



OIL ANALYSIS REPORT

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

Machine Id
1758
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 5W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0905835 | WC0761251 | WC0761250 |
| Sample Date | | Client Info | | 07 Mar 2024 | 12 Dec 2022 | 09 Dec 2022 |
| Machine Age | mls | Client Info | | 50780 | 24415 | 24263 |
| 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 | | | | NORMAL | NORMAL | NORMAL |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 13 | 29 | 28 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | 1 | 1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 9 | 11 | 11 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 1 | 6 | 13 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

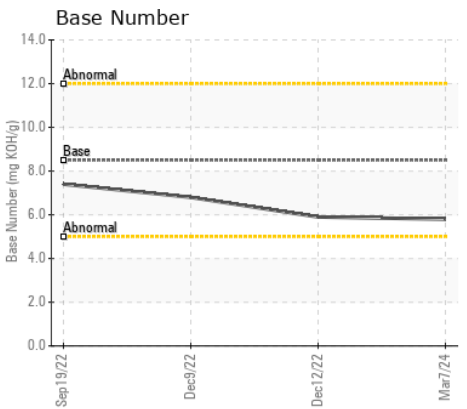
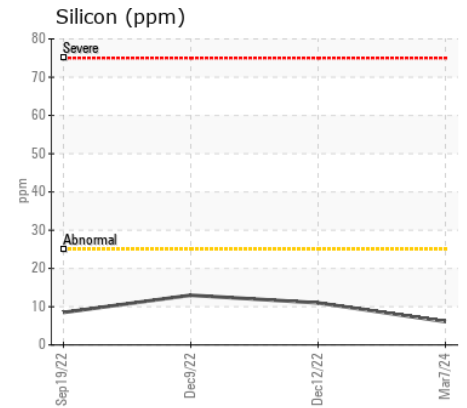
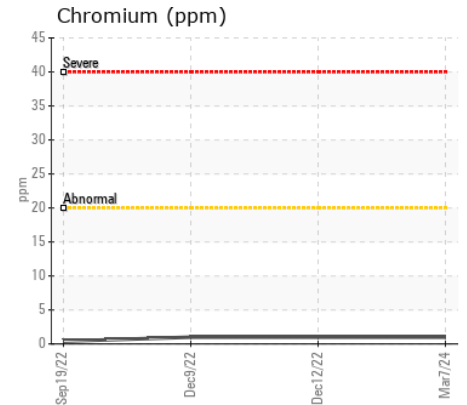
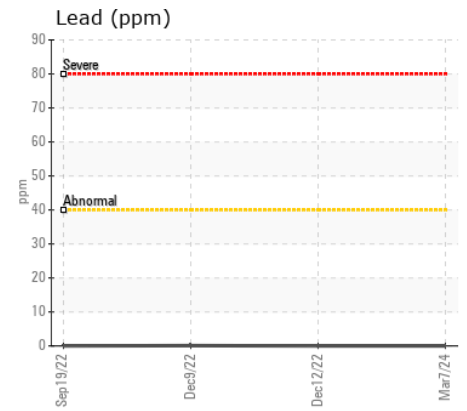
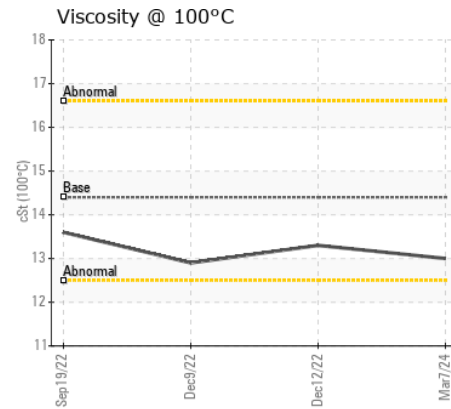
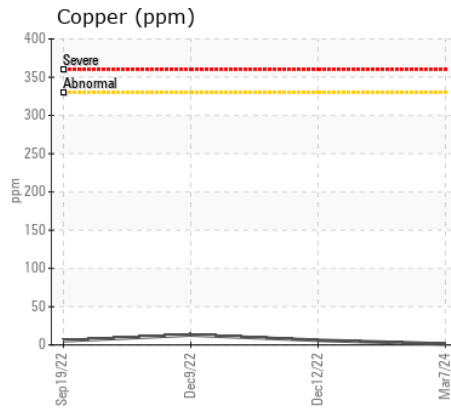
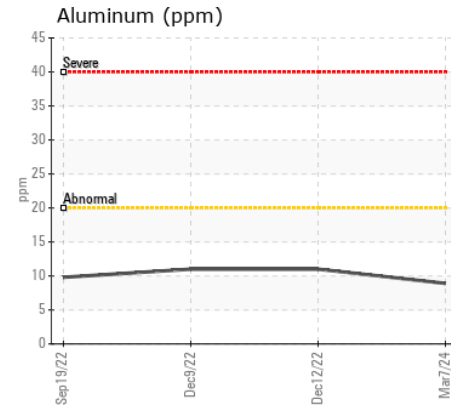
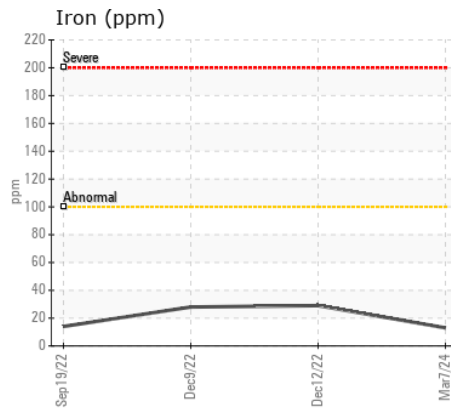
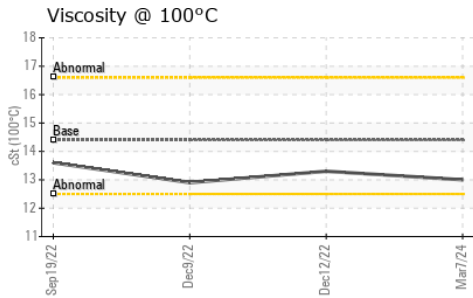
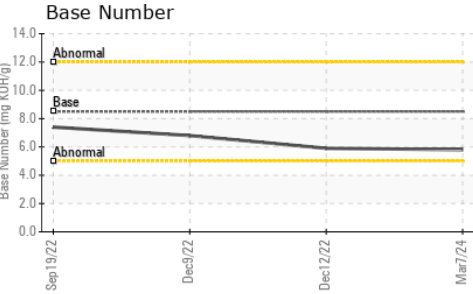
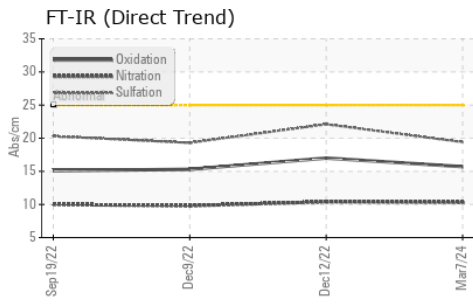
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 11 | 13 |
