

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

277 FRONT Component

Diesel Engine

VALVOLINE 15W40 (--- GAL)

| | Τ | | N d a dia a si | L | (| 1 Passand | |
|---|------------------------|------------|--------------------------------|-----------|-------------|-----------|----------|
| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
| No corrective action is recommended at this time. Resample at the next service interval to monitor. | Sample Number | | Client Info | | CU0022469 | | |
| | Sample Date | le ve | Client Info | | 28 May 2024 | | |
| | Machine Age Oil Age | hrs | Client Info Client Info | | 986 | | |
| | Filter Age | hrs | Client Info | | 6 6 | | |
| | Oil Changed | hrs | Client Info | | Not Changd | | |
| | Filter Changed | | Client Info | | Not Change | | |
| | Sample Status | | Client Into | | NORMAL | | |
| | | | | | | | |
| WEAR | Iron | ppm | ASTM D5185(m) | >100 | 9 | | |
| Metal levels are typical for a new component breaking in. | Chromium | ppm | ASTM D5185(m) | >20 | <1 | | |
| | Nickel | ppm | ASTM D5185(m) | >4 | 0 | | |
| | Titanium | ppm | ASTM D5185(m) | | 0 | | |
| | Silver | ppm | ASTM D5185(m) | >3 | 0 | | |
| | Aluminum | ppm | ASTM D5185(m) | >20 | <1 | | |
| | Lead | ppm | ASTM D5185(m) | >40 | 0 | | |
| | Copper | ppm | ASTM D5185(m) | >330 | 1 | | |
| | Tin | ppm | ASTM D5185(m) | >15 | <1 | | |
| | Vanadium | ppm | ASTM D5185(m) | | 0 | | |
| | White Metal | scalar | Visual* | NONE | NONE | | |
| | Yellow Metal | scalar | Visual* | NONE | NONE | | |
| CONTAMINATION | Silicon | ppm | ASTM D5185(m) | >25 | 4 | | |
| | Potassium | ppm | ASTM D5185(m) | >20 | - <1 | | |
| Fuel content negligible. There is no indication of any contamination in the oil. | Fuel | % | ASTM D3103(III) ASTM D7593* | | 0.8 | | |
| | Water | /0 | WC Method | | NEG | | |
| | Glycol | | WC Method | / 0.12 | NEG | | |
| | Soot % | % | ASTM D7844* | >3 | 0 | | |
| | Nitration | Abs/cm | ASTM D7624* | >20 | 6.1 | | |
| | Sulfation | Abs/.1mm | ASTM D7415* | >30 | 20.2 | | |
| | Silt | scalar | Visual* | NONE | NONE | | |
| | Debris | scalar | Visual* | NONE | NONE | | |
| | Sand/Dirt | scalar | Visual* | NONE | NONE | | |
| | Appearance | scalar | Visual* | NORML | NORML | | |
| | Odor | scalar | Visual* | NORML | NORML | | |
| | Emulsified Water | scalar | Visual* | >0.2 | NEG | | |
| | Sodium | | | | E | [| |
| FLUID CONDITION | Sodium Boron | ppm ppm | ASTM D5185(m) ASTM D5185(m) | 39 | 5 43 | | |
| The condition of the oil is acceptable for the time in service. | Barium | ppm | ASTM D5185(m) ASTM D5185(m) | | 43 | | |
| | Molybdenum | ppm | ASTM D5185(m) | | 45 | | |
| | Manganese | ppm | | 1 | +5 <1 | | |
| | Magnesium | ppm | ASTM D5185(m) | 616 | 777 | | |
| | Calcium | ppm | ASTM D5185(m) | 1554 | 1150 | | |
| | Phosphorus | ppm | ASTM D5185(m) | 899 | 684 | | |
| | Zinc | ppm | ASTM D5185(m) | 1069 | 783 | | |
| | Sulfur | ppm | ASTM D5185(m) | 2624 | 1896 | | |
| | | | | | | | |

Oxidation

Abs/.1mm ASTM D7414* >25

Visc @ 100°C cSt ASTM D7279(m) 13.6

16.5

14.1



