



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH30M 144578-1253**

Component  
**Hydraulic System**

Fluid  
**PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (--- GAL)**

### RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.  
Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0278615</b>	LH	LH0250057
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>	Not Changd	Not Changd
Filter Changed		Client Info		<b>N/A</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	<b>21</b>	20	15
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>2	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	1	2
Copper	ppm	ASTM D5185(m)	>10	<b>5</b>	6	3
Tin	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

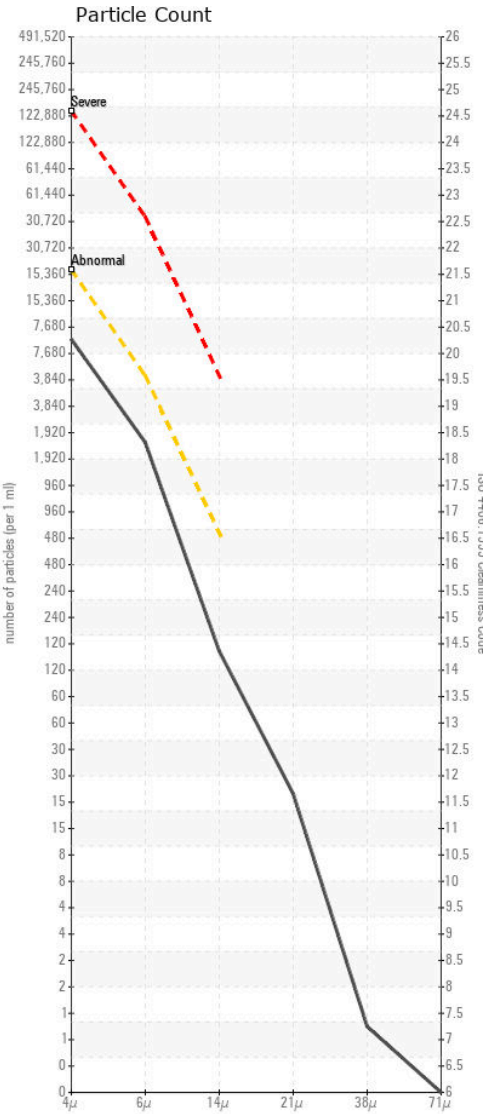
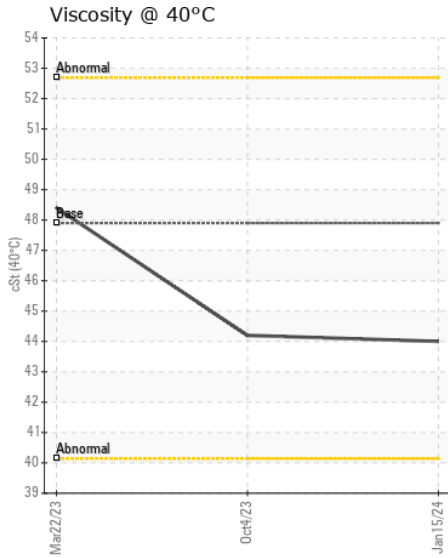
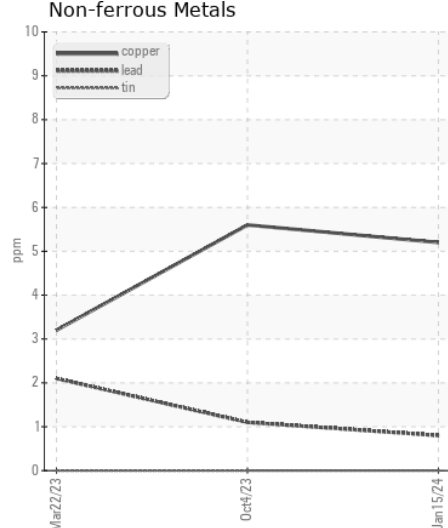
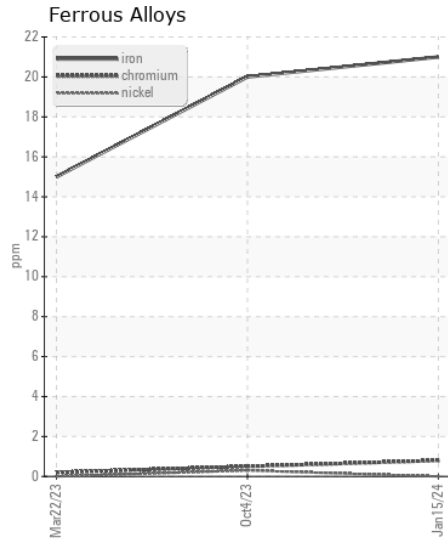
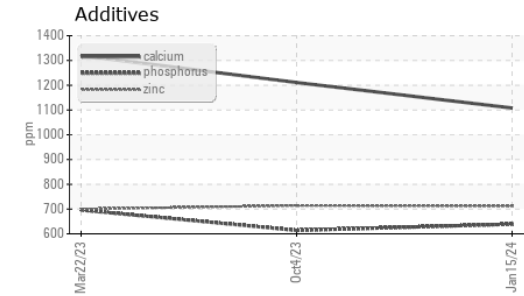
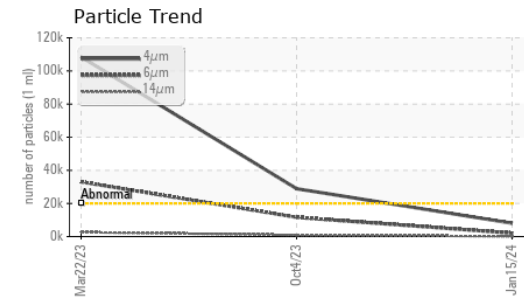
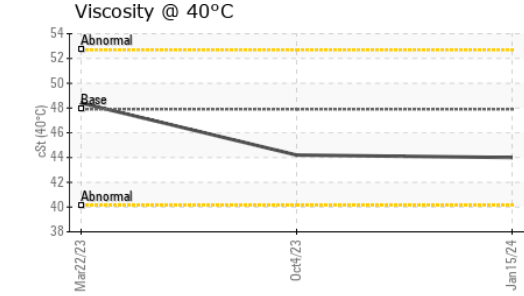
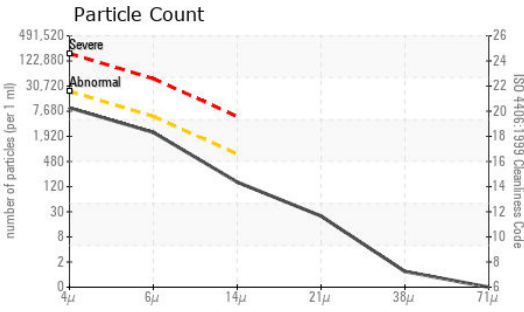
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>17	<b>3</b>	3	2
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>8061</b>	▲ 28895	▲ 108453
Particles >6µm		ASTM D7647	>5000	<b>2087</b>	▲ 11613	▲ 32994
Particles >14µm		ASTM D7647	>640	<b>136</b>	▲ 888	▲ 2634
Particles >21µm		ASTM D7647	>160	<b>21</b>	123	▲ 679
Particles >38µm		ASTM D7647	>40	<b>1</b>	1	13
Particles >71µm		ASTM D7647	>10	<b>0</b>	1	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>20/18/14</b>	▲ 22/21/17	▲ 24/22/19
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	.5%	▲ .5%

### FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.  
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	<1
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	1	1
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	1	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	0	<b>3</b>	3	3
Calcium	ppm	ASTM D5185(m)	100	<b>1108</b>	1211	1320
Phosphorus	ppm	ASTM D5185(m)	670	<b>639</b>	614	696
Zinc	ppm	ASTM D5185(m)	850	<b>712</b>	714	700
Sulfur	ppm	ASTM D5185(m)	1600	<b>3417</b>	3430	3869
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	<b>44.0</b>	44.2	48.4



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0278615 **Received** : 16 Jan 2024  
**Lab Number** : 02609019 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 5710105 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )

**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: