



CONSTRUCTION EQUIPMENT

SW-28253-2 CLAWSON VOLVO A45G 352577 - DIESEL ENGINE



Sample No: VCP438048
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-28253-2 CLAWSON



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VCP438048 | VCP442162 | VCP360534 | VCP283930 |
| Sample Date | 12 Feb 2024 | 13 Oct 2023 | 07 Jul 2022 | 05 Apr 2022 |
| Machine Hours | 4573 | 4103 | 2827 | 2320 |
| Oil Hours | 478 | 400 | 500 | 500 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | NORMAL | NORMAL | NORMAL | NORMAL |

ARNOLD MACHINERY COMPANY
 2975 WEST 2100 SOUTH
 SALT LAKE CITY, UT
 US 84119
 Contact: TONY PAYAN
 tpayan@arnoldmachinery.com
 T: (801)972-4000
 F: (801)975-9434



OIL CONDITION

| | | | | | |
|------------------|----------|-------------|------|------|------|
| Visc @ 100°C | cSt | 13.1 | 13.6 | 13.1 | 13.1 |
| Base Number (BN) | mg KOH/g | 7.0 | 7.0 | 9.1 | 8.9 |
| Oxidation (PA) | % | 56 | 60 | 67 | 64 |

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.



CONTAMINATION

| | | | | | |
|----------------|-----|----------------|------|------|------|
| Water | % | NEG | NEG | NEG | NEG |
| Soot % | % | 0.6 | 0.3 | 0.6 | 0.6 |
| Nitration (PA) | % | 68 | 74 | 81 | 83 |
| Sulfation (PA) | % | 53 | 53 | 60 | 60 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | <1.0 | <1.0 |
| Silicon | ppm | 4 | 4 | 5 | 8 |
| Sodium | ppm | 3 | 2 | <1 | 2 |
| Potassium | ppm | 0 | 4 | 2 | 1 |



WEAR METALS

| | | | | | |
|------------|-----|--------------|----|----|----|
| Iron | ppm | 8 | 8 | 16 | 15 |
| Copper | ppm | 2 | 13 | 4 | 3 |
| Lead | ppm | <1 | 1 | 2 | 1 |
| Tin | ppm | <1 | <1 | 1 | 1 |
| Aluminum | ppm | 1 | 3 | 2 | 1 |
| Chromium | ppm | <1 | <1 | <1 | <1 |
| Molybdenum | ppm | 64 | 66 | 58 | 47 |
| Nickel | ppm | <1 | 1 | 2 | 2 |
| Titanium | ppm | 0 | 1 | 0 | <1 |
| Silver | ppm | 0 | 0 | 0 | 0 |
| Manganese | ppm | 0 | <1 | <1 | <1 |
| Vanadium | ppm | 0 | <1 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|-------------|------|------|------|
| Calcium | ppm | 1420 | 2058 | 1341 | 1338 |
| Magnesium | ppm | 577 | 218 | 816 | 966 |
| Zinc | ppm | 1189 | 1311 | 1238 | 1341 |
| Phosphorus | ppm | 998 | 1069 | 1022 | 1091 |
| Barium | ppm | 0 | 0 | 0 | 0 |
| Boron | ppm | 28 | 80 | 16 | 23 |

Depot: VOLVO8770
Unique No: 10886751
Signed: Wes Davis
Report Date: 21 Feb 2024



CONSTRUCTION EQUIPMENT



GRAPHS

