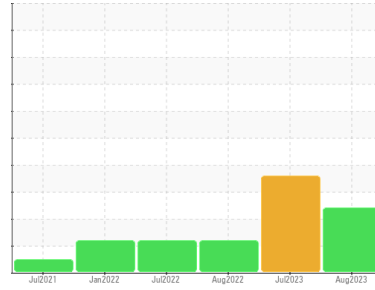




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**801162**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

Check for low coolant level. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. Tests confirm the presence of fuel in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants. The condition of the oil is acceptable for the time in service (see recommendation).

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0084113</b>	GFL0084058	GFL0039243
Sample Date	Client Info	<b>28 Aug 2023</b>	05 Jul 2023	24 Aug 2022
Machine Age	hrs	<b>21247</b>	20996	19419
Oil Age	hrs	<b>600</b>	600	6000
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	<b>10</b>	27	9
Chromium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185(m) >4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185(m) >3	<b>1</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>1</b>	6	<1
Lead	ppm	ASTM D5185(m) >40	<b>&lt;1</b>	1	<1
Copper	ppm	ASTM D5185(m) >330	<b>1</b>	2	<1
Tin	ppm	ASTM D5185(m) >15	<b>0</b>	<1	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	<1
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>3</b>	4	2
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>75</b>	89	57
Manganese	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	<b>964</b>	927	910
Calcium	ppm	ASTM D5185(m) 1070	<b>1019</b>	1025	1032
Phosphorus	ppm	ASTM D5185(m) 1150	<b>1056</b>	1060	1038
Zinc	ppm	ASTM D5185(m) 1270	<b>1167</b>	1171	1118
Sulfur	ppm	ASTM D5185(m) 2060	<b>2615</b>	2555	2555
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>13</b>	28	4
Sodium	ppm	ASTM D5185(m)	<b>▲ 272</b>	▲ 378	16
Potassium	ppm	ASTM D5185(m) >20	<b>176</b>	▲ 420	25
Fuel	%	ASTM D7593* >2.0	<b>▲ 3.8</b>	▲ 3.5	▲ 3.4
Glycol	%	ASTM D7922*	<b>0.0</b>	0.0	0.0

## INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	<b>0</b>	0.1	0
Nitration	Abs/cm	ASTM D7624* >20	<b>7.1</b>	8.9	6.6
Sulfation	Abs/.1mm	ASTM D7415* >30	<b>20.4</b>	22.4	20.6

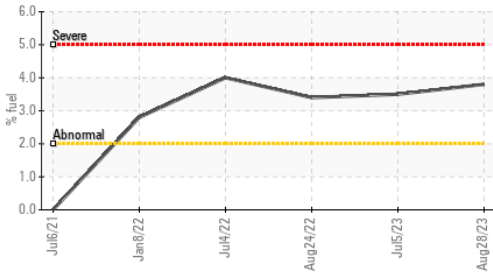
## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	<b>15.4</b>	17.4	16.3

