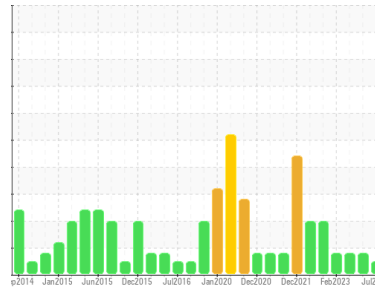




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**2464**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (60 GAL)**

## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

### Wear

All component wear rates are normal.

### Contamination

Light fuel dilution occurring. No other contaminants were detected 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>GFL0080552</b>	GFL0066868	GFL0066824
Sample Date	Client Info	<b>20 Jul 2023</b>	04 Jul 2023	07 Apr 2023
Machine Age	mls	Client Info	<b>617178</b>	617178
Oil Age	mls	Client Info	<b>617178</b>	617178
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>NORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >120	<b>4</b>	14	15
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	0
Nickel	ppm	ASTM D5185m >5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	2
Lead	ppm	ASTM D5185m >40	<b>0</b>	2	0
Copper	ppm	ASTM D5185m >330	<b>0</b>	2	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	<1	0
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>6</b>	3	3
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>60</b>	59	50
Manganese	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>992</b>	944	777
Calcium	ppm	ASTM D5185m 1070	<b>1138</b>	1040	968
Phosphorus	ppm	ASTM D5185m 1150	<b>1098</b>	1032	842
Zinc	ppm	ASTM D5185m 1270	<b>1310</b>	1257	991
Sulfur	ppm	ASTM D5185m 2060	<b>3936</b>	3661	2535

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>3</b>	3	5
Sodium	ppm	ASTM D5185m	<b>2</b>	<1	1
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	3	0
Fuel	%	ASTM D3524 >3.0	<b>1.9</b>	▲ 4.0	▲ 5.2

## INFRA-RED

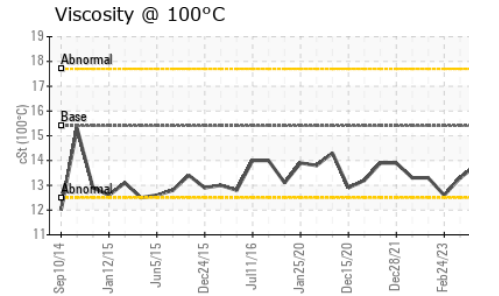
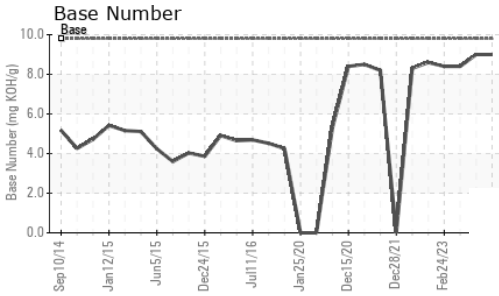
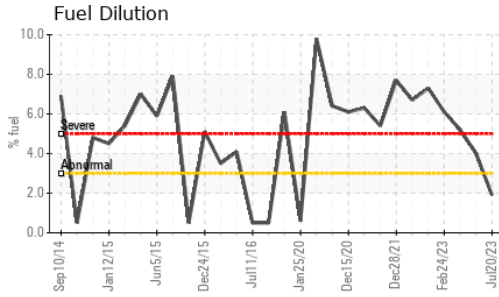
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	<b>0.4</b>	2.1	2.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>4.9</b>	7.8	8.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.6</b>	22.5	22.2

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>12.7</b>	15.3	15.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>9.0</b>	9.0	8.4



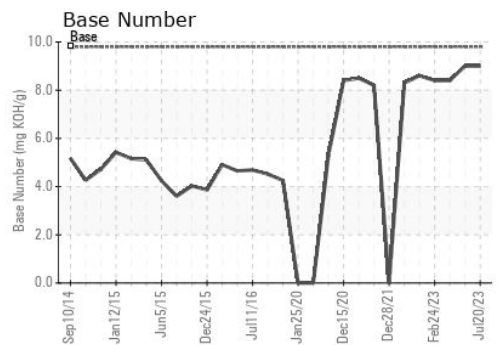
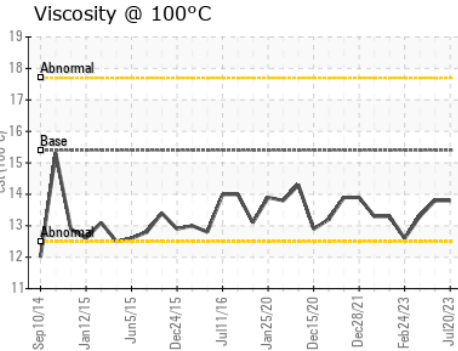
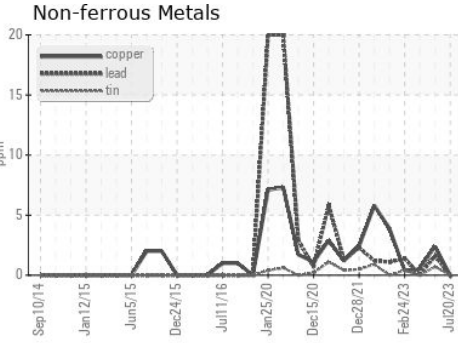
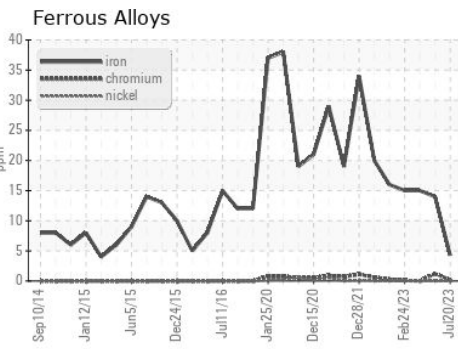
# OIL ANALYSIS REPORT



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	<b>13.8</b>	13.8	13.3

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0080552 **Received** : 21 Jul 2023  
**Lab Number** : **05904168** **Diagnosed** : 01 Aug 2023  
**Unique Number** : 10565524 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 018 - Fayetteville**  
 4621 Marracco Drive  
 Hope Mills, NC  
 US 28348  
 Contact: Robert Carter  
 robert.carter@gflenv.com  
 T: (910)596-1170  
 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)