



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR T60-9 022201-1709

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		LH0228240	---	---
Sample Date		Client Info		20 Feb 2024	---	---
Machine Age	hrs	Client Info		1045	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Not Chngd	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	6	---	---
Chromium	ppm	ASTM D5185(m)	>10	0	---	---
Nickel	ppm	ASTM D5185(m)	>10	<1	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>10	1	---	---
Lead	ppm	ASTM D5185(m)	>10	2	---	---
Copper	ppm	ASTM D5185(m)	>75	4	---	---
Tin	ppm	ASTM D5185(m)	>10	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

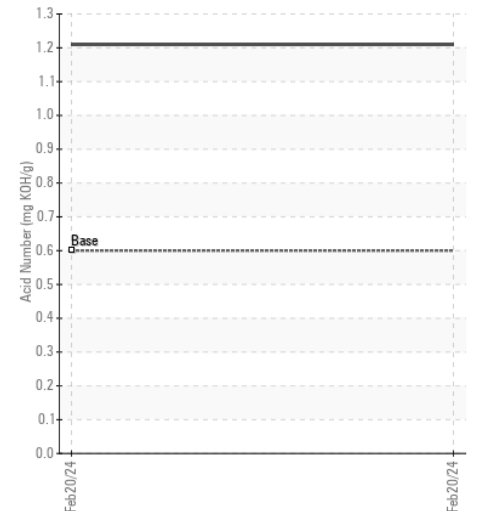
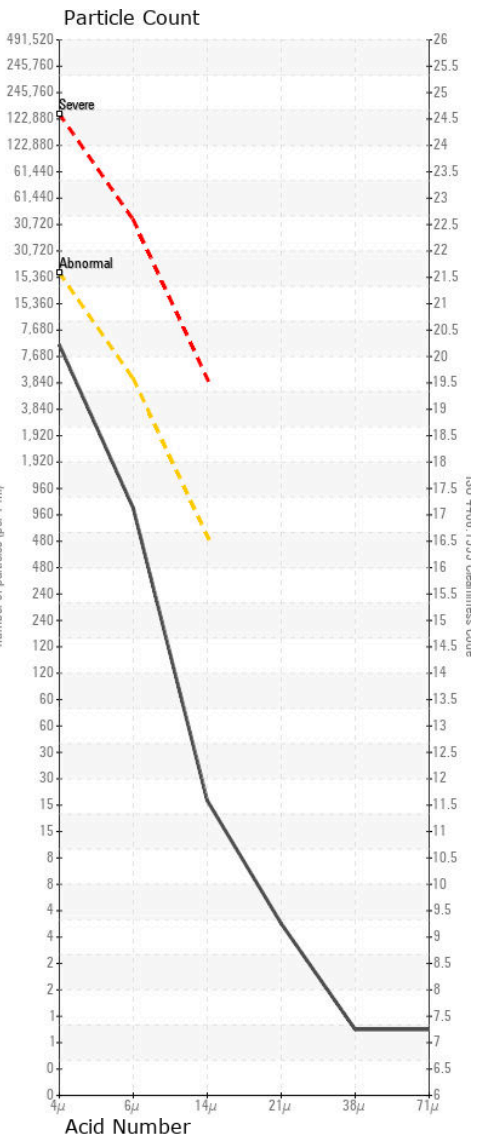
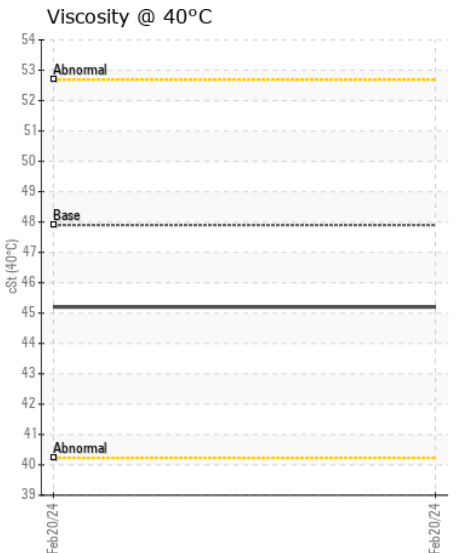
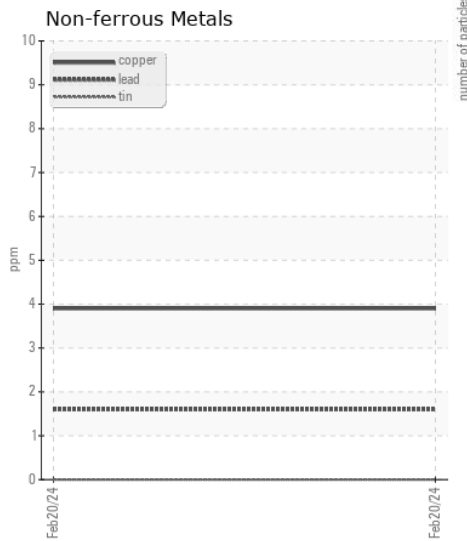
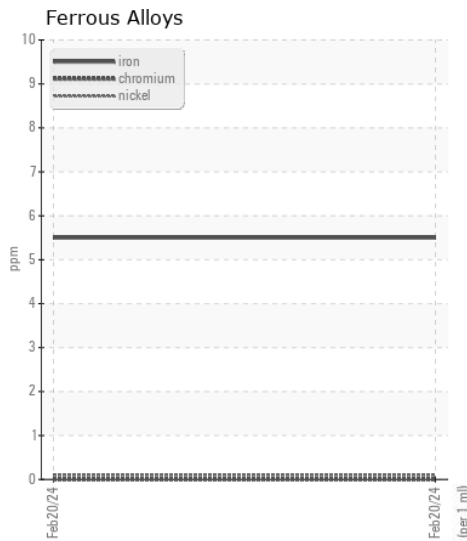
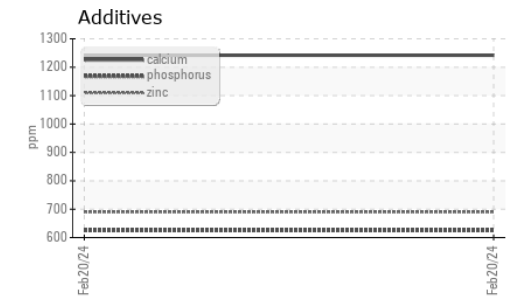
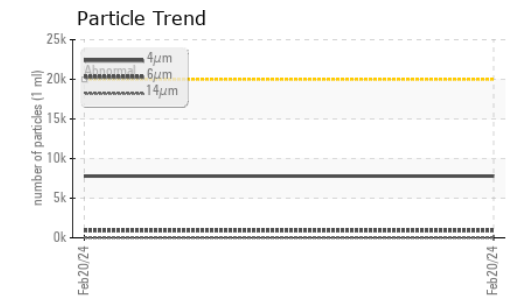
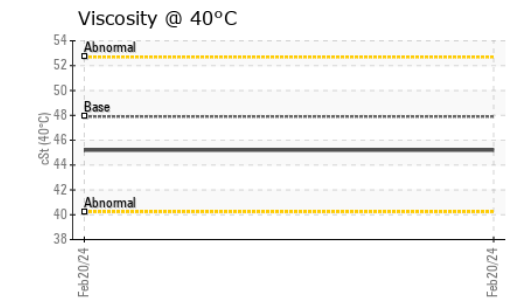
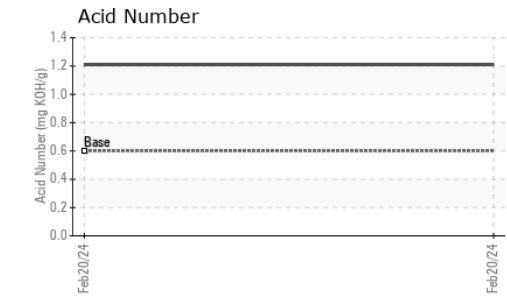
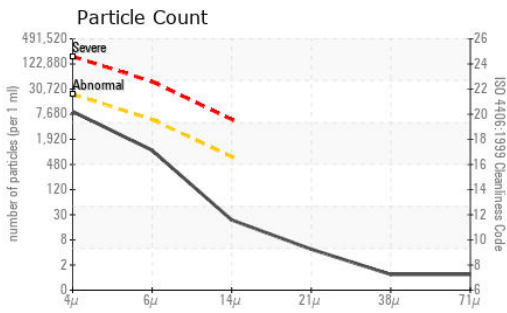
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>20	2	---	---
Potassium	ppm	ASTM D5185(m)	>20	2	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>20000	7790	---	---
