

LIEBHERR

CONSTRUCTION EQUIPMENT



[HAMMERSTONE] 16012 - Hydraulic System

Sample No: LH0265046

Oil Type: PETRO CANADA HYDREX EXTREME



SAMPLE INFORMATION

Sample Number	LH0265046	LH0238071	LH0209775	---
Sample Date	11 Jul 2023	21 Oct 2022	28 Aug 2021	---
Machine Hours	14669	13470	9513	---
Oil Hours	0	0	0	---
Oil Changed	N/A	N/A	Not Changd	---
Sample Status	NORMAL	ABNORMAL	NORMAL	---

Liebherr-Canada Ltd.

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 Fort McMurray, AB
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OIL CONDITION

Visc @ 40°C	cSt	30.5	26.1	25.6	---
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CONTAMINATION

Particles >4µm		19130	2394	4492	---
Particles >6µm		2501	405	771	---
Particles >14µm		81	36	70	---
ISO 4406:1999 (c)		21/19/14	18/16/12	19/17/13	---
Silicon	ppm	6	8	6	---
Sodium	ppm	11	4	4	---
Potassium	ppm	4	<1	1	---

Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. 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.



WEAR METALS

Iron	ppm	6	5	4	---
Copper	ppm	4	9	3	---
Lead	ppm	<1	<1	<1	---
Tin	ppm	0	0	<1	---
Aluminum	ppm	2	2	1	---
Chromium	ppm	0	0	<1	---
Molybdenum	ppm	<1	<1	<1	---
Nickel	ppm	0	<1	<1	---
Titanium	ppm	<1	<1	0	---
Silver	ppm	0	0	<1	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	0	0	0	---



ADDITIVES

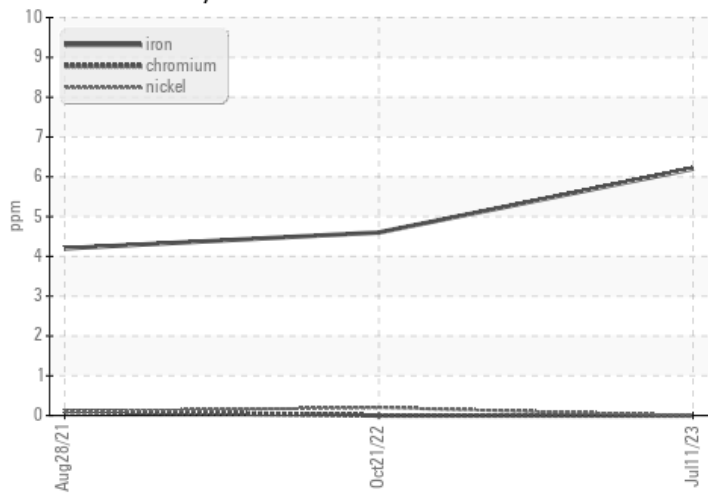
Calcium	ppm	2945	2361	2409	---
Magnesium	ppm	13	9	10	---
Zinc	ppm	1161	904	995	---
Phosphorus	ppm	1050	965	960	---
Barium	ppm	0	0	0	---
Boron	ppm	2	2	2	---

Depot: LIEFTM
 Unique No: 5607444
 Signed: Kevin Marson
 Report Date: 19 Jul 2023

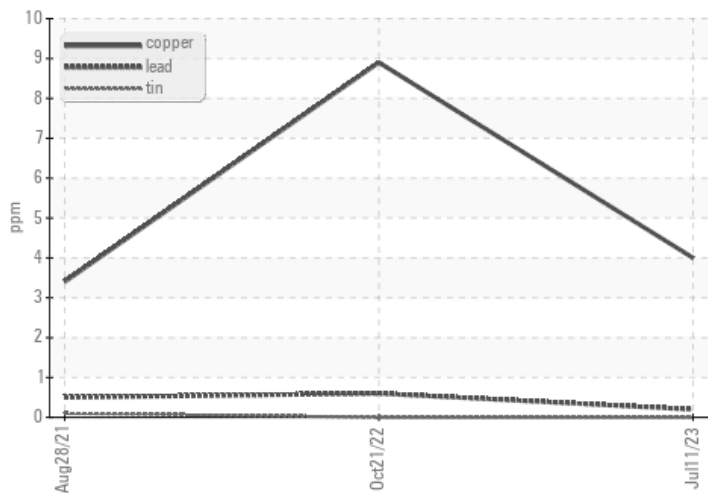


GRAPHS

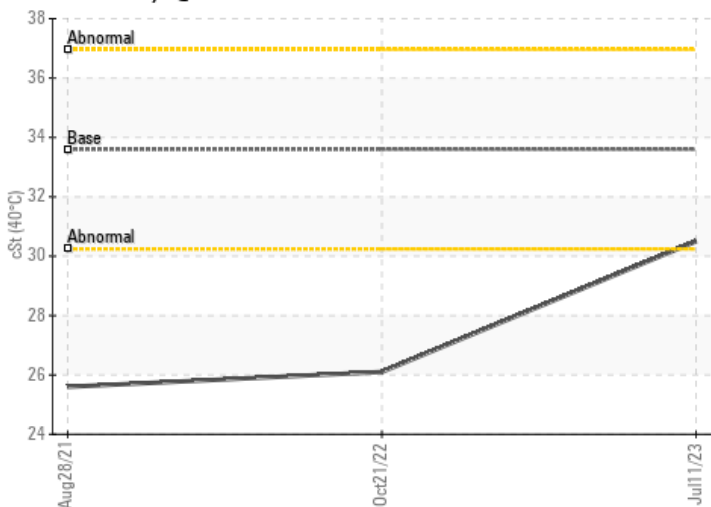
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

