



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
059596-194
Component
Hydraulic System

Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (500 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0285117	LH0256518	LH0202697
Sample Date		Client Info		07 Feb 2024	21 Mar 2023	15 Nov 2022
Machine Age	hrs	Client Info		19498	18037	17530
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>60	12	11	11
Chromium	ppm	ASTM D5185(m)	>40	2	1	1
Nickel	ppm	ASTM D5185(m)	>10	0	0	0
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>5	1	<1	<1
Lead	ppm	ASTM D5185(m)	>5	2	<1	<1
Copper	ppm	ASTM D5185(m)	>15	12	3	3
Tin	ppm	ASTM D5185(m)	>5	<1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

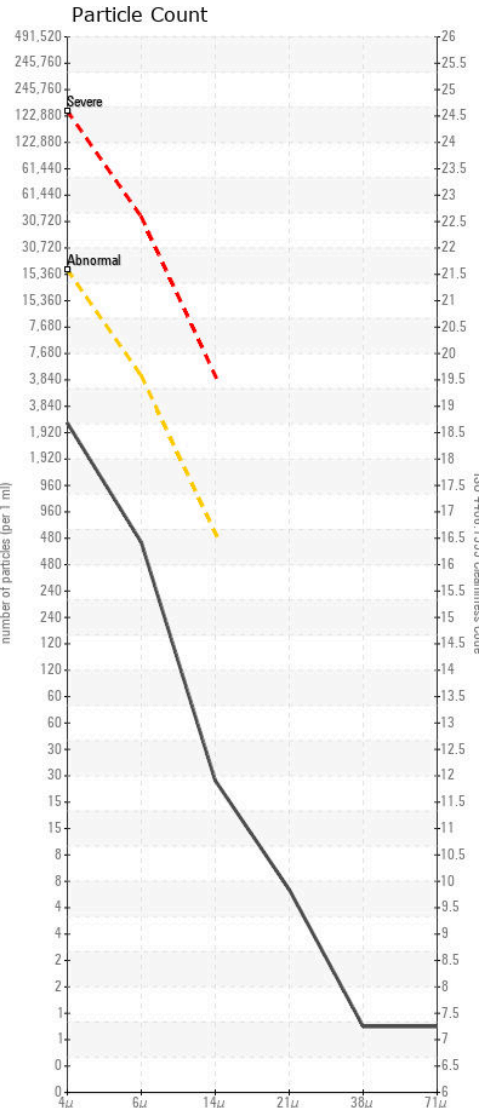
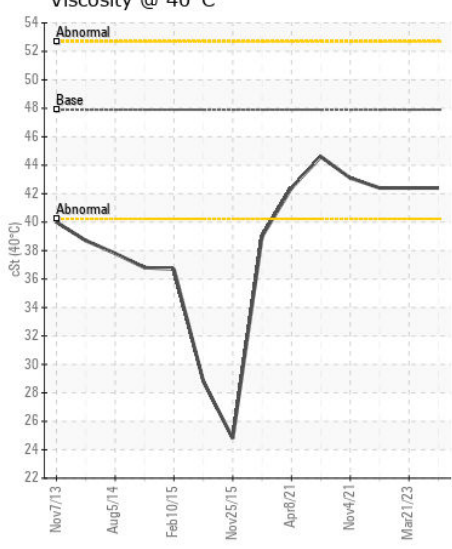
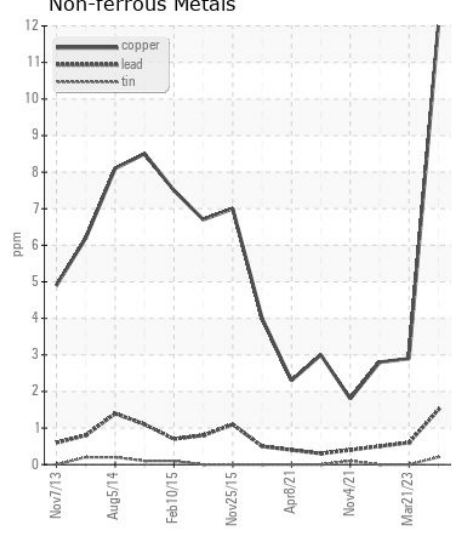
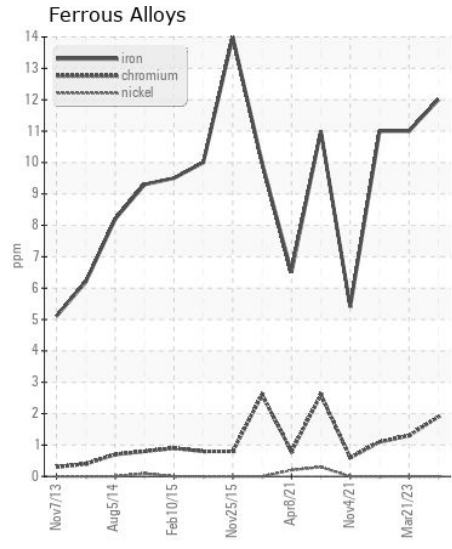
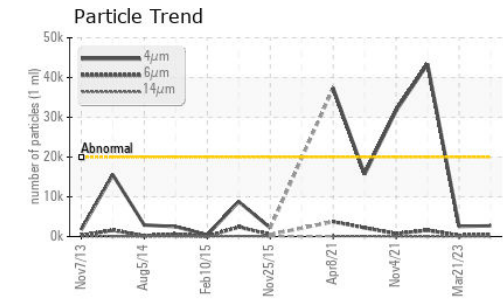
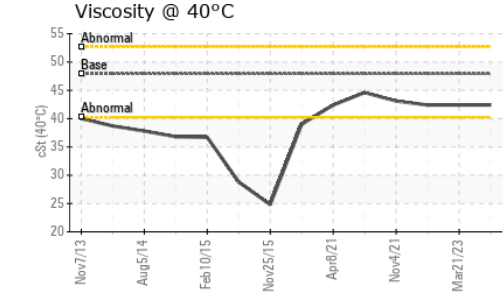
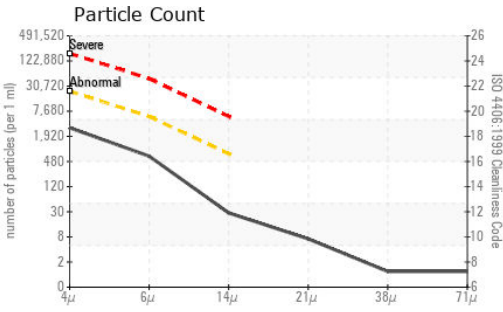
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>15	2	2	3
Potassium	ppm	ASTM D5185(m)	>20	1	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	2694	2555	▲ 43372
Particles >6µm		ASTM D7647	>5000	565	248	1590
Particles >14µm		ASTM D7647	>640	25	22	16
Particles >21µm		ASTM D7647	>160	6	6	6
Particles >38µm		ASTM D7647	>40	1	0	1
Particles >71µm		ASTM D7647	>10	1	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/16/12	19/15/12	▲ 23/18/11
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		2	2	1
Boron	ppm	ASTM D5185(m)	0	<1	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<1	<1	<1
Manganese	ppm	ASTM D5185(m)	1	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	0	8	4	5
Calcium	ppm	ASTM D5185(m)	100	247	100	105
Phosphorus	ppm	ASTM D5185(m)	670	472	515	527
Zinc	ppm	ASTM D5185(m)	850	558	579	607
Sulfur	ppm	ASTM D5185(m)	1600	2898	2391	2168
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	42.4	42.4	42.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0285117 **Received** : 23 Feb 2024
Lab Number : 02617694 **Tested** : 26 Feb 2024
Unique Number : 5734804 **Diagnosed** : 26 Feb 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: PrtCount)

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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.