



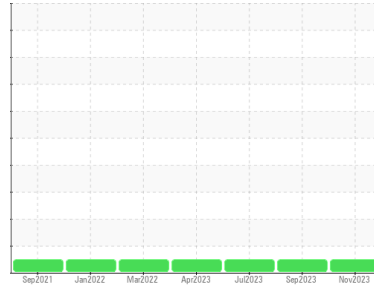
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**401175**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0094425</b>	GFL0094454	GFL0086762
Sample Date	Client Info		<b>17 Nov 2023</b>	18 Sep 2023	06 Jul 2023
Machine Age	hrs	Client Info	<b>7595</b>	7595	7595
Oil Age	hrs	Client Info	<b>7595</b>	7595	7595
Oil Changed	Client Info		<b>Changed</b>	N/A	Changed
Sample Status			<b>NORMAL</b>	NORMAL	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 D5185(m) >120	<b>3</b>	4	5
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185(m) >5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m) >2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m) >2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>4</b>	3	2
Lead	ppm	ASTM D5185(m) >40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m) >330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>39</b>	24	15
Barium	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>86</b>	80	40
Manganese	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m) 1010	<b>58</b>	32	21
Calcium	ppm	ASTM D5185(m) 1070	<b>2131</b>	2137	2280
Phosphorus	ppm	ASTM D5185(m) 1150	<b>973</b>	1036	993
Zinc	ppm	ASTM D5185(m) 1270	<b>1138</b>	1139	1114
Sulfur	ppm	ASTM D5185(m) 2060	<b>2976</b>	2967	3060
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

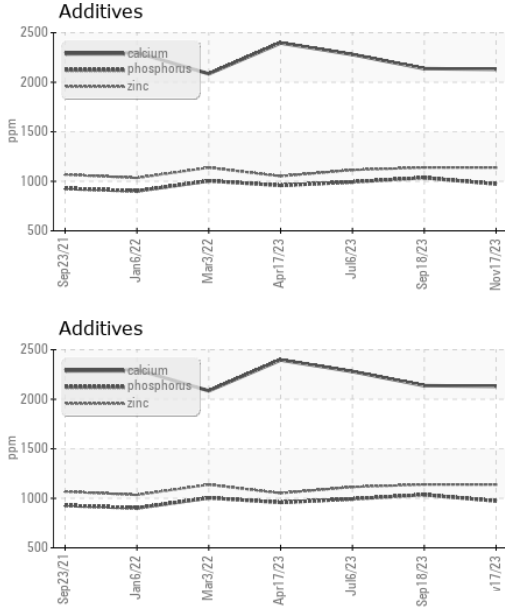
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	<b>3</b>	3	3
Sodium	ppm	ASTM D5185(m)	<b>3</b>	4	4
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	1	1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	<b>0</b>	0	0.1
Nitration	Abs/cm	ASTM D7624* >20	<b>8.9</b>	8.9	8.4
Sulfation	Abs./1mm	ASTM D7415* >30	<b>19.2</b>	19.3	19.7



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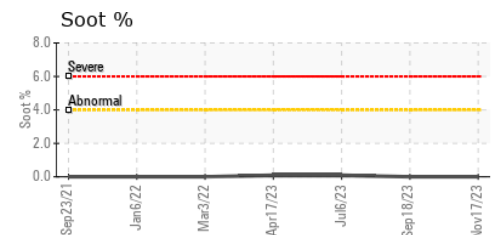
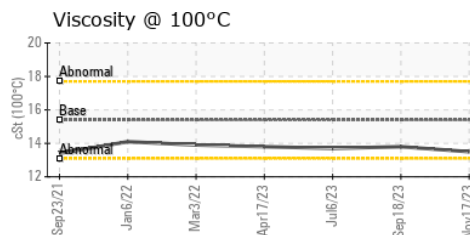
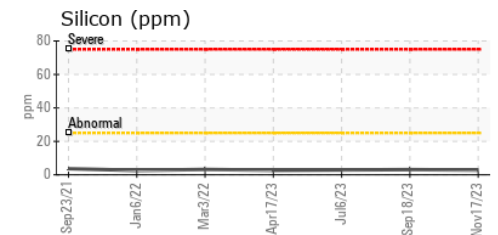
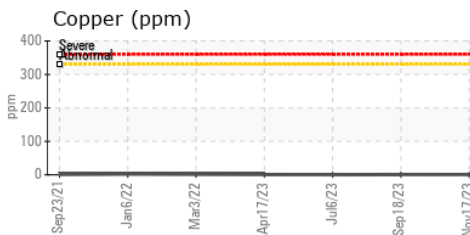
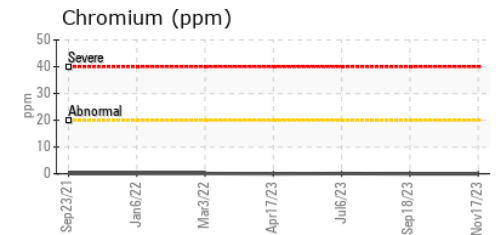
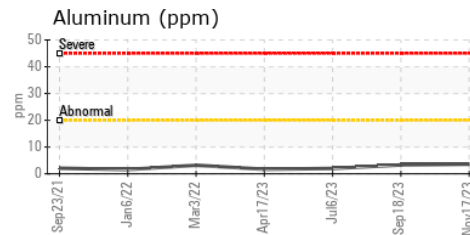
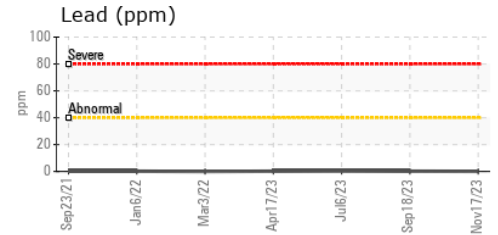
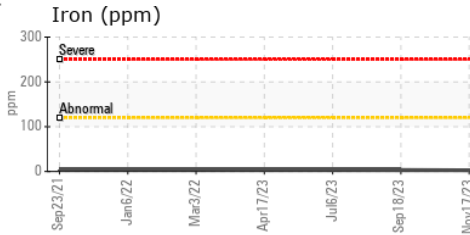


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>14.4</b>	14.3	13.0

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	---	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.5</b>	13.8	13.7

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0094425  
**Lab Number** : 02597318  
**Unique Number** : 5682398  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**Received** : 20 Nov 2023  
**Diagnosed** : 20 Nov 2023  
**Diagnostician** : Kevin Marson  
**GFL Environmental - 222 - Sandhill**  
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD  
 ORANGEVILLE, ON  
 CA L9W 3X5  
 Contact: GLENN COOK  
 gcook@gflenv.com  
 T: (519)940-4167  
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.