

LIEBHERR

CONSTRUCTION EQUIPMENT



[(340369)] LIEBHERR R920 045718-1705 - Diesel Engine

Sample No: LH0285095

Oil Type: PETRO CANADA 10W40



SAMPLE INFORMATION

Sample Number	LH0285095	LH0274845	LH0247507	LH0251813
Sample Date	25 Jan 2024	06 Oct 2023	24 Jun 2023	14 Mar 2023
Machine Hours	5338	4924	4406	0
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	14.6	13.6	12.2	12.6
Oxidation (PA)	%	73	67	81	89



CONTAMINATION

Water	%	0.026	NEG	NEG	NEG
Soot %	%	0	0	0	0
Nitration (PA)	%	73	68	88	88
Sulfation (PA)	%	59	56	63	69
Glycol	%	0.0	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	17	7	23	8
Sodium	ppm	2	2	5	5
Potassium	ppm	<1	0	<1	0

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The water content is negligible. 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	9	10	12	11
Copper	ppm	<1	1	2	2
Lead	ppm	<1	<1	<1	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	2	1	2	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	60	58	61	58
Nickel	ppm	<1	0	0	0
Titanium	ppm	0	7	4	8
Silver	ppm	0	<1	0	0
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1143	1186	965	1101
Magnesium	ppm	993	964	1137	1100
Zinc	ppm	1245	1267	1273	1316
Phosphorus	ppm	1040	1037	1112	1166
Barium	ppm	0	<1	0	0
Boron	ppm	2	12	33	44

Depot: CLOPEM
 Unique No: 5722785
 Signed: Wes Davis
 Report Date: 07 Feb 2024



GRAPHS

