

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 120737-1216 - Diesel Engine

Sample No: LH0173869

Oil Type: CHEVRON URSA SUPER PLUS EC 15W40



STAIMAN RECYCLING

201 HEPBURN ST
WILLIAMSPORT, PA
US 17701

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SAMPLE INFORMATION

Sample Number	LH0173869	LHMC108372	LHMC104641	---
Sample Date	14 Dec 2020	24 Oct 2020	04 Sep 2020	---
Machine Hours	1058	681	308	---
Oil Hours	377	373	308	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	---



OIL CONDITION

Visc @ 100°C	cSt	13.0	12.8	12.1	---
Oxidation (PA)	%	64	76	173	---



CONTAMINATION

Soot %	%	0.1	0.1	0.1	---
Nitration (PA)	%	58	65	82	---
Sulfation (PA)	%	60	63	100	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	1.0	---
Silicon	ppm	9	8	9	---
Sodium	ppm	<1	2	2	---
Potassium	ppm	8	3	3	---



WEAR METALS

Iron	ppm	5	5	8	---
Copper	ppm	178	236	235	---
Lead	ppm	0	0	4	---
Tin	ppm	0	0	1	---
Aluminum	ppm	3	2	1	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	91	90	51	---
Nickel	ppm	0	<1	0	---
Titanium	ppm	<1	<1	<1	---
Silver	ppm	<1	<1	<1	---
Manganese	ppm	<1	<1	2	---
Vanadium	ppm	0	0	0	---



ADDITIVES

Calcium	ppm	1400	1379	1408	---
Magnesium	ppm	422	510	815	---
Zinc	ppm	1035	862	926	---
Phosphorus	ppm	903	880	744	---
Barium	ppm	0	3	25	---
Boron	ppm	372	269	107	---

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level has decreased, but is still abnormal. All other 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.

Depot: STAWILLH
Unique No: 9300844
Signed: Don Baldrige
Report Date: 29 Dec 2020



GRAPHS

