WEAR
CONTAMINATION
FLUID CONDITION

NORMAL NORMAL NORMAL

Area

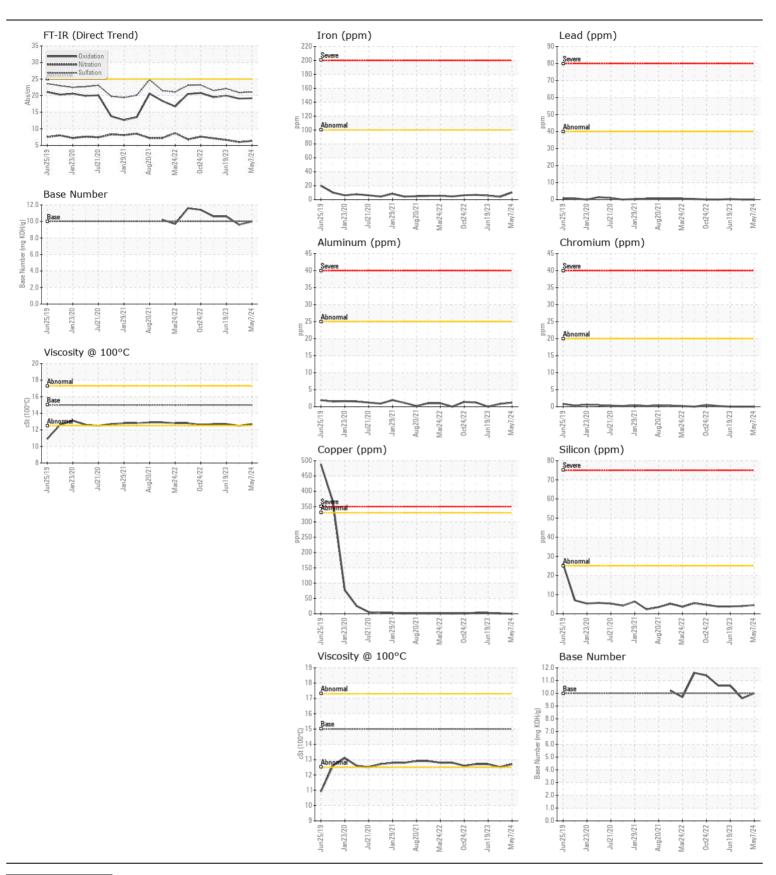
[SWO-071765]

VOLVO A45G 342546

Diesel Engine

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)

