WEAR CONTAMINATION **FLUID CONDITION**

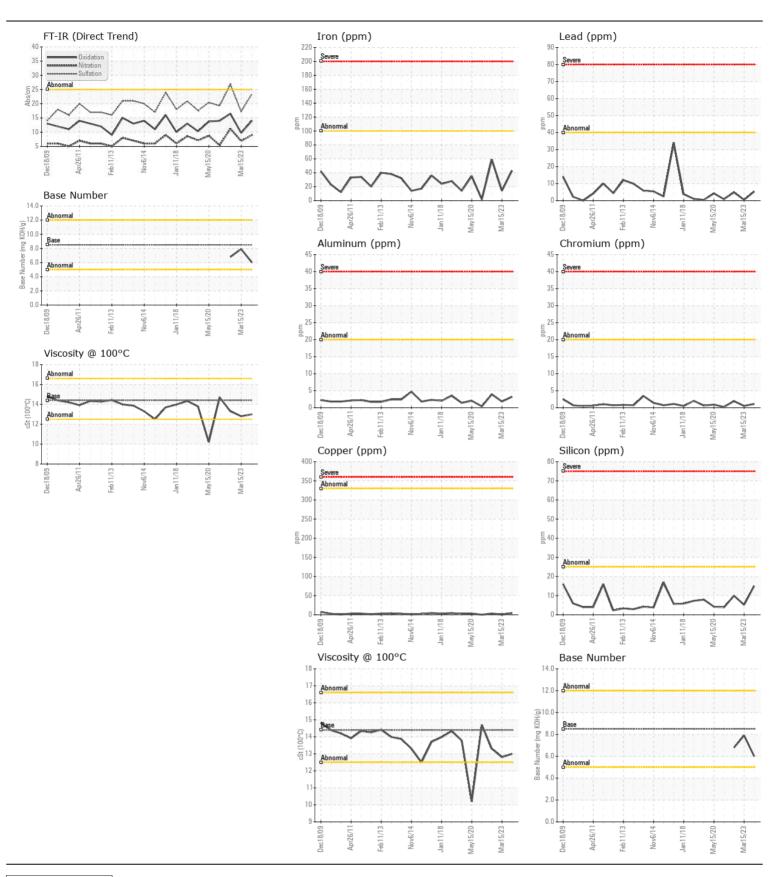
NORMAL NORMAL NORMAL

Machine Id

SEAGRAVE M00461

Component
Diesel Engine

| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|--|------------------|----------|-------------|-----------------|-------------|-------------|------------|
| | Sample Number | | Client Info | | DC0036420 | DC0026269 | DC002344 |
| Resample at the next service interval to monitor. | Sample Date | | Client Info | | 20 May 2024 | 15 Mar 2023 | 05 Oct 202 |
| | Machine Age | mls | Client Info | | 202712 | 18977 | 18733 |
| | Oil Age | mls | Client Info | | 0 | 0 | 0 |
| | Filter Age | mls | Client Info | | 0 | 0 | 0 |
| | Oil Changed | | Client Info | | Changed | Changed | Changed |
| | Filter Changed | | Client Info | | Changed | Changed | Changed |
| | Sample Status | | | | NORMAL | NORMAL | NORMAL |
| VEAR | Iron | ppm | ASTM D5185m | >100 | 43 | 14 | 59 |
| | Chromium | ppm | ASTM D5185m | >20 | 1 | <1 | 2 |
| All component wear rates are normal. | Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Titanium | ppm | ASTM D5185m | | <1 | <1 | 4 |
| | Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| | Aluminum | ppm | ASTM D5185m | | 3 | 2 | 4 |
| | Lead | ppm | ASTM D5185m | | 5 | <1 | 5 |
| | Copper | ppm | ASTM D5185m | | 4 | <1 | 3 |
| | Tin | ppm | ASTM D5185m | | 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 |
| CONTAMINATION | Silicon | nnm | ASTM D5185m | > 25 | 15 | 5 | 10 |
| CONTAMINATION | Potassium | ppm | ASTM D5185m | | 3 | <1 | 2 |
| There is no indication of any contamination in the oil. | Fuel | ppm | WC Method | | <1.0 | <1.0 | <1.0 |
| | Water | | WC Method | | NEG | NEG | NEG |
| | Glycol | | WC Method | <i>></i> 0.2 | NEG | NEG | NEG |
| | Soot % | % | *ASTM D7844 | ~3 | 1.3 | 0.4 | 1.7 |
| | Nitration | Abs/cm | *ASTM D7624 | | 9.0 | 6.9 | 11.2 |
| | Sulfation | Abs/.1mm | *ASTM D7415 | | 23.5 | 17.2 | 26.8 |
| | 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 | NORM |
| | Odor | scalar | *Visual | NORML | NORML | NORML | NORM |
| | Emulsified Water | | *Visual | >0.2 | NEG | NEG | NEG |
| | | | | | | | |
| FLUID CONDITION | Sodium | ppm | ASTM D5185m | | 6 | 2 | 5 |
| The BN result indicates that there is suitable alkalinity remaining in the | Boron | ppm | ASTM D5185m | | 4 | 0 | 6 |
| oil. The condition of the oil is suitable for further service. | Barium | ppm | ASTM D5185m | | 0 | 0 | 2 |
| | Molybdenum | ppm | ASTM D5185m | 100 | 9 | 2 | 11 |
| | Manganese | ppm | ASTM D5185m | | <1 | 1 | <1 |
| | Magnesium | ppm | ASTM D5185m | | 130 | 40 | 159 |
| | Calcium | ppm | ASTM D5185m | | 2242 | 2350 | 2162 |
| | Phosphorus | ppm | ASTM D5185m | | 915 | 884 | 922 |
| | Zinc | ppm | ASTM D5185m | | 991 | 1090 | 1118 |
| | Sulfur | ppm | ASTM D5185m | | 3912 | 4291 | 4011 |
| | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.0 | 9.7 | 16.5 |
| | Base Number (BN) | 1/2/11 | ASTM D2896 | | 6.0 | 7.9 | 6.8 |





Certificate L2367

Laboratory Sample No.

: DC0036420 Lab Number : 06194825

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

: 29 May 2024

: 30 May 2024 : 30 May 2024 - Wes Davis

Unique Number: 11056948 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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