

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR R924 038847-1318 - Diesel Engine

Sample No: LH0260467

Oil Type: PETRO CANADA 10W40



#### SAMPLE INFORMATION

Sample Number	LH0260467	LH0246968	LH0234049	LH0221961
Sample Date	25 Aug 2023	13 Jan 2023	09 Sep 2022	17 Jan 2022
Machine Hours	9529	8980	8644	7053
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	ABNORMAL	NORMAL	NORMAL

**ECOWASTE INDUSTRIES LTD.**  
 15111 WILLIAMS ROAD  
 RICHMOND, BC  
 CA V6W 1G9  
 Contact: Service Manager



#### OIL CONDITION

Visc @ 100°C	cSt	12.9	13.6	12.9	13.4
Oxidation (PA)	%	53	61	70	29

T: (604)277-1410  
 F:



#### CONTAMINATION

Soot %	%	0.1	0.2	0.4	0
Nitration (PA)	%	65	63	78	35
Sulfation (PA)	%	53	56	59	39
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	9	9	9	8
Sodium	ppm	6	2	3	2
Potassium	ppm	14	<1	0	2

#### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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	28	12	15	11
Copper	ppm	19	2	3	2
Lead	ppm	4	1	4	3
Tin	ppm	2	<1	<1	<1
Aluminum	ppm	5	17	4	4
Chromium	ppm	2	<1	<1	<1
Molybdenum	ppm	48	59	61	60
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	<1	<1	0	0
Silver	ppm	<1	0	0	0
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	0	0	0	0



#### ADDITIVES

Calcium	ppm	1675	1114	1133	1082
Magnesium	ppm	776	957	1006	1038
Zinc	ppm	1162	1216	1257	1268
Phosphorus	ppm	1041	1079	1096	1082
Barium	ppm	24	0	0	0
Boron	ppm	25	1	<1	2

Depot: ECORIC  
 Unique No: 5632364  
 Signed: Kevin Marson  
 Report Date: 30 Aug 2023



### GRAPHS

