

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR A934 044096 - Diesel Engine

Sample No: LH0284132

Oil Type: PETRO CANADA 10W40



#### SAMPLE INFORMATION

Sample Number	LH0284132	LH0260488	LH0226693	LH0173120
Sample Date	15 Feb 2024	20 Jun 2023	26 Apr 2022	24 Jun 2020
Machine Hours	29318	28300	26071	22582
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	SEVERE	ABNORMAL	SEVERE

#### Rypac Aluminum Recycling

11849 Tannery Road  
Surrey, BC  
CA V3V 3W8  
Contact: Craig Merritt  
rypac2@shaw.ca  
T:  
F:



#### OIL CONDITION

Visc @ 100°C	cSt	10.8	15.9	16.0	28.4
Oxidation (PA)	%	38	82	94	100



#### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	2.1	5	3.9	6.4
Nitration (PA)	%	55	118	119	134
Sulfation (PA)	%	56	98	94	139
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	1	0.7	0.4	<1.0
Silicon	ppm	6	6	7	8
Sodium	ppm	<1	2	3	2
Potassium	ppm	1	<1	0	1



#### WEAR METALS

Iron	ppm	20	40	27	43
Copper	ppm	19	5	3	6
Lead	ppm	2	6	2	16
Tin	ppm	2	<1	<1	<1
Aluminum	ppm	1	2	2	2
Chromium	ppm	1	<1	<1	1
Molybdenum	ppm	28	79	79	71
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	<1



#### ADDITIVES

Calcium	ppm	620	1791	1709	1471
Magnesium	ppm	314	498	616	984
Zinc	ppm	712	1247	1310	1382
Phosphorus	ppm	632	1112	1123	1134
Barium	ppm	0	<1	0	<1
Boron	ppm	2	17	16	7

#### Diagnosis

The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. No other corrective action is recommended at this time. The fluid was specified as PETRO CANADA 10W40, however, a fluid match indicates that this fluid is SAE 30 Low-Ash Natural Gas Engine Oil. Please confirm the oil type and grade on your next sample. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Depot: RYPSUR  
Unique No: 5734481  
Signed: Kevin Marson  
Report Date: 23 Feb 2024



### GRAPHS

