CONSTRUCTION EQUIPMENT SW0066114 VOLVO EC350 314624 - DIESEL ENGINE



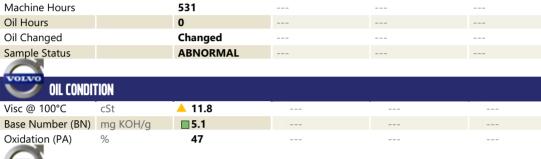
Sample No: VCP421722 **Oil Type:** Job No:

VOLVO

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 SWO066114



| VOLVO | | | |
|---------------|-----------|-------------|--|
| SAMPLE IN | FORMATION | | |
| Sample Number | | VCP421722 | |
| Sample Date | | 20 Sep 2023 | |



| CONTAMINATION | | | | | |
|----------------|-----|------------|--|--|--|
| Soot % | % | 0.1 | | | |
| Nitration (PA) | % | 59 | | | |
| Sulfation (PA) | % | 52 | | | |
| Glycol | % | NEG | | | |
| Fuel | % | 1.0 | | | |
| Silicon | ppm | <u> </u> | | | |
| Sodium | ppm | 5 | | | |
| Potassium | ppm | 4 | | | |

| WEAR M | IE I ALS | | | |
|------------|----------|------------|------|--|
| Iron | ppm | 1 5 | | |
| Copper | ppm | 416 | | |
| Lead | ppm | ■<1 | | |
| Tin | ppm | 2 | | |
| Aluminum | ppm | 1 | | |
| Chromium | ppm | <1 | | |
| Molybdenum | ppm | 21 | | |
| Nickel | ppm | | | |
| Titanium | ppm | <1 | | |
| Silver | ppm | 0 | | |
| Manganese | ppm | 3 | | |
| Vanadium | ppm | 0 | | |

| | VES | | | |
|------------|-----|-------------|------|--|
| Calcium | ppm | 2457 | | |
| Magnesium | ppm | 20 | | |
| Zinc | ppm | 1105 | | |
| Phosphorus | ppm | 947 | | |
| Barium | ppm | 0 | | |
| Boron | ppm | 5 | | |



COWIN EQUIPMENT COMPANY

7950 PITTMAN AVE PENSACOLA, FL US 32534 Contact: HUGH DOBBS HDOBBS@COWIN.COM T: (850)479-3004 F: (850)474-1602

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 is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in. Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Depot: **VOLVO8247** Unique No: 10662255 Signed: Don Baldridge Report Date: 27 Sep 2023

Report Id: VOLVO8247 [WUSCAR] 05961042 (Generated: 10/11/2023 20:32:18) Rev: 1

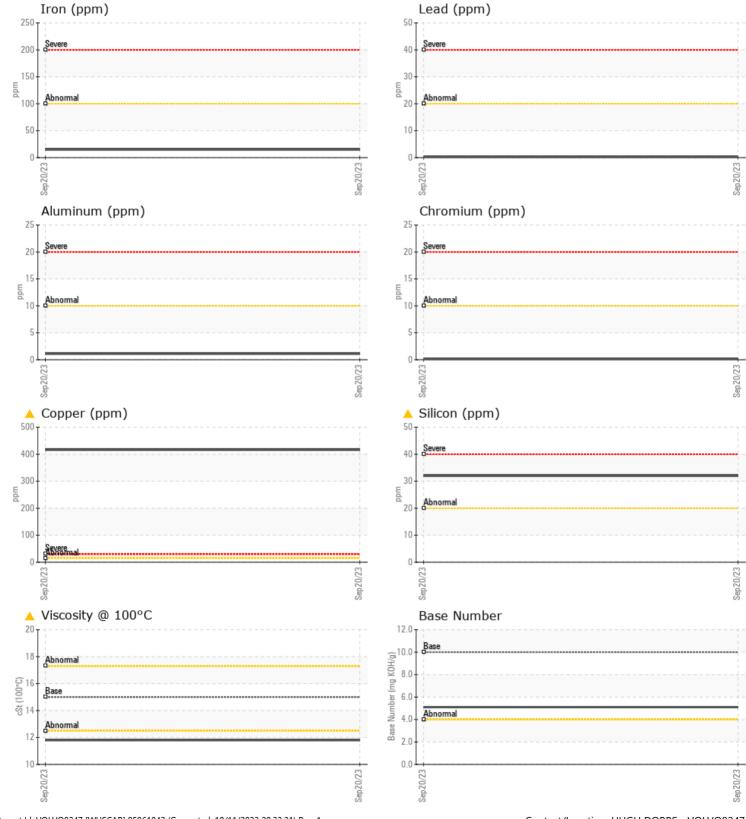
Contact/Location: HUGH DOBBS - VOLVO8247

CONSTRUCTION EQUIPMENT



GRAPHS

VOLVO



Report Id: VOLVO8247 [WUSCAR] 05961042 (Generated: 10/11/2023 20:32:21) Rev: 1

Contact/Location: HUGH DOBBS - VOLVO8247