

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH110 1227-155752 - Diesel Engine

Sample No: LH0280569  
 Oil Type: DIESEL ENGINE OIL SAE 15W40



**KINDER MORGAN**  
 4301 IVERSON  
 TRINITY, AL  
 US 35601  
 Contact: CHIP OAKES

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#### Diagnosis

Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. 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.



#### SAMPLE INFORMATION

Sample Number	LH0280569	LH0280561	LH0280558	---
Sample Date	30 Jan 2024	11 Jan 2024	28 Dec 2023	---
Machine Hours	863	507	277	---
Oil Hours	0	0	0	---
Oil Changed	Not Changd	Changed	Not Changd	---
Sample Status	NORMAL	ATTENTION	ATTENTION	---



#### OIL CONDITION

Visc @ 100°C	cSt	12.5	12.1	12.0	---
Base Number (BN)	mg KOH/g	7.2	5.6	6.2	---
Oxidation (PA)	%	75	180	197	---



#### CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	0.1	0.1	0.1	---
Nitration (PA)	%	62	88	87	---
Sulfation (PA)	%	61	101	107	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	1.2	1.3	---
Silicon	ppm	9	9	10	---
Sodium	ppm	0	3	3	---
Potassium	ppm	2	3	2	---



#### WEAR METALS

Iron	ppm	4	5	4	---
Copper	ppm	6	29	12	---
Lead	ppm	0	2	2	---
Tin	ppm	0	1	1	---
Aluminum	ppm	2	2	2	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	83	48	43	---
Nickel	ppm	0	<1	<1	---
Titanium	ppm	0	<1	<1	---
Silver	ppm	0	0	0	---
Manganese	ppm	0	<1	<1	---
Vanadium	ppm	0	0	0	---



#### ADDITIVES

Calcium	ppm	1235	1196	1200	---
Magnesium	ppm	478	771	818	---
Zinc	ppm	1131	853	801	---
Phosphorus	ppm	860	723	691	---
Barium	ppm	9	25	28	---
Boron	ppm	360	153	125	---

Depot: KINTRI  
 Unique No: 10863279  
 Signed: Wes Davis  
 Report Date: 06 Feb 2024



### GRAPHS

