

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50 1216-123739 - Diesel Engine

Sample No: LH0211664

Oil Type: DIESEL ENGINE OIL SAE 5W40



AHLSTROM-MUNKSJO NA SPECIALTY
 PO BOX 600
 KAUKAUNA, WI
 US 54130
 Contact: JOE SEITZ
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 T:
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SAMPLE INFORMATION

Sample Number	LH0211664	LH0211654	LH0211650	LH0211640
Sample Date	22 Sep 2023	09 Aug 2023	09 Jun 2023	28 Mar 2023
Machine Hours	9153	8617	7954	7200
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 100°C	cSt	11.9	12.9	13.1	13.3
Base Number (BN)	mg KOH/g	4.9	4.4	5.3	5.8
Oxidation (PA)	%	190	188	181	179



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	88	88	99	82
Sulfation (PA)	%	108	106	105	104
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	2.1	<1.0	<1.0	<1.0
Silicon	ppm	9	11	11	12
Sodium	ppm	1	<1	1	0
Potassium	ppm	2	1	<1	<1



WEAR METALS

Iron	ppm	1	3	3	0
Copper	ppm	1	2	<1	<1
Lead	ppm	1	4	0	0
Tin	ppm	<1	<1	0	0
Aluminum	ppm	2	2	7	<1
Chromium	ppm	0	0	0	0
Molybdenum	ppm	42	45	43	47
Nickel	ppm	<1	0	0	0
Titanium	ppm	0	<1	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	0	0
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	925	1078	1061	1047
Magnesium	ppm	794	937	904	831
Zinc	ppm	1145	1296	1310	1219
Phosphorus	ppm	925	1034	1024	1049
Barium	ppm	0	0	0	0
Boron	ppm	46	57	66	103

Diagnosis

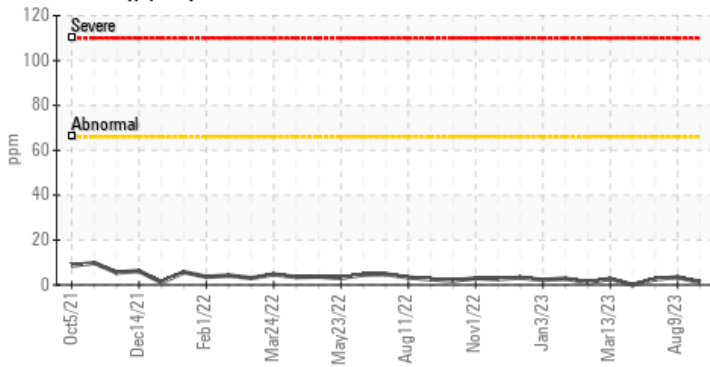
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Light fuel dilution occurring. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Depot: AHLKAU
 Unique No: 10686598
 Signed: Sean Felton
 Report Date: 13 Oct 2023

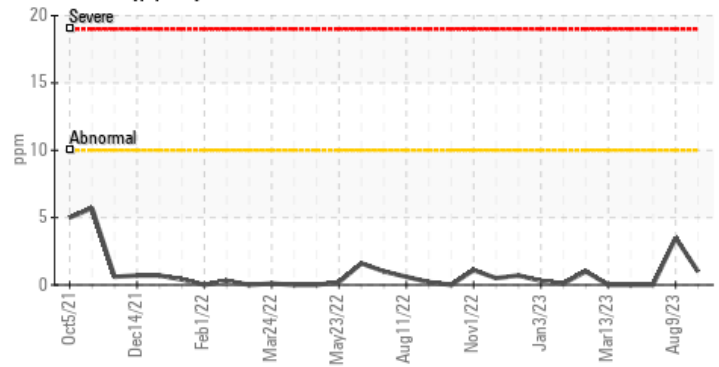


GRAPHS

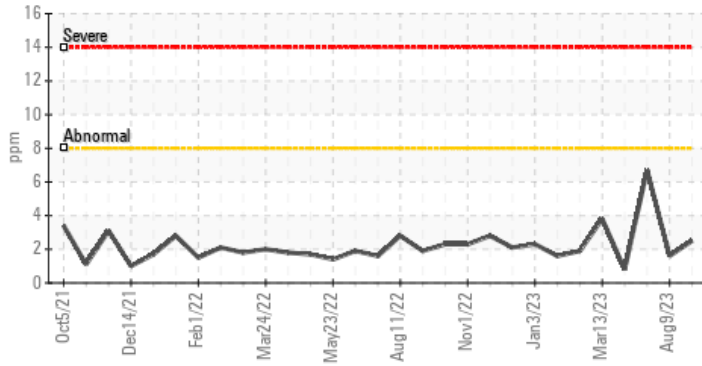
Iron (ppm)



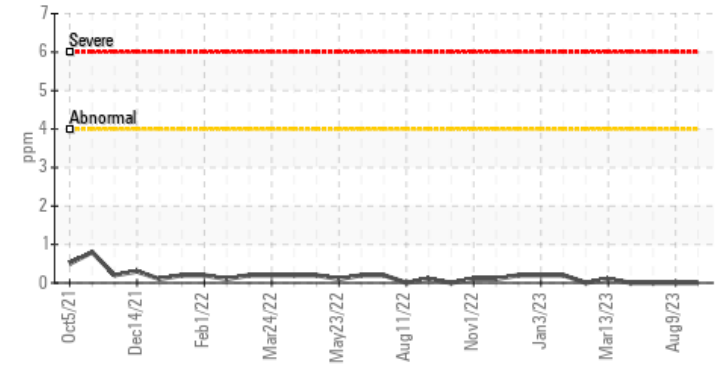
Lead (ppm)



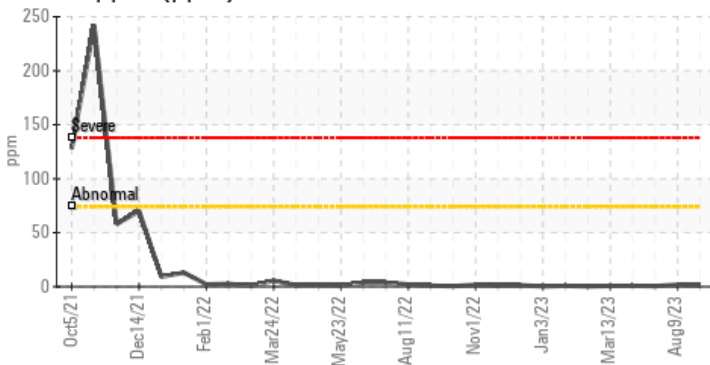
Aluminum (ppm)



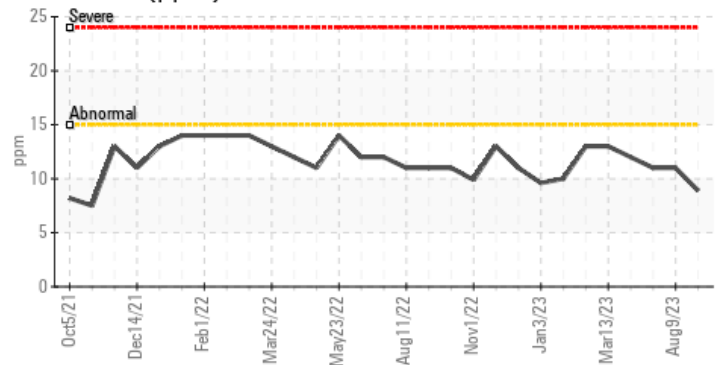
Chromium (ppm)



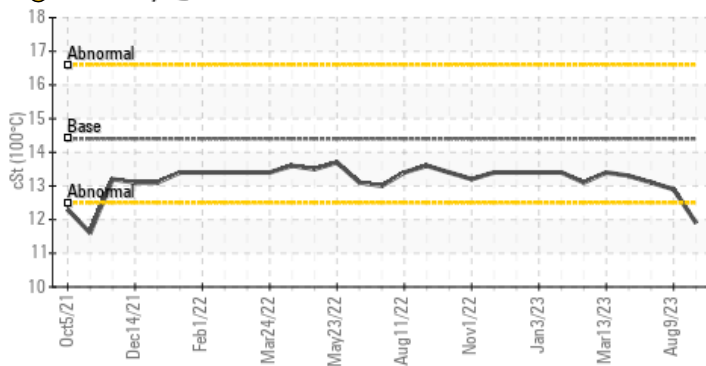
Copper (ppm)



Silicon (ppm)



● Viscosity @ 100°C



Base Number

