

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR HS895HD 188297 - Diesel Engine

Sample No: LH0277003

Oil Type: PETRO CANADA 10W40



**Harbor Development Inc**  
 300 Union Street, Po Box 57777  
 Saint John, NB  
 CA E2L 5B6  
 Contact: Service Manager



#### Sample Information

Sample Number	LH0277003	LH0183396	LH0183537	LH0180384
Sample Date	01 Nov 2023	29 Jan 2021	20 Nov 2020	21 Sep 2020
Machine Hours	15287	5501	4454	0
Oil Hours	0	0	0	0
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



#### Oil Condition

Visc @ 100°C	cSt	12.6	12.4	12.5	13.0
Oxidation (PA)	%	74	67	65	60

T:  
F:



#### Contamination

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.9	0.5	0.4	0.3
Nitration (PA)	%	86	74	72	60
Sulfation (PA)	%	59	55	53	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	3	3	3	2
Sodium	ppm	2	2	2	<1
Potassium	ppm	<1	3	<1	<1

#### 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	30	25	20	16
Copper	ppm	3	3	3	4
Lead	ppm	<1	<1	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	3	2	2	1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	60	60	60	61
Nickel	ppm	<1	<1	<1	0
Titanium	ppm	0	0	0	<1
Silver	ppm	<1	0	<1	<1
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



#### Additives

Calcium	ppm	1068	1059	1040	1070
Magnesium	ppm	973	987	991	1005
Zinc	ppm	1232	1299	1276	1275
Phosphorus	ppm	965	1024	1030	1083
Barium	ppm	<1	<1	<1	<1
Boron	ppm	1	5	6	3

**Depot:** HAR300SAI  
**Unique No:** 5672364  
**Signed:** Bill Quesnel  
**Report Date:** 10 Nov 2023



### Graphs

