



CONSTRUCTION EQUIPMENT

VOLVO EC350EL 314042 - DIESEL ENGINE



Sample No: VCP378422
Oil Type: SHELL Rotella T5 15W-40
Job No:



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VCP378422 | VCP378475 | VCP315681 | VCP315683 |
| Sample Date | 03 Nov 2023 | 22 Mar 2023 | 23 Jun 2022 | 25 Oct 2021 |
| Machine Hours | 3412 | 3043 | 2523 | 1994 |
| Oil Hours | 369 | 500 | 0 | 0 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | ATTENTION | ATTENTION | ATTENTION | ATTENTION |

FREDERICK COUNTY LANDFILL
 107 NORTH KENT STREET
 WINCHESTER, VA
 US 26014
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OIL CONDITION

| | | | | | |
|------------------|----------|---------------|--------|--------|--------|
| Visc @ 100°C | cSt | ▲ 11.7 | ▲ 11.7 | ▲ 12.2 | ▲ 11.9 |
| Base Number (BN) | mg KOH/g | ■ 6.0 | ■ 5.7 | ■ 5.6 | --- |
| Oxidation (PA) | % | 50 | 51 | 46 | 59 |



CONTAMINATION

| | | | | | |
|----------------|-----|----------------|-------|-------|-------|
| Water | % | NEG | NEG | NEG | NEG |
| Soot % | % | ■ 0.1 | ■ 0.1 | ■ 0.1 | ■ 0.1 |
| Nitration (PA) | % | 69 | 77 | 69 | 66 |
| Sulfation (PA) | % | 50 | 54 | 52 | 53 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | <1.0 | <1.0 |
| Silicon | ppm | ■ 4 | ■ 6 | ■ 3 | ■ 4 |
| Sodium | ppm | ■ 0 | ■ 1 | ■ <1 | ■ 12 |
| Potassium | ppm | ■ 1 | ■ <1 | ■ 0 | ■ 27 |



WEAR METALS

| | | | | | |
|------------|-----|----------------|------|------|------|
| Iron | ppm | ■ 3 | ■ 4 | ■ 4 | ■ 6 |
| Copper | ppm | ■ 2 | ■ 7 | ■ 7 | ■ 1 |
| Lead | ppm | ■ 0 | ■ <1 | ■ <1 | ■ <1 |
| Tin | ppm | ■ 0 | ■ <1 | ■ <1 | ■ <1 |
| Aluminum | ppm | ■ 2 | ■ 2 | ■ 1 | ■ 2 |
| Chromium | ppm | ■ <1 | ■ <1 | ■ <1 | ■ <1 |
| Molybdenum | ppm | ■ 77 | ■ 73 | 42 | ■ 72 |
| Nickel | ppm | ■ 0 | ■ 0 | ■ <1 | ■ 0 |
| Titanium | ppm | 0 | 0 | <1 | <1 |
| Silver | ppm | ■ 0 | ■ 0 | <1 | <1 |
| Manganese | ppm | ■ 0 | ■ <1 | <1 | <1 |
| Vanadium | ppm | 0 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|---------------|--------|------|--------|
| Calcium | ppm | ■ 2039 | ■ 2145 | 2092 | ■ 1853 |
| Magnesium | ppm | 108 | 125 | 107 | ■ 413 |
| Zinc | ppm | ■ 1128 | ■ 1235 | 1097 | ■ 1200 |
| Phosphorus | ppm | ■ 939 | ■ 1028 | 868 | ■ 1061 |
| Barium | ppm | ■ 2 | ■ 0 | 0 | ■ 0 |
| Boron | ppm | ■ 82 | ■ 40 | 31 | ■ 85 |

Diagnosis

Oil and filter change at the time of sampling has been noted. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Depot: FREWIN
Unique No: 10767955
Signed: Sean Felton
Report Date: 05 Dec 2023



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GRAPHS

