

LIEBHERR

CONSTRUCTION EQUIPMENT



24016 - Diesel Engine

Sample No: LH0104286

Oil Type: PETRO CANADA 10W40



SAMPLE INFORMATION

Sample Number	LH0104286	LH0216224	LH0234756	LH0195715
Sample Date	10 Oct 2023	21 Apr 2023	25 Jul 2022	19 Apr 2022
Machine Hours	20995	20510	19901	19731
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	12.6	11.5	13.4	13.0
Oxidation (PA)	%	57	71	41	76



CONTAMINATION

Soot %	%	0.3	0.4	0.1	1.1
Nitration (PA)	%	58	83	40	100
Sulfation (PA)	%	52	55	46	76
Glycol	%	NEG	0.0	NEG	NEG
Fuel	%	<1.0	0.9	<1.0	<1.0
Silicon	ppm	6	8	6	9
Sodium	ppm	18	31	2	4
Potassium	ppm	8	13	<1	2

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	12	16	8	36
Copper	ppm	2	1	1	3
Lead	ppm	1	<1	2	3
Tin	ppm	0	<1	<1	<1
Aluminum	ppm	2	2	2	4
Chromium	ppm	<1	<1	<1	1
Molybdenum	ppm	62	62	58	95
Nickel	ppm	<1	<1	0	<1
Titanium	ppm	0	<1	<1	0
Silver	ppm	<1	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1090	994	1207	2247
Magnesium	ppm	994	1065	904	162
Zinc	ppm	1234	1219	1168	1301
Phosphorus	ppm	1018	1089	984	1095
Barium	ppm	<1	0	0	0
Boron	ppm	3	18	3	20

Depot: AMEHAM
Unique No: 5657956
Signed: Kevin Marson
Report Date: 16 Oct 2023



GRAPHS

