



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>



Machine Id  
**59596**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA 10W40 (--- GAL)**

### RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0285120</b>	LH0169740	---
Sample Date		Client Info		<b>07 Feb 2024</b>	14 Nov 2022	---
Machine Age	hrs	Client Info		<b>19498</b>	17530	---
Oil Age	hrs	Client Info		<b>0</b>	0	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Changed	---
Filter Changed		Client Info		<b>N/A</b>	N/A	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>8</b>	24	---
Chromium	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	---
Nickel	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	---
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185(m)	>15	<b>2</b>	2	---
Lead	ppm	ASTM D5185(m)	>30	<b>0</b>	<1	---
Copper	ppm	ASTM D5185(m)	>125	<b>&lt;1</b>	1	---
Tin	ppm	ASTM D5185(m)	>5	<b>0</b>	0	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	---

### CONTAMINATION

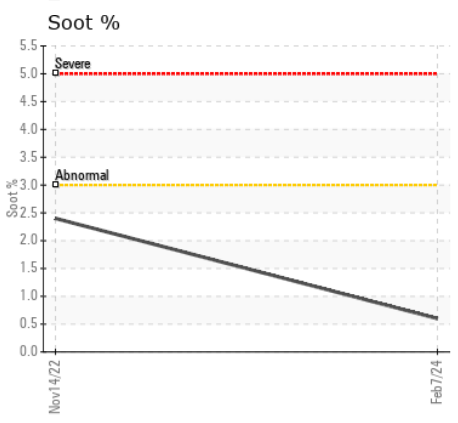
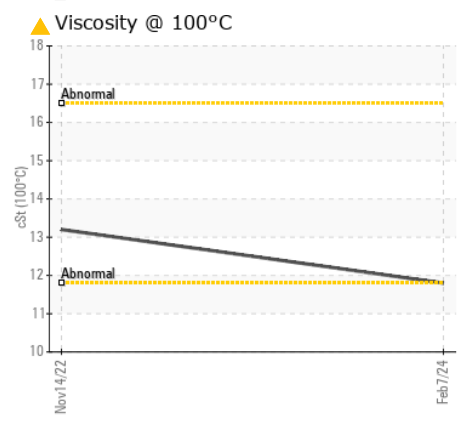
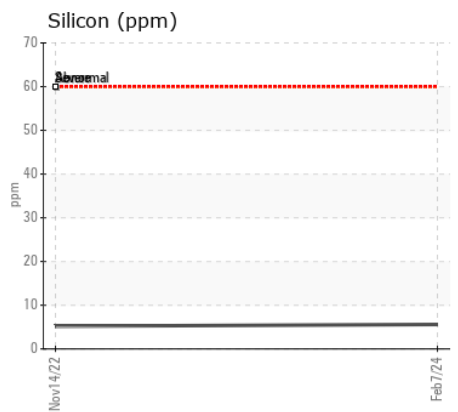
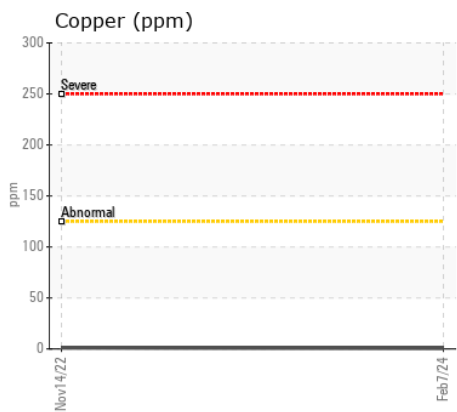
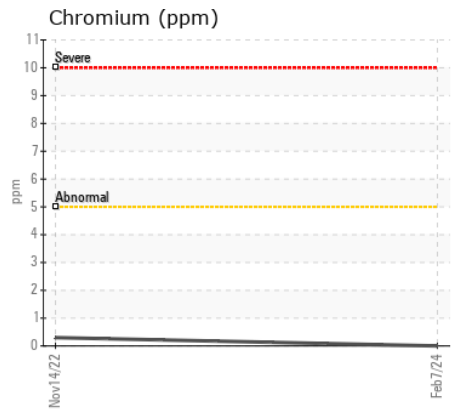
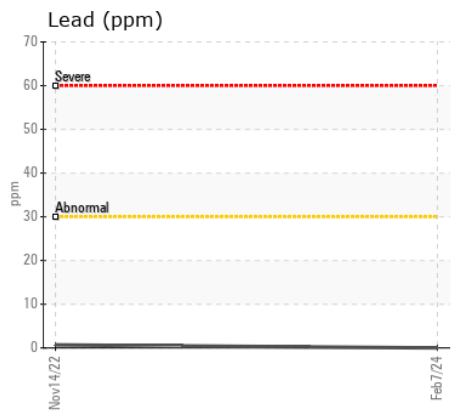
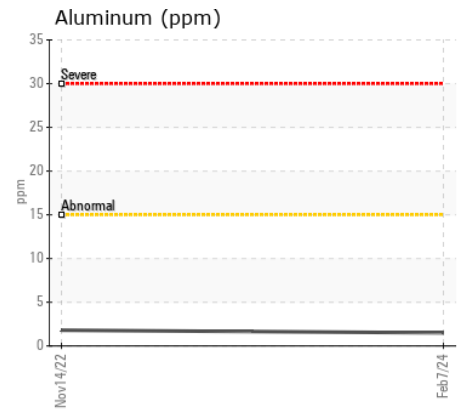
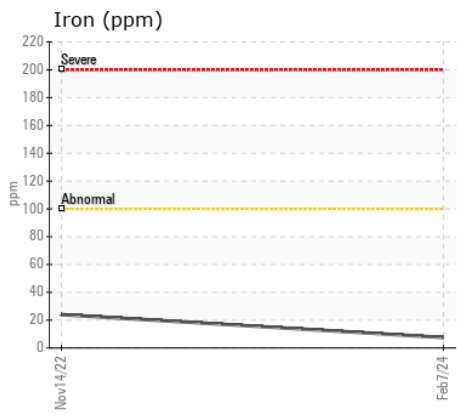
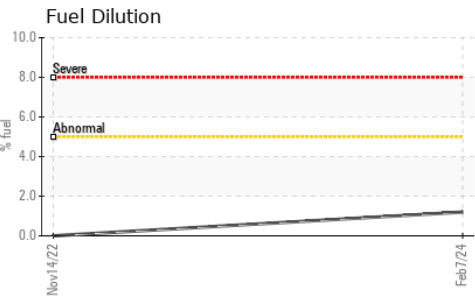
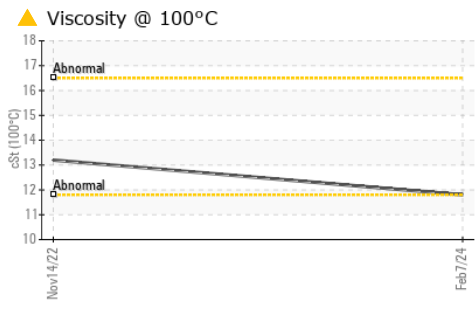
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185(m)	>60	<b>6</b>	5	---
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	---
Fuel	%	ASTM D7593*	>5	<b>1.2</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	ASTM D7844*	>3	<b>0.6</b>	2.4	---
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.9</b>	9.4	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.0</b>	23.4	---
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	---

### FLUID CONDITION

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>20	<b>4</b>	2	---
Boron	ppm	ASTM D5185(m)		<b>34</b>	5	---
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185(m)		<b>57</b>	59	---
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185(m)		<b>1000</b>	965	---
Calcium	ppm	ASTM D5185(m)		<b>946</b>	1181	---
Phosphorus	ppm	ASTM D5185(m)		<b>1001</b>	1090	---
Zinc	ppm	ASTM D5185(m)		<b>1142</b>	1229	---
Sulfur	ppm	ASTM D5185(m)		<b>2838</b>	2632	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>16.7</b>	15.6	---
Visc @ 100°C	cSt	ASTM D7279(m)		<b>▲ 11.8</b>	13.2	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0285120 **Received** : 23 Feb 2024  
**Lab Number** : 02617581 **Tested** : 26 Feb 2024  
**Unique Number** : 5734691 **Diagnosed** : 26 Feb 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: FUELDILUTION, PercentFuel )

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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.