

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR R920 050017-1705 - Diesel Engine

Sample No: LH0258274

Oil Type: LIEBHERR MOTOROIL 5W-30 LOW ASH



#### SAMPLE INFORMATION

Sample Number	LH0258274	LH0229728	LH0243923	LH0229863
Sample Date	24 Aug 2023	04 Apr 2023	24 Jan 2023	26 Oct 2022
Machine Hours	3122	2127	1614	1042
Oil Hours	500	500	500	498
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

#### POTOMAC METALS

42702 DULLES TRADE CT  
STERLING, VA  
US 20166  
Contact: JEREMY WONG  
JEREMY.WONG@POTOMACMETALS.COM  
T: (703)430-3667  
F:



#### OIL CONDITION

Visc @ 100°C	cSt	13.6	11.7	11.7	11.9
Base Number (BN)	mg KOH/g	8.0	6.7	7.0	7.3
Oxidation (PA)	%	72	49	54	60



#### CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	68	63	64	75
Sulfation (PA)	%	50	45	47	54
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	6	6	10
Sodium	ppm	2	2	2	3
Potassium	ppm	4	3	3	2



#### WEAR METALS

Iron	ppm	10	11	11	14
Copper	ppm	<1	6	6	20
Lead	ppm	0	0	0	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	2	<1	<1	2
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	<1	<1	<1	2
Nickel	ppm	0	0	0	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0



#### ADDITIVES

Calcium	ppm	1426	1259	1469	1319
Magnesium	ppm	820	705	548	731
Zinc	ppm	967	808	811	783
Phosphorus	ppm	815	694	690	725
Barium	ppm	0	0	0	0
Boron	ppm	150	88	79	75

#### Diagnosis

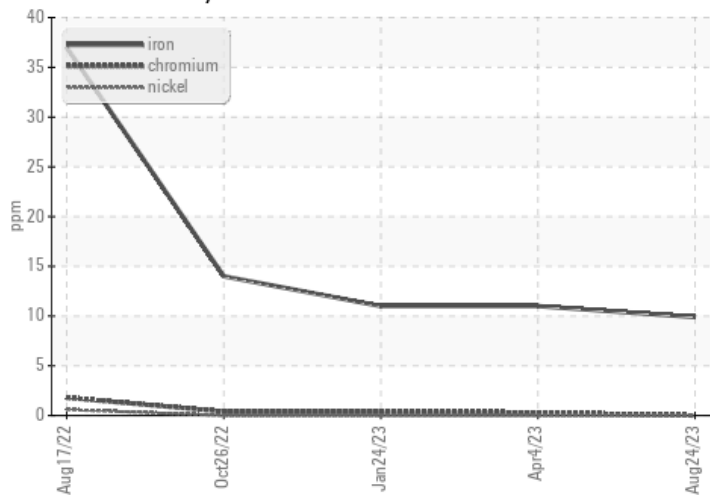
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: POTSTE  
Unique No: 10702608  
Signed: Wes Davis  
Report Date: 23 Oct 2023

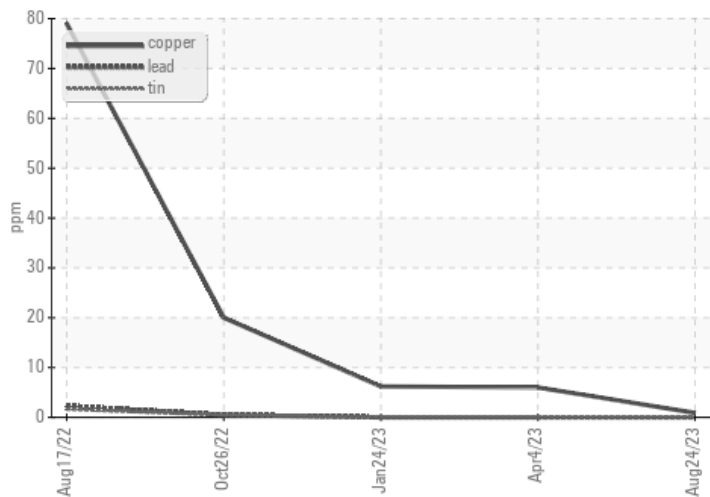


### GRAPHS

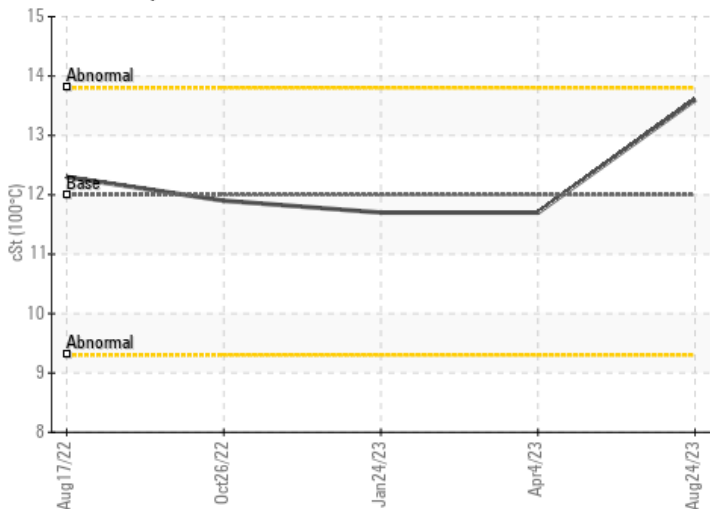
#### Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number