| Potassium | ppm | ASTM D5185m | >20 | 10 | 28 | 27 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.5 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.3 | 10.4 | 9.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.4 | 22.1 | 19.3 |
| 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 | >44 | 3 | 3 | 4 |
| Boron | ppm | ASTM D5185m | 250 | 33 | 17 | 36 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 1 | 3 |
| Molybdenum | ppm | ASTM D5185m | 100 | 84 | 58 | 69 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | 450 | 108 | 91 | 204 |
| Calcium | ppm | ASTM D5185m | 3000 | 1933 | 2047 | 1809 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 914 | 861 | 879 |
| Zinc | ppm | ASTM D5185m | 1350 | 1141 | 1075 | 1058 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3432 | 3471 | 3179 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.7 | 17.0 | 15.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 5.8 | 5.9 | 6.8 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.0 | 13.3 | 12.9 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0905835 **Received** : 23 May 2024
Lab Number : 06189016 **Tested** : 24 May 2024
Unique Number : 11045768 **Diagnosed** : 24 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

WAKE COUNTY PUBLIC SCHOOL SYSTEM
 1551 ROCK QUARRY ROAD
 RALEIGH, NC
 US 27610
 Contact: DEVIN WEBER
 dweber@wcpss.net
 T: (919)856-8076
 F: x:

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)