



OIL ANALYSIS REPORT

| | |
|-----------------|--------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

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

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0874301 | WC0874366 | WC0784015 |
| Sample Date | | Client Info | | 02 Mar 2024 | 11 Dec 2023 | 16 Sep 2023 |
| Machine Age | hrs | Client Info | | 9954 | 9956 | 6936 |
| Oil Age | hrs | Client Info | | 593 | 567 | 1732 |
| Filter Age | hrs | Client Info | | 593 | 567 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >110 | 9 | 6 | 9 |
| Chromium | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | 4 | 3 |
| Lead | ppm | ASTM D5185m | >45 | <1 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >85 | 1 | 2 | 3 |
| Tin | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

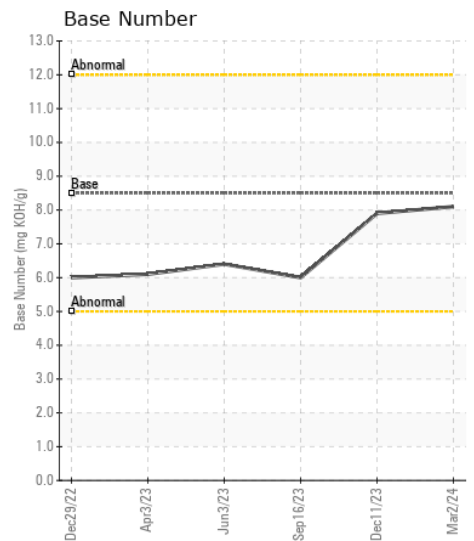
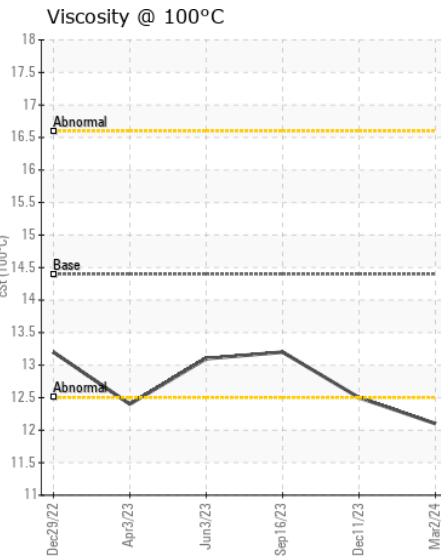
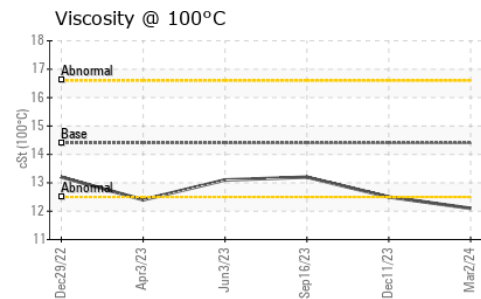
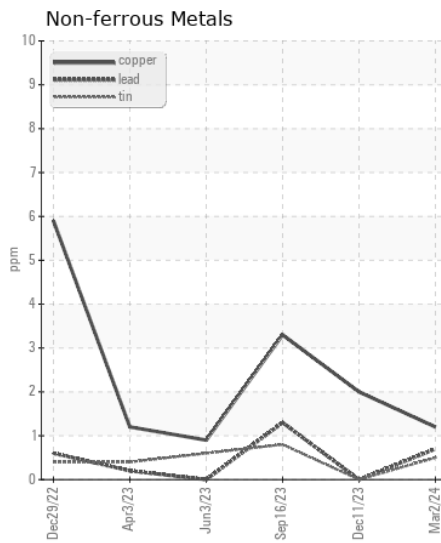
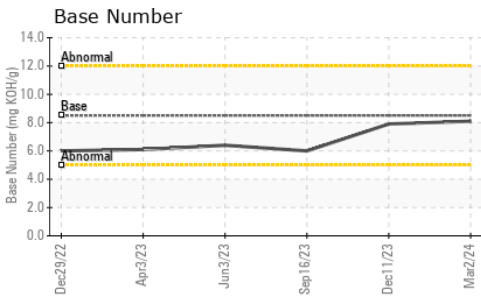
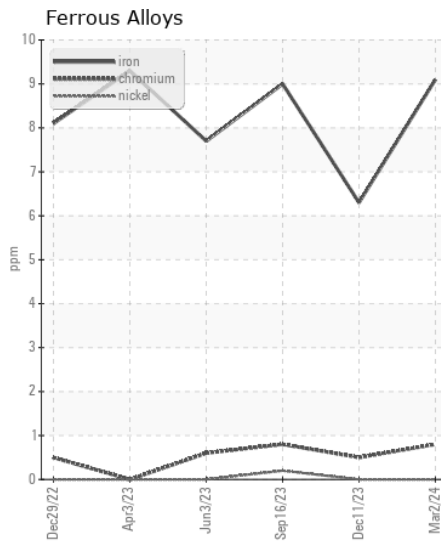
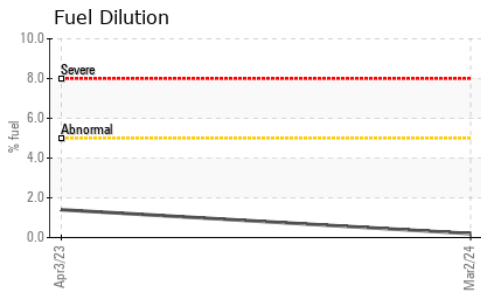
Fuel content negligible. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >30 | 6 | 5 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 9 | 7 |
| Fuel | % | ASTM D3524 | >5 | 0.2 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 0.4 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.5 | 8.3 | 9.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.6 | 19.2 | 20.7 |
| 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

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185m | >158 | 3 | 5 | 3 |
| Boron | ppm | ASTM D5185m | 250 | 14 | 14 | 22 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 68 | 62 | 82 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 912 | 823 | 225 |
| Calcium | ppm | ASTM D5185m | 3000 | 1232 | 1314 | 2234 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1093 | 1078 | 1125 |
| Zinc | ppm | ASTM D5185m | 1350 | 1258 | 1279 | 1373 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3564 | 3266 | 4538 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 13.9 | 14.8 | 16.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 8.1 | 7.9 | 6.0 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 12.1 | 12.5 | 13.2 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0874301 **Received** : 18 Mar 2024
Lab Number : 06121396 **Tested** : 21 Mar 2024
Unique Number : 10930229 **Diagnosed** : 21 Mar 2024 - Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

Apple Valley Waste - EHT Location
 6626 Delilah Road
 Egg Harbor Township, NJ
 US 08234
 Contact: Service Manager

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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F: