

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH110 1227-155752 - Diesel Engine

Sample No: LH0267550

Oil Type: DIESEL ENGINE OIL SAE 15W40



Sample Information

Sample Number	LH0267550	LH0280583	LH0258470	LH0280583
Sample Date	06 May 2024	18 Apr 2024	24 Mar 2024	19 Mar 2024
Machine Hours	2262	1980	1781	1544
Oil Hours	231	0	273	0
Oil Changed	Not Changd	Changed	Not Changd	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

KINDER MORGAN

4301 IVERSON

TRINITY, AL

US 35601

Contact: RICKY JOHNSON

ricky_johnson@kindermorgan.com

T:

F: (256)355-5250



Oil Condition

Visc @ 100°C	cSt	12.5	12.3	12.7	12.4
Base Number (BN)	mg KOH/g	7.3	6.9	7.5	6.8
Oxidation (PA)	%	61	67	62	71



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.2	0.1	0.1
Nitration (PA)	%	57	69	54	66
Sulfation (PA)	%	56	58	56	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	0.6	<1.0	<1.0
Silicon	ppm	10	10	8	11
Sodium	ppm	3	<1	<1	0
Potassium	ppm	3	3	2	2



Wear Metals

Iron	ppm	5	5	3	6
Copper	ppm	1	2	<1	3
Lead	ppm	<1	<1	0	1
Tin	ppm	<1	<1	0	1
Aluminum	ppm	4	2	3	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	83	84	83	89
Nickel	ppm	<1	<1	0	<1
Titanium	ppm	<1	<1	0	<1
Silver	ppm	1	0	0	0
Manganese	ppm	<1	<1	0	<1
Vanadium	ppm	<1	<1	0	<1



Additives

Calcium	ppm	1279	1341	1382	1350
Magnesium	ppm	397	413	401	404
Zinc	ppm	1097	1204	1204	1126
Phosphorus	ppm	921	1140	1084	999
Barium	ppm	1	<1	0	1
Boron	ppm	380	421	375	365

Diagnosis

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. 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: KINTRI

Unique No: 11048757

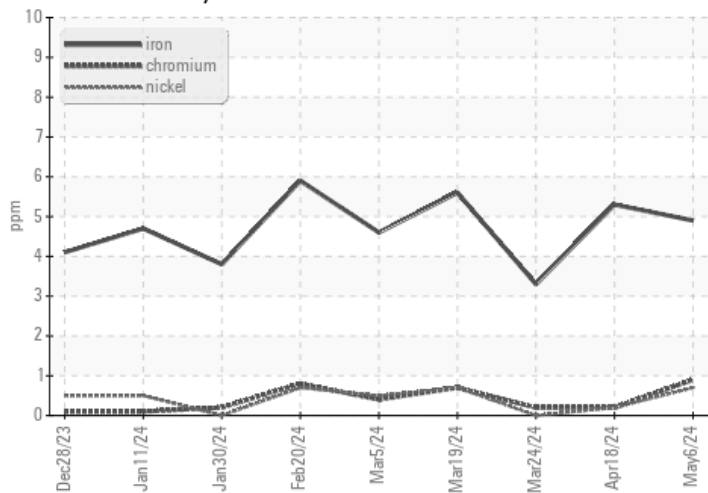
Signed: Wes Davis

Report Date: 29 May 2024

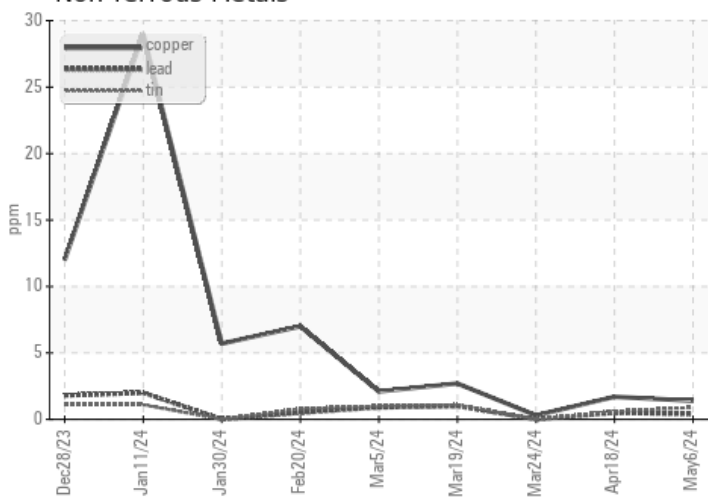


Graphs

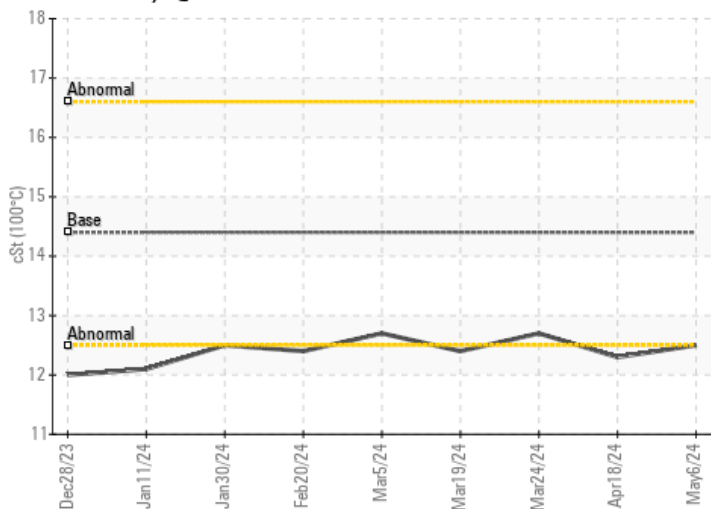
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

