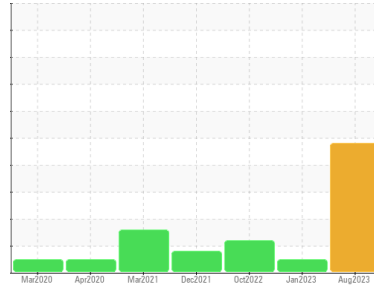




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area  
**{UNASSIGNED}**

Machine Id  
**OR500**

Component  
**1 Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (28 GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. 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 high amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. Tests confirm the presence of fuel in the oil. Test for glycol is negative.

### 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>GFL0087404</b>	GFL0064920	GFL0049024
Sample Date	Client Info	<b>02 Aug 2023</b>	30 Jan 2023	27 Oct 2022
Machine Age	hrs	<b>16910</b>	16910	16235
Oil Age	hrs	<b>723</b>	675	850
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>SEVERE</b>	NORMAL	ATTENTION

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >51	<b>49</b>	17	28
Chromium	ppm	ASTM D5185(m) >11	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185(m) >5	<b>&lt;1</b>	<1	<1
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) >31	<b>1</b>	2	<1
Lead	ppm	ASTM D5185(m) >26	<b>18</b>	2	7
Copper	ppm	ASTM D5185(m) >26	<b>4</b>	2	6
Tin	ppm	ASTM D5185(m) >4	<b>1</b>	<1	1
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>	2	1
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>74</b>	59	63
Manganese	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	<b>1020</b>	931	925
Calcium	ppm	ASTM D5185(m) 1070	<b>1200</b>	1073	1046
Phosphorus	ppm	ASTM D5185(m) 1150	<b>1066</b>	1043	1025
Zinc	ppm	ASTM D5185(m) 1270	<b>1243</b>	1179	1150
Sulfur	ppm	ASTM D5185(m) 2060	<b>2374</b>	2518	2422
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >22	<b>5</b>	3	4
Sodium	ppm	ASTM D5185(m) >31	<b>▲ 104</b>	36	▲ 70
Potassium	ppm	ASTM D5185(m) >20	<b>▲ 61</b>	17	36
Fuel	%	ASTM D7593* >2.1	<b>● 3.6</b>	<1.0	<1.0
Glycol	%	ASTM D7922*	<b>0.0</b>	0.0	0.0

## INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	<b>1.3</b>	0.5	1
Nitration	Abs/cm	ASTM D7624* >20	<b>10.5</b>	8.8	10.0
Sulfation	Abs/.1mm	ASTM D7415* >30	<b>24.7</b>	21.7	22.8

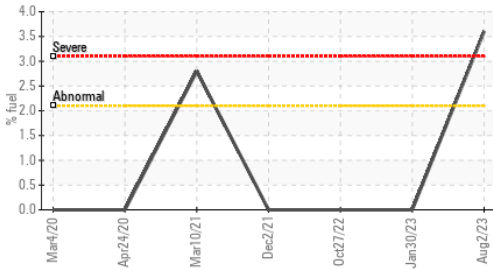
## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	<b>18.4</b>	16.4	17.1

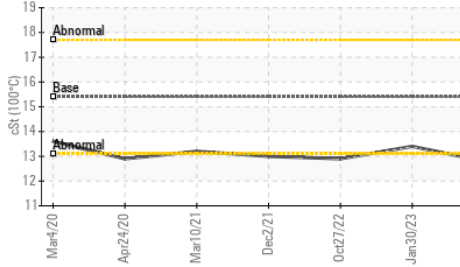


# OIL ANALYSIS REPORT

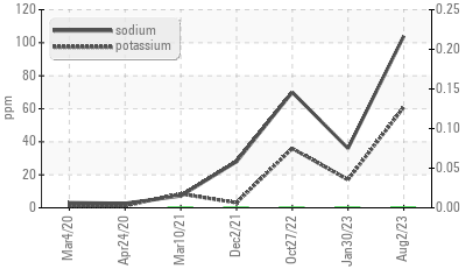
## Fuel Dilution



## Viscosity @ 100°C



## Glycol Contamination



## VISUAL

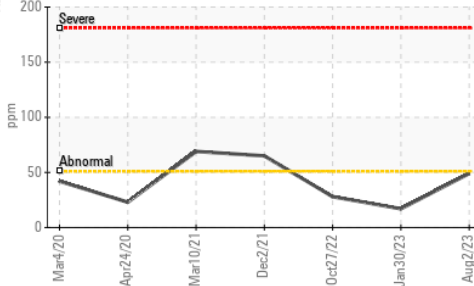
	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.21	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

