



# CONSTRUCTION EQUIPMENT

## SW1027074 LKQ VOLVO L90H 624179 - DIESEL ENGINE



**Sample No:** VCP441711  
**Oil Type:** DIESEL ENGINE OIL SAE 15W40  
**Job No:** SW1027074 LKQ



### SAMPLE INFORMATION

Sample Number	<b>VCP441711</b>	VCP413320	VCP354178	VCP337837
Sample Date	<b>30 Nov 2023</b>	30 Aug 2023	21 Jun 2023	07 Jul 2022
Machine Hours	<b>10139</b>	9608	9093	1793
Oil Hours	<b>0</b>	0	0	0
Oil Changed	<b>N/A</b>	Changed	Changed	Changed
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.3</b>	13.0	13.5	13.6
Base Number (BN)	mg KOH/g	<b>9.7</b>	10.4	6.3	10.6
Oxidation (PA)	%	<b>64</b>	77	83	87

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.2</b>	0.3	0.7	0.3
Nitration (PA)	%	<b>53</b>	57	87	69
Sulfation (PA)	%	<b>53</b>	60	64	62
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>11</b>	6	8	7
Sodium	ppm	<b>10</b>	2	2	2
Potassium	ppm	<b>▲ 153</b>	<1	<1	0

### Diagnosis

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition. The copper level is abnormal. Piston, ring and cylinder wear is indicated. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

### WEAR METALS

Iron	ppm	<b>▲ 91</b>	10	41	12
Copper	ppm	<b>▲ 124</b>	<1	5	<1
Lead	ppm	<b>0</b>	0	0	<1
Tin	ppm	<b>3</b>	<1	<1	<1
Aluminum	ppm	<b>▲ 53</b>	2	10	4
Chromium	ppm	<b>▲ 7</b>	1	3	1
Molybdenum	ppm	<b>45</b>	44	63	40
Nickel	ppm	<b>0</b>	0	<1	<1
Titanium	ppm	<b>&lt;1</b>	0	0	<1
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>6</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1763</b>	1615	1211	1657
Magnesium	ppm	<b>571</b>	598	992	509
Zinc	ppm	<b>902</b>	1149	1335	1115
Phosphorus	ppm	<b>722</b>	958	1017	908
Barium	ppm	<b>0</b>	2	0	0
Boron	ppm	<b>17</b>	40	3	43

**Depot:** VOLVO6174  
**Unique No:** 10777231  
**Signed:** Jonathan Hester  
**Report Date:** 11 Dec 2023



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## GRAPHS

