



# CONSTRUCTION EQUIPMENT

## 2023-1011382 VOLVO A45G 79 (S/N 342558) - DIESEL ENGINE



**Sample No:** VCP405326  
**Oil Type:** SHELL ROTELLA T 15W40  
**Job No:** 2023-1011382



### SAMPLE INFORMATION

Sample Number	<b>VCP405326</b>	VCP423719	VCP397444	VCP324499
Sample Date	<b>01 Oct 2023</b>	01 Jun 2023	04 Feb 2023	25 Apr 2022
Machine Hours	<b>12523</b>	0	10737	0
Oil Hours	<b>500</b>	0	0	0
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	ABNORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.0</b>	12.9	13.5	12.7
Base Number (BN)	mg KOH/g	<b>5.5</b>	6.1	7.5	11.4
Oxidation (PA)	%	<b>75</b>	78	87	76

### Diagnosis

Resample at the next service interval to monitor. All 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 acceptable for the time in service.



### CONTAMINATION

Soot %	%	<b>1.5</b>	1.6	1.2	0.5
Nitration (PA)	%	<b>90</b>	101	94	65
Sulfation (PA)	%	<b>73</b>	73	70	65
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>5</b>	5	5	4
Sodium	ppm	<b>14</b>	10	9	26
Potassium	ppm	<b>11</b>	13	14	62



### WEAR METALS

Iron	ppm	<b>30</b>	33	23	9
Copper	ppm	<b>2</b>	5	12	11
Lead	ppm	<b>2</b>	4	3	1
Tin	ppm	<b>&lt;1</b>	<1	<1	<1
Aluminum	ppm	<b>9</b>	13	8	2
Chromium	ppm	<b>1</b>	2	1	<1
Molybdenum	ppm	<b>32</b>	64	46	48
Nickel	ppm	<b>2</b>	5	3	2
Titanium	ppm	<b>0</b>	<1	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	<1	0	0



### ADDITIVES

Calcium	ppm	<b>1988</b>	1791	1668	1751
Magnesium	ppm	<b>205</b>	368	477	536
Zinc	ppm	<b>1223</b>	1231	1116	1087
Phosphorus	ppm	<b>961</b>	1069	863	972
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>19</b>	18	17	47

**Depot:** JMHMAR  
**Unique No:** 10737067  
**Signed:** Don Baldrige  
**Report Date:** 13 Nov 2023



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## VOLVO GRAPHS

