

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR R936LC 042165-1148 - Diesel Engine

Sample No: LH0135489

Oil Type: DIESEL ENGINE OIL SAE 15W40



**MOOREFIELD EXCAVATING LTD.**  
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#### Sample Information

Sample Number	LH0135489	LH0135533	LH0135511	---
Sample Date	04 Apr 2024	12 Aug 2020	03 Mar 2020	---
Machine Hours	8036	3416	2873	---
Oil Hours	0	0	0	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---



#### Oil Condition

Visc @ 100°C	cSt	14.2	15.0	14.9	---
Oxidation (PA)	%	60	69	68	---



#### Contamination

Water	%	NEG	NEG	NEG	---
Soot %	%	1.1	0.8	0.6	---
Nitration (PA)	%	80	89	92	---
Sulfation (PA)	%	58	63	71	---
Glycol	%	0.0	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	10	9	12	---
Sodium	ppm	63	4	6	---
Potassium	ppm	24	4	6	---



#### Wear Metals

Iron	ppm	41	19	19	---
Copper	ppm	11	6	7	---
Lead	ppm	1	1	<1	---
Tin	ppm	<1	<1	<1	---
Aluminum	ppm	7	4	5	---
Chromium	ppm	1	<1	1	---
Molybdenum	ppm	65	1	<1	---
Nickel	ppm	<1	<1	<1	---
Titanium	ppm	<1	88	96	---
Silver	ppm	0	<1	<1	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	0	<1	<1	---



#### Additives

Calcium	ppm	1206	1735	1781	---
Magnesium	ppm	853	424	428	---
Zinc	ppm	1185	1225	1214	---
Phosphorus	ppm	1000	971	1035	---
Barium	ppm	<1	<1	<1	---
Boron	ppm	3	53	71	---

#### 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 condition of the oil is acceptable for the time in service.

Depot: MOOPAL  
 Unique No: 5762247  
 Signed: Wes Davis  
 Report Date: 16 Apr 2024



### Graphs

