



# CONSTRUCTION EQUIPMENT

## 23731 VOLVO L180H 5514 - DIESEL ENGINE



**Sample No:** VCP420820  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 23731



### SAMPLE INFORMATION

Sample Number	<b>VCP420820</b>	VCP388855	VCP383508	VCP339130
Sample Date	<b>21 Jul 2023</b>	12 Dec 2022	22 Sep 2022	08 Mar 2022
Machine Hours	<b>4032</b>	3039	2593	1490
Oil Hours	<b>1000</b>	1000	500	0
Oil Changed	<b>Changed</b>	Changed	Changed	N/A
Sample Status	<b>ABNORMAL</b>	MARGINAL	ABNORMAL	ABNORMAL

**MURRAY MINES**  
 2696 HIGHWAY 17A  
 SUMMERVILLE, SC  
 US 29483  
 Contact: SERVICE MANAGER

### OIL CONDITION

Visc @ 100°C	cSt	█ <b>13.1</b>	█ 13.3	█ 13.3	█ 12.9
Base Number (BN)	mg KOH/g	█ <b>7.7</b>	█ 10.8	█ 7.9	█ 8.4
Oxidation (PA)	%	<b>88</b>	86	95	70

T: (843)875-7465  
 F:

### 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 copper level has decreased, but is still abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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 suitable for further service.

### CONTAMINATION

Soot %	%	█ <b>0.3</b>	█ 0.2	█ 0.3	▲ 3
Nitration (PA)	%	<b>80</b>	69	93	93
Sulfation (PA)	%	<b>64</b>	67	68	72
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	█ <b>4</b>	█ 4	█ 7	█ 6
Sodium	ppm	█ <b>2</b>	█ 3	█ 3	█ 2
Potassium	ppm	█ <b>0</b>	█ 0	█ 1	█ <1

### WEAR METALS

Iron	ppm	█ <b>9</b>	█ 5	█ 10	█ 9
Copper	ppm	▲ <b>25</b>	▲ 66	▲ 237	█ 4
Lead	ppm	█ <b>0</b>	█ 1	█ 13	█ <1
Tin	ppm	█ <b>&lt;1</b>	█ 2	█ 2	█ 2
Aluminum	ppm	█ <b>2</b>	█ 1	█ 0	█ 2
Chromium	ppm	█ <b>&lt;1</b>	█ <1	█ <1	█ <1
Molybdenum	ppm	█ <b>43</b>	█ 35	█ 39	█ 41
Nickel	ppm	█ <b>&lt;1</b>	█ <1	█ 1	█ 0
Titanium	ppm	<b>0</b>	0	<1	█ 0
Silver	ppm	█ <b>0</b>	█ 0	0	0
Manganese	ppm	█ <b>&lt;1</b>	█ <1	█ <1	█ <1
Vanadium	ppm	<b>0</b>	0	0	0

### ADDITIVES

Calcium	ppm	█ <b>1886</b>	█ 1710	█ 1815	█ 1821
Magnesium	ppm	█ <b>547</b>	█ 440	█ 437	█ 522
Zinc	ppm	█ <b>1236</b>	█ 1075	█ 1088	█ 1097
Phosphorus	ppm	█ <b>969</b>	█ 936	█ 950	█ 949
Barium	ppm	█ <b>0</b>	█ 0	█ 0	█ 0
Boron	ppm	█ <b>17</b>	█ 44	█ 18	█ 27

**Depot:** MURSUM  
**Unique No:** 10574163  
**Signed:** Sean Felton  
**Report Date:** 28 Jul 2023



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## VOLVO GRAPHS

