



# CONSTRUCTION EQUIPMENT

## SW-32471-2 CMC ROCK VOLVO L180H 5503 - DIESEL ENGINE



**Sample No:** VCP446947  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** SW-32471-2 CMC ROCK



### SAMPLE INFORMATION

Sample Number	<b>VCP446947</b>	VCP438071	VCP412472	VCP419290
Sample Date	<b>04 Apr 2024</b>	24 Jan 2024	25 Sep 2023	28 Jun 2023
Machine Hours	<b>5598</b>	5177	4470	3902
Oil Hours	<b>421</b>	730	500	1000
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**ARNOLD MACHINERY COMPANY**  
 2975 WEST 2100 SOUTH  
 SALT LAKE CITY, UT  
 US 84119  
 Contact: TONY PAYAN  
 tpayan@arnoldmachinery.com  
 T: (801)972-4000  
 F: (801)975-9434



### OIL CONDITION

Visc @ 100°C	cSt	<b>13.1</b>	13.1	13.1	13.0
Base Number (BN)	mg KOH/g	<b>7.4</b>	7.4	9.4	8.3
Oxidation (PA)	%	<b>46</b>	59	59	67

### 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 suitable for further service.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.2	0.2	0.2
Nitration (PA)	%	<b>56</b>	68	54	70
Sulfation (PA)	%	<b>48</b>	53	53	57
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>3</b>	5	7	8
Sodium	ppm	<b>0</b>	3	1	4
Potassium	ppm	<b>&lt;1</b>	3	0	4



### WEAR METALS

Iron	ppm	<b>5</b>	4	5	10
Copper	ppm	<b>1</b>	1	2	12
Lead	ppm	<b>0</b>	1	<1	<1
Tin	ppm	<b>0</b>	<1	<1	1
Aluminum	ppm	<b>1</b>	3	0	2
Chromium	ppm	<b>0</b>	0	0	<1
Molybdenum	ppm	<b>38</b>	63	62	63
Nickel	ppm	<b>&lt;1</b>	<1	0	<1
Titanium	ppm	<b>&lt;1</b>	<1	0	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	<1	<1	1
Vanadium	ppm	<b>&lt;1</b>	<1	<1	0



### ADDITIVES

Calcium	ppm	<b>1737</b>	1258	1099	1152
Magnesium	ppm	<b>507</b>	701	1015	991
Zinc	ppm	<b>1172</b>	1244	1289	1319
Phosphorus	ppm	<b>974</b>	1054	1038	1067
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>14</b>	16	<1	4

**Depot:** VOLVO8770  
**Unique No:** 10968758  
**Signed:** Wes Davis  
**Report Date:** 11 Apr 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS

