



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH30M 144578-1253**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA 10W40 (--- GAL)**

### RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0278638</b>	LH	LH0250047
Sample Date		Client Info		<b>15 Jan 2024</b>	04 Oct 2023	22 Mar 2023
Machine Age	hrs	Client Info		<b>1200</b>	0	498
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	N/A
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	<b>7</b>	6	10
Chromium	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>8	<b>2</b>	2	4
Lead	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	4	8
Copper	ppm	ASTM D5185(m)	>74	<b>25</b>	148	207
Tin	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	VLITE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	NONE

### CONTAMINATION

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

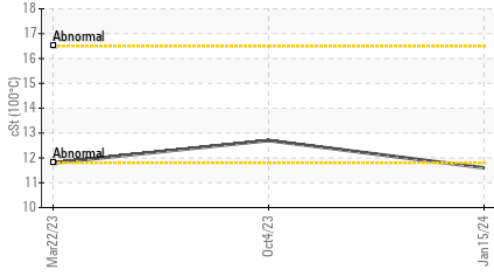
Silicon	ppm	ASTM D5185(m)	>15	<b>8</b>	8	10
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	2
Fuel	%	ASTM D7593*	>5	<b>1.1</b>	<1.0	1.4
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.1</b>	8.0	12.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.2</b>	20.8	42.0
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Debris	scalar	Visual*	NONE	<b>LIGHT</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

### FLUID CONDITION

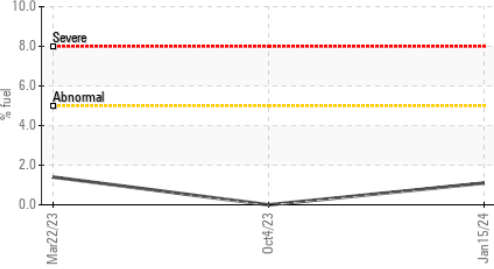
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>20	<b>4</b>	3	2
Boron	ppm	ASTM D5185(m)		<b>44</b>	17	115
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	2	21
Molybdenum	ppm	ASTM D5185(m)		<b>54</b>	42	45
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	1
Magnesium	ppm	ASTM D5185(m)		<b>1040</b>	704	936
Calcium	ppm	ASTM D5185(m)		<b>887</b>	1446	1428
Phosphorus	ppm	ASTM D5185(m)		<b>1012</b>	940	783
Zinc	ppm	ASTM D5185(m)		<b>1167</b>	1147	855
Sulfur	ppm	ASTM D5185(m)		<b>2866</b>	2581	1978
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.9</b>	18.6	51.6
Visc @ 100°C	cSt	ASTM D7279(m)		<b>▲ 11.6</b>	12.7	11.8

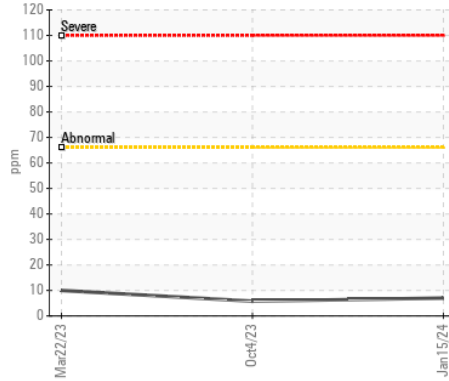
▲ Viscosity @ 100°C



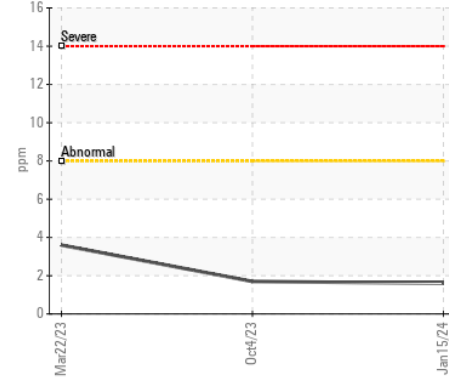
Fuel Dilution



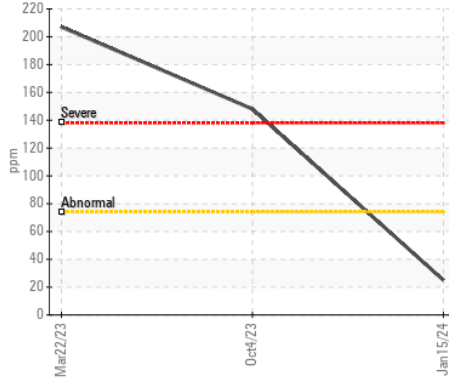
Iron (ppm)



