



# CONSTRUCTION EQUIPMENT

## VOLVO L110 61153 - DIESEL ENGINE



**Sample No:** VCP099013  
**Oil Type:** MOBIL 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP099013</b>	VCP095504	VCP113857	VCP113919
Sample Date	<b>23 Feb 2012</b>	21 Feb 2012	29 Dec 2011	02 Jun 2011
Machine Hours	<b>20104</b>	520	20248	19086
Oil Hours	<b>0</b>	520	1425	0
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>MARGINAL</b>	ABNORMAL	ABNORMAL	ATTENTION

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### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 12.00</b>	▲ 11.91	■ 13.4	▲ 10.98
Oxidation (PA)	%	■ <b>68</b>	■ 52	■ 76	■ 72



### CONTAMINATION

Soot %	%	■ <b>1</b>	■ 0.6	■ 0.9	■ 0.3
Nitration (PA)	%	■ <b>67</b>	■ 58	■ 92	■ 75
Sulfation (PA)	%	■ <b>69</b>	■ 53	■ 72	■ 69
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	■ 0.0
Silicon	ppm	■ <b>4</b>	▲ 27	■ 7	■ 5
Sodium	ppm	■ <b>7</b>	■ 5	■ 7	■ 8
Potassium	ppm	■ <b>3</b>	■ 3	■ 3	■ 2

### Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Note that there appears to be a discrepancy in the total time on this component, when compared to the historical data. All component wear rates are normal. There is no indication of any contamination in the component. The oil viscosity is lower than normal.



### WEAR METALS

Iron	ppm	■ <b>26</b>	■ 67	■ 34	■ 10
Copper	ppm	■ <b>5</b>	■ 16	▲ 29	■ <1
Lead	ppm	■ <b>&lt;1</b>	■ 4	■ 7	■ <1
Tin	ppm	<b>&lt;1</b>	4	0	■ 0
Aluminum	ppm	■ <b>4</b>	■ 22	■ 4	■ 3
Chromium	ppm	■ <b>1</b>	■ 5	■ 2	■ <1
Molybdenum	ppm	<b>153</b>	■ 50	148	133
Nickel	ppm	■ <b>&lt;1</b>	■ <1	■ <1	■ <1
Titanium	ppm	■ <b>0</b>	■ 0	■ <1	<1
Silver	ppm	<b>0</b>	1	0	0
Manganese	ppm	■ <b>&lt;1</b>	■ 4	■ <1	■ <1
Vanadium	ppm	<b>0</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>4784</b>	1239	4082	4139
Magnesium	ppm	<b>40</b>	842	■ 404	11
Zinc	ppm	■ <b>1446</b>	■ 1080	1560	■ 1379
Phosphorus	ppm	■ <b>1308</b>	■ 973	■ 1285	■ 1187
Barium	ppm	■ <b>&lt;1</b>	■ 2	■ 0	■ 0
Boron	ppm	■ <b>2</b>	■ 69	■ 12	<1

**Depot:** VOLVO0002  
**Unique No:** 5836648  
**Signed:** Don Baldrige  
**Report Date:** 29 Feb 2012



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## GRAPHS

