MOB

LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
(336303)
Machine Id
LIEBHERR R938 050385-1650
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.

WEAR

All component wear rates are normal.

CONTAMINATION

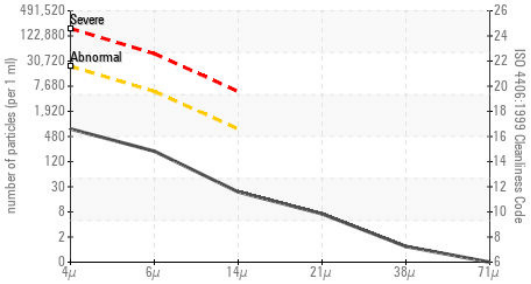
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

FLUID CONDITION

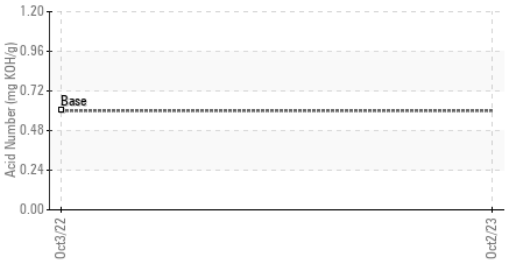
Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0182164	LH0238478	---
Sample Date		Client Info		02 Oct 2023	03 Oct 2022	---
Machine Age	hrs	Client Info		1892	1274	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Changed	---
Filter Changed		Client Info		Not Changd	N/A	---
Sample Status				NORMAL	NORMAL	---
Iron	ppm	ASTM D5185(m)	>50	8	8	---
Chromium	ppm	ASTM D5185(m)	>15	<1	0	---
Nickel	ppm	ASTM D5185(m)	>5	0	<1	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>8	<1	<1	---
Lead	ppm	ASTM D5185(m)	>5	1	1	---
Copper	ppm	ASTM D5185(m)	>15	5	4	---
Tin	ppm	ASTM D5185(m)	>5	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185(m)	>25	4	4	---
Potassium	ppm	ASTM D5185(m)	>20	0	<1	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	640	1697	---
Particles >6µm		ASTM D7647	>5000	188	190	---
Particles >14µm		ASTM D7647	>640	20	25	---
Particles >21µm		ASTM D7647	>160	6	6	---
Particles >38µm		ASTM D7647	>40	1	0	---
Particles >71µm		ASTM D7647	>10	0	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	16/15/11	18/15/12	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	---
Sodium	ppm	ASTM D5185(m)		2	2	---
Boron	ppm	ASTM D5185(m)	0	<1	<1	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	0	---
Manganese	ppm	ASTM D5185(m)	1	0	<1	---
Magnesium	ppm	ASTM D5185(m)	0	5	6	---
Calcium	ppm	ASTM D5185(m)	100	1242	1464	---
Phosphorus	ppm	ASTM D5185(m)	670	579	689	---
Zinc	ppm	ASTM D5185(m)	850	653	700	---
Sulfur	ppm	ASTM D5185(m)	1600	4508	4899	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	1.07	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	41.1	42.8	---

