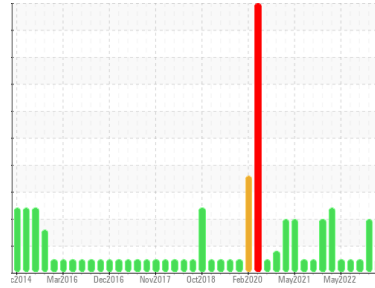




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**2441 MACK GRANITE**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (48 QTS)**

## 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>GFL0103156</b>	GFL0089310	GFL0087106
Sample Date	Client Info		<b>15 Mar 2024</b>	28 Sep 2023	07 Jul 2023
Machine Age	hrs	Client Info	<b>38181</b>	37894	37336
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Not Changed</b>	Changed	N/A
Sample Status			<b>NORMAL</b>	ABNORMAL	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 >120	<b>26</b>	46	29
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	2	2
Lead	ppm	ASTM D5185m >40	<b>1</b>	2	1
Copper	ppm	ASTM D5185m >330	<b>4</b>	8	6
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>3</b>	1	4
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>57</b>	62	59
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>884</b>	846	866
Calcium	ppm	ASTM D5185m 1070	<b>1005</b>	1041	1054
Phosphorus	ppm	ASTM D5185m 1150	<b>973</b>	956	899
Zinc	ppm	ASTM D5185m 1270	<b>1160</b>	1176	1146
Sulfur	ppm	ASTM D5185m 2060	<b>3068</b>	3144	3345

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	4	4
Sodium	ppm	ASTM D5185m	<b>2</b>	<1	2
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	3

## INFRA-RED

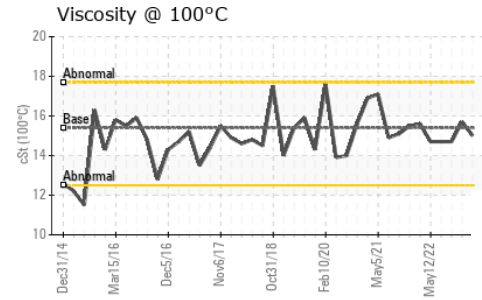
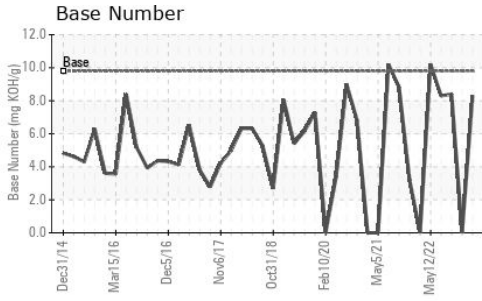
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>3.6</b>	▲ 5.5	3
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	12.5	9.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>24.5</b>	29.3	24.8

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.0</b>	17.7	15.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.3</b>	▲ 0.0	8.4



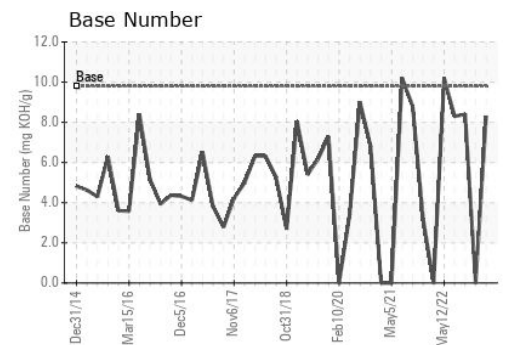
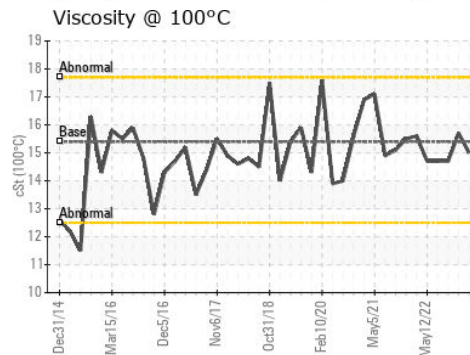
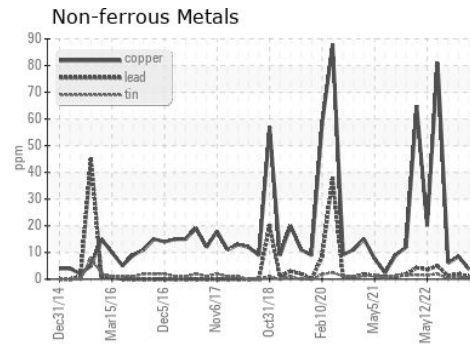
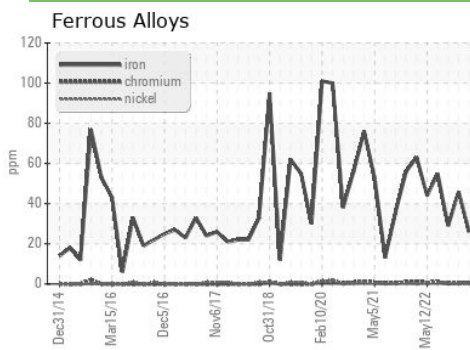
# OIL ANALYSIS REPORT



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	15.0	15.7

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0103156  
 Lab Number : 06120666  
 Unique Number : 10929499  
 Test Package : FLEET

Received : 18 Mar 2024  
 Tested : 19 Mar 2024  
 Diagnosed : 19 Mar 2024 - Wes Davis

GFL Environmental - 001 - Raleigh(CNG)  
 3741 Conquest Drive  
 Garner, NC  
 US 27529  
 Contact: Craig Johnson  
 craig.johnson@gflenv.com  
 T: (919)662-7100  
 F: (919)662-7130

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)