

LIEBHERR

CONSTRUCTION EQUIPMENT



[[593756]] LIEBHERR HS8100 184996 - Hydraulic System

Sample No: LH0284984

Oil Type: PETRO CANADA HYDREX AW 46



SAMPLE INFORMATION

Sample Number	LH0284984	LH0274616	LH0261254	LH0251621
Sample Date	26 Jan 2024	07 Sep 2023	04 May 2023	13 Jan 2023
Machine Hours	12043	11071	10190	9355
Oil Hours	0	0	0	0
Oil Changed	N/A	N/A	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

HIGGS & HIGGS

RR # 4

ST THOMAS, ON

CA N5P 3S8

Contact: Bernie Higgs



OIL CONDITION

Visc @ 40°C	cSt	36.5	36.1	35.9	35.6
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T: (519)631-4095

F: (519)631-2745



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		14047	2370	3812	4575
Particles >6µm		4250	421	975	1217
Particles >14µm		242	25	48	34
ISO 4406:1999 (c)		21/19/15	18/16/12	19/17/13	19/17/12
Silicon	ppm	3	3	3	3
Sodium	ppm	1	2	1	<1
Potassium	ppm	<1	<1	<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. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	12	13	12	11
Copper	ppm	5	6	6	6
Lead	ppm	<1	<1	<1	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	<1	0	<1	<1
Chromium	ppm	0	0	0	0
Molybdenum	ppm	3	4	1	<1
Nickel	ppm	<1	0	<1	<1
Titanium	ppm	0	0	0	0
Silver	ppm	<1	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	291	338	312	304
Magnesium	ppm	53	67	25	15
Zinc	ppm	458	482	432	419
Phosphorus	ppm	398	442	412	391
Barium	ppm	0	0	0	0
Boron	ppm	9	11	10	9

Depot: HIGSTT

Unique No: 5737066

Signed: Kevin Marson

Report Date: 06 Mar 2024

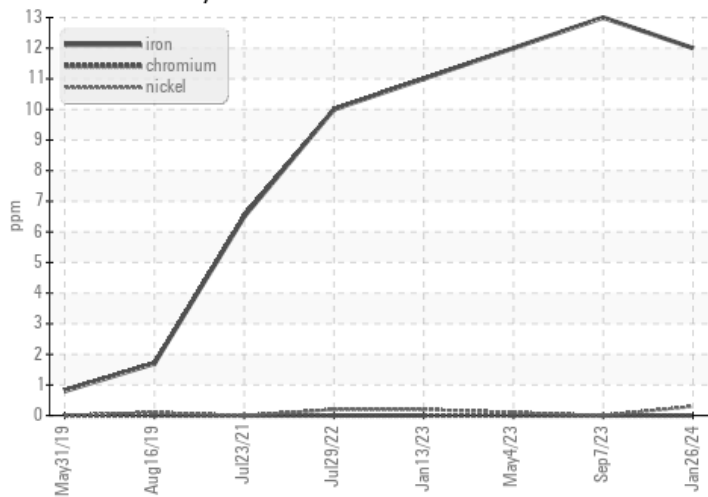
LIEBHERR

CONSTRUCTION EQUIPMENT

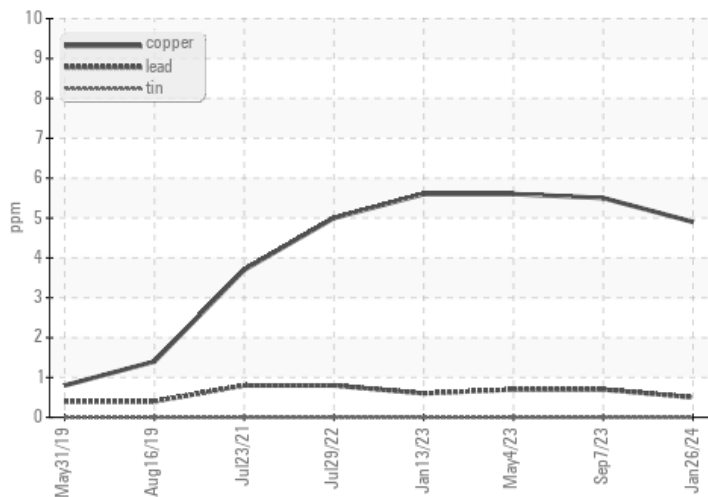


GRAPHS

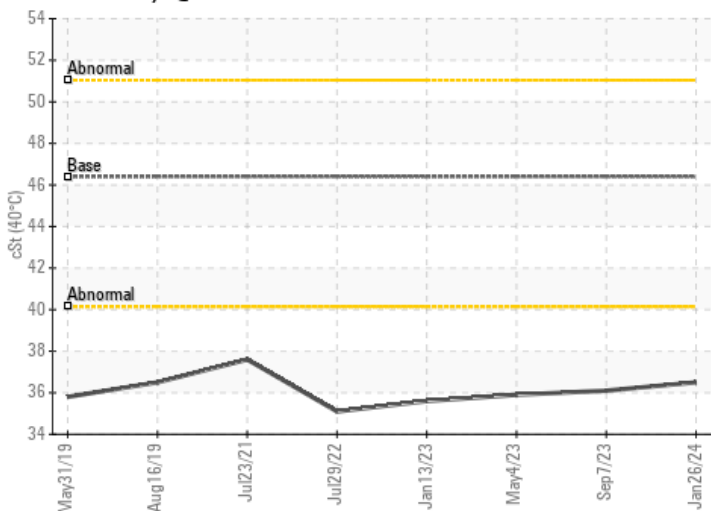
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