| Test | VOLVO ULTRA DIESEL ENGIN | E OIL 15W4 | O VDS | 5-3 (6 | iAL) | | | |
|--|---|------------------|----------|-------------|-----------|---------|----------|----------|
| Resample at the next service interval to monitor. | RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | Historv2 |
| Sample Date Client Info 07 May 2024 19 Jan 2025 | | | | | | | , | |
| Machine Age hrs Client Info 0 | Resample at the next service interval to monitor. | | | | | | | |
| Oil Age hrs Client Info O O O O O O O O O | | | hrs | Client Info | | - | 8046 | 7553 |
| Filter Age Priss Client Info Changed | | Oil Age | hrs | Client Info | | 0 | 0 | |
| Filter Changed Sample Status | | | | Client Info | | 0 | 0 | |
| Filter Changed Sample Status | | Oil Changed | | Client Info | | Changed | Changed | Changed |
| NORMAL N | | | | Client Info | | | _ | |
| All component wear rates are normal. Chromium ppm ASTM D5185m 22 <1 0 <1 0 <1 1 0 | | Sample Status | | | | NORMAL | NORMAL | _ |
| All component wear rates are normal. Chromium ppm ASTM D5185m 22 <1 0 <1 0 <1 1 0 | WEAR | Iron | maa | ASTM D5185m | >100 | 10 | 4 | 6 |
| Nicke | | | | | | | | |
| Titanium ppm ASTM D5185m 2 | | | | | | | | |
| Silver ppm ASTM D6185h >2 | | | | | | | | |
| Aluminum ppm ASTM D5185m 2-25 1 <1 0 0 <1 | | | | | >2 | | | |
| Lead | | | | | | | | |
| Copper | | | | | | | | |
| Tin | | | | | | | | |
| Vanadium ppm ASTM D5185m NONE NONE | | | | | | | -1 | |
| White Metal Scalar Visual NONE NON | | | | | 7.0 | | | |
| Vellow Metal Scalar Visual NONE NONE NONE NONE NONE | | | | | NONE | - | | |
| Silicon ppm ASTM D5185m >2.5 4 4 4 4 4 4 4 4 4 | | | | | | | | |
| Potassium ppm ASTM D5(85m >0 0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 < | | ····· | | | | | | |
| Potassium ppm ASTM D5(85m >0 0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 < | CONTAMINATION | Silicon | ppm | ASTM D5185m | >25 | 4 | 4 | 4 |
| Water WC Method So.2 NEG N | | Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Glycol | There is no indication of any contamination in the oil. | Fuel | | WC Method | >6.0 | <1.0 | <1.0 | <1.0 |
| Soot % % "ASTM D7844 >3 | | Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Nitration | | Glycol | | WC Method | | NEG | NEG | NEG |
| Sulfation Abs/.1mm "ASTM D7415 >30 21.1 20.9 22.1 | | Soot % | % | *ASTM D7844 | >3 | 0.1 | 0.1 | 0.1 |
| Silt Scalar *Visual NONE NO | | Nitration | Abs/cm | *ASTM D7624 | >20 | 6.3 | 6.0 | 6.6 |
| Debris Scalar *Visual NONE NORML | | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 21.1 | 20.9 | 22.1 |
| Sand/Dirt Scalar *Visual NONE NONE NONE NORML NO | | Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | | Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Codor Scalar *Visual NORML NORML NORML NEG NEG NEG | | Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Emulsified Water scalar *Visual >0.2 NEG NEG NEG | | Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Sodium ppm ASTM D5185m 2 3 0 | | Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Boron ppm ASTM D5185m 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Boron ppm ASTM D5185m 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | FLUID CONDITION | Sodium | ppm | ASTM D5185m | | 2 | 3 | 0 |
| The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185m 0.0 0 0 0 0 0 0 0 0 | | Boron | | ASTM D5185m | 2.5 | 51 | 44 | 72 |
| Molybdenum ppm ASTM D5185m 0.7 41 37 45 Manganese ppm ASTM D5185m 0.0 <1 | | Barium | | | | 0 | 0 | |
| Magnesium ppm ASTM D5185m 256 504 487 493 Calcium ppm ASTM D5185m 2057 1694 1572 1670 Phosphorus ppm ASTM D5185m 935 968 926 966 Zinc ppm ASTM D5185m 1223 1062 1060 1098 Sulfur ppm ASTM D5185m 4079 3304 2809 3096 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | Molybdenum | ppm | ASTM D5185m | 0.7 | 41 | 37 | 45 |
| Calcium ppm ASTM D5185m 2057 1694 1572 1670 Phosphorus ppm ASTM D5185m 935 968 926 966 Zinc ppm ASTM D5185m 1223 1062 1060 1098 Sulfur ppm ASTM D5185m 4079 3304 2809 3096 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | Manganese | ppm | ASTM D5185m | 0.0 | <1 | <1 | <1 |
| Calcium ppm ASTM D5185m 2057 1694 1572 1670 Phosphorus ppm ASTM D5185m 935 968 926 966 Zinc ppm ASTM D5185m 1223 1062 1060 1098 Sulfur ppm ASTM D5185m 4079 3304 2809 3096 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | | | ASTM D5185m | 256 | | 487 | 493 |
| Phosphorus ppm ASTM D5185m 935 968 926 966 Zinc ppm ASTM D5185m 1223 1062 1060 1098 Sulfur ppm ASTM D5185m 4079 3304 2809 3096 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | _ | | | | 1694 | 1572 | 1670 |
| Sulfur ppm ASTM D5185m 4079 3304 2809 3096 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | Phosphorus | | ASTM D5185m | 935 | 968 | 926 | 966 |
| Sulfur ppm ASTM D5185m 4079 3304 2809 3096 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | Zinc | | | | 1062 | 1060 | 1098 |
| Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.1 20.0 Base Number (BN) mg KOH/g ASTM D2896 10 10.0 9.6 10.6 | | Sulfur | | ASTM D5185m | 4079 | 3304 | 2809 | 3096 |
| | | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.2 | 19.1 | 20.0 |
| Visc @ 100°C cSt ASTM D445 15.0 \ 12.7 \) 12.5 12.7 | | Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | 10.0 | 9.6 | 10.6 |
| | | Visc @ 100°C | cSt | ASTM D445 | 15.0 | 12.7 | 12.5 | 12.7 |







Certificate L2367

Report Id: SAIBIR [WUSCAR] 06175073 (Generated: 05/13/2024 14:59:43) Rev: 1

Laboratory Sample No. Lab Number

: 06175073 Unique Number: 11021126

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : VCP450906

Received **Tested**

: 10 May 2024

: 10 May 2024 : 13 May 2024 - Don Baldridge

Diagnosed Test Package : MOB 1 (Additional Tests: TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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