



OIL ANALYSIS REPORT

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

Machine Id
1458
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0906171 | WC0821298 | WC0772898 |
| Sample Date | | Client Info | | 06 Mar 2024 | 14 Jun 2023 | 23 Jan 2023 |
| Machine Age | mls | Client Info | | 230797 | 214143 | 204212 |
| Oil Age | mls | Client Info | | 0 | 0 | 0 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 14 | 13 | 9 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 9 | 7 | 5 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

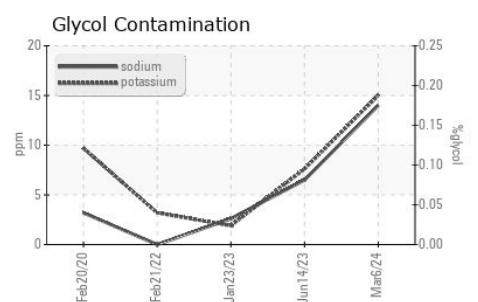
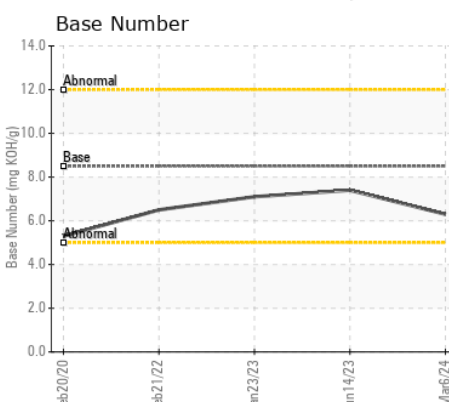
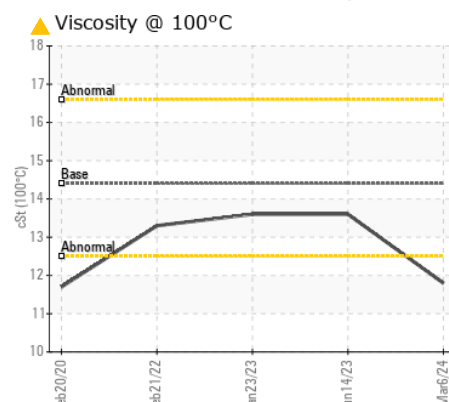
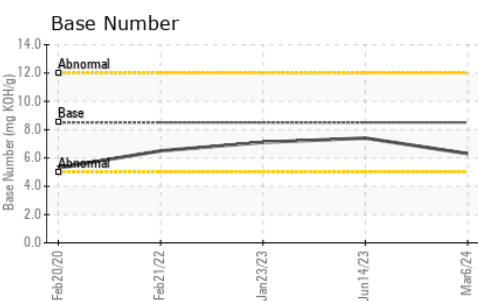
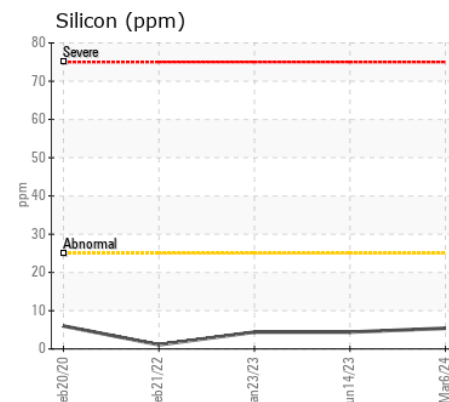
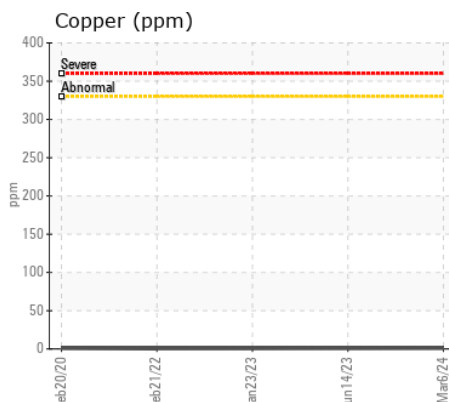
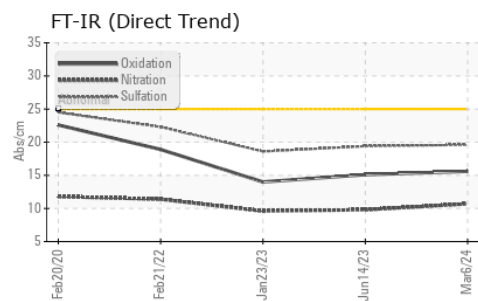
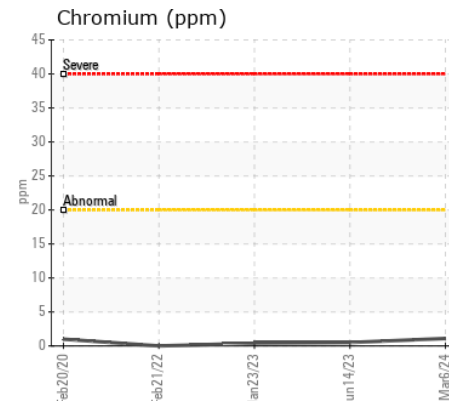
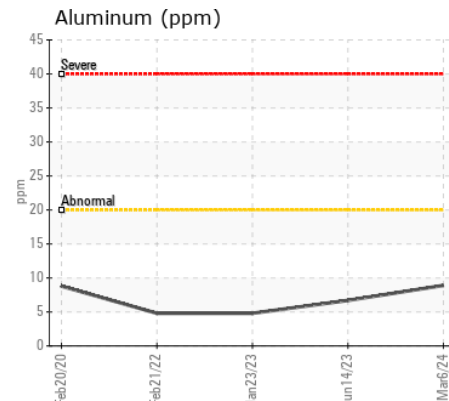
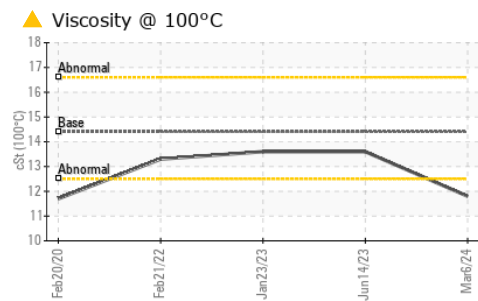
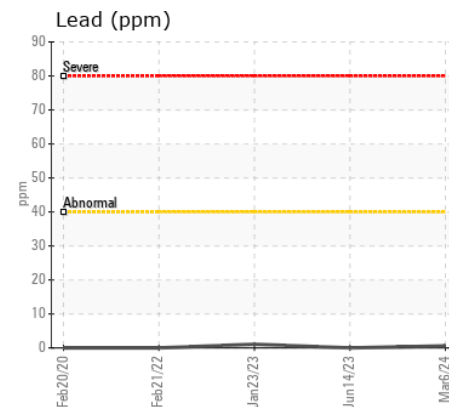
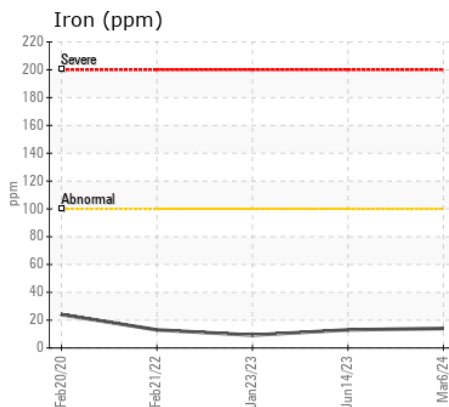
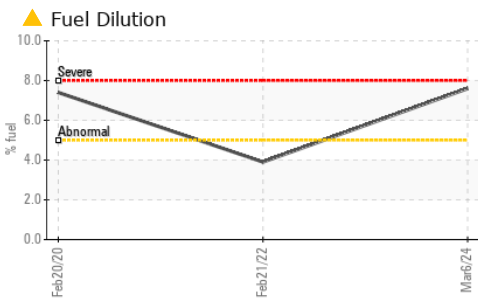
There is a moderate amount of fuel present in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 5 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 15 | 8 | 2 |
| Fuel | % | ASTM D3524 | >5 | ▲ 7.6 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | *ASTM D2982 | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.7 | 0.6 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.7 | 9.8 | 9.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.6 | 19.4 | 18.6 |
| 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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

| | | | | | | |
|------------------|----------|-------------|------|---------------|------|------|
| Sodium | ppm | ASTM D5185m | >158 | 14 | 6 | 3 |
| Boron | ppm | ASTM D5185m | 250 | 36 | 32 | 46 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 1 |
| Molybdenum | ppm | ASTM D5185m | 100 | 85 | 83 | 79 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 103 | 133 | 65 |
| Calcium | ppm | ASTM D5185m | 3000 | 2047 | 2225 | 2136 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1070 | 1036 | 1002 |
| Zinc | ppm | ASTM D5185m | 1350 | 1214 | 1240 | 1230 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3848 | 4245 | 4336 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.6 | 15.1 | 14.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 6.3 | 7.4 | 7.1 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | ▲ 11.8 | 13.6 | 13.6 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0906171 **Received** : 23 May 2024
Lab Number : 06189027 **Tested** : 28 May 2024
Unique Number : 11045779 **Diagnosed** : 28 May 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel, 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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