

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### 042990-1491 - Hydraulic System

Sample No: LH0281400

Oil Type: TOTAL BIOHYDRAN SE 46



#### SAMPLE INFORMATION

Sample Number	LH0281400	LH0281399	LH0202820	LH0277803
Sample Date	23 Jan 2024	16 Jan 2024	12 Jan 2024	27 Nov 2023
Machine Hours	7079	7078	7070	6947
Oil Hours	0	0	0	0
Oil Changed	Changed	Not Changd	Not Changd	Not Changd
Sample Status	ATTENTION	NORMAL	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	44.1	43.8	45.4	45.5



#### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		25752	8640	1492	11311
Particles >6µm		3807	3135	153	1636
Particles >14µm		119	69	11	82
ISO 4406:1999 (c)		22/19/14	20/19/13	18/14/11	21/18/14
Silicon	ppm	<1	<1	1	1
Sodium	ppm	<1	<1	<1	1
Potassium	ppm	0	2	<1	<1

#### Diagnosis

We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The condition of the oil is acceptable for the time in service.



#### WEAR METALS

PQ		---	---	0	0
Iron	ppm	29	28	78	68
Copper	ppm	1	2	4	3
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	<1	1	<1
Aluminum	ppm	<1	<1	1	<1
Chromium	ppm	<1	<1	3	2
Molybdenum	ppm	0	0	0	0
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	<1
Manganese	ppm	0	0	<1	0
Vanadium	ppm	0	0	0	0



#### ADDITIVES

Calcium	ppm	6	6	7	5
Magnesium	ppm	<1	<1	<1	<1
Zinc	ppm	17	17	38	36
Phosphorus	ppm	366	367	367	353
Barium	ppm	0	0	0	0
Boron	ppm	<1	<1	1	<1

**Depot:** DEL782MON  
**Unique No:** 5720014  
**Signed:** Wes Davis  
**Report Date:** 25 Jan 2024

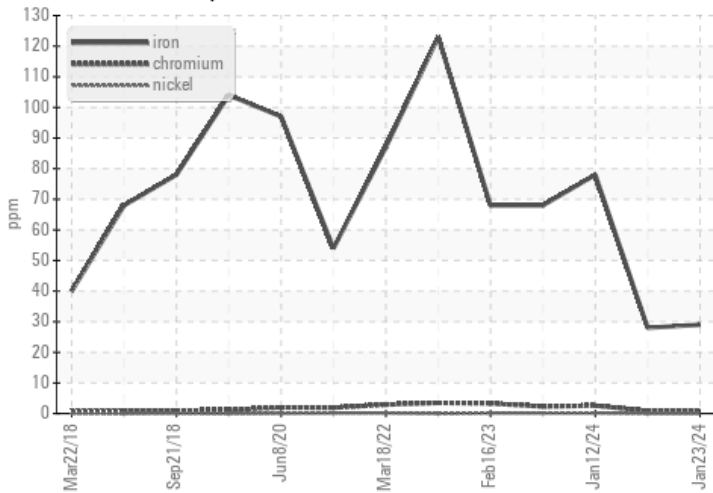
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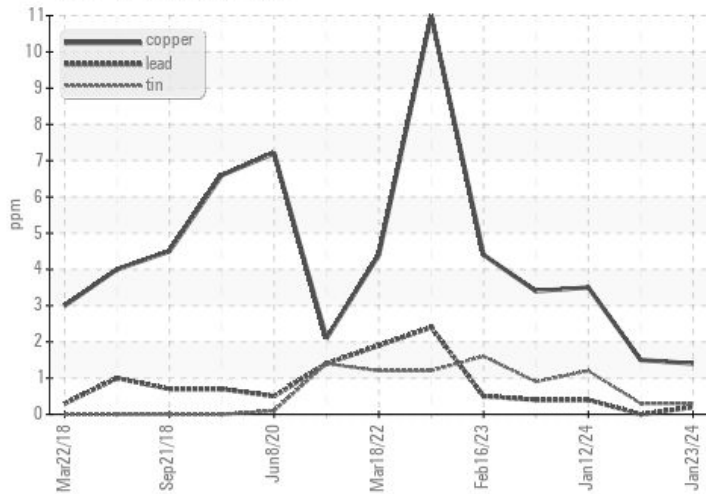


### GRAPHS

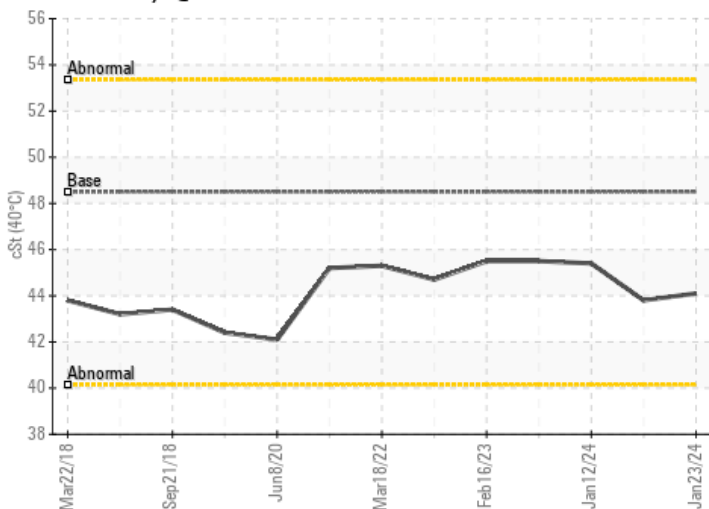
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

