



OIL ANALYSIS REPORT

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

Machine Id
M32014
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DC0034076 | DC0032035 | DC0026259 |
| Sample Date | | Client Info | | 01 May 2024 | 15 Nov 2023 | 14 Apr 2023 |
| Machine Age | mls | Client Info | | 53938 | 37920 | 16617 |
| Oil Age | mls | Client Info | | 3397 | 2372 | 1058 |
| Filter Age | mls | Client Info | | 3397 | 2372 | 1058 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | ABNORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 152 | 48 | 85 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 20 | 17 | 23 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 5 | 4 | 51 |
| 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 |

CONTAMINATION

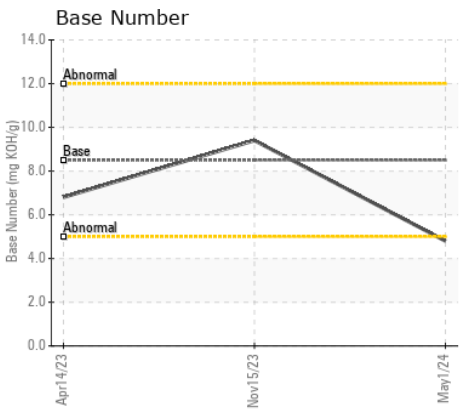
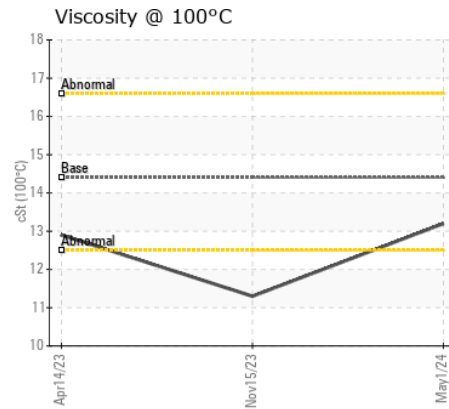
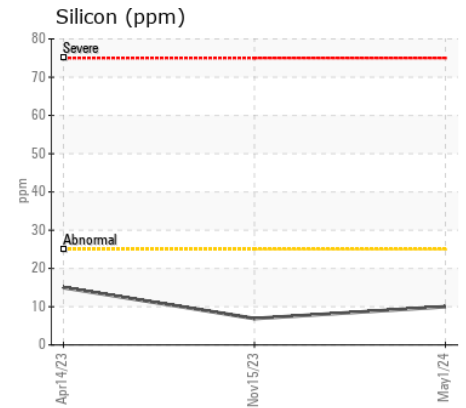
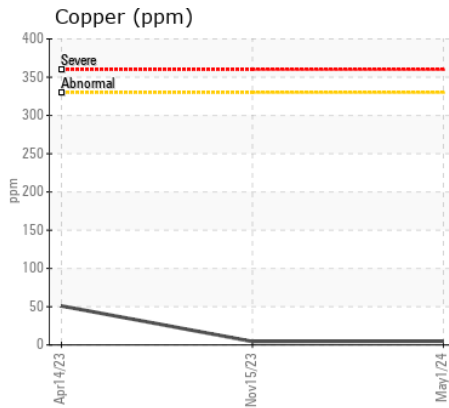
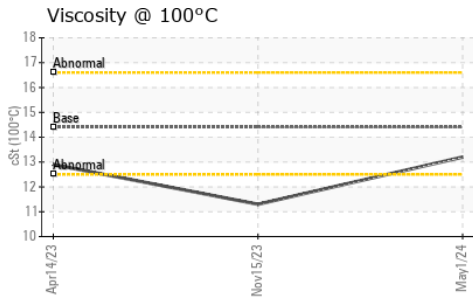
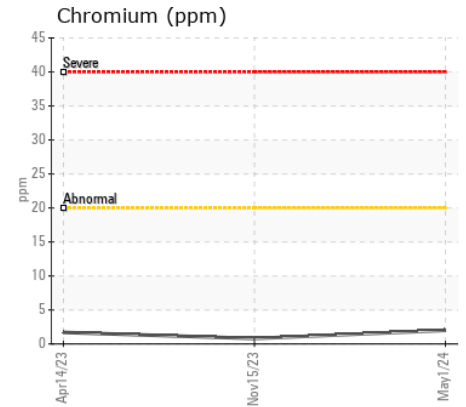
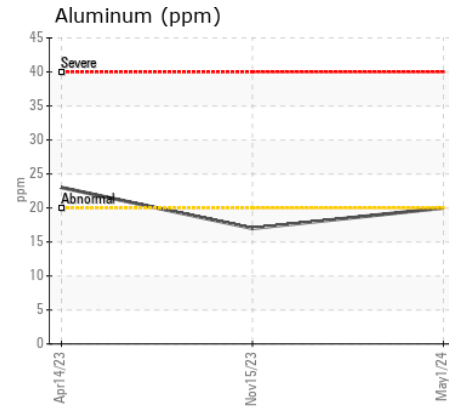
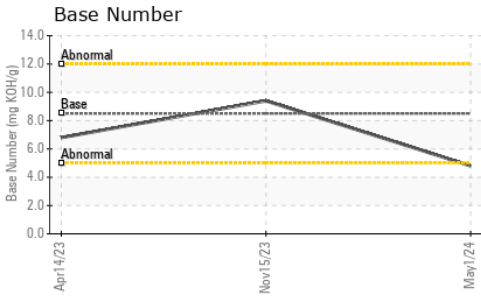
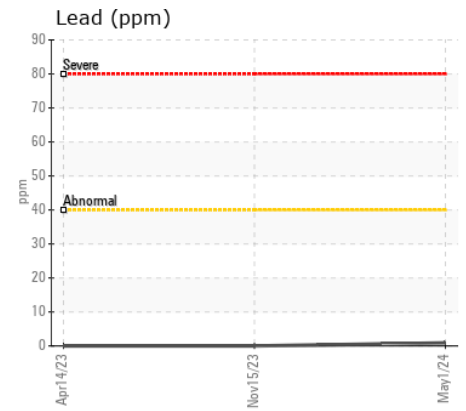
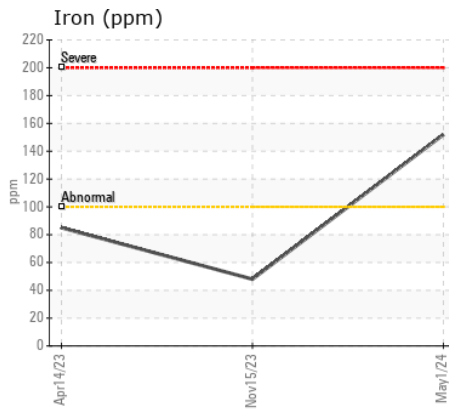
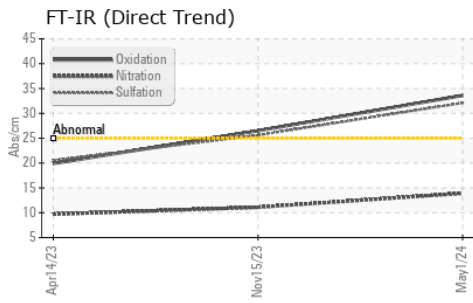
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 10 | 7 | 15 |
| Potassium | ppm | ASTM D5185m | >20 | 24 | 27 | 38 |
| Fuel | | WC Method | >5 | <1.0 | ▲ 2.4 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 1 | 0.5 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 13.9 | 11.1 | 9.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 32.1 | 25.6 | 20.5 |
| 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 | 6 | 6 | 3 |
| Boron | ppm | ASTM D5185m | 250 | 62 | 37 | 8 |
| Barium | ppm | ASTM D5185m | 10 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 10 | 43 | 58 |
| Manganese | ppm | ASTM D5185m | | 2 | 1 | 2 |
| Magnesium | ppm | ASTM D5185m | 450 | 108 | 465 | 1014 |
| Calcium | ppm | ASTM D5185m | 3000 | 2486 | 1722 | 1159 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1098 | 1103 | 997 |
| Zinc | ppm | ASTM D5185m | 1350 | 1351 | 1306 | 1287 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3827 | 2961 | 3034 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 33.6 | 26.5 | 19.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 4.8 | 9.4 | 6.8 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.2 | ▲ 11.3 | 12.9 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0034076 **Received** : 29 May 2024
Lab Number : 06194834 **Tested** : 30 May 2024
Unique Number : 11056957 **Diagnosed** : 31 May 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

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 5046 BUCHANAN ST.
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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)