

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR L586 033192 - Diesel Engine

Sample No: LH0277519

Oil Type: PETRO CANADA 10W40



Sample Information

Sample Number	LH0277519	LH0276124	LH0256979	LH0239362
Sample Date	20 Nov 2023	14 Sep 2023	06 Mar 2023	30 Sep 2022
Machine Hours	19190	18717	17487	16970
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION

WATERFORD SAND & GRAVEL
 10546 ON-3
 WAINFLEET, ON
 CA L0S 1V0
 Contact: Service Manager



Oil Condition

Visc @ 40°C	cSt	---	---	---	87
Visc @ 100°C	cSt	14.2	14.3	14.0	13.5
Viscosity Index (VI)	Scale	---	---	---	157
Oxidation (PA)	%	60	61	59	115

T:
F:

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

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.9	1.2	0.7	0
Nitration (PA)	%	64	69	66	29
Sulfation (PA)	%	58	58	62	121
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	4	5	5	5
Sodium	ppm	2	1	2	<1
Potassium	ppm	<1	<1	0	<1



Wear Metals

Iron	ppm	12	15	15	23
Copper	ppm	<1	1	<1	<1
Lead	ppm	<1	1	<1	<1
Tin	ppm	0	0	<1	0
Aluminum	ppm	2	2	2	<1
Chromium	ppm	0	<1	0	0
Molybdenum	ppm	49	60	61	<1
Nickel	ppm	0	<1	<1	0
Titanium	ppm	0	0	<1	0
Silver	ppm	<1	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	1385	1068	1152	32
Magnesium	ppm	714	1006	974	5
Zinc	ppm	1180	1215	1215	107
Phosphorus	ppm	996	1088	1109	1196
Barium	ppm	<1	0	0	0
Boron	ppm	24	1	2	215

Depot: WATWAI
 Unique No: 5682918
 Signed: Kevin Marson
 Report Date: 22 Nov 2023



Graphs

