

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH30 101514-1253 - Diesel Engine

Sample No: LH0229488

Oil Type: LIEBHERR MOTOROIL 5W30



**SPARTAN RECYCLING**  
 3071 HOWARD ST  
 SPARTANBURG, SC  
 US 29303  
 Contact: SERVICE MANAGER



#### SAMPLE INFORMATION

Sample Number	LH0229488	LH0217626	LHMC118887	LH0230041
Sample Date	22 May 2023	22 Mar 2023	02 Sep 2022	10 May 2022
Machine Hours	1750	10552	9519	8842
Oil Hours	500	2000	250	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



#### OIL CONDITION

Visc @ 100°C	cSt	11.9	11.2	11.9	11.6
Base Number (BN)	mg KOH/g	13.5	14.1	17.5	17.6
Oxidation (PA)	%	51	51	44	42

T:  
F:



#### CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	101	115	106	101
Sulfation (PA)	%	46	47	44	43
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	9	10	6
Sodium	ppm	4	2	3	1
Potassium	ppm	0	3	2	<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	15	10	11	6
Copper	ppm	3	2	6	<1
Lead	ppm	0	0	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	2	4	4	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	7	1	<1	<1
Nickel	ppm	0	0	0	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	0	0



#### ADDITIVES

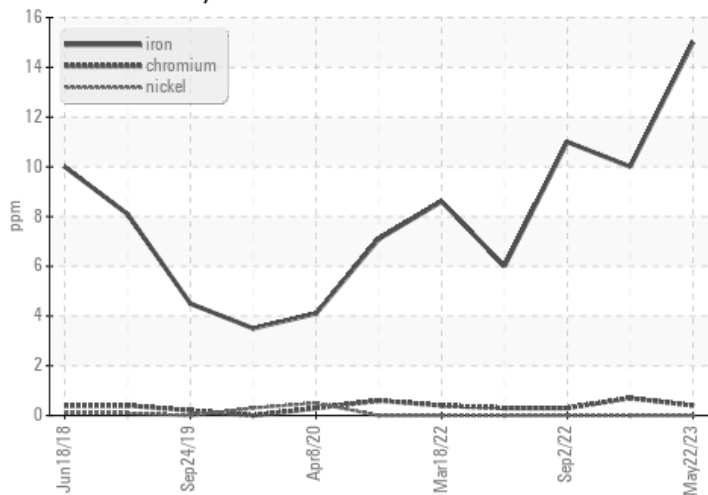
Calcium	ppm	4221	4436	4178	4413
Magnesium	ppm	89	21	18	28
Zinc	ppm	1255	1208	1188	1185
Phosphorus	ppm	1087	1045	1012	1028
Barium	ppm	0	2	0	0
Boron	ppm	287	293	259	245

Depot: SPASPALH  
 Unique No: 10565465  
 Signed: Wes Davis  
 Report Date: 25 Jul 2023

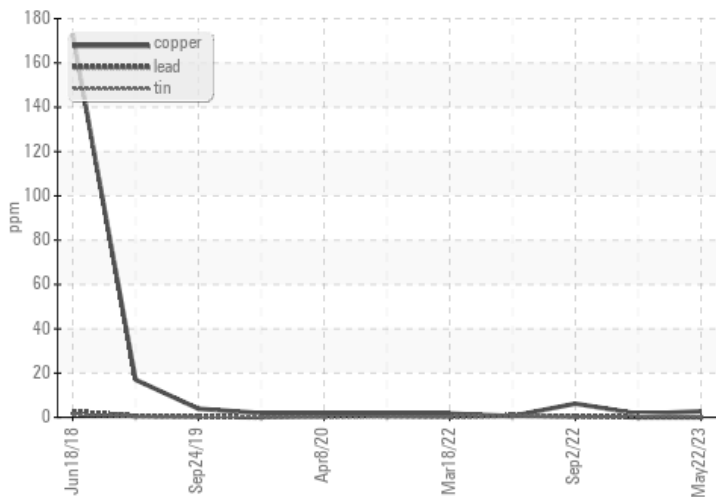


### GRAPHS

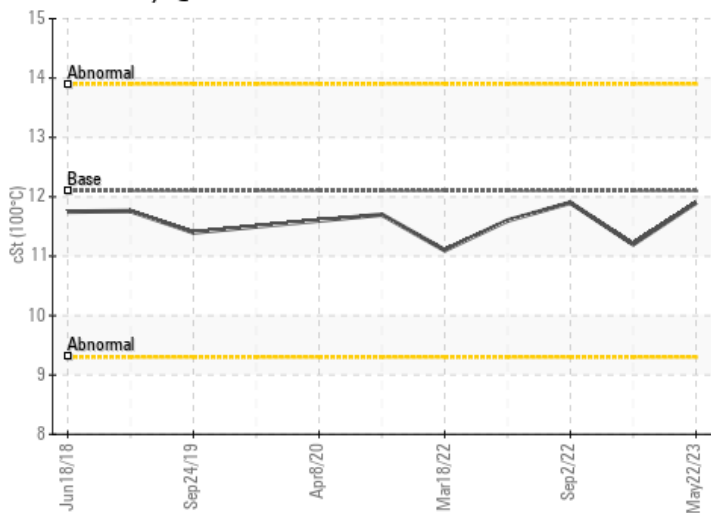
#### Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number

