

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH50 1216-91334 - Diesel Engine

Sample No: LH0268219

Oil Type: DIESEL ENGINE OIL SAE 5W40



**ALTER RECYCLINE - DUBUQUE**  
 PO BOX 390  
 WEBSTER, NY  
 US 14580  
 Contact: SERVICE MANAGER

T:  
 F:



#### SAMPLE INFORMATION

Sample Number	LH0268219	LH0244985	LH0185377	LH0185154
Sample Date	22 Dec 2023	29 Mar 2023	10 Aug 2021	05 Apr 2021
Machine Hours	12732	11607	9081	8261
Oil Hours	0	0	0	0
Oil Changed	Changed	N/A	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



#### OIL CONDITION

Visc @ 100°C	cSt	13.0	12.1	10.7	11.1
Base Number (BN)	mg KOH/g	6.2	5.9	---	---
Oxidation (PA)	%	75	84	88	77



#### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.2	0	0.1
Nitration (PA)	%	82	102	99	91
Sulfation (PA)	%	64	65	78	65
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	9	7	9	9
Sodium	ppm	3	1	5	3
Potassium	ppm	2	1	3	3



#### WEAR METALS

Iron	ppm	3	11	18	5
Copper	ppm	3	2	3	3
Lead	ppm	<1	<1	2	2
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	1	<1	1	<1
Chromium	ppm	0	0	<1	<1
Molybdenum	ppm	4	25	11	3
Nickel	ppm	0	0	0	<1
Titanium	ppm	84	<1	<1	<1
Silver	ppm	<1	0	<1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	<1	0



#### ADDITIVES

Calcium	ppm	1347	1480	1407	1300
Magnesium	ppm	794	428	646	667
Zinc	ppm	1352	1002	827	808
Phosphorus	ppm	1146	778	699	701
Barium	ppm	0	0	0	0
Boron	ppm	47	10	51	50

#### Diagnosis

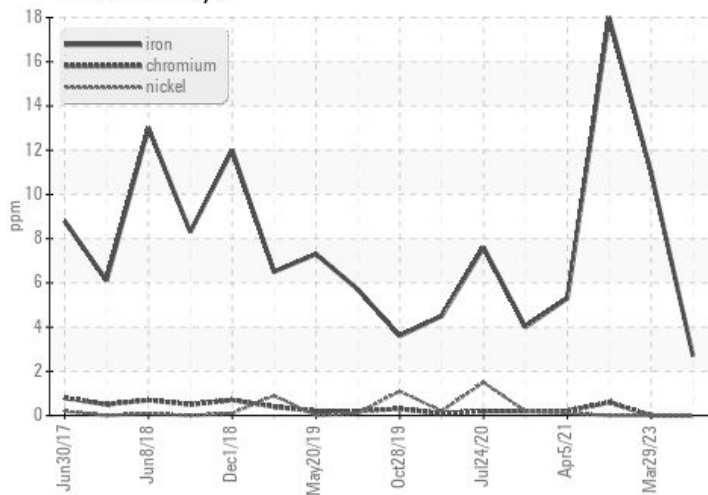
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: ALTWEB  
 Unique No: 10820511  
 Signed: Wes Davis  
 Report Date: 09 Jan 2024

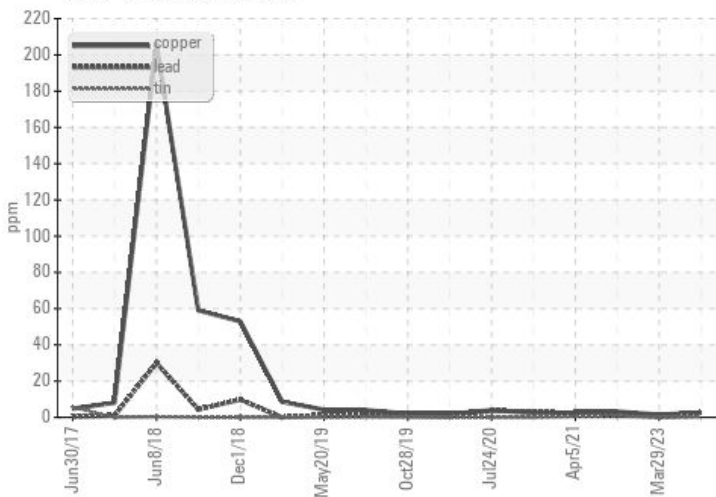


### GRAPHS

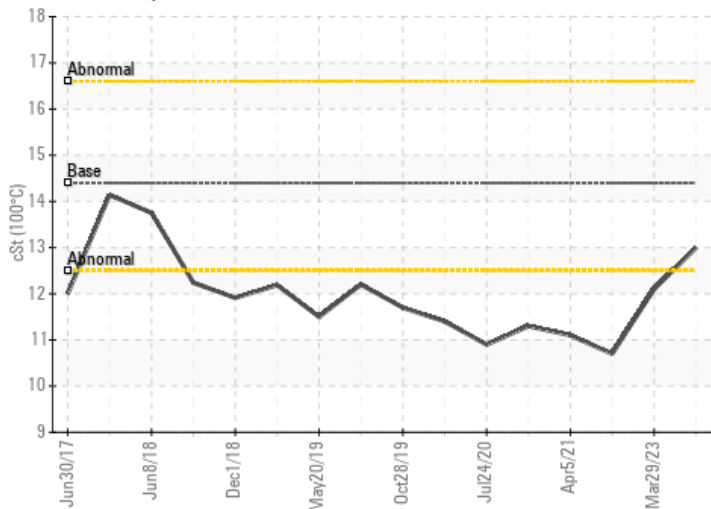
#### Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number