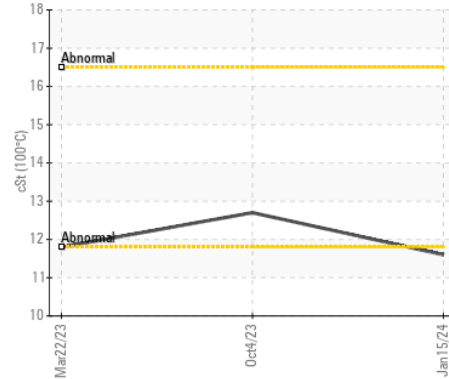
Aluminum (ppm)



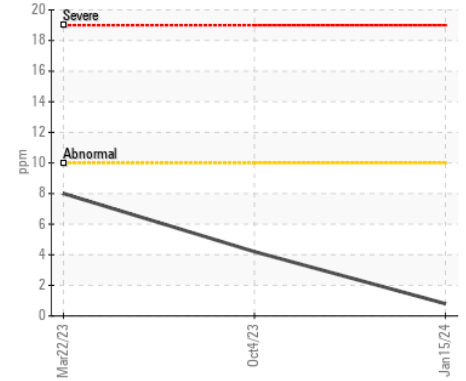
Copper (ppm)



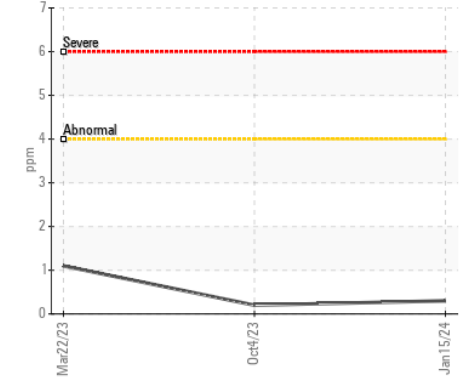
▲ Viscosity @ 100°C



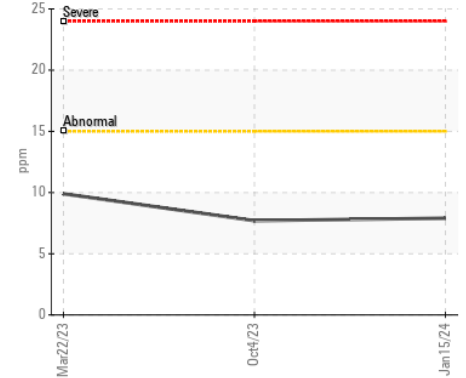
Lead (ppm)



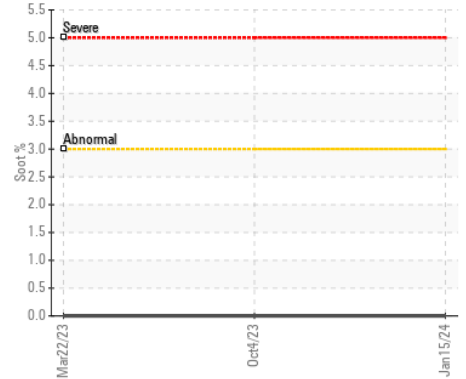
Chromium (ppm)



Silicon (ppm)



Soot %



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0278638 **Received** : 16 Jan 2024  
**Lab Number** : 02608870 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 5709956 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Bottom, BottomAnalysis, FilterPatch, FuelDilution, PercentFuel, Visual )

**Industrial Metals**  
 550 Messier St.  
 Winnipeg, MB  
 CA R2J 0G5  
 Contact: Service Manager

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: