

Machine Id **F19** Component **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (--- GAL)

| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|------------------|------------|----------------------------|-----------|-------------|-------------|-------------|
| Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. | Sample Number | | Client Info | | WC0874344 | WC0874301 | WC0874366 |
| | Sample Date | | Client Info | | 04 Jun 2024 | 02 Mar 2024 | 11 Dec 2023 |
| | Machine Age | hrs | Client Info | | 11087 | 9954 | 9956 |
| | Oil Age | hrs | Client Info | | 308 | 593 | 567 |
| | Filter Age | hrs | Client Info | | 308 | 593 | 567 |
| | Oil Changed | | Client Info | | Changed | Changed | Changed |
| | Filter Changed | | Client Info | | Changed | Changed | Changed |
| | Sample Status | | | | ATTENTION | NORMAL | NORMAL |
| WEAR All component wear rates are normal. | Iron | ppm | ASTM D5185m | >110 | 8 | 9 | 6 |
| | Chromium | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| | Nickel | ppm | ASTM D5185m | >2 | 1 | 0 | 0 |
| | Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Silver | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| | Aluminum | ppm | ASTM D5185m | >25 | 3 | 3 | 4 |
| | Lead | ppm | ASTM D5185m | >45 | 2 | <1 | 0 |
| | Copper | ppm | ASTM D5185m | >85 | 2 | 1 | 2 |
| | Tin | ppm | ASTM D5185m | >4 | 1 | <1 | 0 |
| | Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| | White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| | Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| CONTAMINATION | Silicon | | ASTM D5185m | × 20 | 7 | 6 | 5 |
| | Potassium | ppm | ASTM D5185m | | 6 | 3 | 9 |
| There is no indication of any contamination in the oil. | Fuel | ppm % | | >20 >5 | ہ <1.0 | 0.2 | <1.0 |
| | Water | /0 | WC Method | | NEG | NEG | NEG |
| | Glycol | | WC Method | >0.2 | NEG | NEG | NEG |
| | Soot % | % | *ASTM D7844 | . ? | 0.4 | 0.3 | 0.4 |
| | Nitration | Abs/cm | *ASTM D7644 | >20 | 8.2 | 7.5 | 8.3 |
| | Sulfation | Abs/.1mm | *ASTM D7024 | | 19.4 | 18.6 | 19.2 |
| | Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| | Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| | Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| | Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| | Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| | Emulsified Water | | *Visual | >0.2 | NEG | NEG | NEG |
| FLUID CONDITION | Codium | | | . 150 | | 0 | E |
| | Sodium Boron | ppm | ASTM D5185m ASTM D5185m | | 2 13 | 3 14 | 5 14 |
| The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. | Barium | ppm | ASTM D5185m | | 0 | 0 | |
| | Molybdenum | ppm | ASTM D5185m | | 70 | 68 | 0 62 |
| | Manganese | ppm | ASTM D5185m | 100 | | 0 | <1 |
| | Magnesium | ppm ppm | ASTM D5185m | 450 | <1 939 | 912 | 823 |
| | Calcium | ppm | ASTM D5185m | | 1239 | 1232 | 1314 |
| | Phosphorus | ppm | ASTM D5185m | | 1132 | 1093 | 1078 |
| | Zinc | | ASTM D5185m | | 1363 | 1258 | 1279 |
| | Sulfur | ppm ppm | ASTM D5185m | | 4312 | 3564 | 3266 |
| | Oxidation | Abs/.1mm | *ASTM D5105111 | | 14.5 | 13.9 | 14.8 |
| | Base Number (BN) | | | | 8.4 | 8.1 | 7.9 |
| | | ing itoniy | 101102030 | 0.0 | 0.4 | 0.1 | 1.5 |

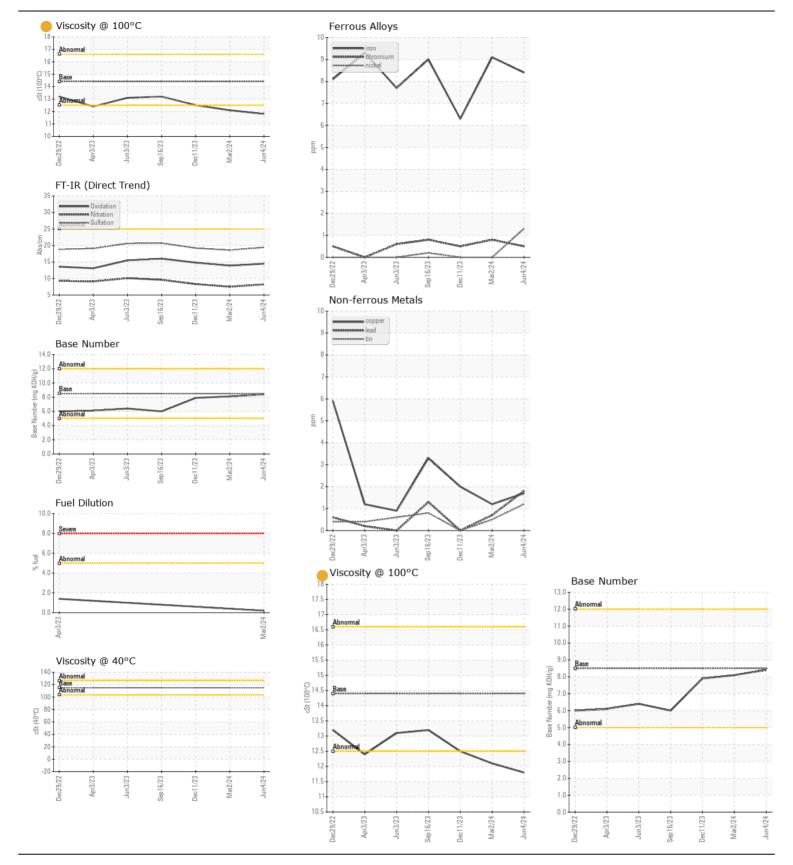
Visc @ 100°C cSt

12.1

12.5

11.8

ASTM D445 14.4



Apple Valley Waste - EHT Location Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : WC0874344 Received 6626 Delilah Road : 01 Jul 2024 Lab Number : 06225464 Tested : 03 Jul 2024 Egg Harbor Township, NJ : 03 Jul 2024 - Don Baldridge US 08234 Unique Number : 11103661 Diagnosed Test Package : CONST (Additional Tests: FuelDilution, KV40, PercentFuel, TBN) Contact: Service Manager Certificate L2367 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. T: F:

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

Contact/Location: Service Manager - AVWEHT Page 2 of 2