



# CONSTRUCTION EQUIPMENT

## 225622 IAA VOLVO L90H 624597 - DIESEL ENGINE



**Sample No:** VCP441950  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 225622 IAA



### SAMPLE INFORMATION

Sample Number	<b>VCP441950</b>	VCP403268	VCP371200	VCP344834
Sample Date	<b>10 Jan 2024</b>	29 Jun 2023	11 Jun 2023	24 Jan 2022
Machine Hours	<b>6875</b>	6547	0	3876
Oil Hours	<b>0</b>	200	0	0
Oil Changed	<b>Changed</b>	Changed	N/A	Changed
Sample Status	<b>SEVERE</b>	ABNORMAL	SEVERE	ABNORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>12.9</b>	13.1	13.1	13.0
Base Number (BN)	mg KOH/g	<b>11.1</b>	10.7	10.1	10.5
Oxidation (PA)	%	<b>81</b>	79	88	103

### Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Piston, ring and cylinder wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.5</b>	0.4	1.2	1.5
Nitration (PA)	%	<b>60</b>	59	87	108
Sulfation (PA)	%	<b>64</b>	62	69	75
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>216</b>	44	169	25
Sodium	ppm	<b>19</b>	5	18	0
Potassium	ppm	<b>9</b>	1	6	1



### WEAR METALS

Iron	ppm	<b>111</b>	51	230	39
Copper	ppm	<b>3</b>	2	10	2
Lead	ppm	<b>&lt;1</b>	<1	<1	<1
Tin	ppm	<b>&lt;1</b>	1	4	2
Aluminum	ppm	<b>61</b>	13	56	10
Chromium	ppm	<b>15</b>	7	25	3
Molybdenum	ppm	<b>39</b>	39	41	43
Nickel	ppm	<b>2</b>	2	8	0
Titanium	ppm	<b>5</b>	1	4	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>2</b>	<1	3	1
Vanadium	ppm	<b>&lt;1</b>	<1	<1	0



### ADDITIVES

Calcium	ppm	<b>1665</b>	1509	1728	1857
Magnesium	ppm	<b>506</b>	556	491	560
Zinc	ppm	<b>1029</b>	1048	1073	1037
Phosphorus	ppm	<b>890</b>	867	853	995
Barium	ppm	<b>0</b>	0	0	<1
Boron	ppm	<b>39</b>	38	29	31

**Depot:** VOLVO1271  
**Unique No:** 10845920  
**Signed:** Jonathan Hester  
**Report Date:** 26 Jan 2024



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## GRAPHS

