

LIEBHERR

CONSTRUCTION EQUIPMENT



092696 - Diesel Engine

Sample No: LH0274561

Oil Type: TOTAL FINA RUBIA TIR 7900 FE 10W30



SAMPLE INFORMATION

Sample Number	LH0274561	LH0247226	LH0247479	LH0239172
Sample Date	05 Sep 2023	05 Apr 2023	22 Dec 2022	08 Sep 2022
Machine Hours	13109	12387	11804	11186
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

American Iron and Metal

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OIL CONDITION

Visc @ 100°C	cSt	14.0	12.6	14.8	14.8
Oxidation (PA)	%	73	85	76	65



CONTAMINATION

Soot %	%	1.8	1.8	2.7	2
Nitration (PA)	%	98	107	109	93
Sulfation (PA)	%	69	76	75	70
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	4	5	5	5
Sodium	ppm	2	6	4	5
Potassium	ppm	<1	<1	0	0



WEAR METALS

Iron	ppm	20	28	28	21
Copper	ppm	2	1	1	1
Lead	ppm	<1	<1	<1	<1
Tin	ppm	0	<1	0	<1
Aluminum	ppm	1	2	3	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	58	61	58	63
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1018	911	1125	1256
Magnesium	ppm	967	1107	939	900
Zinc	ppm	1168	1222	1167	1192
Phosphorus	ppm	1026	1100	1049	1088
Barium	ppm	0	0	0	0
Boron	ppm	3	16	2	2

Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as TOTAL FINA RUBIA TIR 7900 FE 10W30, however, a fluid match indicates that this fluid is SAE 40 Diesel Engine Oil. Please confirm the oil type and grade on your next sample. All component wear rates are normal. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Depot: AMEHAM
Unique No: 5633686
Signed: Kevin Marson
Report Date: 06 Sep 2023



GRAPHS

