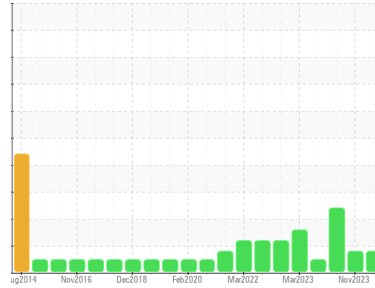




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**4474**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA 15W40 (38 LTR)**

## DIAGNOSIS

### Recommendation

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. Tests confirm the presence of fuel in the oil.

### Fluid Condition

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>GFL0110214</b>	GFL0097790	GFL0085876
Sample Date	Client Info		<b>12 Feb 2024</b>	09 Nov 2023	29 Aug 2023
Machine Age	hrs	Client Info	<b>32646</b>	5241	31671
Oil Age	hrs	Client Info	<b>600</b>	600	600
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	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)	>120	<b>6</b>	5	10
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1	3
Copper	ppm	ASTM D5185(m)	>330	<b>2</b>	2	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	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)		<b>2</b>	3	2
Barium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)		<b>56</b>	55	56
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)		<b>905</b>	898	919
Calcium	ppm	ASTM D5185(m)		<b>1006</b>	975	970
Phosphorus	ppm	ASTM D5185(m)		<b>968</b>	937	985
Zinc	ppm	ASTM D5185(m)		<b>1106</b>	1105	1103
Sulfur	ppm	ASTM D5185(m)		<b>2619</b>	2394	2415
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

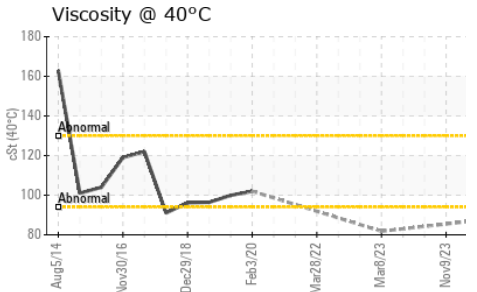
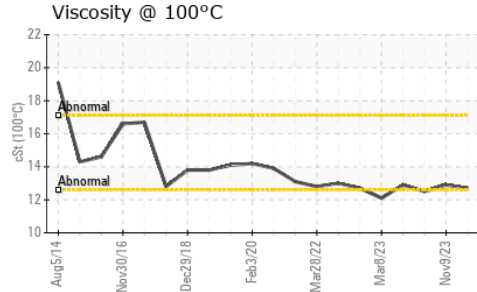
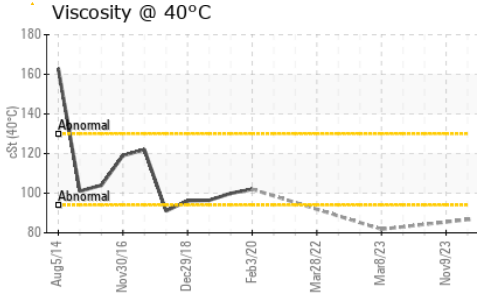
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	2	1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	0
Fuel	%	ASTM D7593*	>3.0	<b>▲ 4.9</b>	▲ 4.5	■ 5.1

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>5	<b>0.4</b>	0.5	0.8
Nitration	Abs/cm	ASTM D7624*	>20	<b>6.9</b>	6.1	6.8
Sulfation	Abs./1mm	ASTM D7415*	>30	<b>19.3</b>	19.1	20.3



# OIL ANALYSIS REPORT

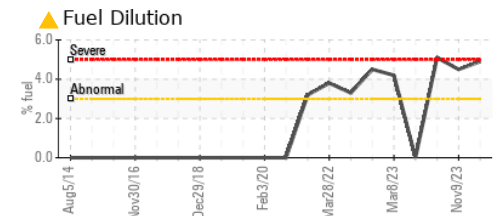
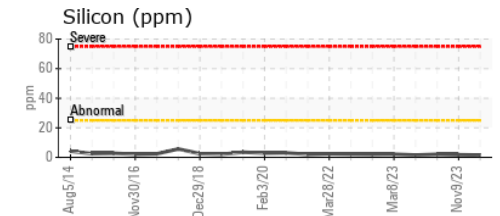
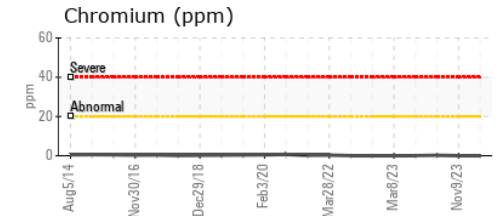
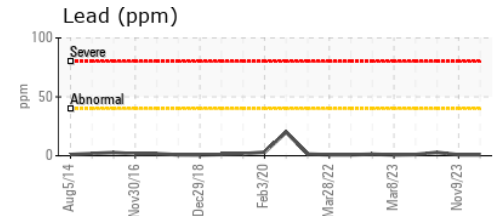
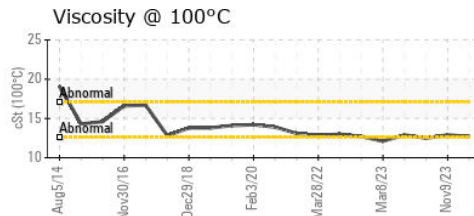
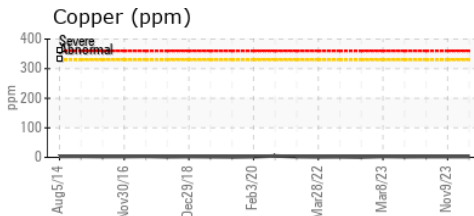
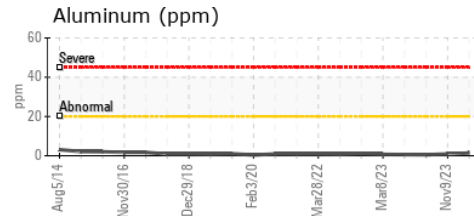
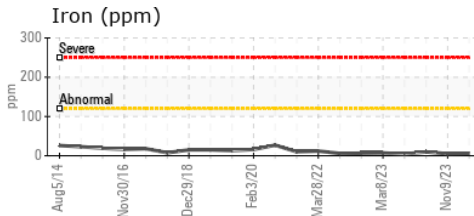


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>14.0</b>	13.5	12.9

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)		<b>86.7</b>	---	---
Visc @ 100°C	cSt	ASTM D7279(m)		<b>12.7</b>	12.9	▲ 12.5
Viscosity Index (VI)	Scale	ASTM D2270*		<b>144</b>	---	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0110214  
**Lab Number** : 02615539  
**Unique Number** : 5724634  
**Test Package** : MOB 1 ( Additional Tests: KV40, PercentFuel, VI, Visual )

**GFL Environmental - 209 - Hamilton**  
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 Stoney Creek, ON  
 CA L8E 3X7  
 Contact: Fred Carleton  
 fred.carleton@gflenv.com  
 T: (289)925-6693  
 F: (905)664-9008

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.