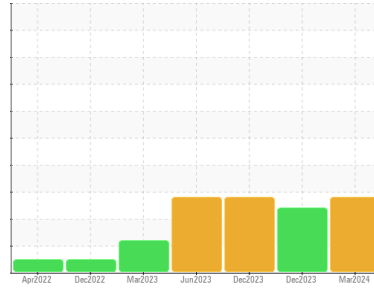




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**424073**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### ▲ Recommendation

We advise that you check the fuel injection system. 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. Tests confirm the presence of fuel in the oil.

### ▲ Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0112470</b>	GFL0099595	GFL0099585
Sample Date	Client Info	<b>09 Mar 2024</b>	18 Dec 2023	04 Dec 2023
Machine Age	hrs	<b>16594</b>	16325	16263
Oil Age	hrs	<b>562</b>	293	0
Oil Changed	Client Info	<b>Changed</b>	N/A	Changed
Sample Status		<b>SEVERE</b>	SEVERE	SEVERE

## CONTAMINATION

method	limit/base	current	history1	history2
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>10</b>	5	27
Chromium	ppm ASTM D5185(m) >5	<b>&lt;1</b>	<1	2
Nickel	ppm ASTM D5185(m) >2	<b>0</b>	<1	<1
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm ASTM D5185(m) >3	<b>0</b>	0	<1
Aluminum	ppm ASTM D5185(m) >30	<b>1</b>	2	2
Lead	ppm ASTM D5185(m) >30	<b>&lt;1</b>	<1	7
Copper	ppm ASTM D5185(m) >150	<b>&lt;1</b>	2	11
Tin	ppm ASTM D5185(m) >5	<b>0</b>	0	<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>2</b>	3	2
Barium	ppm ASTM D5185(m) 0	<b>0</b>	0	<1
Molybdenum	ppm ASTM D5185(m) 60	<b>45</b>	49	40
Manganese	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m) 1010	<b>709</b>	819	618
Calcium	ppm ASTM D5185(m) 1070	<b>804</b>	918	719
Phosphorus	ppm ASTM D5185(m) 1150	<b>775</b>	886	654
Zinc	ppm ASTM D5185(m) 1270	<b>876</b>	1008	788
Sulfur	ppm ASTM D5185(m) 2060	<b>2083</b>	2403	1634
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

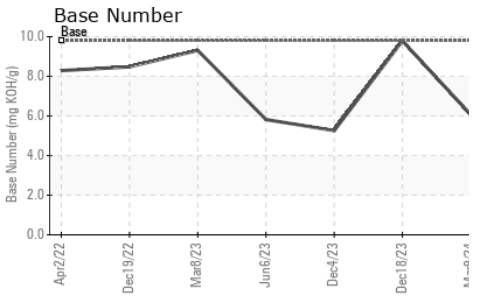
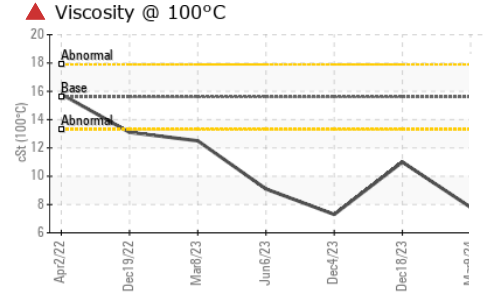
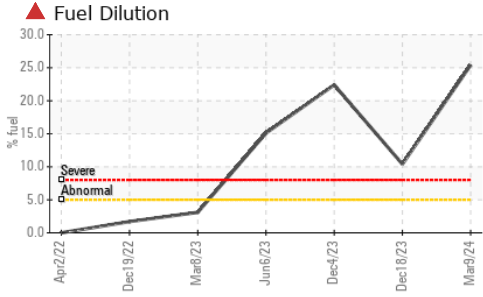
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >20	<b>4</b>	3	8
Sodium	ppm ASTM D5185(m)	<b>4</b>	5	25
Potassium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	3	<1
Fuel	% ASTM D7593* >5	<b>▲ 25.4</b>	▲ 10.4	▲ 22.4

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	<b>0.1</b>	0	0.3
Nitration	Abs/cm ASTM D7624* >20	<b>8.8</b>	6.4	10.3
Sulfation	Abs/.1mm ASTM D7415* >30	<b>21.4</b>	19.1	25.6



