

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 1216-109299 - Diesel Engine

Sample No: LH0264795

Oil Type: CHEVRON DELO LE 5W40



Sample Information

Sample Number	LH0264795	LH0272569	LH0263960	LH0263866
Sample Date	11 Apr 2024	19 Jan 2024	19 Oct 2023	27 Jul 2023
Machine Hours	9469	9018	8565	8027
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

ALTER METAL
2900 SHERMAN STREET
WAUSAU, WI
US 54401
Contact: Service Manager



Oil Condition

Visc @ 100°C	cSt	13.1	13.1	13.2	13.3
Base Number (BN)	mg KOH/g	7.1	6.9	6.8	7.1
Oxidation (PA)	%	57	58	55	57

T:
F:



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	72	71	72	73
Sulfation (PA)	%	54	55	53	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	10	8	8	7
Sodium	ppm	2	3	2	0
Potassium	ppm	4	3	4	3

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.



Wear Metals

Iron	ppm	6	5	4	4
Copper	ppm	2	<1	<1	<1
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	2	2	2	<1
Chromium	ppm	<1	0	<1	0
Molybdenum	ppm	6	6	9	17
Nickel	ppm	<1	0	<1	0
Titanium	ppm	97	83	86	73
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	0	<1
Vanadium	ppm	1	0	<1	<1



Additives

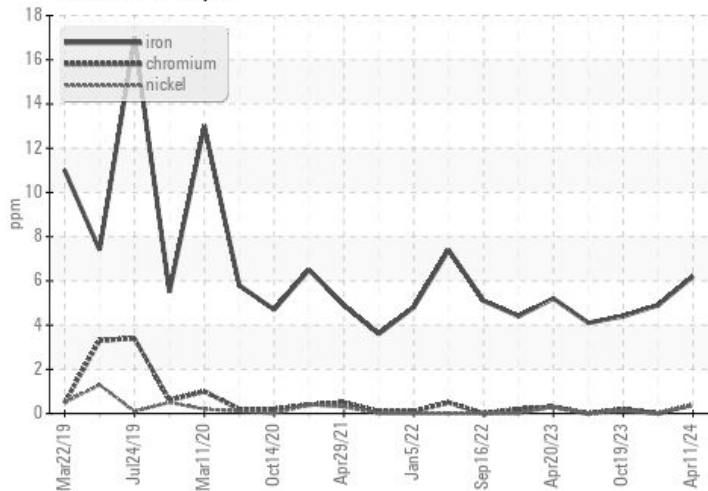
Calcium	ppm	1341	1314	1227	1352
Magnesium	ppm	711	682	685	722
Zinc	ppm	1179	1094	1169	1199
Phosphorus	ppm	1046	958	1009	984
Barium	ppm	0	0	0	0
Boron	ppm	128	105	87	69

Depot: ALTWAUUS
Unique No: 10990541
Signed: Wes Davis
Report Date: 22 Apr 2024

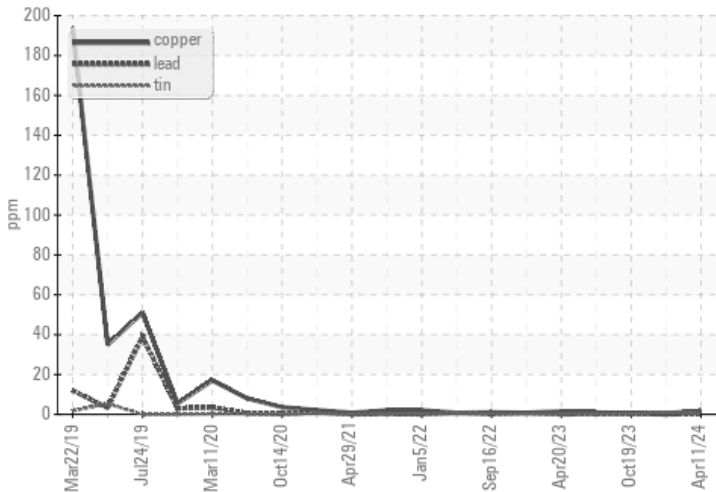


Graphs

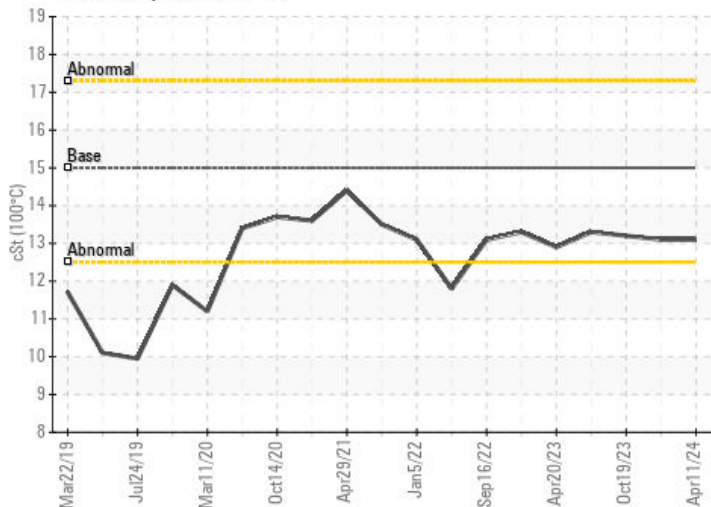
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

