



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR L586 059953-1334**

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>LH0270297</b>	LH0285035	LH0242569
Sample Date		Client Info		<b>04 Mar 2024</b>	01 Feb 2024	01 Oct 2022
Machine Age	hrs	Client Info		<b>7962</b>	4939	3002
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>	N/A	N/A
Sample Status				<b>NORMAL</b>	ATTENTION	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	<b>17</b>	28	19
Chromium	ppm	ASTM D5185(m)	>5	<b>2</b>	2	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>17</b>	0	<1
Silver	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>5	<b>5</b>	5	4
Lead	ppm	ASTM D5185(m)	>15	<b>8</b>	8	7
Copper	ppm	ASTM D5185(m)	>10	<b>3</b>	6	5
Tin	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
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

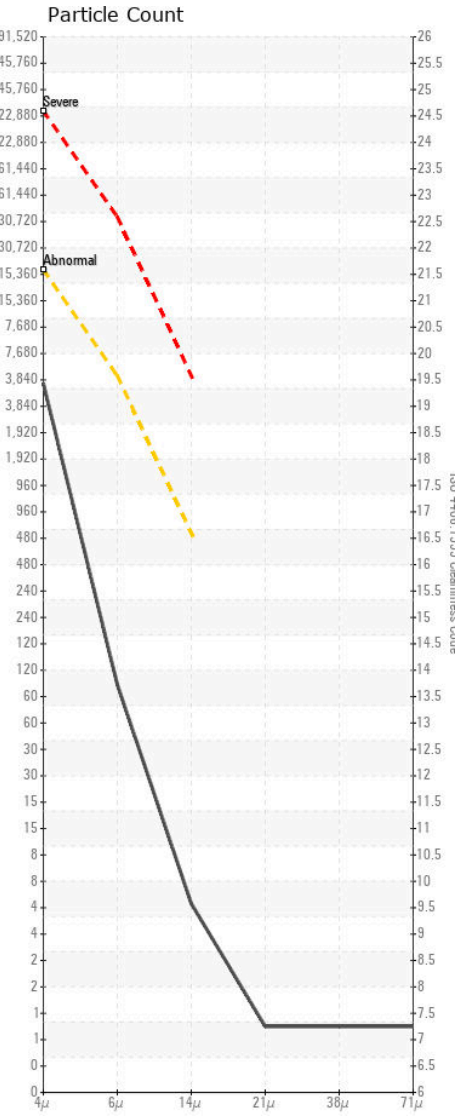
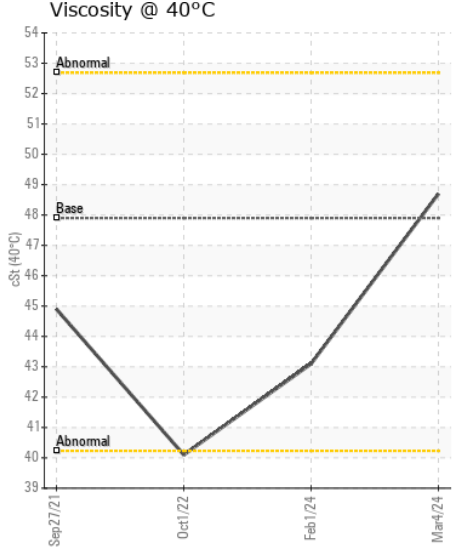
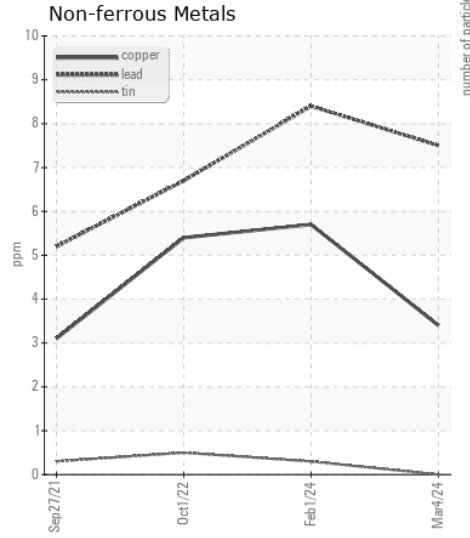
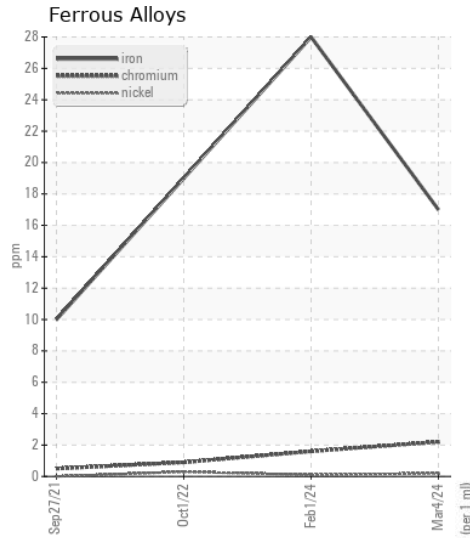
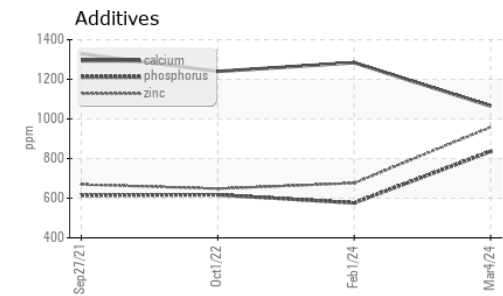
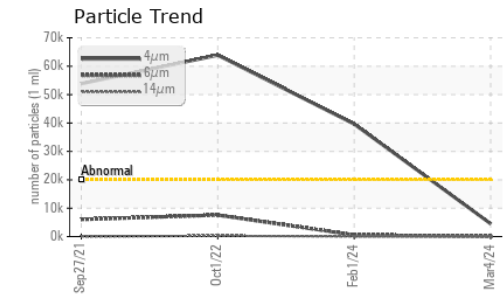
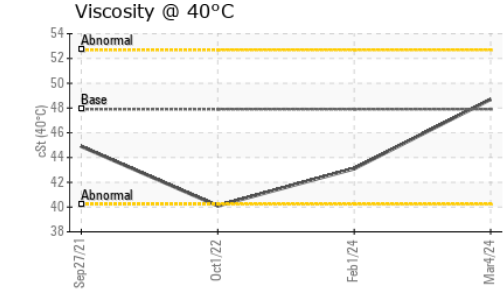
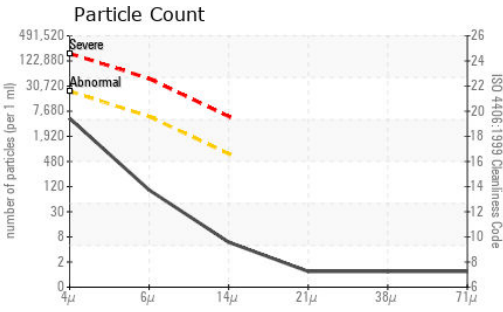
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>15	<b>12</b>	13	10
Potassium	ppm	ASTM D5185(m)	>20	<b>3</b>	4	2
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>4529</b>	● 39621	▲ 63896
Particles >6µm		ASTM D7647	>5000	<b>88</b>	562	● 7579
