



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR L556 045906-1484

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (220 LTR)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0287996	LH0241997	LH0250544
Sample Date		Client Info		26 Mar 2024	23 Nov 2023	12 Sep 2023
Machine Age	hrs	Client Info		15268	14615	14240
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

Chromium ppm levels are abnormal. Ring wear is indicated.

Iron	ppm	ASTM D5185(m)	>20	15	13	16
Chromium	ppm	ASTM D5185(m)	>10	▲ 15	▲ 12	▲ 14
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	<1	<1	1
Lead	ppm	ASTM D5185(m)	>10	1	2	3
Copper	ppm	ASTM D5185(m)	>75	2	2	3
Tin	ppm	ASTM D5185(m)	>10	0	0	<1
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

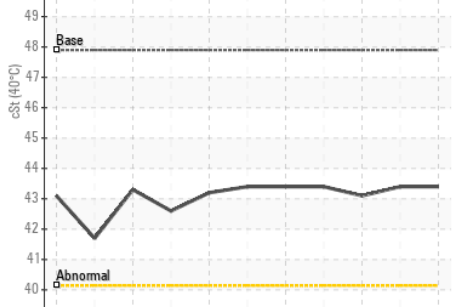
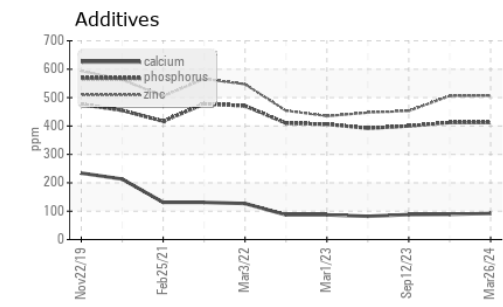
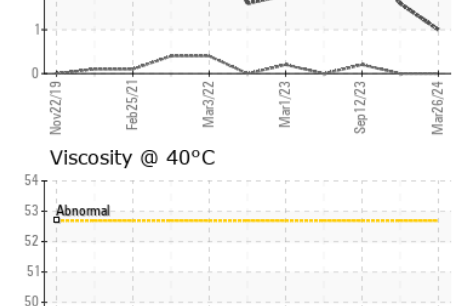
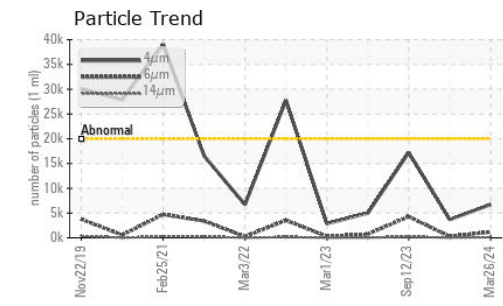
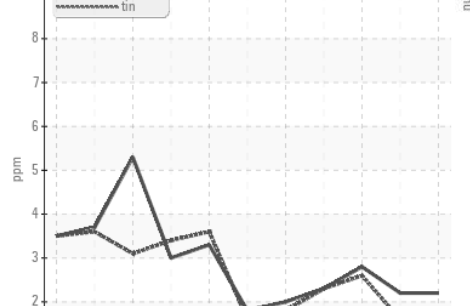
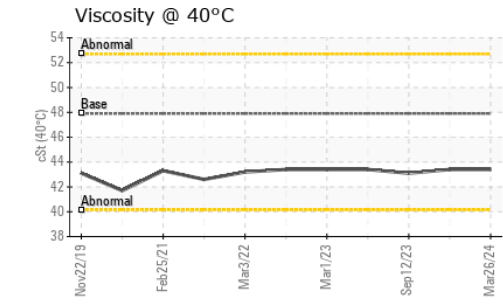
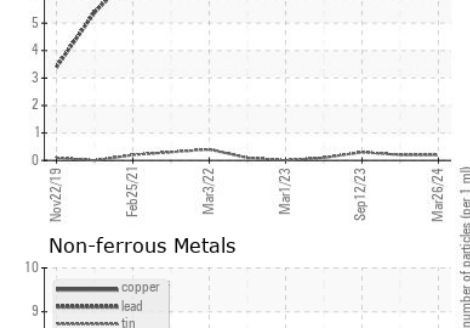
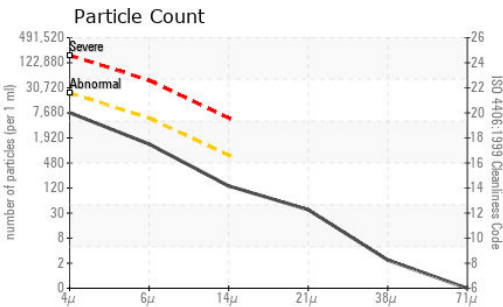
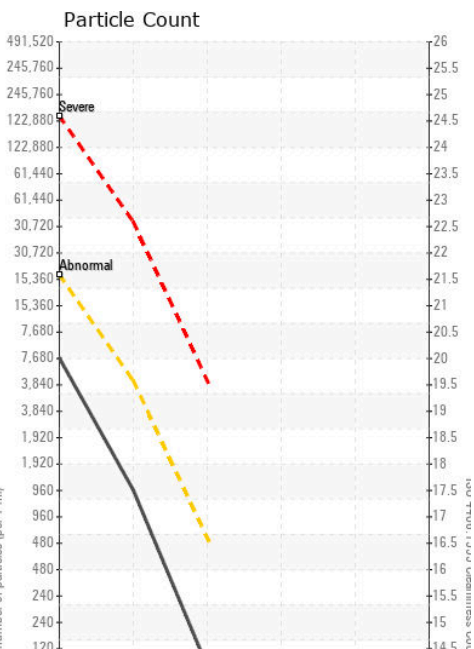
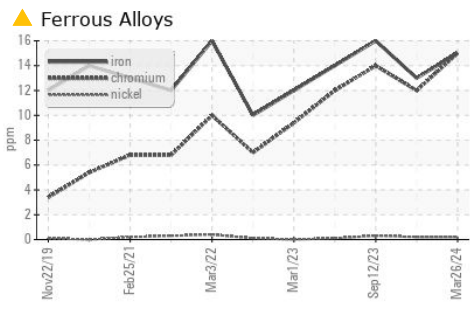
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.
NOTE: An increase in the particle count is noted.

Silicon	ppm	ASTM D5185(m)	>20	<1	1	2
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	6735	3669	17204
Particles >6µm		ASTM D7647	>5000	1195	264	4271
Particles >14µm		ASTM D7647	>640	119	15	215
Particles >21µm		ASTM D7647	>160	32	4	40
Particles >38µm		ASTM D7647	>40	2	0	1
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/17/14	19/15/11	21/19/15
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

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)		<1	<1	<1
Boron	ppm	ASTM D5185(m)	0	<1	1	<1
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	<1
Manganese	ppm	ASTM D5185(m)	1	0	0	<1
Magnesium	ppm	ASTM D5185(m)	0	8	8	5
Calcium	ppm	ASTM D5185(m)	100	92	89	88
Phosphorus	ppm	ASTM D5185(m)	670	412	412	400
Zinc	ppm	ASTM D5185(m)	850	507	506	453
Sulfur	ppm	ASTM D5185(m)	1600	1069	1056	1056
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	43.4	43.4	43.1



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0287996 **Received** : 04 Apr 2024
Lab Number : 02626676 **Tested** : 05 Apr 2024
Unique Number : 5759808 **Diagnosed** : 05 Apr 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PrtCount)

ECOWASTE INDUSTRIES LTD.
 15111 WILLIAMS ROAD
 RICHMOND, BC
 CA V6W 1G9
 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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