

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### [(340369)] LIEBHERR R920 045718-1705 - Diesel Engine

Sample No: LH0274845

Oil Type: PETRO CANADA 10W40



#### SAMPLE INFORMATION

Sample Number	LH0274845	LH0247507	LH0251813	LH0242546
Sample Date	06 Oct 2023	24 Jun 2023	14 Mar 2023	03 Nov 2022
Machine Hours	4924	4406	0	3329
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**CLOUTHIER VENTURES LTD.**  
 59 MATTHEWS STREET, R.R. # 5  
 PEMBROKE, ON  
 CA K8A 0A6  
 Contact: Travis Bennett  
 tbennett@clouthierconst.com  
 T: (613)735-6531  
 F: (613)735-2769



#### OIL CONDITION

Visc @ 100°C	cSt	13.6	12.2	12.6	14.2
Oxidation (PA)	%	67	81	89	75



#### CONTAMINATION

Soot %	%	0	0	0	0
Nitration (PA)	%	68	88	88	76
Sulfation (PA)	%	56	63	69	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	23	8	22
Sodium	ppm	2	5	5	3
Potassium	ppm	0	<1	0	0

#### 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	10	12	11	11
Copper	ppm	1	2	2	4
Lead	ppm	<1	<1	<1	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	1	2	2	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	58	61	58	57
Nickel	ppm	0	0	0	0
Titanium	ppm	7	4	8	4
Silver	ppm	<1	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



#### ADDITIVES

Calcium	ppm	1186	965	1101	1225
Magnesium	ppm	964	1137	1100	929
Zinc	ppm	1267	1273	1316	1221
Phosphorus	ppm	1037	1112	1166	1098
Barium	ppm	<1	0	0	0
Boron	ppm	12	33	44	8

Depot: CLOPEM  
 Unique No: 5657607  
 Signed: Kevin Marson  
 Report Date: 12 Oct 2023



### GRAPHS

