

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A934C 064064-1007 - Diesel Engine

Sample No: LH0243356

Oil Type: CHEVRON DELO LE 5W40



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SAMPLE INFORMATION

Sample Number	LH0243356	LH0254817	LH0254034	LH0243214
Sample Date	02 Oct 2023	23 Jun 2023	28 Mar 2023	10 Jan 2023
Machine Hours	25481	24973	24487	24002
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	12.8	13.4	13.3	13.2
Base Number (BN)	mg KOH/g	5.9	6.4	6.8	6.3
Oxidation (PA)	%	63	67	61	63



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	2.5	2.2	2.1	2.4
Nitration (PA)	%	78	83	74	79
Sulfation (PA)	%	73	73	65	71
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	7	8	8
Sodium	ppm	3	5	10	5
Potassium	ppm	4	4	2	<1



WEAR METALS

Iron	ppm	21	23	24	18
Copper	ppm	1	2	2	2
Lead	ppm	<1	<1	0	<1
Tin	ppm	0	<1	0	0
Aluminum	ppm	2	0	1	1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	7	18	30	4
Nickel	ppm	<1	0	<1	0
Titanium	ppm	58	52	34	79
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	<1	<1



ADDITIVES

Calcium	ppm	1431	1419	1233	1492
Magnesium	ppm	578	681	740	549
Zinc	ppm	1181	1181	1172	1109
Phosphorus	ppm	914	923	928	904
Barium	ppm	0	0	0	0
Boron	ppm	33	39	28	65

Diagnosis

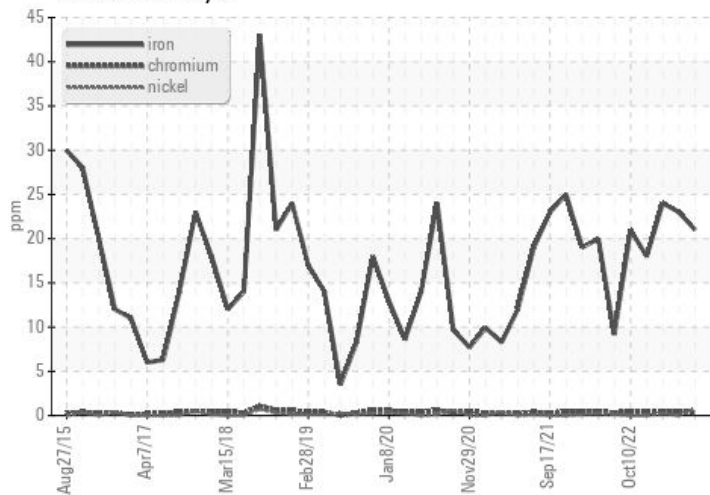
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LEC0008
 Unique No: 10686599
 Signed: Wes Davis
 Report Date: 11 Oct 2023

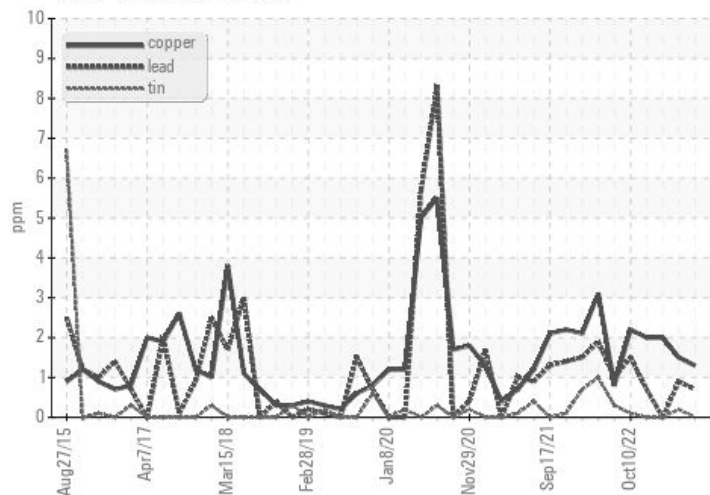


GRAPHS

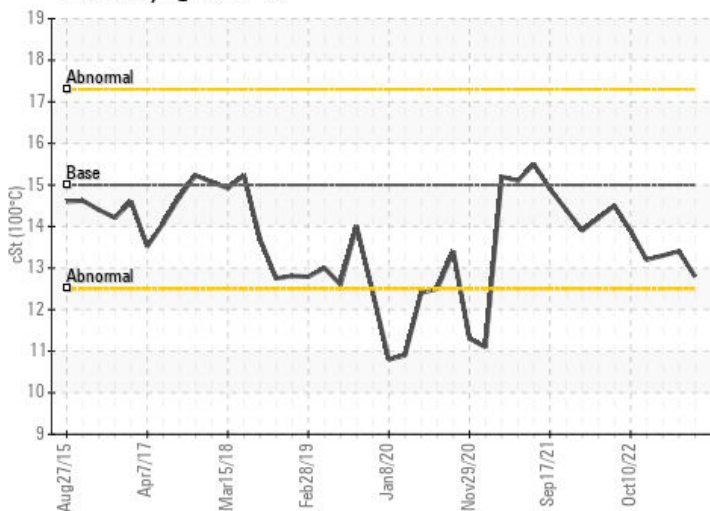
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

