



CONSTRUCTION EQUIPMENT

E15120 VOLVO L70E 61140 - DIESEL ENGINE



Sample No: VCP418881
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: E15120



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VCP418881 | VCP388151 | VCP389034 | VCP375559 |
| Sample Date | 15 Nov 2023 | 07 Jul 2023 | 19 May 2023 | 14 Mar 2023 |
| Machine Hours | 25415 | 24642 | 24388 | 23950 |
| Oil Hours | 800 | 254 | 500 | 900 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | SEVERE | ABNORMAL | ABNORMAL | SEVERE |

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 F:

OIL CONDITION

| | | | | | |
|------------------|----------|---------------|--------|--------|--------|
| Visc @ 100°C | cSt | ▲ 10.0 | ▲ 11.2 | ▲ 10.9 | ▲ 10.4 |
| Base Number (BN) | mg KOH/g | ■ 8.7 | ■ 9.0 | ■ 8.1 | ■ 9.1 |
| Oxidation (PA) | % | 83 | 73 | 84 | 80 |

CONTAMINATION

| | | | | | |
|----------------|-----|----------------|-------|-------|--------|
| Water | % | NEG | NEG | NEG | NEG |
| Soot % | % | ■ 0.2 | ■ 0.2 | ■ 0.1 | ■ 0.1 |
| Nitration (PA) | % | 77 | 58 | 63 | 88 |
| Sulfation (PA) | % | 57 | 56 | 59 | 56 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | ■ 13.1 | ▲ 7.9 | ▲ 9.9 | ■ 12.4 |
| Silicon | ppm | ■ 4 | ■ 6 | ■ 7 | ■ 8 |
| Sodium | ppm | ■ <1 | ■ 2 | ■ 3 | ■ 5 |
| Potassium | ppm | ■ 0 | ■ 1 | ■ <1 | ■ <1 |

Diagnosis

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

WEAR METALS

| | | | | | |
|------------|-----|----------------|------|------|------|
| Iron | ppm | ■ 3 | ■ 4 | ■ 7 | ■ 11 |
| Copper | ppm | ■ 0 | ■ <1 | ■ <1 | ■ <1 |
| Lead | ppm | ■ 0 | ■ 0 | ■ 0 | ■ <1 |
| Tin | ppm | ■ 2 | ■ <1 | ■ <1 | ■ <1 |
| Aluminum | ppm | ■ 1 | ■ <1 | ■ 0 | ■ 1 |
| Chromium | ppm | ■ 0 | ■ <1 | ■ 0 | ■ <1 |
| Molybdenum | ppm | ■ 35 | ■ 38 | ■ 36 | ■ 36 |
| Nickel | ppm | ■ 0 | ■ 0 | ■ 0 | ■ 0 |
| Titanium | ppm | 0 | <1 | <1 | <1 |
| Silver | ppm | ■ 0 | ■ <1 | ■ 0 | ■ 0 |
| Manganese | ppm | ■ <1 | ■ <1 | ■ <1 | ■ 1 |
| Vanadium | ppm | 0 | <1 | 0 | <1 |

ADDITIVES

| | | | | | |
|------------|-----|---------------|--------|--------|--------|
| Calcium | ppm | ■ 1417 | ■ 1633 | ■ 1529 | ■ 1551 |
| Magnesium | ppm | ■ 429 | ■ 471 | ■ 459 | ■ 449 |
| Zinc | ppm | ■ 1051 | ■ 1077 | ■ 1003 | ■ 1005 |
| Phosphorus | ppm | ■ 840 | ■ 871 | ■ 841 | ■ 797 |
| Barium | ppm | ■ 0 | ■ 0 | ■ 0 | ■ 0 |
| Boron | ppm | ■ 39 | ■ 53 | ■ 53 | ■ 48 |

Depot: MCCEASVC
Unique No: 10807427
Signed: Jonathan Hester
Report Date: 29 Dec 2023

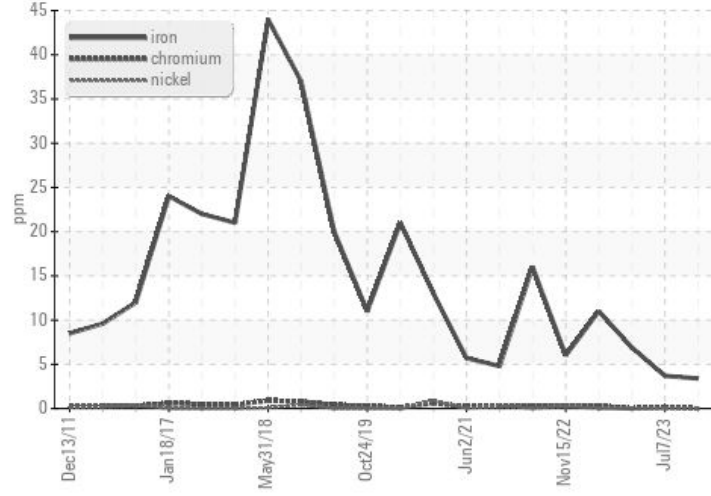


CONSTRUCTION EQUIPMENT

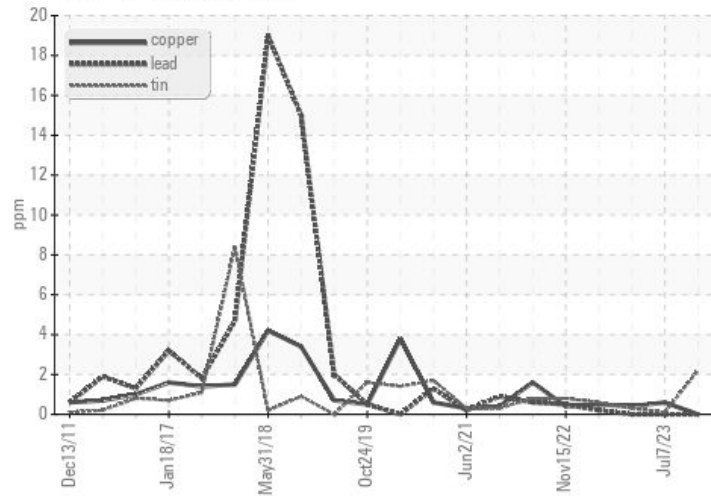


GRAPHS

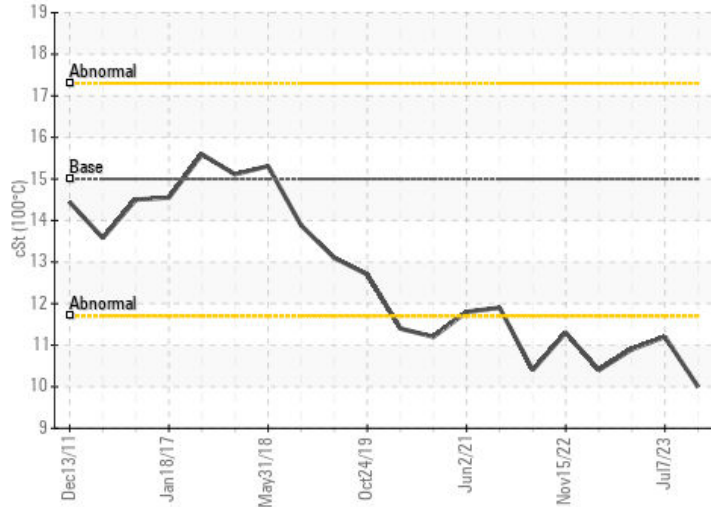
Ferrous Alloys



Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number

