

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A934C 064064-1007 - Diesel Engine

Sample No: LH0272765

Oil Type: CHEVRON DELO LE 5W40



SAMPLE INFORMATION

Sample Number	LH0272765	LH0243356	LH0254817	LH0254034
Sample Date	21 Dec 2023	02 Oct 2023	23 Jun 2023	28 Mar 2023
Machine Hours	25949	25481	24973	24487
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	10.3	12.8	13.4	13.3
Base Number (BN)	mg KOH/g	6.2	5.9	6.4	6.8
Oxidation (PA)	%	61	63	67	61

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. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	1.1	2.5	2.2	2.1
Nitration (PA)	%	59	78	83	74
Sulfation (PA)	%	67	73	73	65
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	0.5	<1.0	<1.0	<1.0
Silicon	ppm	6	7	7	8
Sodium	ppm	0	3	5	10
Potassium	ppm	4	4	4	2



WEAR METALS

Iron	ppm	15	21	23	24
Copper	ppm	3	1	2	2
Lead	ppm	<1	<1	<1	0
Tin	ppm	<1	0	<1	0
Aluminum	ppm	1	2	0	1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	3	7	18	30
Nickel	ppm	0	<1	0	<1
Titanium	ppm	45	58	52	34
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	<1	<1	<1	<1



ADDITIVES

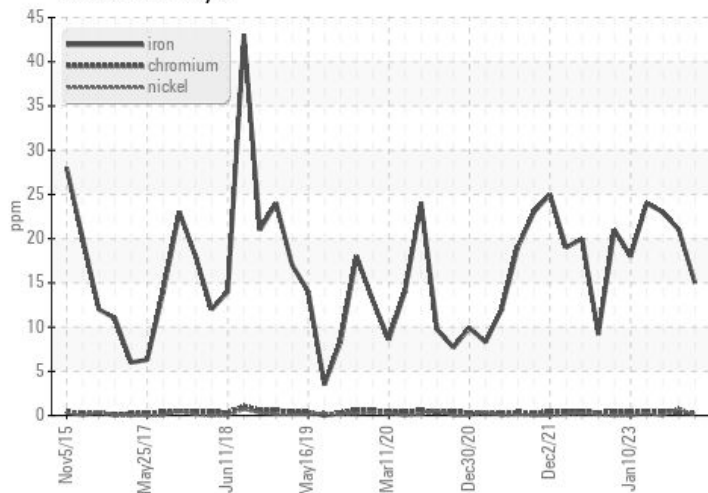
Calcium	ppm	1561	1431	1419	1233
Magnesium	ppm	320	578	681	740
Zinc	ppm	982	1181	1181	1172
Phosphorus	ppm	916	914	923	928
Barium	ppm	10	0	0	0
Boron	ppm	58	33	39	28

Depot: LEC0008
Unique No: 10818590
Signed: Jonathan Hester
Report Date: 09 Jan 2024

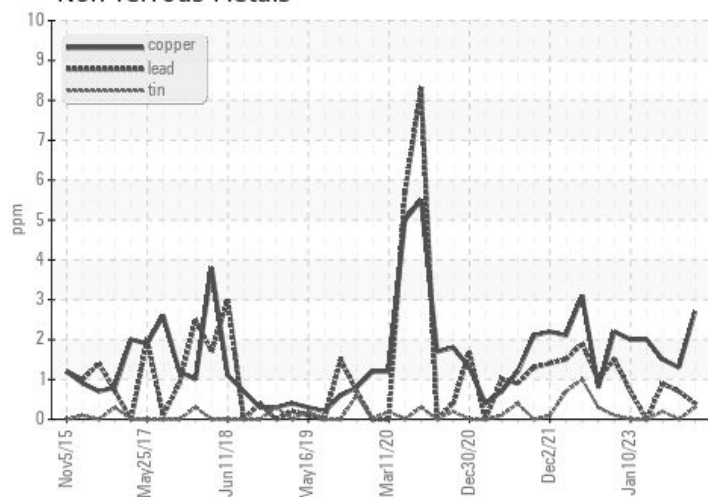


GRAPHS

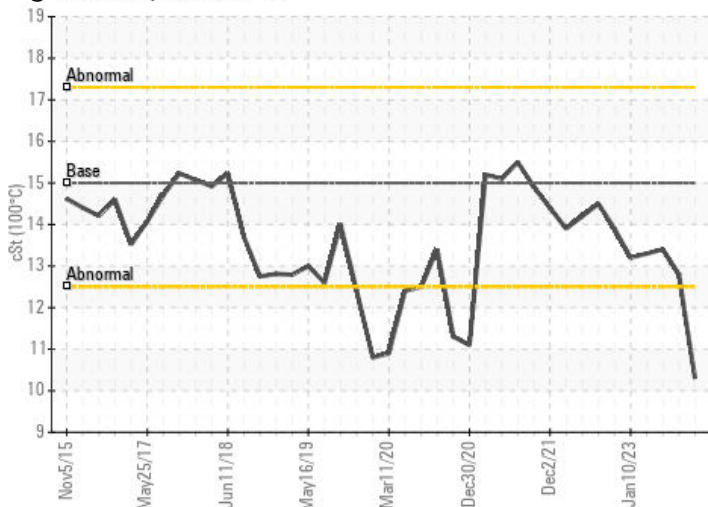
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