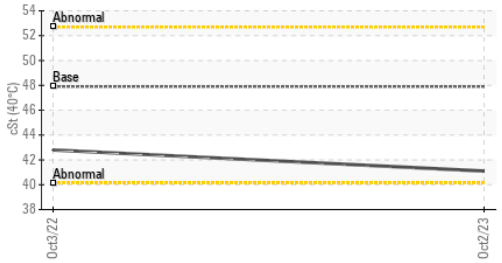
Particle Count



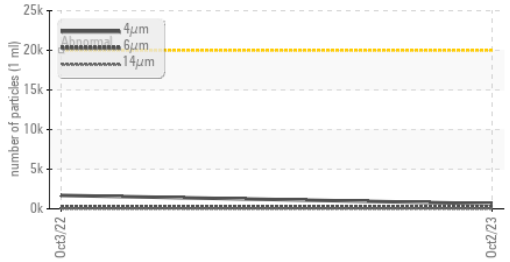
Acid Number



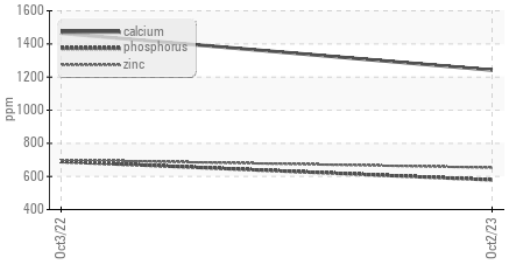
Viscosity @ 40°C



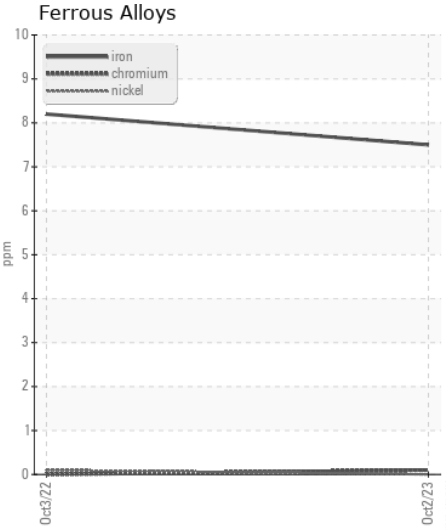
Particle Trend



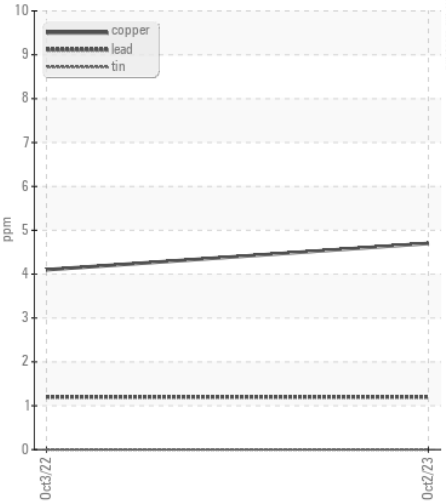
Additives



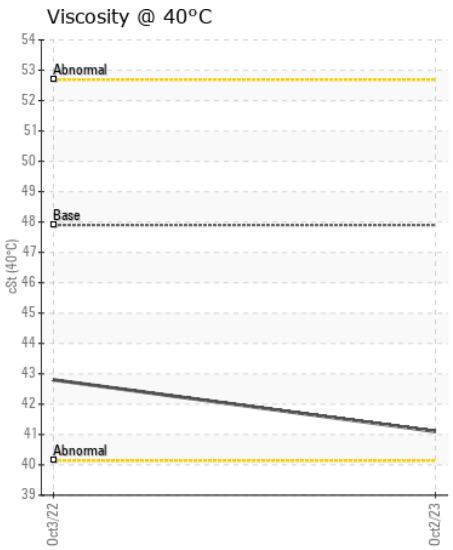
Ferrous Alloys



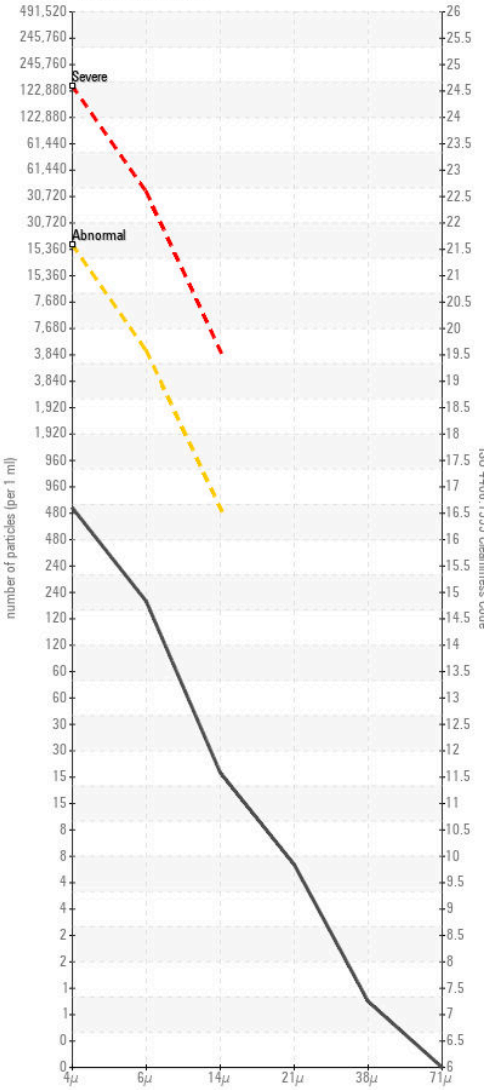
Non-ferrous Metals



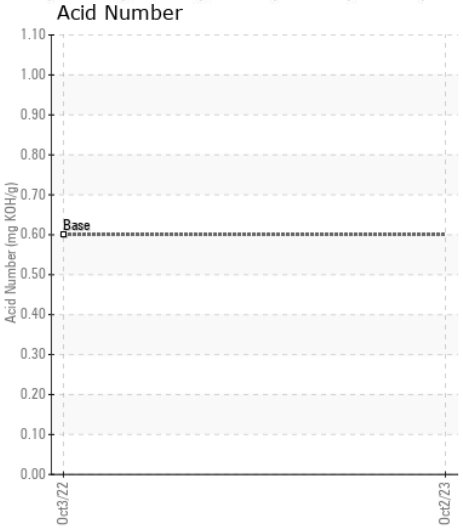
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9			**E. CUMMINGS CONTRACTING INC.**
Sample No.	: LH0182164	**Recieved**	: 04 Jan 2024	852 MAIN STREET
Lab Number	: 02606586	**Diagnosed**	: 08 Jan 2024	WOODSTOCK, NB
Unique Number	: 5707672	**Diagnostician**	: Kevin Marson	CA E7M 2G1
Test Package	: MOBCE			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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