

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR L580 039482 - Diesel Engine

Sample No: LH0281042

Oil Type: PETRO CANADA DURON UHP E6 10W40



SAMPLE INFORMATION

Sample Number	LH0281042	LH0234070	LH0226672	LH0218509
Sample Date	18 Mar 2024	29 Mar 2023	20 Mar 2022	27 Nov 2021
Machine Hours	17189	15419	13081	12341
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	SEVERE	ATTENTION	ATTENTION

CLOVERDALE FUEL LTD.
 PO BOX 3163
 LANGLEY, BC
 CA V3A 4R5
 Contact: Maintenance Manager



OIL CONDITION

Visc @ 100°C	cSt	13.8	5.1	14.3	14.0
Oxidation (PA)	%	66	66	71	77

T: (604)534-4314
 F:



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.9	1.7	1.3	1.9
Nitration (PA)	%	79	88	90	99
Sulfation (PA)	%	63	71	67	77
Glycol	%	NEG	0.014	0.0	0.0
Fuel	%	1.2	41.9	<1.0	<1.0
Silicon	ppm	11	7	8	10
Sodium	ppm	4	182	180	264
Potassium	ppm	5	20	7	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. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time. Copper ppm levels are abnormal. A sharp increase in the copper level is noted. Bearing wear is indicated. 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. Light fuel dilution occurring. No other contaminants were detected in the oil. Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.



WEAR METALS

Iron	ppm	50	37	30	48
Copper	ppm	217	5	3	4
Lead	ppm	8	2	1	4
Tin	ppm	1	<1	<1	<1
Aluminum	ppm	4	3	3	3
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	37	47	68	69
Nickel	ppm	<1	<1	<1	<1
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	<1
Manganese	ppm	2	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1605	697	1077	1232
Magnesium	ppm	634	596	981	893
Zinc	ppm	1121	730	1228	1236
Phosphorus	ppm	925	647	1082	996
Barium	ppm	20	0	0	<1
Boron	ppm	26	1	2	10

Depot: CLOLAN
 Unique No: 5748435
 Signed: Kevin Marson
 Report Date: 21 Mar 2024

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GRAPHS

