



# CONSTRUCTION EQUIPMENT

## 3018 VOLVO ECR88D 213013 - DIESEL ENGINE



**Sample No:** VCP398218  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 3018



### SAMPLE INFORMATION

Sample Number	<b>VCP398218</b>	VCP372271	VCP373562	VCP351226
Sample Date	<b>21 Jul 2023</b>	31 Jan 2023	21 Sep 2022	10 Mar 2022
Machine Hours	<b>5360</b>	4890	4425	3900
Oil Hours	<b>0</b>	500	0	500
Oil Changed	<b>Changed</b>	Changed	N/A	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**LEONARDS CONTRACTING**  
 30850 STEPHENSON HWY  
 MADISON HEIGHTS, MI  
 US 48071  
 Contact: LARRY SCHRADE  
 larry.schrade@sdevelop.com  
 T: (810)499-1953  
 F: x:



### OIL CONDITION

Visc @ 100°C	cSt	<b>12.8</b>	12.8	13.0	13.5
Base Number (BN)	mg KOH/g	<b>9.7</b>	9.2	11.3	11.0
Oxidation (PA)	%	<b>88</b>	78	98	98

### 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

Soot %	%	<b>0.2</b>	0.2	0.3	0.2
Nitration (PA)	%	<b>81</b>	69	95	90
Sulfation (PA)	%	<b>63</b>	59	67	69
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>5</b>	9	7	7
Sodium	ppm	<b>4</b>	3	2	2
Potassium	ppm	<b>1</b>	0	2	1



### WEAR METALS

Iron	ppm	<b>9</b>	8	16	16
Copper	ppm	<b>1</b>	<1	<1	1
Lead	ppm	<b>&lt;1</b>	2	0	0
Tin	ppm	<b>&lt;1</b>	<1	<1	<1
Aluminum	ppm	<b>2</b>	<1	3	3
Chromium	ppm	<b>0</b>	<1	<1	<1
Molybdenum	ppm	<b>42</b>	41	43	44
Nickel	ppm	<b>0</b>	<1	0	0
Titanium	ppm	<b>&lt;1</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1813</b>	1675	1770	1880
Magnesium	ppm	<b>540</b>	498	508	515
Zinc	ppm	<b>1185</b>	1112	1162	1178
Phosphorus	ppm	<b>951</b>	918	957	960
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>47</b>	52	43	39

**Depot:** LEOMAD  
**Unique No:** 10576314  
**Signed:** Wes Davis  
**Report Date:** 28 Jul 2023

**VOLVO** **GRAPHS**