# OIL ANALYSIS REPORT

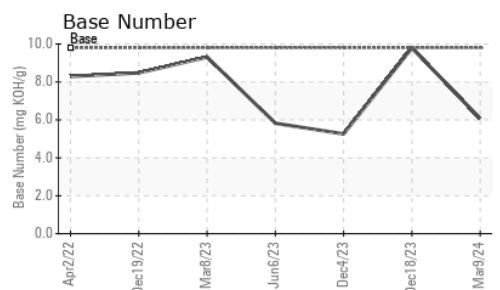
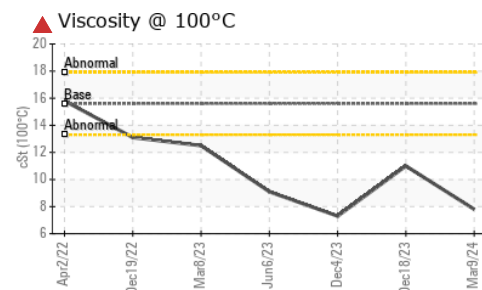
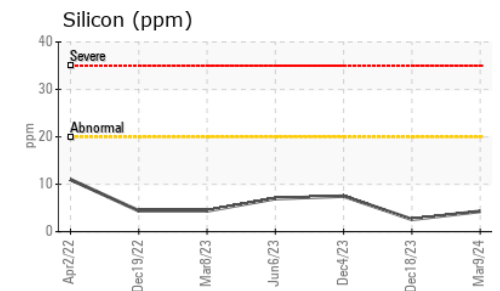
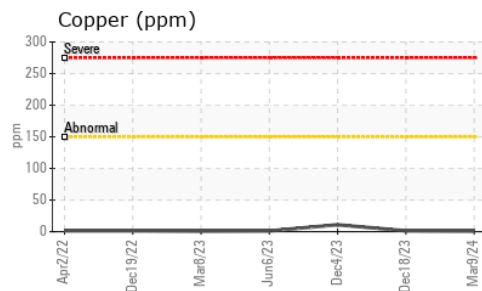
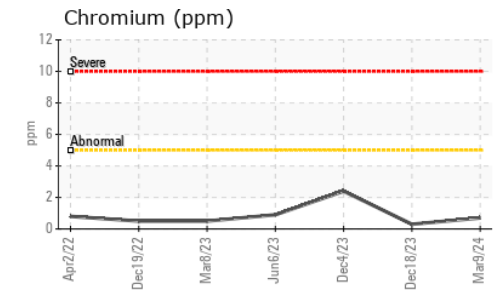
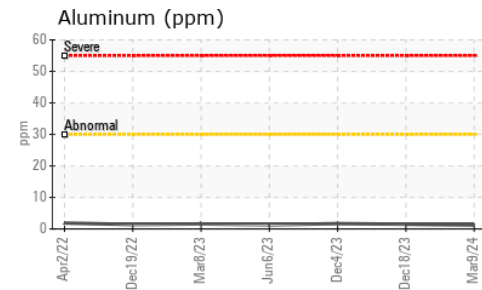
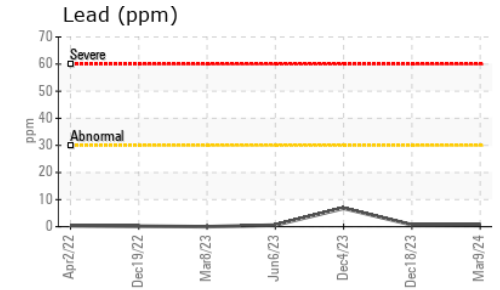
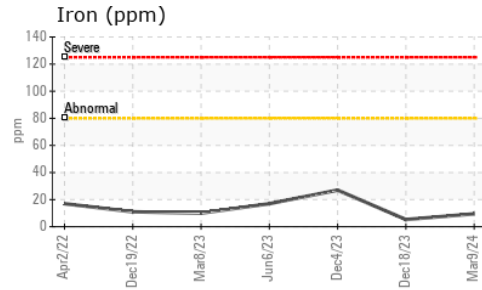


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	22.0	15.9	31.4
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	6.07	9.79	5.26

VISUAL		method	limit/base	current	history1	history2
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)	15.6	7.8	11.0	7.3

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0112470 **Received** : 19 Mar 2024  
**Lab Number** : 02623201 **Tested** : 20 Mar 2024  
**Unique Number** : 5748320 **Diagnosed** : 20 Mar 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: PercentFuel )

**GFL Environmental - 550 - Rocky View County**  
 220 Carmek Blvd  
 Rocky View County, AB  
 CA T1X 1X1  
 Contact: GFL Calgary  
 calgarymaintenance@gflenv.com  
 T: (403)369-6163

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.