



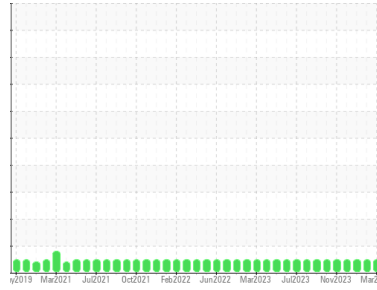
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Mt. Vernon
 Machine Id
[Mt. Vernon] Oil - Starboard Reduction Gear
 Component
Starboard Reduction Gear
 Fluid
DIESEL ENGINE OIL SAE 15W40 (53 GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

The water content is negligible. There is no indication of any contamination in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0845781 | WC0845788 | WC0735755 |
| Sample Date | Client Info | | 16 Mar 2024 | 15 Feb 2024 | 30 Dec 2023 |
| Machine Age | hrs | Client Info | 11383 | 10665 | 9796 |
| Oil Age | hrs | Client Info | 11383 | 10665 | 9796 |
| Oil Changed | Client Info | | Not Changed | Not Changed | Not Changed |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >150 | 81 | 83 | 74 |
| Chromium | ppm | ASTM D5185m >10 | 1 | 1 | <1 |
| Nickel | ppm | ASTM D5185m >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >25 | 1 | <1 | 0 |
| Lead | ppm | ASTM D5185m >100 | <1 | <1 | 2 |
| Copper | ppm | ASTM D5185m >50 | 64 | 65 | 58 |
| Tin | ppm | ASTM D5185m >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 250 | 5 | 5 | 4 |
| Barium | ppm | ASTM D5185m 10 | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 100 | 68 | 64 | 61 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m 450 | 152 | 152 | 145 |
| Calcium | ppm | ASTM D5185m 3000 | 2459 | 2481 | 2244 |
| Phosphorus | ppm | ASTM D5185m 1150 | 705 | 672 | 615 |
| Zinc | ppm | ASTM D5185m 1350 | 765 | 736 | 758 |
| Sulfur | ppm | ASTM D5185m 4250 | 5845 | 5222 | 5103 |

CONTAMINANTS

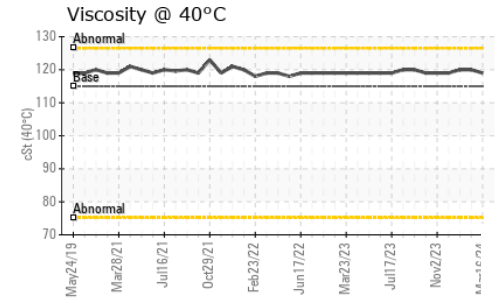
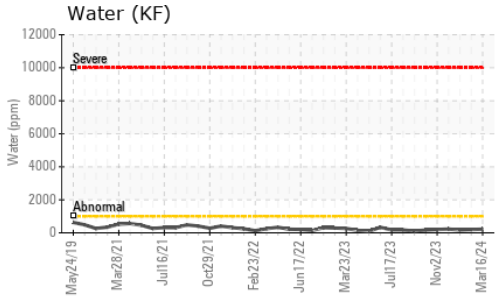
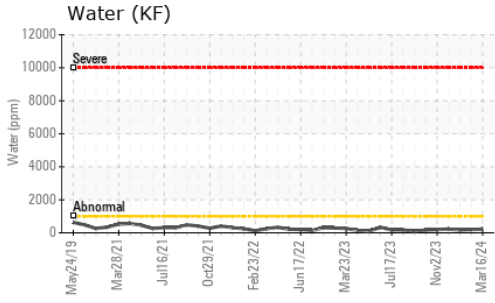
| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >50 | 5 | 4 | 3 |
| Sodium | ppm | ASTM D5185m >158 | 2 | 3 | 3 |
| Potassium | ppm | ASTM D5185m >20 | 4 | <1 | 2 |
| Water | % | ASTM D6304 >0.1 | 0.022 | 0.019 | 0.017 |
| ppm Water | ppm | ASTM D6304 >1000 | 222 | 200 | 172 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.68 | 0.69 | 0.59 |



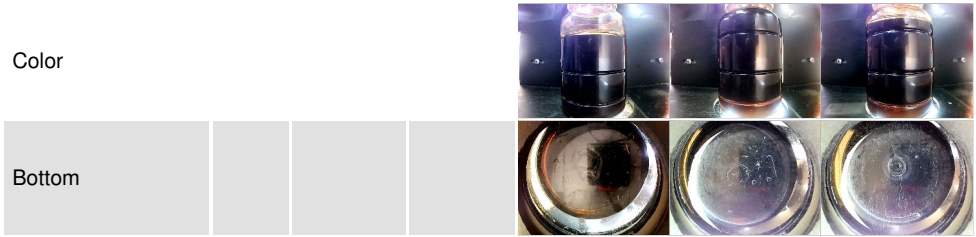
OIL ANALYSIS REPORT



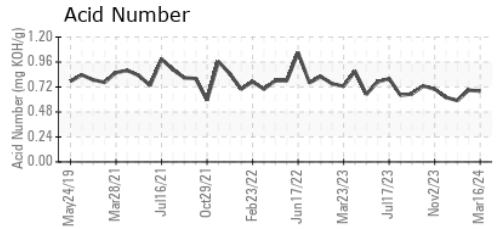
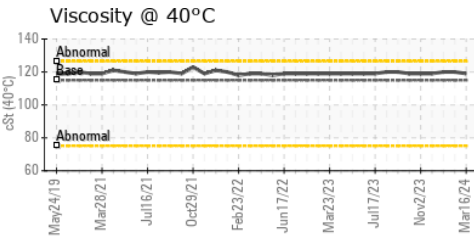
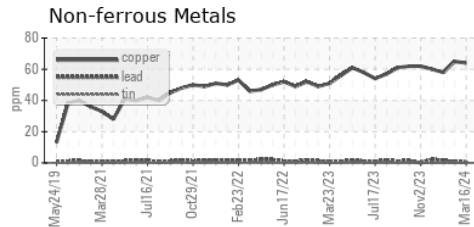
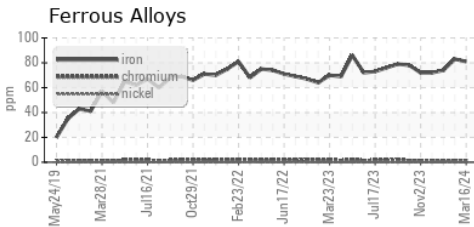
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 115 | 119 | 120 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0845781 **Received** : 27 Mar 2024
Lab Number : **06130697** **Tested** : 28 Mar 2024
Unique Number : 10950162 **Diagnosed** : 28 Mar 2024 - Wes Davis
Test Package : IND 2 (Additional Tests: KF)

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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)