

LIEBHERR

CONSTRUCTION EQUIPMENT



SENNEBOGEN 830E MS16 - Diesel Engine

Sample No: LH0244830

Oil Type: DIESEL ENGINE OIL SAE 15W40



Sample Information

Sample Number	LH0244830	LHMC103769	LHMC122789	LHMC103766
Sample Date	16 Mar 2024	07 Nov 2023	02 Aug 2023	05 May 2023
Machine Hours	7941	7588	7131	6853
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	SEVERE

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Oil Condition

Visc @ 100°C	cSt	13.78	13.4	13.6	9.6
Base Number (BN)	mg KOH/g	6.6	7.4	8.3	7.2
Oxidation (PA)	%	81	66	57	78

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is negative. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	0.3	0.2	0.3
Nitration (PA)	%	90	74	62	88
Sulfation (PA)	%	62	56	51	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	0.9	<1.0	1.9	18.8
Silicon	ppm	2	3	3	2
Sodium	ppm	4	1	1	2
Potassium	ppm	46	<1	2	<1



Wear Metals

Iron	ppm	22	9	7	13
Copper	ppm	<1	0	<1	<1
Lead	ppm	0	0	0	0
Tin	ppm	0	<1	0	0
Aluminum	ppm	3	1	<1	<1
Chromium	ppm	<1	<1	<1	0
Molybdenum	ppm	59	55	58	49
Nickel	ppm	0	0	0	0
Titanium	ppm	0	<1	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	0
Vanadium	ppm	0	0	0	0



Additives

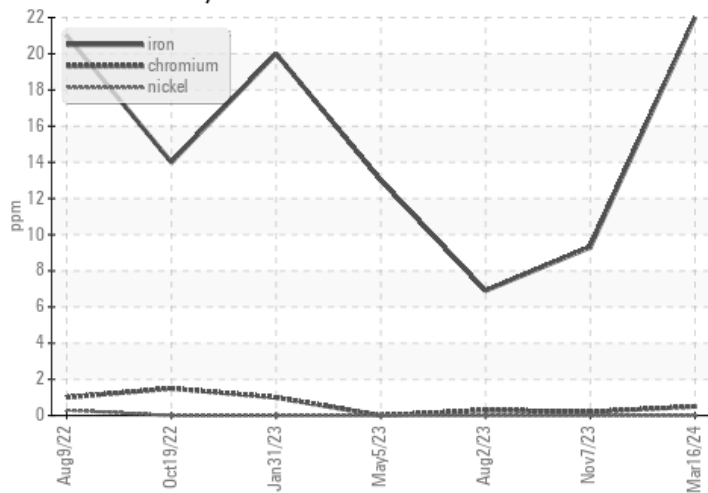
Calcium	ppm	1198	1091	1257	1024
Magnesium	ppm	984	846	967	769
Zinc	ppm	1285	1210	1343	1077
Phosphorus	ppm	949	907	1037	856
Barium	ppm	0	0	0	0
Boron	ppm	7	9	9	7

Depot: OSCLAF
Unique No: 10952114
Signed: Jonathan Hester
Report Date: 05 Apr 2024

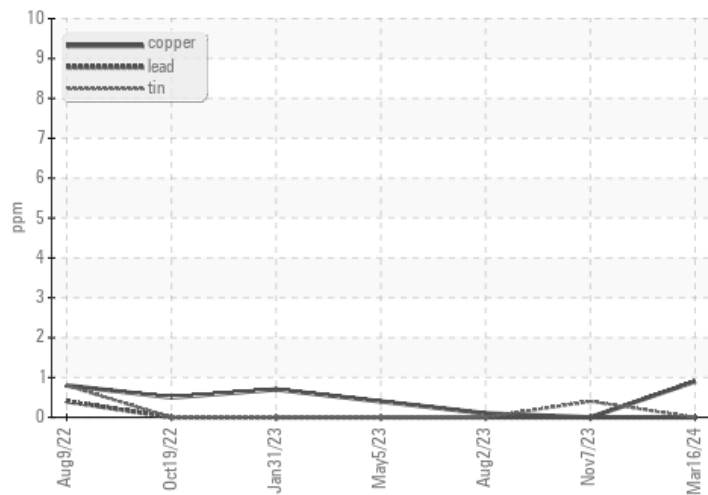


Graphs

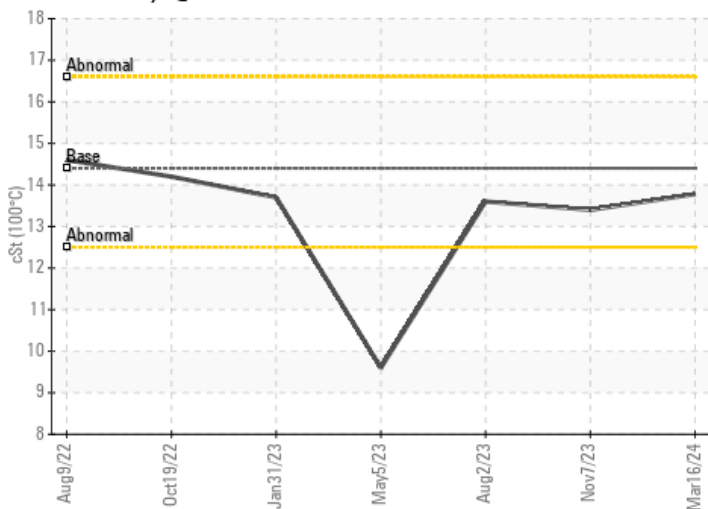
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

