



# CONSTRUCTION EQUIPMENT

## VOLVO L90H 624039 - DIESEL ENGINE



**Sample No:** VCP437852  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP437852</b>	VCP422278	VCP271498	VCP268458
Sample Date	<b>28 Apr 2024</b>	30 Mar 2023	04 Jun 2020	13 Jan 2020
Machine Hours	<b>4432</b>	3868	2495	2004
Oil Hours	<b>0</b>	500	500	0
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	NORMAL

### RIPA AND ASSOCIATES

10149 FISHER AVENUE  
TAMPA, FL  
US 33619  
Contact: PM Services  
PMServices@ripaconstruction.com  
T:  
F:



### OIL CONDITION

Visc @ 100°C	cSt	<b>12.9</b>	13.0	13.2	13.2
Base Number (BN)	mg KOH/g	<b>5.8</b>	10.5	---	---
Oxidation (PA)	%	<b>82</b>	80	78	80

### Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.3	0.4	0.4
Nitration (PA)	%	<b>91</b>	66	69	62
Sulfation (PA)	%	<b>65</b>	60	61	59
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>12</b>	8	8	9
Sodium	ppm	<b>21</b>	2	4	3
Potassium	ppm	<b>12</b>	0	1	<1



### WEAR METALS

Iron	ppm	<b>30</b>	14	13	14
Copper	ppm	<b>3</b>	2	<1	2
Lead	ppm	<b>&lt;1</b>	0	<1	<1
Tin	ppm	<b>1</b>	0	<1	<1
Aluminum	ppm	<b>▲ 33</b>	19	9	11
Chromium	ppm	<b>4</b>	1	<1	1
Molybdenum	ppm	<b>49</b>	44	33	40
Nickel	ppm	<b>&lt;1</b>	0	<1	<1
Titanium	ppm	<b>&lt;1</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	1	<1	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1645</b>	1777	1606	1662
Magnesium	ppm	<b>517</b>	526	557	503
Zinc	ppm	<b>1136</b>	1175	979	826
Phosphorus	ppm	<b>1029</b>	995	870	759
Barium	ppm	<b>&lt;1</b>	0	0	0
Boron	ppm	<b>36</b>	42	40	26

**Depot:** RIPTAM  
**Unique No:** 11031024  
**Signed:** Sean Felton  
**Report Date:** 17 May 2024



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## GRAPHS

