



# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**LIEBHERR LH60M 149270-1217**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

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

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

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

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>DJJ0020513</b>	---	---
Sample Date	Client Info		<b>13 Nov 2023</b>	---	---
Machine Age	hrs	Client Info	<b>875</b>	---	---
Oil Age	hrs	Client Info	<b>0</b>	---	---
Oil Changed		Client Info	<b>N/A</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>&lt;1</b>	---	---
Chromium	ppm	ASTM D5185m >5	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >5	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m	<b>0</b>	---	---
Silver	ppm	ASTM D5185m >3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >15	<b>1</b>	---	---
Lead	ppm	ASTM D5185m >30	<b>0</b>	---	---
Copper	ppm	ASTM D5185m >125	<b>30</b>	---	---
Tin	ppm	ASTM D5185m >5	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	<b>2</b>	---	---
Barium	ppm	ASTM D5185m 10	<b>2</b>	---	---
Molybdenum	ppm	ASTM D5185m 100	<b>50</b>	---	---
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m 450	<b>852</b>	---	---
Calcium	ppm	ASTM D5185m 3000	<b>1040</b>	---	---
Phosphorus	ppm	ASTM D5185m 1150	<b>948</b>	---	---
Zinc	ppm	ASTM D5185m 1350	<b>1127</b>	---	---
Sulfur	ppm	ASTM D5185m 4250	<b>2694</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >60	<b>5</b>	---	---
Sodium	ppm	ASTM D5185m >158	<b>0</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>2</b>	---	---

## INFRA-RED

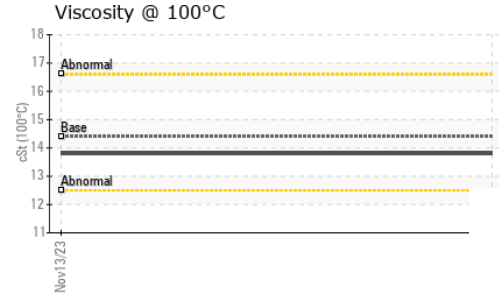
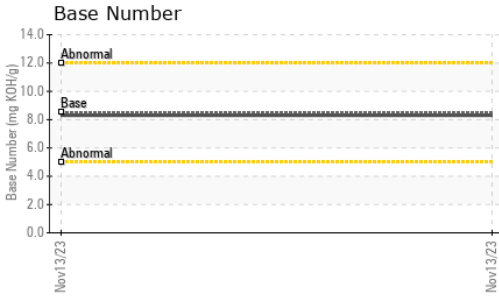
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.8</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.3</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.5</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>8.3</b>	---	---



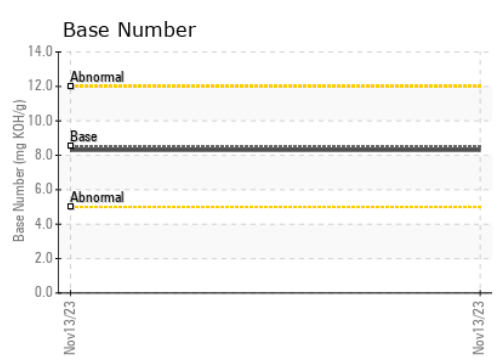
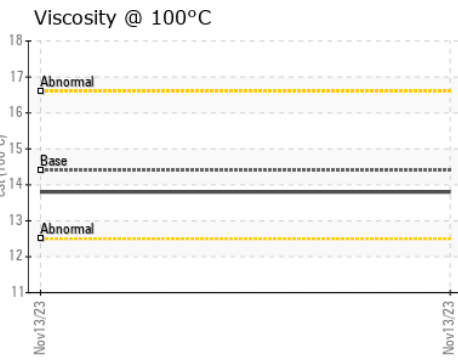
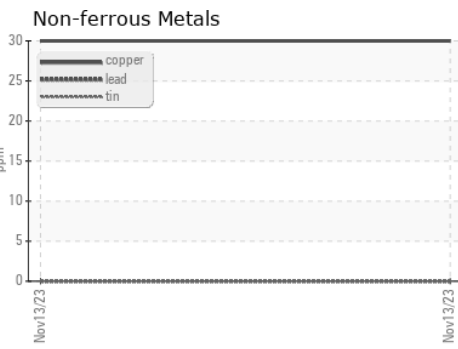
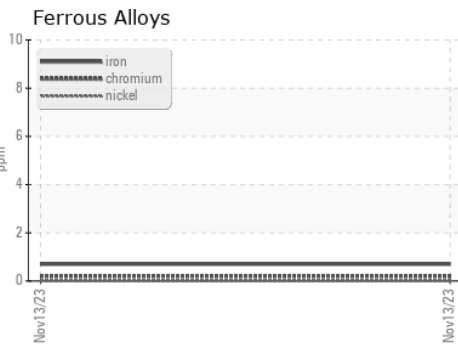
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	13.8	---	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0020513 **Received** : 16 Nov 2023  
**Lab Number** : 06010009 **Diagnosed** : 17 Nov 2023  
**Unique Number** : 10749153 **Diagnostician** : Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**TRADEMARK METALS RECYCLING - FORT MYERS**  
 3350 OLD METRO PKWY  
 FORT MYERS, FL  
 US 33916  
 Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: