



CONSTRUCTION EQUIPMENT

92 VOLVO ECR235DL 210429 - DIESEL ENGINE



Sample No: VC462460
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 92



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VC462460 | VCE180200 | VCE152957 | VCE251672 |
| Sample Date | 27 Dec 2023 | 27 Jul 2022 | 18 Oct 2019 | 05 Dec 2016 |
| Machine Hours | 3634 | 3243 | 2387 | 1105 |
| Oil Hours | 500 | 0 | 0 | 400 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | ABNORMAL | NORMAL | NORMAL | NORMAL |

CHEMUNG CO HWY DEPT
 803 CHEMUNG STREET
 HORSEHEADS, NY
 US 14845
 Contact: TIM COLLINS



OIL CONDITION

| | | | | | |
|------------------|----------|-------------|------|------|-------|
| Visc @ 100°C | cSt | 12.8 | 12.7 | 13.5 | 13.56 |
| Base Number (BN) | mg KOH/g | 10.6 | 10.7 | --- | --- |
| Oxidation (PA) | % | 81 | 71 | 65 | 48 |

T: (607)739-3898
 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. Piston, ring and cylinder wear is indicated. 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 acceptable for the time in service.



CONTAMINATION

| | | | | | |
|----------------|-----|----------------|------|------|------|
| Water | % | NEG | NEG | NEG | NEG |
| Soot % | % | 0.3 | 0.2 | 0.3 | 0.1 |
| Nitration (PA) | % | 64 | 65 | 72 | 50 |
| Sulfation (PA) | % | 61 | 59 | 54 | 44 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | <1.0 | <1.0 |
| Silicon | ppm | 16 | 20 | 9 | 7 |
| Sodium | ppm | 4 | 7 | 4 | 7 |
| Potassium | ppm | 5 | 26 | 3 | 2 |



WEAR METALS

| | | | | | |
|------------|-----|--------------|----|----|----|
| Iron | ppm | ▲ 108 | 76 | 92 | 18 |
| Copper | ppm | 5 | 8 | 4 | 3 |
| Lead | ppm | 0 | 1 | 0 | <1 |
| Tin | ppm | 2 | 2 | <1 | 7 |
| Aluminum | ppm | ▲ 12 | 8 | 12 | 5 |
| Chromium | ppm | 2 | 2 | 3 | <1 |
| Molybdenum | ppm | 41 | 45 | 44 | 62 |
| Nickel | ppm | <1 | <1 | <1 | 1 |
| Titanium | ppm | <1 | <1 | <1 | 0 |
| Silver | ppm | 0 | <1 | 0 | 0 |
| Manganese | ppm | 1 | 2 | <1 | <1 |
| Vanadium | ppm | 0 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|-------------|------|------|------|
| Calcium | ppm | 1635 | 1716 | 1924 | 1687 |
| Magnesium | ppm | 503 | 393 | 283 | 516 |
| Zinc | ppm | 1117 | 990 | 1155 | 1231 |
| Phosphorus | ppm | 889 | 825 | 936 | 957 |
| Barium | ppm | 0 | 0 | 0 | 0 |
| Boron | ppm | 38 | 85 | 69 | 92 |

Depot: CHEHOR
Unique No: 10843956
Signed: Sean Felton
Report Date: 24 Jan 2024



CONSTRUCTION EQUIPMENT



VOLVO GRAPHS

