



# CONSTRUCTION EQUIPMENT

ATOMIC VOLVO L110H 632238 - DIESEL ENGINE



**Sample No:** VCP420334  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** ATOMIC



## SAMPLE INFORMATION

Sample Number	<b>VCP420334</b>	VCP382679	VCP370218	VCP370320
Sample Date	<b>03 Aug 2023</b>	04 May 2023	31 Jan 2023	11 Nov 2022
Machine Hours	<b>3623</b>	3047	2564	2005
Oil Hours	<b>500</b>	500	500	500
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>SEVERE</b>	NORMAL	NORMAL	ABNORMAL

**216 - ASCENDUM MACHINERY INC - PIEDMONT**  
 407 OAK ROAD  
 PIEDMONT, SC  
 US 29673  
 Contact: KEMP COBLE  
 kemp.coble@ascendummachinery.com  
 T: (864)704-1060  
 F: (864)704-1069

## OIL CONDITION

Visc @ 100°C	cSt	█ <b>12.9</b>	█ 13.1	█ 13.1	█ 12.9
Base Number (BN)	mg KOH/g	█ <b>10.0</b>	█ 9.1	█ 10.1	█ 11.8
Oxidation (PA)	%	<b>80</b>	75	79	85

## CONTAMINATION

Soot %	%	█ <b>0.8</b>	█ 0.5	█ 0.5	█ 0.7
Nitration (PA)	%	<b>67</b>	56	59	65
Sulfation (PA)	%	<b>62</b>	57	62	67
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	█ <b>15</b>	█ 10	█ 11	█ 11
Sodium	ppm	█ <b>2</b>	█ 19	█ <1	█ 1
Potassium	ppm	█ <b>2</b>	█ 6	█ 3	█ 0

## WEAR METALS

Iron	ppm	█ <b>66</b>	█ 12	█ 14	█ 16
Copper	ppm	█ <b>2</b>	█ <1	█ <1	█ 2
Lead	ppm	█ <b>0</b>	█ 0	█ 0	█ 1
Tin	ppm	█ <b>1</b>	█ <1	█ 1	█ 1
Aluminum	ppm	█ <b>44</b>	█ 10	█ 10	▲ 13
Chromium	ppm	█ <b>7</b>	█ <1	█ 1	█ 1
Molybdenum	ppm	█ <b>40</b>	█ 44	█ 42	█ 38
Nickel	ppm	█ <b>4</b>	█ 0	█ <1	█ <1
Titanium	ppm	<b>&lt;1</b>	0	<1	<1
Silver	ppm	█ <b>0</b>	█ 0	█ 0	█ 0
Manganese	ppm	█ <b>1</b>	█ <1	█ <1	█ <1
Vanadium	ppm	<b>0</b>	0	0	0

## ADDITIVES

Calcium	ppm	█ <b>1770</b>	█ 1764	█ 1711	█ 1625
Magnesium	ppm	█ <b>534</b>	█ 588	█ 477	█ 475
Zinc	ppm	█ <b>1141</b>	█ 1251	█ 1115	█ 1065
Phosphorus	ppm	█ <b>938</b>	█ 991	█ 926	█ 896
Barium	ppm	█ <b>2</b>	█ 0	█ 0	█ 8
Boron	ppm	█ <b>30</b>	█ 40	█ 43	█ 30

## Diagnosis

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The aluminum level is severe. Piston wear is indicated. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**Depot:** VOLVO4596  
**Unique No:** 10633983  
**Signed:** Jonathan Hester  
**Report Date:** 08 Sep 2023



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## VOLVO GRAPHS

