

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR R924 041668-1318 - Diesel Engine

Sample No: LH0135479

Oil Type: PETRO CANADA 10W30



**Norstone Excavating**  
 2239 - 165 Street  
 Surrey, BC  
 CA V3Z 0L8  
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#### SAMPLE INFORMATION

Sample Number	LH0135479	LH	LH	LH
Sample Date	26 Sep 2023	06 Oct 2021	21 Jan 2021	21 Jan 2021
Machine Hours	3700	2520	2000	985
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



#### OIL CONDITION

Visc @ 100°C	cSt	13.3	13.6	11.6	13.5
Oxidation (PA)	%	60	61	61	64



#### CONTAMINATION

Soot %	%	0.2	0.1	0.1	0.2
Nitration (PA)	%	66	63	79	70
Sulfation (PA)	%	52	56	55	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	0.8	<1.0
Silicon	ppm	8	8	8	8
Sodium	ppm	2	1	3	2
Potassium	ppm	0	<1	3	<1



#### WEAR METALS

Iron	ppm	18	9	11	19
Copper	ppm	7	35	145	26
Lead	ppm	1	2	5	4
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	<1	1	2	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	60	56	10	57
Nickel	ppm	<1	<1	<1	<1
Titanium	ppm	0	0	<1	0
Silver	ppm	<1	<1	<1	<1
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



#### ADDITIVES

Calcium	ppm	1074	1076	1293	1032
Magnesium	ppm	977	1000	789	960
Zinc	ppm	1203	1208	877	1218
Phosphorus	ppm	998	1036	722	947
Barium	ppm	<1	0	<1	<1
Boron	ppm	2	3	35	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. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Depot: NORSUR  
 Unique No: 5656118  
 Signed: Kevin Marson  
 Report Date: 05 Oct 2023



### GRAPHS

