

LIEBHERR

CONSTRUCTION EQUIPMENT



24016 - Hydraulic System

Sample No: LH0276281

Oil Type: PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL



Sample Information

Sample Number	LH0276281	LH0225797	LH0216222	LH0234755
Sample Date	08 Apr 2024	10 Oct 2023	21 Apr 2023	25 Jul 2022
Machine Hours	21501	20995	20510	19901
Oil Hours	0	0	0	0
Oil Changed	Not Changd	Not Changd	Not Changd	Changed
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL

American Iron and Metal

75 Steel City Court
Hamilton, ON
CA L8H 3Y2
Contact: Heavy Equipment
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Oil Condition

Visc @ 40°C	cSt	36.6	36.9	37.7	36.3



Contamination

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		1864	670	1083	14107
Particles >6µm		141	95	187	2980
Particles >14µm		12	10	17	94
ISO 4406:1999 (c)		18/14/11	17/14/10	17/15/11	21/19/14
Silicon	ppm	0	1	1	2
Sodium	ppm	<1	<1	<1	1
Potassium	ppm	1	<1	<1	1



Wear Metals

Iron	ppm	8	8	6	8
Copper	ppm	2	2	2	2
Lead	ppm	0	<1	0	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	<1	<1	<1	<1
Chromium	ppm	3	2	2	2
Molybdenum	ppm	<1	1	2	3
Nickel	ppm	0	<1	0	<1
Titanium	ppm	0	0	0	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	0	0	0	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	166	175	189	245
Magnesium	ppm	31	32	36	55
Zinc	ppm	545	551	556	492
Phosphorus	ppm	439	443	491	416
Barium	ppm	0	<1	0	0
Boron	ppm	4	5	5	8

Diagnosis

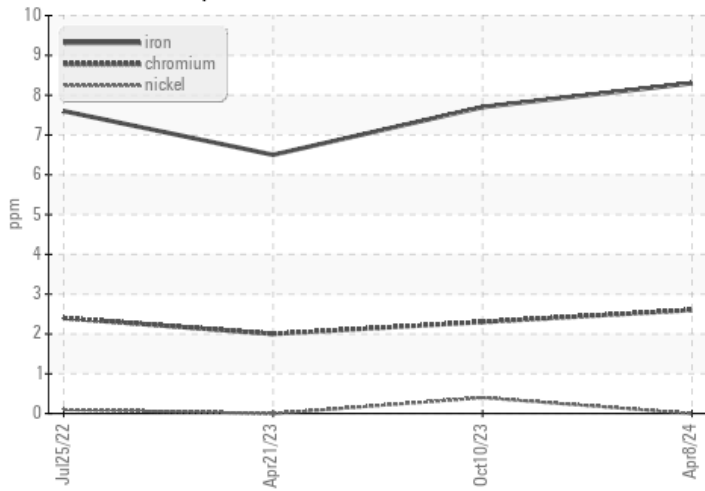
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL, however, a fluid match indicates that this fluid is ISO 32 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample. 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. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Depot: AMEHAM
Unique No: 5761037
Signed: Kevin Marson
Report Date: 11 Apr 2024

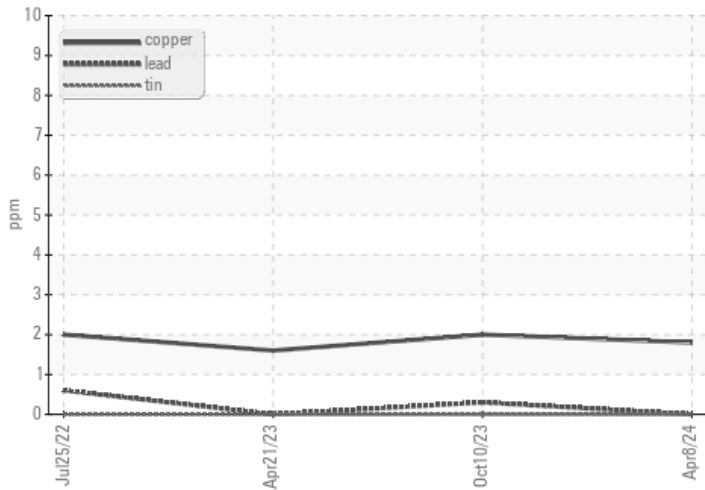


Graphs

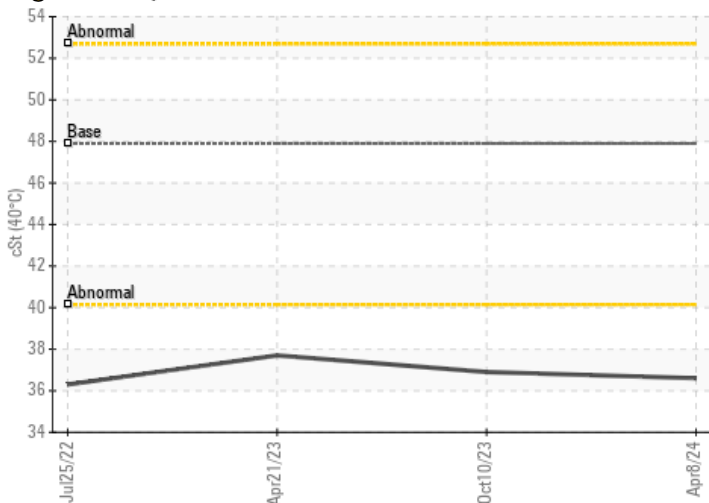
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

