



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**113718-1216**  
Component  
**Hydraulic System**  
Fluid  
**PETRO CANADA HYDREX AW 46 (--- 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>LH0279233</b>	LH	LH0251200
Sample Date		Client Info		<b>16 Jan 2024</b>	30 Oct 2023	23 Feb 2023
Machine Age	hrs	Client Info		<b>5998</b>	5676	4729
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>	NORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>60	<b>54</b>	53	▲ 66
Chromium	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	<1	<1
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)	>5	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>15	<b>3</b>	3	4
Tin	ppm	ASTM D5185(m)	>5	<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

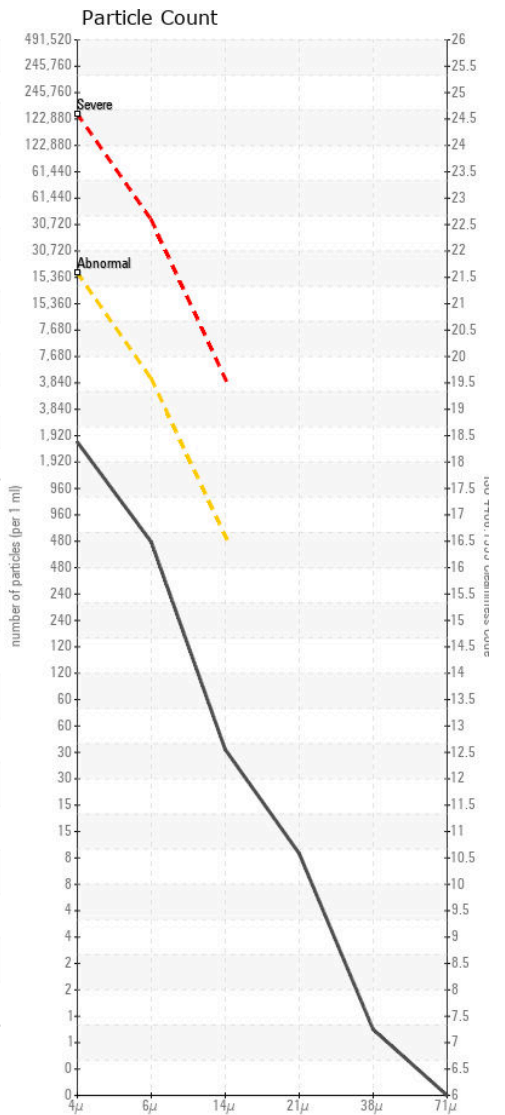
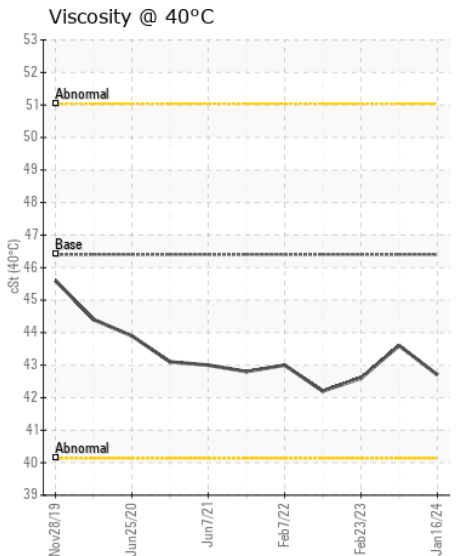
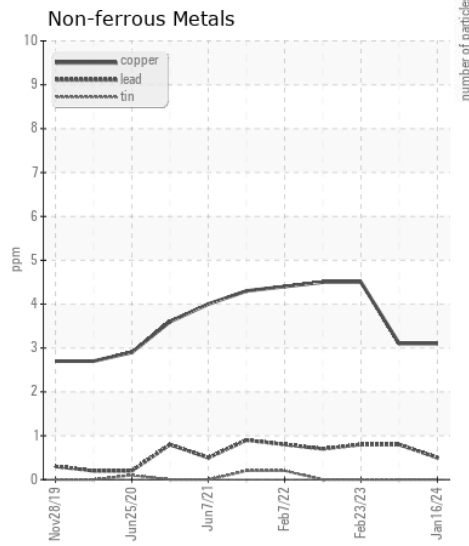
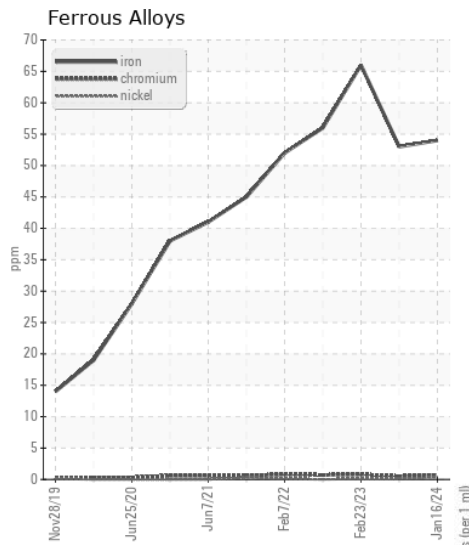
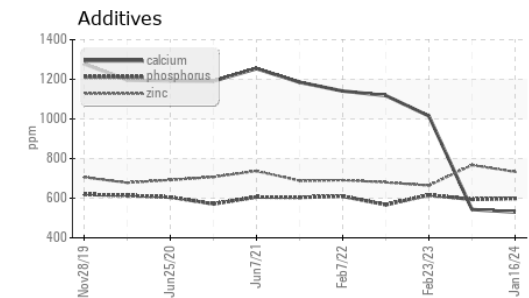
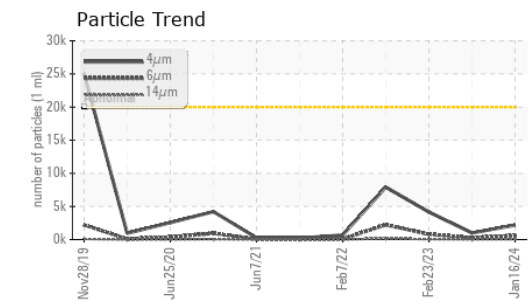
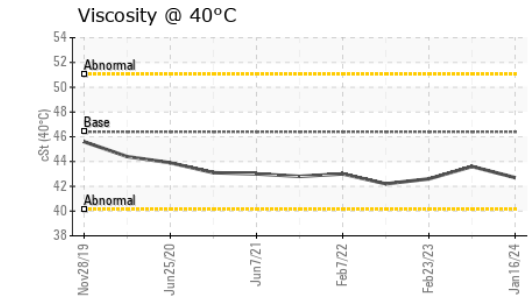
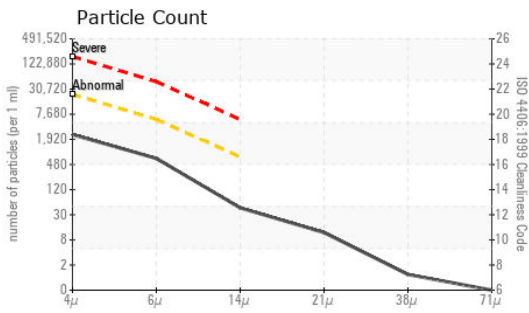
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	1	2
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	0	<1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>2182</b>	1000	4151
Particles >6µm		ASTM D7647	>5000	<b>590</b>	277	802
Particles >14µm		ASTM D7647	>640	<b>39</b>	25	49
Particles >21µm		ASTM D7647	>160	<b>10</b>	7	13
Particles >38µm		ASTM D7647	>40	<b>1</b>	1	0
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>18/16/12</b>	17/15/12	19/17/13
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
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	.2%

### 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>1</b>	2	2
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	1	2
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	1
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185(m)	0	<b>12</b>	10	18
Calcium	ppm	ASTM D5185(m)	50	<b>530</b>	543	1015
Phosphorus	ppm	ASTM D5185(m)	330	<b>599</b>	594	616
Zinc	ppm	ASTM D5185(m)	430	<b>733</b>	767	664
Sulfur	ppm	ASTM D5185(m)	760	<b>2645</b>	2529	3571
Visc @ 40°C	cSt	ASTM D7279(m)	46.4	<b>42.7</b>	43.6	42.6



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0279233 **Received** : 18 Jan 2024  
**Lab Number** : 02609718 **Diagnosed** : 19 Jan 2024  
**Unique Number** : 5710804 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )

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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