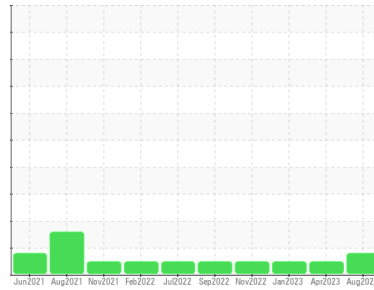




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**401100**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

### Fluid Condition

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>GFL0084149</b>	GFL0073213	GFL0063534
Sample Date	Client Info	<b>14 Aug 2023</b>	17 Apr 2023	25 Jan 2023
Machine Age	hrs	<b>20485</b>	19915	19205
Oil Age	hrs	<b>0</b>	600	600
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>MARGINAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	<b>NEG</b>	0.0	NEG

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	<b>35</b>	26	19
Chromium	ppm	ASTM D5185(m) >20	<b>3</b>	1	<1
Nickel	ppm	ASTM D5185(m) >4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185(m) >3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>5</b>	2	1
Lead	ppm	ASTM D5185(m) >40	<b>&lt;1</b>	2	3
Copper	ppm	ASTM D5185(m) >330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	<1	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>4</b>	4	2
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>60</b>	63	62
Manganese	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	<b>971</b>	1002	1007
Calcium	ppm	ASTM D5185(m) 1070	<b>1043</b>	1139	1145
Phosphorus	ppm	ASTM D5185(m) 1150	<b>1061</b>	1128	1111
Zinc	ppm	ASTM D5185(m) 1270	<b>1193</b>	1233	1260
Sulfur	ppm	ASTM D5185(m) 2060	<b>2621</b>	2656	2736
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>16</b>	4	4
Sodium	ppm	ASTM D5185(m)	<b>4</b>	3	4
Potassium	ppm	ASTM D5185(m) >20	<b>2</b>	17	<1
Fuel	%	ASTM D7593* >5	<b>▲ 3.3</b>	<1.0	<1.0

## INFRA-RED

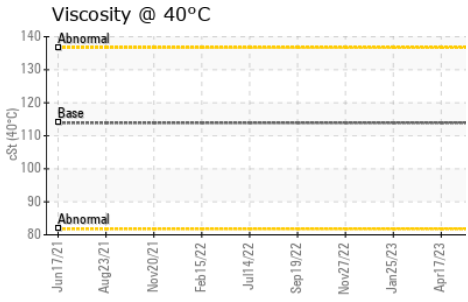
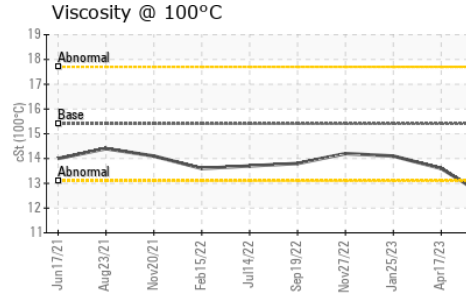
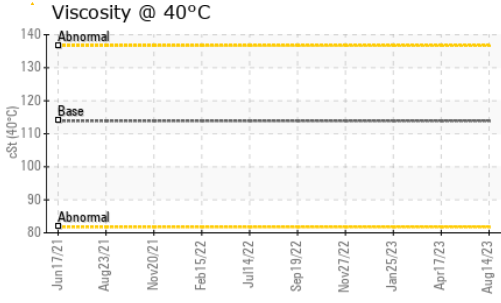
method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	<b>1</b>	1.8	0.9
Nitration	Abs/cm	ASTM D7624* >20	<b>8.9</b>	9.6	6.9
Sulfation	Abs/.1mm	ASTM D7415* >30	<b>21.7</b>	22.9	21.0

