

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR HS8100HD 184996 - Diesel Engine

Sample No: LH0289340

Oil Type: PETRO CANADA SUPREME 5W30



Sample Information

Sample Number	LH0289340	LH0284978	LH0256990	LH0251623
Sample Date	14 Jun 2024	26 Jan 2024	07 Sep 2023	13 Jan 2023
Machine Hours	13040	12043	11071	9355
Oil Hours	0	0	0	0
Oil Changed	N/A	N/A	N/A	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	ATTENTION

HIGGS & HIGGS

RR # 4

ST THOMAS, ON

CA N5P 3S8

Contact: Bernie Higgs



Oil Condition

Visc @ 40°C	cSt	84.6	---	---	---
Visc @ 100°C	cSt	13.3	12.4	12.9	13.5
Viscosity Index (VI)	Scale	158	---	---	---
Oxidation (PA)	%	125	108	106	126

T: (519)631-4095

F: (519)631-2745



Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	137	100	98	127
Sulfation (PA)	%	80	66	68	78
Glycol	%	0.0	NEG	0.0	0.0
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	16	6	6	15
Sodium	ppm	927	44	151	973
Potassium	ppm	30	2	5	63

Diagnosis

We advise that you check for faulty combustion and a possible overheat condition. Check for low coolant level. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. There is no indication of any contamination in the oil. A small degree of oil oxidation was indicated. Viscosity of sample indicates oil is within SAE 5W40 range, advise investigate. The oil is no longer serviceable. The condition of the oil is acceptable for the time in service (see recommendation).



Wear Metals

Iron	ppm	7	6	7	9
Copper	ppm	<1	1	2	4
Lead	ppm	0	0	<1	3
Tin	ppm	0	<1	0	<1
Aluminum	ppm	1	1	1	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	144	64	63	78
Nickel	ppm	0	<1	0	0
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	0	<1	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	862	849	879	995
Magnesium	ppm	1037	1144	1199	990
Zinc	ppm	1178	1206	1294	1124
Phosphorus	ppm	853	1001	1108	895
Barium	ppm	<1	0	0	0
Boron	ppm	14	27	20	22

Depot: HIGSTT

Unique No: 5800038

Signed: Kevin Marson

Report Date: 19 Jun 2024



Graphs

