

LIEBHERR

CONSTRUCTION EQUIPMENT



061467-1007 - Diesel Engine

Sample No: LH0237702

Oil Type: PETRO CANADA 10W40



SAMPLE INFORMATION

Sample Number	LH0237702	LH0242296	LH0130167	LH0105763
Sample Date	23 Oct 2023	03 Nov 2022	06 Aug 2018	06 Oct 2016
Machine Hours	18659	17844	12577	8864
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	MARGINAL	NORMAL	ABNORMAL

American Iron and Metal

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OIL CONDITION

Visc @ 40°C	cSt	---	---	---	58.4
Visc @ 100°C	cSt	13.6	12.2	13.2	8.9
Viscosity Index (VI)	Scale	---	---	---	129
Oxidation (PA)	%	66	80	67	56

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.



CONTAMINATION

Soot %	%	1.8	2.3	1.2	0.4
Nitration (PA)	%	80	93	74	56
Sulfation (PA)	%	67	83	63	68
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	0.7	<1.0	0.0
Silicon	ppm	6	5	5	4
Sodium	ppm	2	4	2	3
Potassium	ppm	2	2	<1	0



WEAR METALS

Iron	ppm	24	35	22	30
Copper	ppm	17	64	2	7
Lead	ppm	3	10	2	3
Tin	ppm	<1	<1	0	<1
Aluminum	ppm	3	3	1	<1
Chromium	ppm	<1	<1	<1	2
Molybdenum	ppm	56	36	64	2
Nickel	ppm	<1	<1	0	0
Titanium	ppm	0	<1	<1	<1
Silver	ppm	<1	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1321	1200	1104	1098
Magnesium	ppm	933	815	1038	30
Zinc	ppm	1314	1181	1300	694
Phosphorus	ppm	1063	1030	1064	565
Barium	ppm	0	0	0	<1
Boron	ppm	10	11	3	<1

Depot: BAKOTT
Unique No: 5668342
Signed: Kevin Marson
Report Date: 24 Oct 2023



GRAPHS

