

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH30 120113-1253 - Diesel Engine

Sample No: LH0264782

Oil Type: CHEVRON DELO LE 5W40



AMERICAN STATE EQUIPMENT CO.
 2400 NORTH 14TH AVENUE
 WAUSAU, WI
 US 54401
 Contact: CHRIS BARTNIK
 cbartnik@amstate.com
 T: (715)675-6900
 F: (715)675-9748



SAMPLE INFORMATION

Sample Number	LH0264782	LH0272494	LH0264320	LH0254038
Sample Date	21 Mar 2024	29 Dec 2023	27 Jul 2023	22 Mar 2023
Machine Hours	10009	9587	9001	8516
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	13.1	12.9	13.2	13.1
Base Number (BN)	mg KOH/g	7.0	6.4	6.8	6.9
Oxidation (PA)	%	58	62	57	59



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.2	0.2
Nitration (PA)	%	73	75	73	76
Sulfation (PA)	%	54	59	53	59
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	10	7	6	8
Sodium	ppm	1	0	<1	2
Potassium	ppm	2	4	4	3



WEAR METALS

Iron	ppm	3	4	6	5
Copper	ppm	4	5	7	4
Lead	ppm	0	<1	0	<1
Tin	ppm	0	<1	<1	<1
Aluminum	ppm	<1	1	2	1
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	5	7	15	4
Nickel	ppm	0	0	<1	<1
Titanium	ppm	84	88	51	88
Silver	ppm	0	0	0	0
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	1	<1	<1



ADDITIVES

Calcium	ppm	1432	1226	1111	1440
Magnesium	ppm	740	651	655	713
Zinc	ppm	1207	1097	1085	1278
Phosphorus	ppm	1025	1028	849	1047
Barium	ppm	0	10	0	0
Boron	ppm	117	77	55	110

Diagnosis

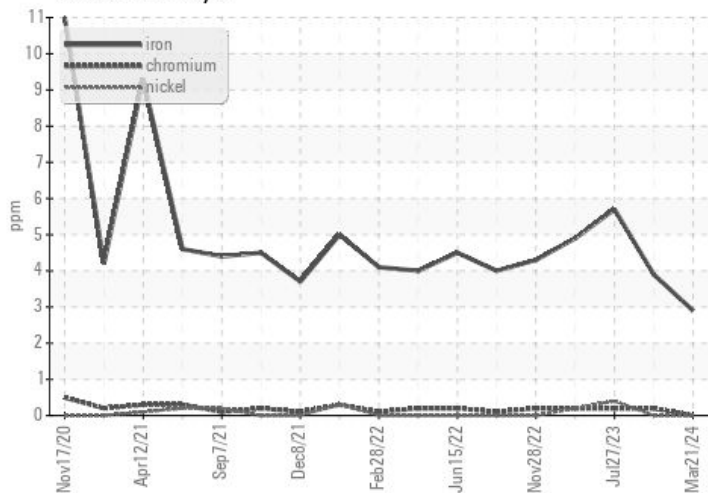
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LEC0008
 Unique No: 10954918
 Signed: Wes Davis
 Report Date: 02 Apr 2024

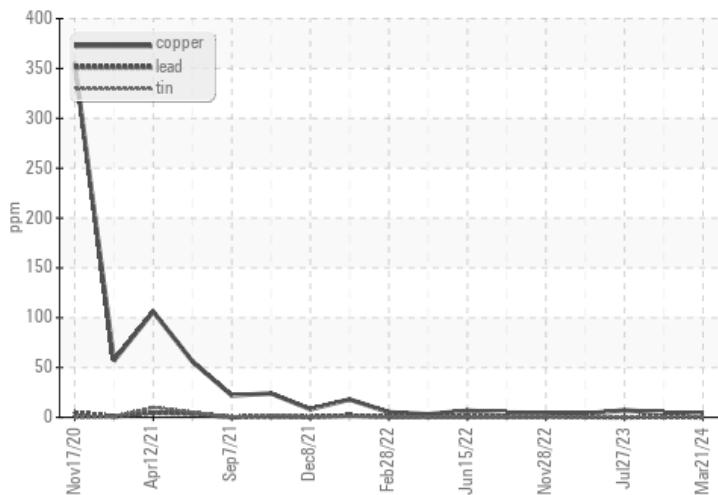


GRAPHS

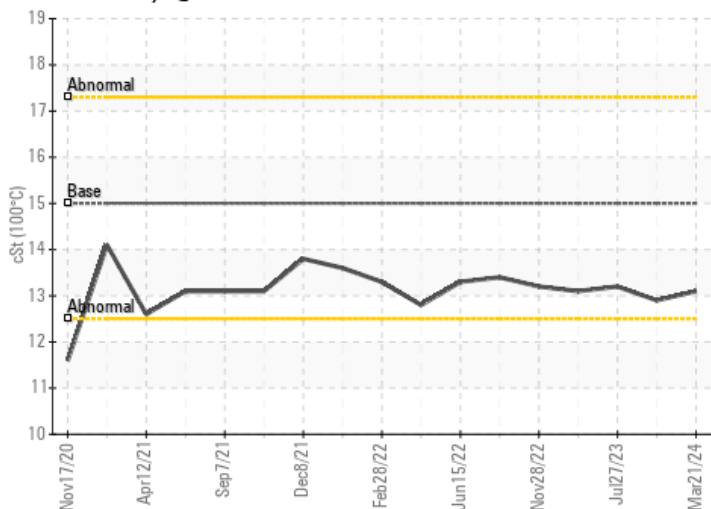
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

