

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A944 038730-194 - Diesel Engine

Sample No: LH0264401

Oil Type: DIESEL ENGINE OIL SAE 5W40



SAMPLE INFORMATION

Sample Number	LH0264401	LH0185262	LHMC040832	LHMC017445
Sample Date	28 Jun 2023	29 Jan 2021	11 Apr 2011	28 Jan 2009
Machine Hours	29970	27384	9337	2261
Oil Hours	0	0	80	0
Oil Changed	N/A	Changed	Changed	Not Changd
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

ALTER METAL

2080 SPINDT DR
WAUPACA, WI
US 54981
Contact: BRAD DORMADY
brad.dormady@altertrading.com
T:
F:



OIL CONDITION

Visc @ 100°C	cSt	14.7	14.3	13.81	14.1
Base Number (BN)	mg KOH/g	4.8	---	---	---
Oxidation (PA)	%	78	71	48	40



CONTAMINATION

Soot %	%	3.1	1.3	0.4	0.5
Nitration (PA)	%	106	78	42	42
Sulfation (PA)	%	85	67	47	39
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	4	2	7
Sodium	ppm	3	2	4	5
Potassium	ppm	7	0	2	5



WEAR METALS

Iron	ppm	24	13	13	24
Copper	ppm	6	2	11	41
Lead	ppm	8	0	1	0
Tin	ppm	<1	0	<1	0
Aluminum	ppm	<1	2	1	1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	6	10	<1	0
Nickel	ppm	0	0	<1	<1
Titanium	ppm	46	2	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	1936	2405	1994	1244
Magnesium	ppm	430	74	212	757
Zinc	ppm	1262	1142	1068	1212
Phosphorus	ppm	999	958	1426	1092
Barium	ppm	0	0	1	<1
Boron	ppm	44	94	8	5

Diagnosis

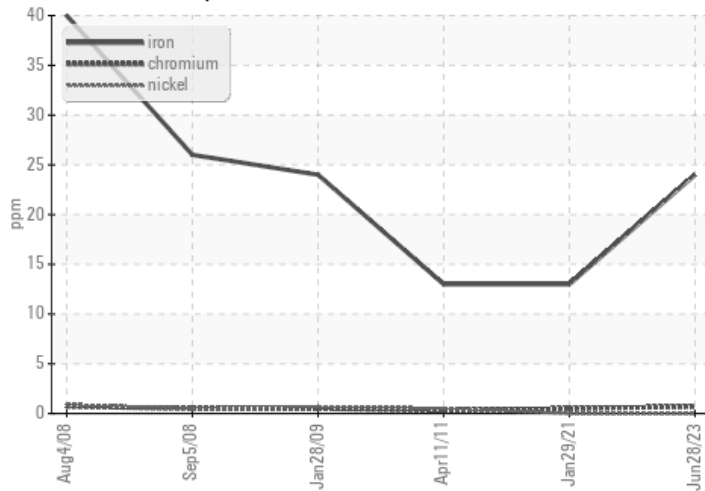
We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: ALTWAUWI
Unique No: 10546514
Signed: Jonathan Hester
Report Date: 06 Jul 2023

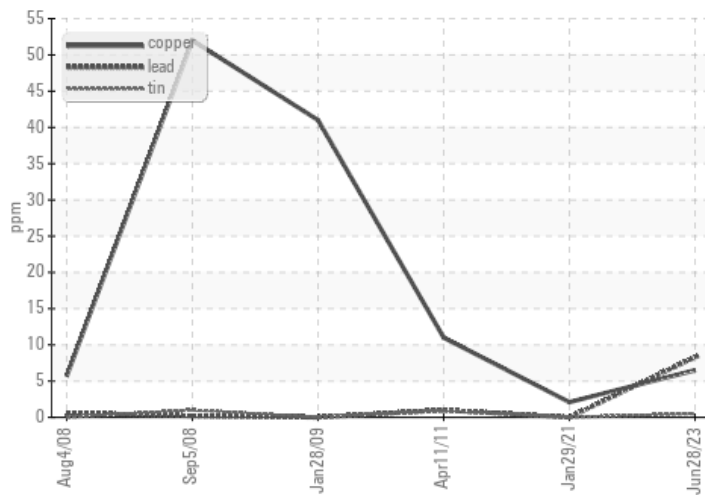


GRAPHS

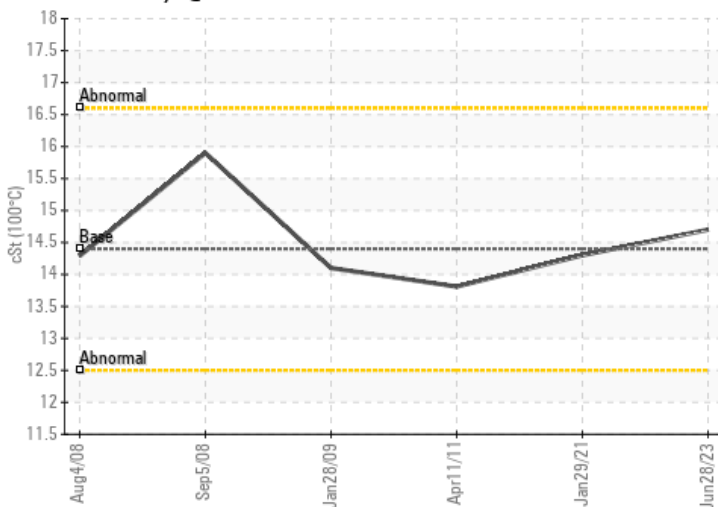
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

