

LIEBHERR

CONSTRUCTION EQUIPMENT



[[FRED SMITH]] LIEBHERR L580 040770-1170 - Diesel Engine

Sample No: LH0264333

Oil Type: LIEBHERR MOTOROIL 10W-40 LOW ASH



SAMPLE INFORMATION

Sample Number	LH0264333	LH0174204	LH0216937	LH0204346
Sample Date	08 Aug 2023	28 Apr 2023	24 Mar 2022	16 Sep 2021
Machine Hours	9297	8817	7403	6606
Oil Hours	500	500	500	1000
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION

LIEBHERR EQUIPMENT SOURCE

8200 FAYETTEVILLE ROAD
RALEIGH, NC
US 27603
Contact: TRAVIS EGAN
travis.egan@liebherr.com
T:
F: (919)329-0084



OIL CONDITION

Visc @ 100°C	cSt	14.1	13.7	14.0	14.5
Base Number (BN)	mg KOH/g	8.9	6.8	8.7	---
Oxidation (PA)	%	76	75	85	81



CONTAMINATION

Soot %	%	0.9	0.9	1.8	1.8
Nitration (PA)	%	79	73	101	99
Sulfation (PA)	%	56	54	66	66
Glycol	%	NEG	NEG	NEG	0.0
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	9	8	9
Sodium	ppm	3	4	42	226
Potassium	ppm	3	3	10	43

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	23	66	42	54
Copper	ppm	1	2	4	6
Lead	ppm	<1	0	<1	4
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	6	6	6	7
Chromium	ppm	<1	0	<1	2
Molybdenum	ppm	2	14	4	14
Nickel	ppm	<1	0	0	<1
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	<1	0	0	<1



ADDITIVES

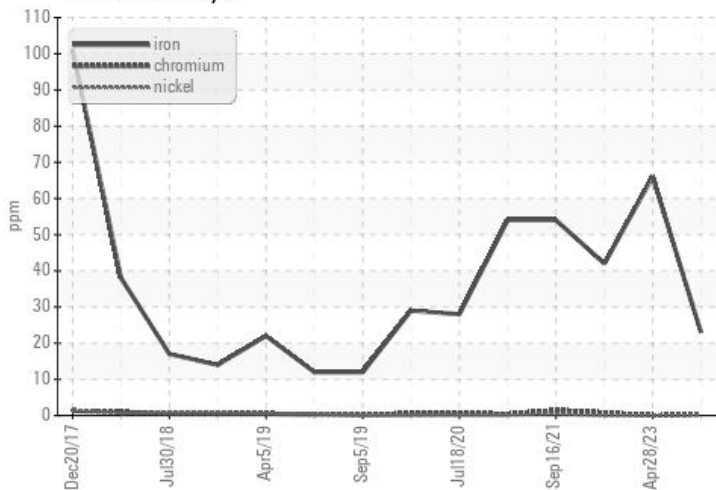
Calcium	ppm	1330	1492	1405	1445
Magnesium	ppm	837	839	792	644
Zinc	ppm	952	995	942	853
Phosphorus	ppm	824	832	760	733
Barium	ppm	0	0	0	0
Boron	ppm	100	90	72	55

Depot: LIEBHERRNC
Unique No: 10602614
Signed: Wes Davis
Report Date: 14 Aug 2023

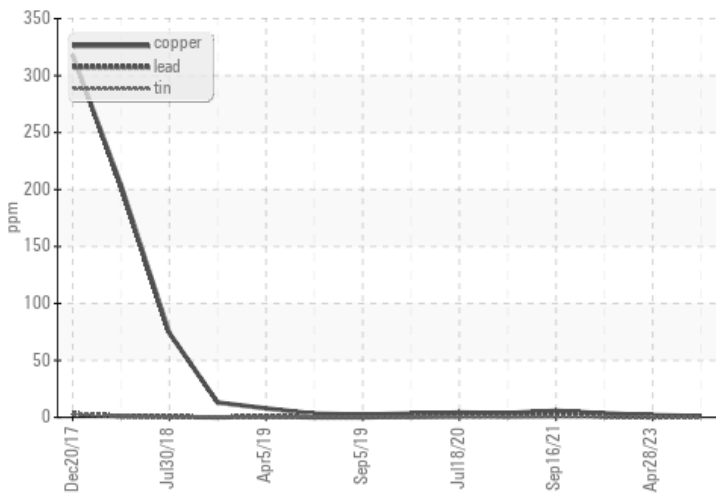


GRAPHS

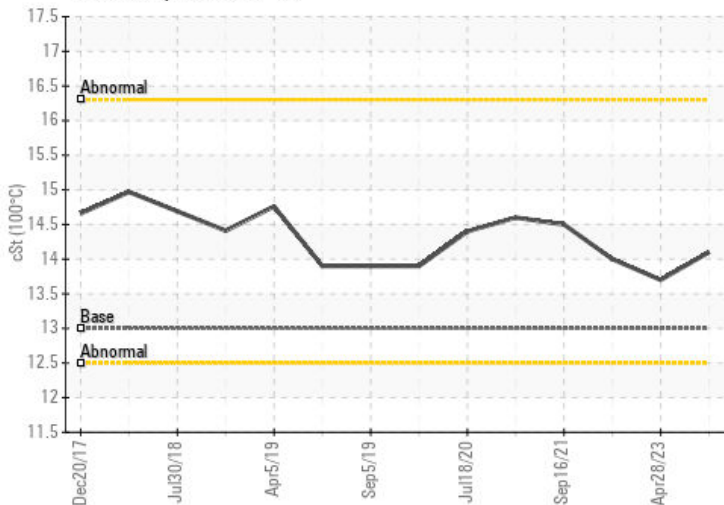
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