## FLUID PROPERTIES

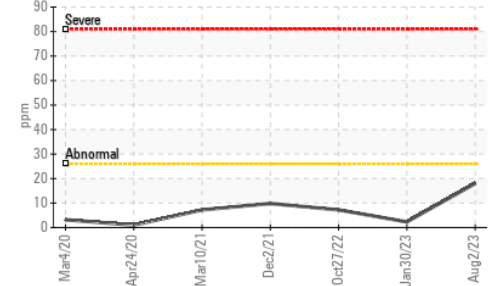
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 12.8	13.4

## GRAPHS

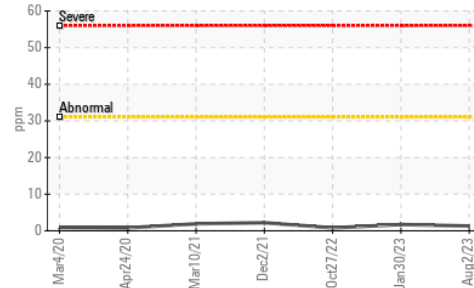
### Iron (ppm)



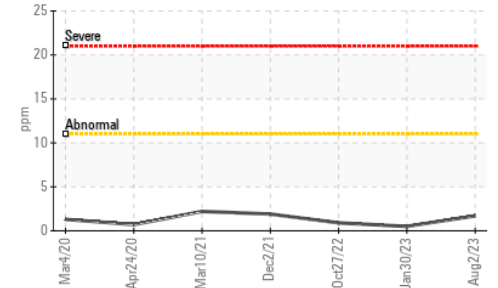
### Lead (ppm)



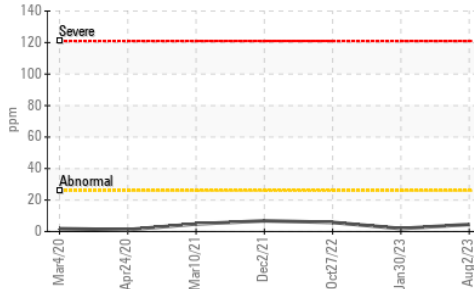
### Aluminum (ppm)



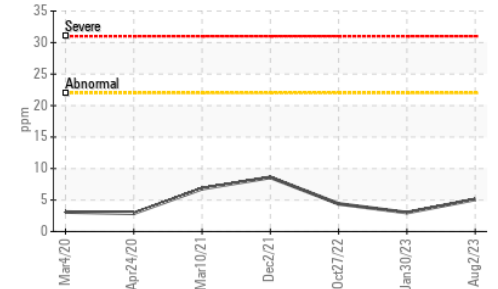
### Chromium (ppm)



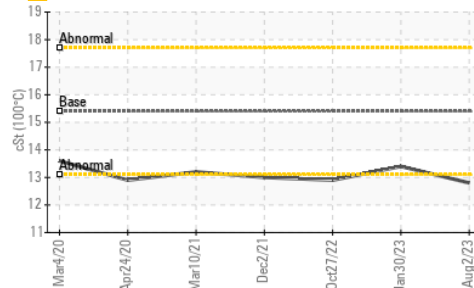
### Copper (ppm)



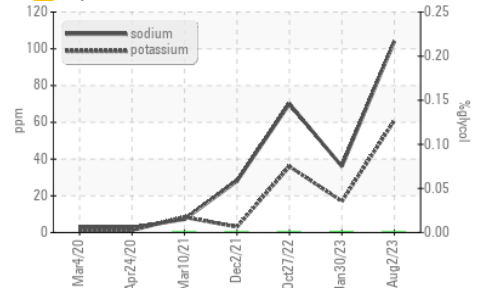
### Silicon (ppm)



## Viscosity @ 100°C



## Glycol Contamination



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill  
**Sample No.** : GFL0087404 **Received** : 11 Aug 2023  
**Lab Number** : 02575334 **Diagnosed** : 14 Aug 2023  
**Unique Number** : 5620385 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel )

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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