Particles >6µm		ASTM D7647	>5000	918	---	---
Particles >14µm		ASTM D7647	>640	20	---	---
Particles >21µm		ASTM D7647	>160	4	---	---
Particles >38µm		ASTM D7647	>40	1	---	---
Particles >71µm		ASTM D7647	>10	1	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/17/11	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	NEG	---	---

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<1	---	---
Boron	ppm	ASTM D5185(m)	0	---	---	---
Barium	ppm	ASTM D5185(m)	0	0	---	---
Molybdenum	ppm	ASTM D5185(m)	0	0	---	---
Manganese	ppm	ASTM D5185(m)	1	0	---	---
Magnesium	ppm	ASTM D5185(m)	0	4	---	---
Calcium	ppm	ASTM D5185(m)	100	1242	---	---
Phosphorus	ppm	ASTM D5185(m)	670	625	---	---
Zinc	ppm	ASTM D5185(m)	850	690	---	---
Sulfur	ppm	ASTM D5185(m)	1600	3959	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	1.21	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	45.2	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0228240 **Received** : 22 Feb 2024
Lab Number : 02617439 **Tested** : 26 Feb 2024
Unique Number : 5734549 **Diagnosed** : 26 Feb 2024 - Kevin Marson
Test Package : MOBCE

ECOWASTE INDUSTRIES
 4 SPRUCE ST
 NEW WESTMINSTER, BC
 CA V3L 5G6
 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: