



# CONSTRUCTION EQUIPMENT

## A11384 ALPHA VOLVO EC160E 314175 - DIESEL ENGINE



**Sample No:** VCP430930  
**Oil Type:** MOBIL 15W40  
**Job No:** A11384 ALPHA



### SAMPLE INFORMATION

Sample Number	<b>VCP430930</b>	VCP416349	VCP425986	VCP399924
Sample Date	<b>31 Oct 2023</b>	16 Aug 2023	07 Jun 2023	02 Mar 2023
Machine Hours	<b>5950</b>	5360	4935	4350
Oil Hours	<b>500</b>	500	500	500
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	ABNORMAL

**HOFFMAN EQUIPMENT - LIONVILLE**  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 11.5</b>	■ 12.0	■ 12.0	<b>▲ 12.3</b>
Base Number (BN)	mg KOH/g	<b>■ 6.1</b>	■ 5.8	■ 5.8	■ 9.5
Oxidation (PA)	%	<b>54</b>	43	55	86



### CONTAMINATION

Soot %	%	<b>■ 0.2</b>	■ 0.2	■ 0.2	■ 0.2
Nitration (PA)	%	<b>64</b>	60	72	67
Sulfation (PA)	%	<b>51</b>	47	53	63
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	■ 4.2	<b>▲ 2.8</b>
Silicon	ppm	<b>■ 4</b>	■ 4	■ 3	■ 6
Sodium	ppm	<b>■ 1</b>	■ 0	■ 2	■ 3
Potassium	ppm	<b>■ 2</b>	■ 2	■ 0	■ 0



### WEAR METALS

Iron	ppm	<b>■ 18</b>	■ 11	■ 14	■ 15
Copper	ppm	<b>■ 2</b>	■ 1	■ 1	■ <1
Lead	ppm	<b>■ 0</b>	■ <1	■ 0	■ <1
Tin	ppm	<b>■ 0</b>	■ <1	■ <1	■ <1
Aluminum	ppm	<b>▲ 20</b>	■ 8	■ 4	<b>▲ 11</b>
Chromium	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ 1
Molybdenum	ppm	<b>■ 28</b>	■ 12	■ 15	■ 36
Nickel	ppm	<b>■ 0</b>	■ 2	■ 0	■ 0
Titanium	ppm	<b>&lt;1</b>	<1	<1	<1
Silver	ppm	<b>■ 0</b>	■ 2	■ 0	■ 0
Manganese	ppm	<b>■ 0</b>	■ <1	■ <1	■ 1
Vanadium	ppm	<b>&lt;1</b>	<1	0	<1



### ADDITIVES

Calcium	ppm	<b>■ 1723</b>	■ 2114	■ 2034	■ 1674
Magnesium	ppm	<b>■ 348</b>	■ 106	■ 185	■ 450
Zinc	ppm	<b>■ 1074</b>	■ 1050	■ 963	■ 1111
Phosphorus	ppm	<b>■ 897</b>	■ 845	■ 812	■ 875
Barium	ppm	<b>■ 7</b>	■ 0	■ 0	■ 0
Boron	ppm	<b>■ 4</b>	■ 3	■ 4	■ 33

### Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

**Depot:** VOLVO8879  
**Unique No:** 10737789  
**Signed:** Don Baldrige  
**Report Date:** 14 Nov 2023



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## VOLVO GRAPHS