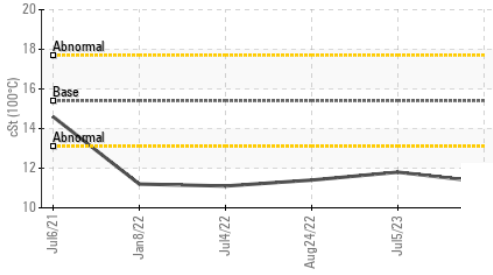


# OIL ANALYSIS REPORT

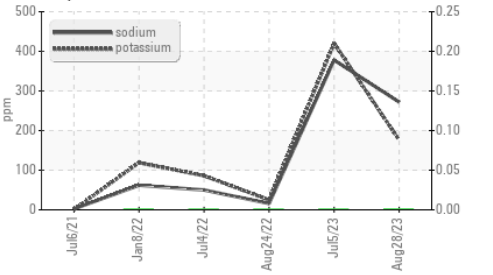
### ▲ Fuel Dilution



### ▲ Viscosity @ 100°C



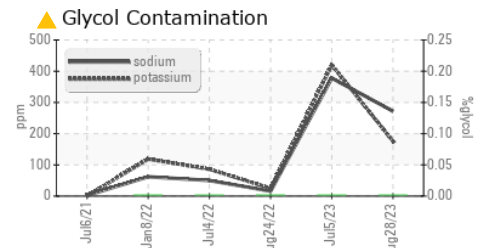
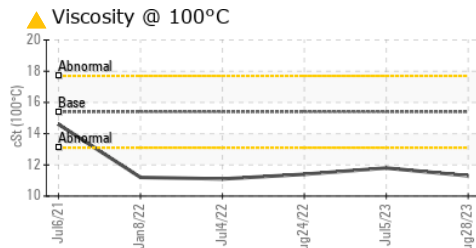
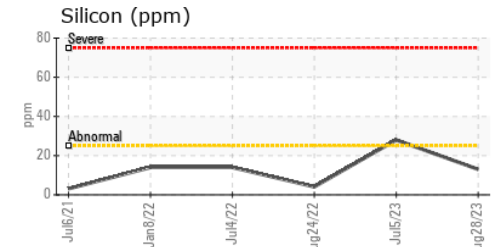
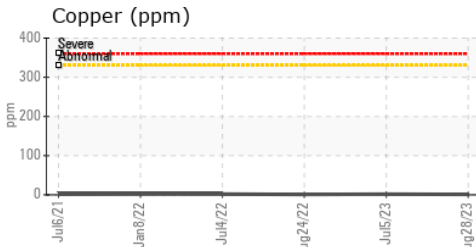
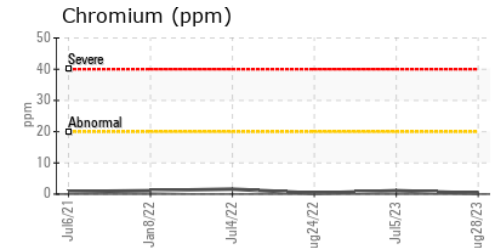
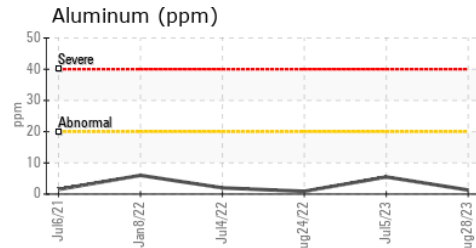
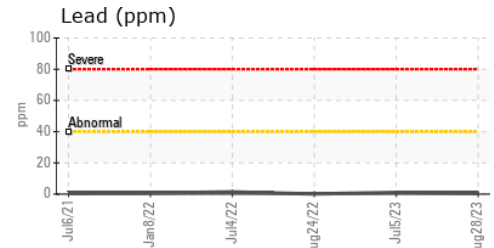
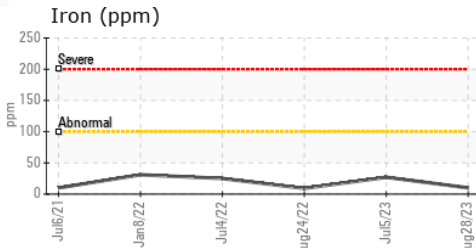
### Glycol Contamination



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
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
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 D7279(m)	▲ 11.3	▲ 11.8	▲ 11.4

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 573 - Vancouver Hauling  
**Sample No.** : GFL0084113 **Received** : 08 Sep 2023 70 Golden Drive,  
**Lab Number** : 02581119 **Diagnosed** : 11 Sep 2023 Coquitlam, BC  
**Unique Number** : 5642184 **Diagnostician** : Wes Davis CA V3K 6B5  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel, Visual ) **Contact:** Catia Klagenberg Alves  
 cklagenbergalves@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.

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F: