Machine ld
G1
Diesel Engine DIESEL ENGINE OIL SAE 15W40 (--- GAL)

| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. | Sample Number |  | Client Info |  | WC0874368 | WC0783980 | WC0783996 |
|  | Sample Date |  | Client Info |  | 09 Dec 2023 | 24 Aug 2023 | 04 Apr 2023 |
|  | Machine Age | hrs | Client Info |  | 10237 | 9667 | 8989 |
|  | Oil Age | hrs | Client Info |  | 569 | 332 | 579 |
|  | Filter Age | hrs | Client Info |  | 569 | 0 | 579 |
|  | Oil Changed |  | Client Info |  | Changed | Changed | Changed |
|  | Filter Changed |  | Client Info |  | Changed | Changed | Changed |
|  | Sample Status |  |  |  | NORMAL | NORMAL | NORMAL |
| WEAR | Iron | ppm | ASTM D5185m | >120 | 12 | 12 | 32 |
| All component wear rates are normal. | Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
|  | Nickel | ppm | ASTM D5185m | >5 | <1 | 0 | <1 |
|  | Titanium | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
|  | Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
|  | Aluminum | ppm | ASTM D5185m | >20 | 2 | 1 | 6 |
|  | Lead | ppm | ASTM D5185m | >40 | <1 | <1 | <1 |
|  | Copper | ppm | ASTM D5185m | >330 | 2 | <1 | 2 |
|  | Tin | ppm | ASTM D5185m | >15 | 1 | <1 | <1 |
|  | Vanadium | ppm | ASTM D5185m |  | <1 | 0 | 0 |
|  | White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
|  | Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| CONTAMNATION | Silicon | ppm | ASTM D5185m | >25 | 9 | 4 | 8 |
| There is no indication of any contamination in the oil. | Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | 4 |
|  | Fuel |  | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
|  | Water |  | WC Method | $>0.2$ | NEG | NEG | NEG |
|  | Glycol |  | WC Method |  | NEG | NEG | NEG |
|  | Soot \% | \% | *ASTM D7844 | >4 | 0.7 | 0.5 | 1.3 |
|  | Nitration | Abs/cm | *ASTM D7624 | >20 | 9.1 | 8.2 | 11.4 |
|  | Sulfation | Abs. 1 mm | *ASTM D7415 | >30 | 20.3 | 20.0 | 27.0 |
|  | 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 | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| FLUID CONDITION | Sodium | ppm | ASTM D5185m | >158 | 8 | 5 | 4 |
| 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 | 250 | 8 | 18 | 14 |
|  | Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
|  | Molybdenum | ppm | ASTM D5185m | 100 | 62 | 75 | 80 |
|  | Manganese | ppm | ASTM D5185m |  | <1 | <1 | <1 |
|  | Magnesium | ppm | ASTM D5185m | 450 | 846 | 446 | 87 |
|  | Calcium | ppm | ASTM D5185m | 3000 | 1203 | 1864 | 2152 |
|  | Phosphorus | ppm | ASTM D5185m | 1150 | 1026 | 1021 | 925 |
|  | Zinc | ppm | ASTM D5185m | 1350 | 1194 | 1280 | 1190 |
|  | Sulfur | ppm | ASTM D5185m | 4250 | 2659 | 3861 | 3470 |
|  | Oxidation | Abs. 1 mm | *ASTM D7414 | >25 | 15.1 | 14.4 | 19.7 |
|  | Base Number (BN) | $\mathrm{mg} \mathrm{KOH/g}$ | ASTM D2896 | 8.5 | 6.7 | 6.7 | 3.7 |
|  | Visc @ 100 ${ }^{\circ} \mathrm{C}$ | cSt | ASTM D445 | 14.4 | 12.9 | 13.8 | 13.7 |



| Sample No. | $:$ WC0874368 | Recieved | $: 16$ Jan 2024 |
| :--- | :--- | :--- | :--- |
| Lab Number | $: 06060547$ | Diagnosed | $: 16$ Jan 2024 |
| Unique Number | $: 10831929$ | Diagnostician | $:$ Wes Davis |

Certificate L2367 Test Package: CONST (Additional Tests: TBN )
Apple Valley Waste - EHT Location
6626 Delilah Road
Egg Harbor Township, NJ US 08234

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.

