



CONSTRUCTION EQUIPMENT

SW-21867-2 CASTLE VA VOLVO EC480E 314667 - DIESEL ENGINE



Sample No: VCP419293
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-21867-2 CASTLE VA



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VCP419293 | VCP400928 | VCP399508 | VCP396453 |
| Sample Date | 25 Jul 2023 | 24 Apr 2023 | 13 Feb 2023 | 17 Nov 2022 |
| Machine Hours | 3680 | 3144 | 2648 | 2134 |
| Oil Hours | 530 | 500 | 514 | 600 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | NORMAL | NORMAL | ATTENTION | NORMAL |

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OIL CONDITION

| | | | | | |
|------------------|----------|-------------|------|--------|------|
| Visc @ 100°C | cSt | 12.5 | 12.6 | ▲ 12.3 | 12.7 |
| Base Number (BN) | mg KOH/g | 8.1 | 7.4 | 9.0 | 9.1 |
| Oxidation (PA) | % | 66 | 61 | 62 | 71 |



CONTAMINATION

| | | | | | |
|----------------|-----|----------------|------|-----|------|
| Soot % | % | 0.3 | 0.2 | 0.1 | 0.2 |
| Nitration (PA) | % | 70 | 67 | 51 | 78 |
| Sulfation (PA) | % | 55 | 50 | 53 | 61 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | 0.8 | <1.0 |
| Silicon | ppm | 4 | 3 | 4 | 5 |
| Sodium | ppm | 7 | 3 | 4 | 3 |
| Potassium | ppm | 0 | 0 | 0 | 1 |



WEAR METALS

| | | | | | |
|------------|-----|--------------|----|----|----|
| Iron | ppm | 7 | 7 | 7 | 9 |
| Copper | ppm | 3 | 1 | 2 | 6 |
| Lead | ppm | <1 | 0 | <1 | <1 |
| Tin | ppm | 0 | 0 | <1 | <1 |
| Aluminum | ppm | 2 | <1 | 0 | 1 |
| Chromium | ppm | 0 | <1 | <1 | <1 |
| Molybdenum | ppm | 61 | 64 | 64 | 67 |
| Nickel | ppm | 0 | 0 | 0 | 0 |
| Titanium | ppm | <1 | 0 | 0 | 0 |
| Silver | ppm | 0 | 0 | 0 | 0 |
| Manganese | ppm | <1 | <1 | <1 | <1 |
| Vanadium | ppm | <1 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|-------------|------|------|------|
| Calcium | ppm | 1143 | 1151 | 1116 | 1210 |
| Magnesium | ppm | 974 | 944 | 967 | 883 |
| Zinc | ppm | 1204 | 1222 | 1256 | 1182 |
| Phosphorus | ppm | 985 | 997 | 1002 | 978 |
| Barium | ppm | 0 | 0 | 0 | 0 |
| Boron | ppm | 6 | 10 | 2 | 30 |

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.

Depot: VOLVO8770
Unique No: 10586269
Signed: Wes Davis
Report Date: 04 Aug 2023



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GRAPHS

