

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR R936LC 048600-1490 - Diesel Engine

Sample No: LH0288282

Oil Type: LIEBHERR MOTOROIL 5W30



#### Sample Information

Sample Number	LH0288282	LH0265581	LH0186314	LH0177989
Sample Date	15 Apr 2024	06 Sep 2023	11 Jun 2021	23 Oct 2020
Machine Hours	2927	2493	1641	1027
Oil Hours	0	0	0	0
Oil Changed	Not Chngd	Changed	Changed	Changed
Sample Status	NORMAL	ABNORMAL	NORMAL	NORMAL

**COLOURED AGGREGATES INC.**  
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#### Oil Condition

Visc @ 100°C	cSt	13.5	12.0	11.9	12.1
Oxidation (PA)	%	59	69	91	164



#### Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	58	68	80	83
Sulfation (PA)	%	51	53	66	96
Glycol	%	NEG	NEG	NEG	0.0
Fuel	%	<1.0	1	<1.0	0.4
Silicon	ppm	6	7	8	8
Sodium	ppm	2	4	4	4
Potassium	ppm	0	<1	<1	2

#### Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.



#### Wear Metals

Iron	ppm	4	4	8	17
Copper	ppm	3	3	63	271
Lead	ppm	0	<1	2	9
Tin	ppm	0	0	<1	1
Aluminum	ppm	1	<1	2	2
Chromium	ppm	0	<1	<1	1
Molybdenum	ppm	59	60	53	50
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	0	<1	1
Vanadium	ppm	0	0	0	0



#### Additives

Calcium	ppm	1026	928	1142	1452
Magnesium	ppm	1000	1025	999	776
Zinc	ppm	1176	1213	1284	991
Phosphorus	ppm	1010	1088	990	752
Barium	ppm	<1	<1	6	37
Boron	ppm	5	45	33	48

Depot: COL158AUR  
 Unique No: 5762588  
 Signed: Wes Davis  
 Report Date: 17 Apr 2024



### Graphs

