

LIEBHERR

CONSTRUCTION EQUIPMENT



042990-1491 - Hydraulic System

Sample No: LH0277803

Oil Type: PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL



SAMPLE INFORMATION

Sample Number	LH0277803	LH0247050	LH0234924	LH0227318
Sample Date	27 Nov 2023	16 Feb 2023	19 Jul 2022	18 Mar 2022
Machine Hours	6947	6512	5990	5580
Oil Hours	0	0	0	0
Oil Changed	Not Changd	Not Changd	Not Changd	Not Changd
Sample Status	ABNORMAL	SEVERE	ABNORMAL	ABNORMAL

Delsan - American Iron and Metal
 2187 Montee Masson
 Laval, QC
 CA H7B 0A6
 Contact: MANNY MARQUES
 mmarques@delsan-aim.com
 T:
 F:



OIL CONDITION

Visc @ 40°C	cSt	45.5	45.5	44.7	45.3
-------------	-----	------	------	------	------



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		11311	136946	14731	10373
Particles >6µm		1636	44611	2289	1225
Particles >14µm		82	154	55	100
ISO 4406:1999 (c)		21/18/14	24/23/14	21/18/13	21/17/14
Silicon	ppm	1	2	2	2
Sodium	ppm	1	1	2	2
Potassium	ppm	<1	<1	<1	1



WEAR METALS

PQ		0	1	2	0
Iron	ppm	68	68	123	87
Copper	ppm	3	4	11	4
Lead	ppm	<1	<1	2	2
Tin	ppm	<1	2	1	1
Aluminum	ppm	<1	<1	1	1
Chromium	ppm	2	3	4	3
Molybdenum	ppm	0	0	0	0
Nickel	ppm	<1	<1	0	<1
Titanium	ppm	0	0	0	0
Silver	ppm	<1	0	<1	0
Manganese	ppm	0	1	3	2
Vanadium	ppm	0	0	<1	0



ADDITIVES

Calcium	ppm	5	14	111	103
Magnesium	ppm	<1	1	2	2
Zinc	ppm	36	44	297	261
Phosphorus	ppm	353	399	358	356
Barium	ppm	0	0	<1	0
Boron	ppm	<1	<1	2	1

Diagnosis

We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. 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 oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: DEL782MON
Unique No: 5684523
Signed: Kevin Marson
Report Date: 30 Nov 2023

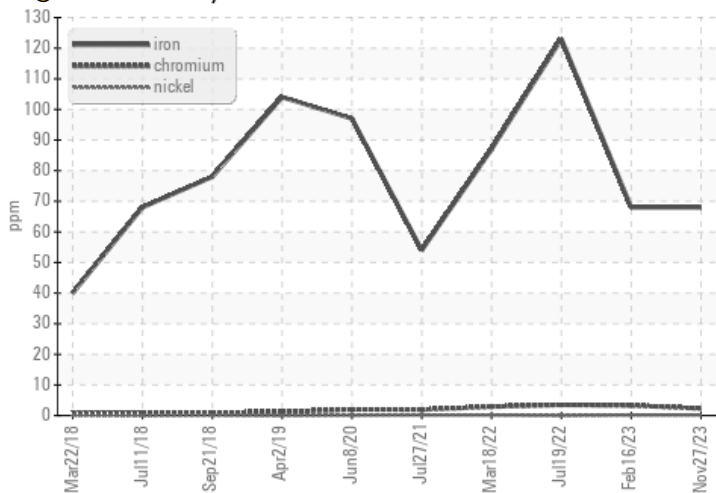
LIEBHERR

CONSTRUCTION EQUIPMENT

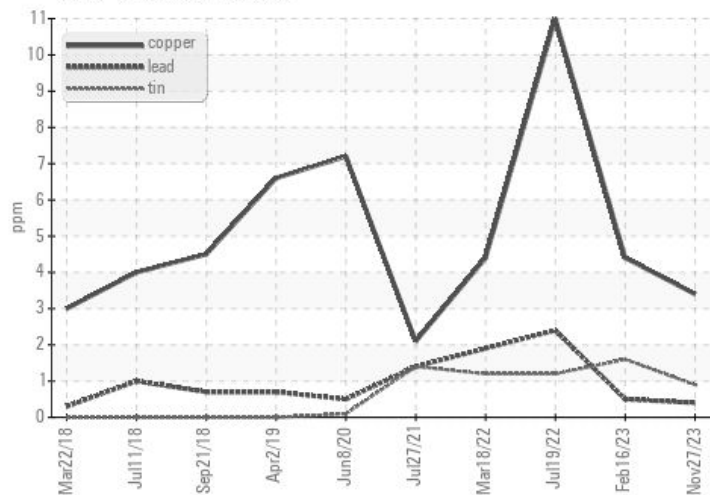


GRAPHS

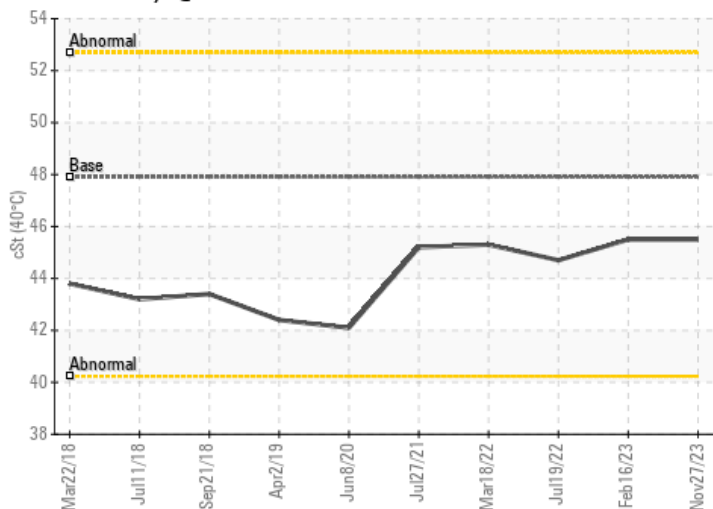
● Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

