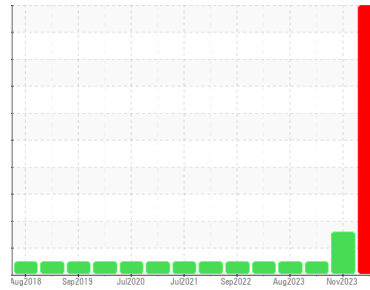




# OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL



Machine Id  
**801056**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (23 LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check for visible metal particles in the oil. The oil change at the time of sampling has been noted. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF).

### Wear

Copper and tin ppm levels are abnormal. Moderate concentration of visible metal present. Bearing wear is indicated. High concentration of visible metal present. Piston, ring and cylinder wear is indicated. Slide bearing wear is indicated.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0107119</b>	WC0875095	GFL0094184
Sample Date	Client Info		<b>29 Jan 2024</b>	10 Nov 2023	25 Oct 2023
Machine Age	hrs	Client Info	<b>134422</b>	134422	9817
Oil Age	hrs	Client Info	<b>600</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status			<b>SEVERE</b>	ATTENTION	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 D5185(m)	>80	<b>28</b>	28	22
Chromium	ppm	ASTM D5185(m)	>5	<b>2</b>	2	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>30	<b>9</b>	8	3
Lead	ppm	ASTM D5185(m)	>30	<b>2</b>	1	<1
Copper	ppm	ASTM D5185(m)	>150	<b>61</b>	47	1
Tin	ppm	ASTM D5185(m)	>5	<b>5</b>	4	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>21</b>	24	5
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	60	<b>58</b>	60	61
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	1010	<b>889</b>	923	949
Calcium	ppm	ASTM D5185(m)	1070	<b>1059</b>	1037	1074
Phosphorus	ppm	ASTM D5185(m)	1150	<b>976</b>	996	953
Zinc	ppm	ASTM D5185(m)	1270	<b>1141</b>	1172	1190
Sulfur	ppm	ASTM D5185(m)	2060	<b>2660</b>	2588	2402
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

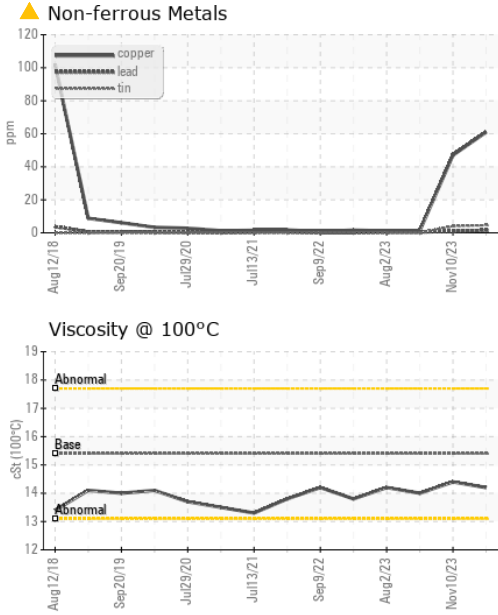
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	<b>5</b>	6	6
Sodium	ppm	ASTM D5185(m)		<b>3</b>	3	8
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	0	<1

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0.1</b>	0	0.8
Nitration	Abs/cm	ASTM D7624*	>20	<b>5.7</b>	4.9	10.3
Sulfation	Abs.1mm	ASTM D7415*	>30	<b>18.2</b>	18.1	21.4



# OIL ANALYSIS REPORT



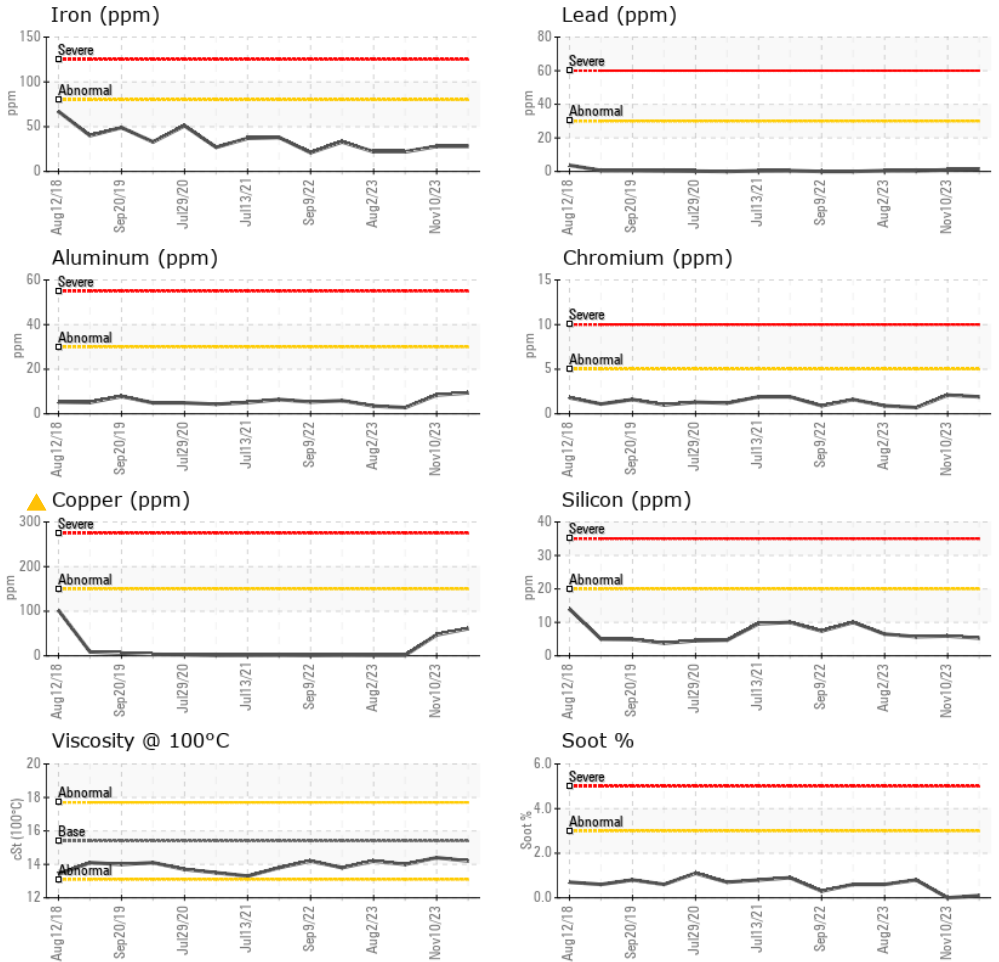
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	13.5	13.1	16.9

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.2	14.4	14.0

## GRAPHS



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0107119  
**Lab Number** : 02612078  
**Unique Number** : 5721173  
**Test Package** : MOB 1 ( Additional Tests: Bottom, BottomAnalysis, FilterPatch, Visual )

**GFL Environmental - 217 - Aurora**  
 14131 BAYVIEW AVE, AURORA YARD  
 AURORA, ON  
 CA L4G 0K6  
 Contact: Mike Havens  
 MHavens@gflenv.com

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.

T:  
F: (905)713-2445