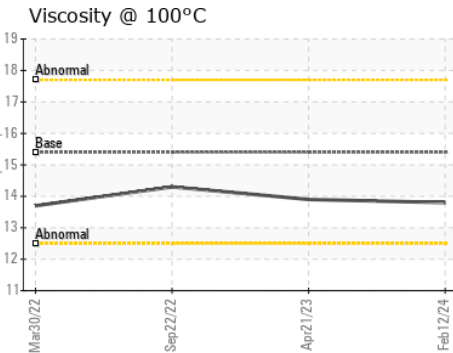
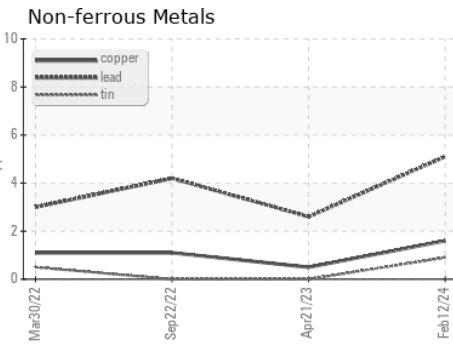
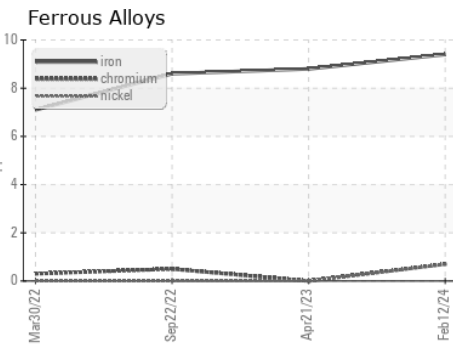
# OIL ANALYSIS REPORT



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>13.8</b>	13.9	14.3

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0092539  
**Lab Number** : 06092221  
**Unique Number** : 10885074  
**Test Package** : FLEET

**Received** : 16 Feb 2024  
**Tested** : 19 Feb 2024  
**Diagnosed** : 19 Feb 2024 - Wes Davis

**GFL Environmental - 935 - Omro HC**  
 250 Alder Avenue  
 Omro, WI  
 US 54963  
 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)