

LIEBHERR

CONSTRUCTION EQUIPMENT



[LIEBHERR] LIEBHERR A934C 047120-1006 - Diesel Engine

Sample No: LHMC160598

Oil Type: VALVOLINE 15W40



METAL RECYCLING SERVICES - GASTONIA
 5401 S YORK HWY
 GASTONIA, NC
 US 28052
 Contact: RYAN BOWDEN

T:
 F: (704)864-9863

Diagnosis

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN level is low. The condition of the oil is acceptable for the time in service.



SAMPLE INFORMATION

Sample Number	LHMC160598	DJJ0011005	DJJ0000916	DJJ0000837
Sample Date	11 Jul 2023	09 Sep 2021	20 Apr 2021	13 Nov 2019
Machine Hours	13911	13141	12950	11780
Oil Hours	250	250	250	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	SEVERE	SEVERE	ABNORMAL



OIL CONDITION

Visc @ 100°C	cSt	16.5	19.0	20.1	16.1
Base Number (BN)	mg KOH/g	3.2	---	---	---
Oxidation (PA)	%	108	104	139	102



CONTAMINATION

Soot %	%	3.8	7.2	8.1	4.4
Nitration (PA)	%	133	147	178	116
Sulfation (PA)	%	98	103	120	93
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	10	8	7	8
Sodium	ppm	0	1	1	2
Potassium	ppm	2	0	2	0



WEAR METALS

Iron	ppm	20	13	18	23
Copper	ppm	4	<1	4	7
Lead	ppm	2	<1	2	<1
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	4	1	1	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	99	10	8	80
Nickel	ppm	<1	0	<1	<1
Titanium	ppm	<1	3	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	2361	2330	1729	1804
Magnesium	ppm	60	65	38	463
Zinc	ppm	1269	1075	768	1030
Phosphorus	ppm	1080	941	666	837
Barium	ppm	0	0	0	0
Boron	ppm	65	10	14	111

Depot: METGAS
 Unique No: 10552502
 Signed: Don Baldrige
 Report Date: 14 Jul 2023

LIEBHERR

CONSTRUCTION EQUIPMENT



GRAPHS

