

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH50 1216-120427 - Diesel Engine

Sample No: LH0229453

Oil Type: LIEBHERR MOTOROIL 5W-30 LOW ASH



**DIAMOND STATE RECYCLING CORP**  
 1600 BOWERS STREET  
 WILMINGTON, DE  
 US 19802  
 Contact: Service Manager



#### SAMPLE INFORMATION

Sample Number	LH0229453	LH0229514	LH0191583	LH0174366
Sample Date	28 Sep 2023	13 Jun 2023	12 Jan 2022	13 Sep 2021
Machine Hours	7490	7022	4006	3045
Oil Hours	0	0	0	500
Oil Changed	N/A	N/A	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



#### OIL CONDITION

Visc @ 100°C	cSt	11.4	11.4	11.2	11.9
Base Number (BN)	mg KOH/g	15.1	14.2	16.6	---
Oxidation (PA)	%	45	51	50	49

T:  
F:

#### 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.



#### CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	105	113	114	108
Sulfation (PA)	%	42	46	46	44
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	8	9	7
Sodium	ppm	<1	2	0	3
Potassium	ppm	2	0	2	0



#### WEAR METALS

Iron	ppm	6	7	77	5
Copper	ppm	2	1	2	2
Lead	ppm	0	0	<1	0
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	5	<1	3	<1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	<1	<1	0	3
Nickel	ppm	0	0	0	<1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	<1	<1



#### ADDITIVES

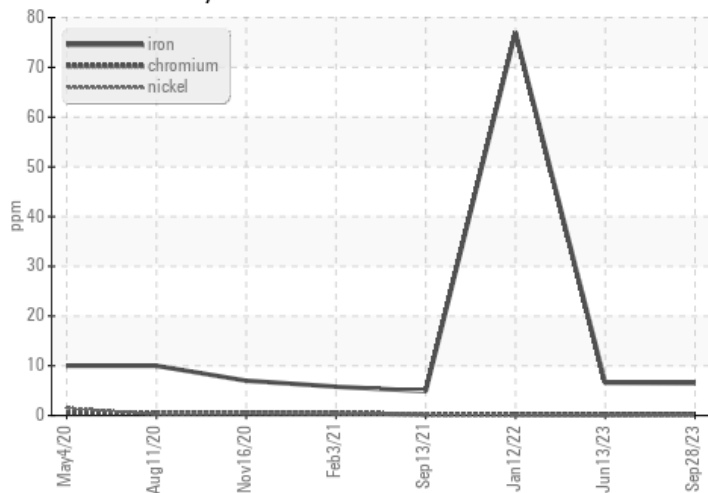
Calcium	ppm	4274	4384	4352	4314
Magnesium	ppm	22	28	19	116
Zinc	ppm	1188	1205	1120	1144
Phosphorus	ppm	1014	1030	1030	1062
Barium	ppm	0	0	2	<1
Boron	ppm	266	268	258	192

Depot: DIAWILDE  
 Unique No: 10671619  
 Signed: Sean Felton  
 Report Date: 02 Oct 2023

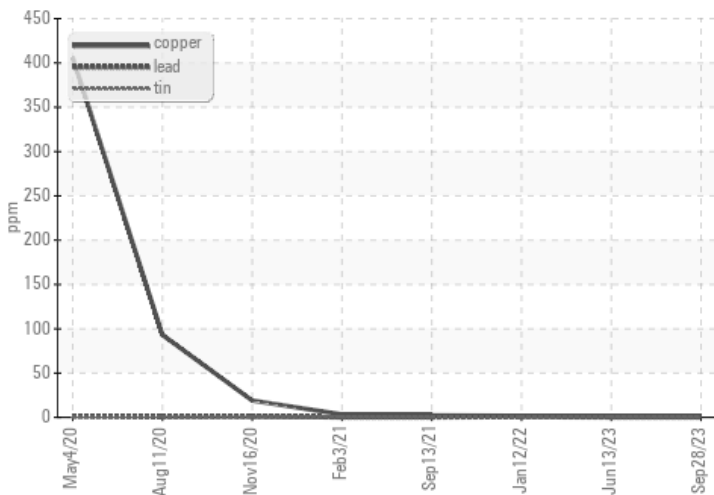


### GRAPHS

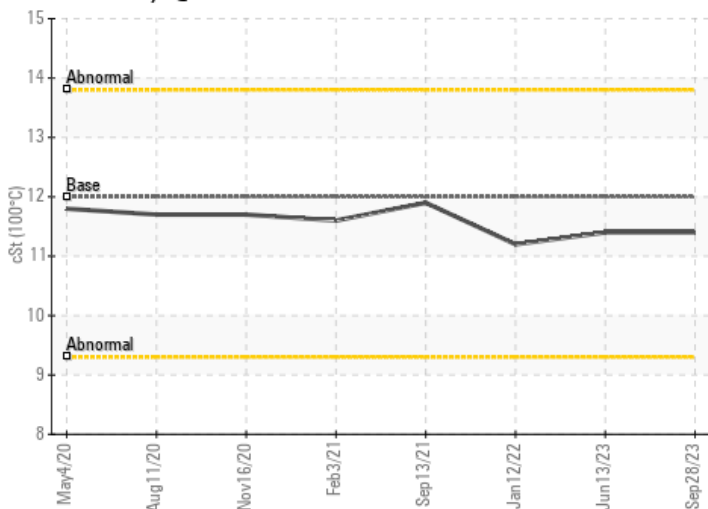
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

