

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### [(336341)] 048022-1476 - Diesel Engine

Sample No: LH0227627

Oil Type: TOTAL RUBIA OPTIMA 1100 FE 10W30



#### Sample Information

Sample Number	LH0227627	LH0251817	LH0215997	LH0182735
Sample Date	08 May 2024	09 Mar 2023	21 Apr 2022	05 Nov 2021
Machine Hours	4352	2959	2051	1637
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

#### American Iron and Metal

75 Steel City Court  
Hamilton, ON  
CA L8H 3Y2  
Contact: AP Maintenance  
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T:  
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#### Oil Condition

Visc @ 100°C	cSt	11.0	11.4	11.2	11.1
Oxidation (PA)	%	59	54	71	34



#### Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	71	58	87	40
Sulfation (PA)	%	52	56	65	42
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	8	6	8
Sodium	ppm	2	2	2	3
Potassium	ppm	1	<1	4	8

#### 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.



#### Wear Metals

Iron	ppm	2	1	5	8
Copper	ppm	<1	<1	5	10
Lead	ppm	0	0	<1	1
Tin	ppm	0	0	<1	<1
Aluminum	ppm	2	2	3	6
Chromium	ppm	0	0	<1	<1
Molybdenum	ppm	85	77	88	91
Nickel	ppm	0	<1	0	<1
Titanium	ppm	0	<1	0	0
Silver	ppm	0	0	<1	<1
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	<1



#### Additives

Calcium	ppm	2104	1883	2175	2194
Magnesium	ppm	63	239	28	38
Zinc	ppm	1115	1118	1170	1210
Phosphorus	ppm	986	1061	1050	1057
Barium	ppm	0	0	<1	1
Boron	ppm	50	51	39	22

Depot: AMEHAM  
Unique No: 5775428  
Signed: Wes Davis  
Report Date: 09 May 2024



### Graphs

