

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH50M 1216-109299 - Diesel Engine

Sample No: LH0272569

Oil Type: CHEVRON DELO LE 5W40



#### SAMPLE INFORMATION

Sample Number	LH0272569	LH0263960	LH0263866	LH0254769
Sample Date	19 Jan 2024	19 Oct 2023	27 Jul 2023	20 Apr 2023
Machine Hours	9018	8565	8027	7653
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**ALTER METAL**  
2900 SHERMAN STREET  
WAUSAU, WI  
US 54401  
Contact: Service Manager



#### OIL CONDITION

Visc @ 100°C	cSt	13.1	13.2	13.3	12.9
Base Number (BN)	mg KOH/g	6.9	6.8	7.1	6.2
Oxidation (PA)	%	58	55	57	61

T:  
F:



#### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	71	72	73	70
Sulfation (PA)	%	55	53	53	51
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	8	7	7
Sodium	ppm	3	2	0	2
Potassium	ppm	3	4	3	1

#### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



#### WEAR METALS

Iron	ppm	5	4	4	5
Copper	ppm	<1	<1	<1	2
Lead	ppm	0	<1	<1	0
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	2	2	<1	<1
Chromium	ppm	0	<1	0	<1
Molybdenum	ppm	6	9	17	38
Nickel	ppm	0	<1	0	<1
Titanium	ppm	83	86	73	26
Silver	ppm	0	0	0	0
Manganese	ppm	<1	0	<1	<1
Vanadium	ppm	0	<1	<1	<1



#### ADDITIVES

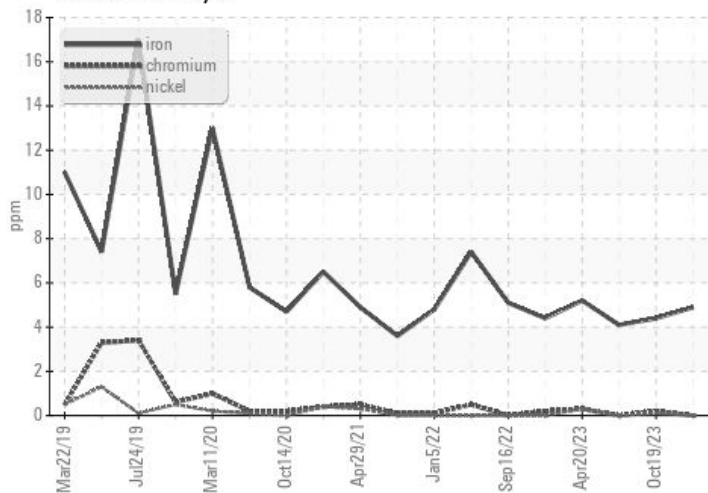
Calcium	ppm	1314	1227	1352	1070
Magnesium	ppm	682	685	722	801
Zinc	ppm	1094	1169	1199	1132
Phosphorus	ppm	958	1009	984	927
Barium	ppm	0	0	0	0
Boron	ppm	105	87	69	26

**Depot:** ALTWAUUS  
**Unique No:** 10846557  
**Signed:** Wes Davis  
**Report Date:** 25 Jan 2024

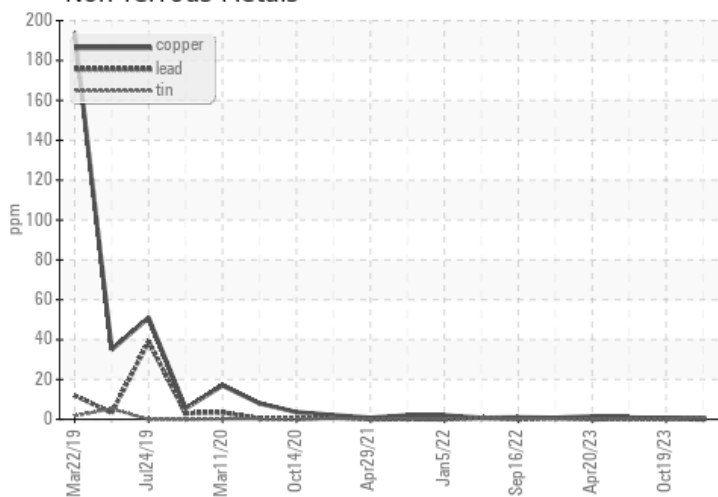


### GRAPHS

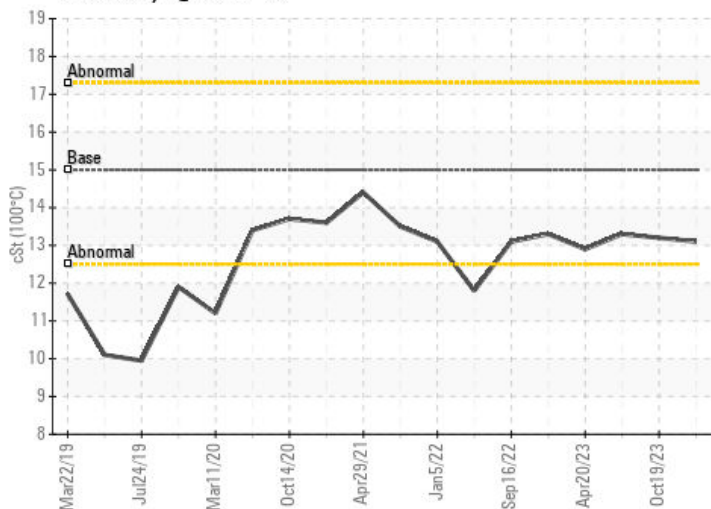
#### Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number