Particles >14µm		ASTM D7647	>640	<b>5</b>	27	256
Particles >21µm		ASTM D7647	>160	<b>1</b>	7	39
Particles >38µm		ASTM D7647	>40	<b>1</b>	1	1
Particles >71µm		ASTM D7647	>10	<b>1</b>	1	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>19/14/10</b>	● 22/16/12	▲ 23/20/15
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
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>	NEG	NEG

### 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>3</b>	1	2
Boron	ppm	ASTM D5185(m)	0	<b>29</b>	<1	2
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>15</b>	0	<1
Manganese	ppm	ASTM D5185(m)	1	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	0	<b>298</b>	8	10
Calcium	ppm	ASTM D5185(m)	100	<b>1065</b>	1284	1240
Phosphorus	ppm	ASTM D5185(m)	670	<b>836</b>	576	617
Zinc	ppm	ASTM D5185(m)	850	<b>958</b>	676	648
Sulfur	ppm	ASTM D5185(m)	1600	<b>3292</b>	3478	3204
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	<b>48.7</b>	43.1	40.1



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0270297  
**Lab Number** : 02620605  
**Unique Number** : 5737715  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )  
**Received** : 07 Mar 2024  
**Tested** : 08 Mar 2024  
**Diagnosed** : 08 Mar 2024 - Kevin Marson

**THOMAS CAVANAGH CONSTRUCTION LTD**  
 RR # 2, 9094 CAVANAGH ROAD  
 ASHTON, ON  
 CA K0A 1B0  
 Contact: Keith

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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