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	<b>15.6</b>	16.4	12.9



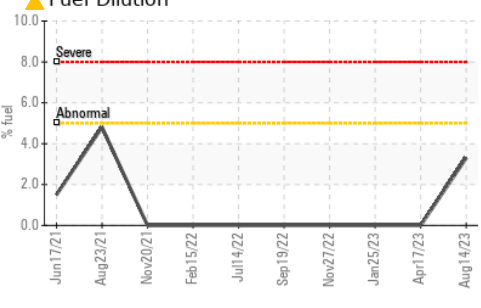
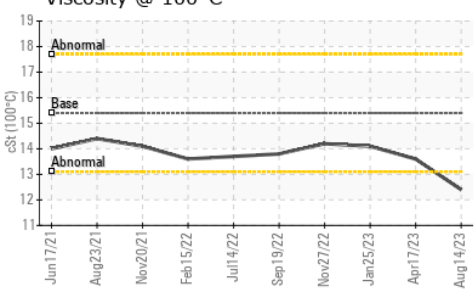
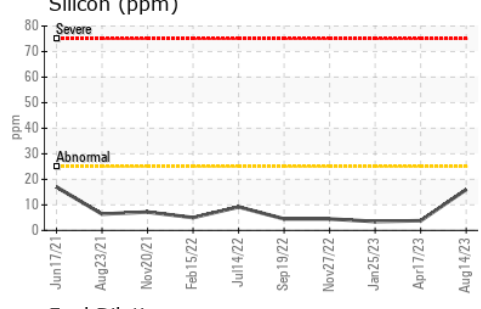
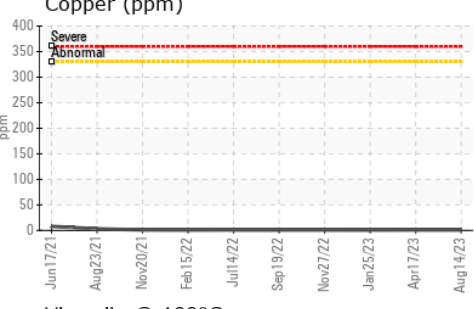
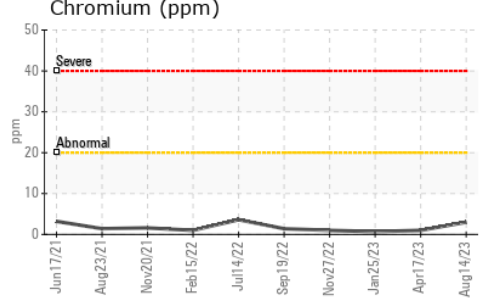
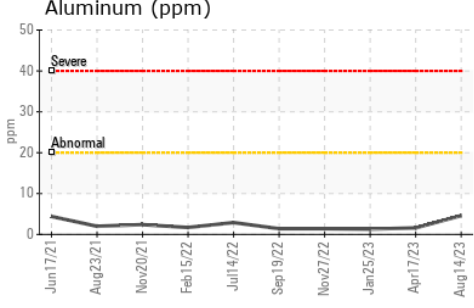
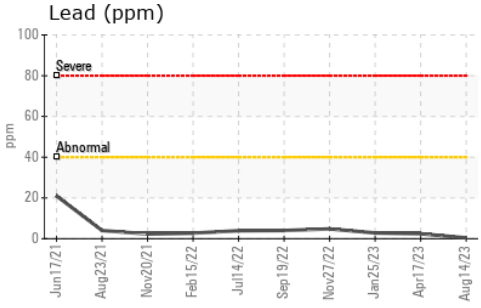
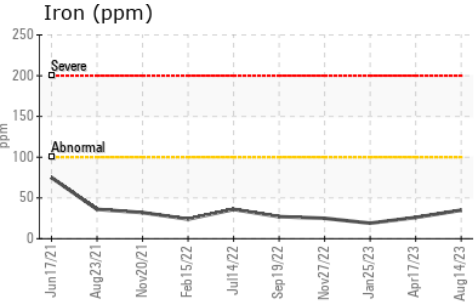
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	113.9	84.9	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	12.4	13.6
Viscosity Index (VI)	Scale	ASTM D2270*	142	142	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 573 - Vancouver Hauling  
**Sample No.** : GFL0084149 **Received** : 08 Sep 2023 70 Golden Drive, Coquitlam, BC  
**Lab Number** : 02581089 **Diagnosed** : 11 Sep 2023 CA V3K 6B5  
**Unique Number** : 5642154 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, KV40, PercentFuel, VI ) Contact: Catia Klagenberg Alves  
 To discuss this sample report, contact Customer Service at 1-800-268-2131. cklagenbergalves@gflenv.com  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:  
 Validity of results and interpretation are based on the sample and information as supplied. F: