



OIL ANALYSIS REPORT

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

Machine Id

378

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 15W40 (--- 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 | | WC0870860 | WC0870811 | WC0806664 |
| Sample Date | | Client Info | | 30 Jan 2024 | 31 Oct 2023 | 03 Apr 2023 |
| Machine Age | mls | Client Info | | 219315 | 214199 | 204003 |
| 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

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 37 | 17 | 38 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 6 | 4 | 5 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 3 | 2 | 5 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

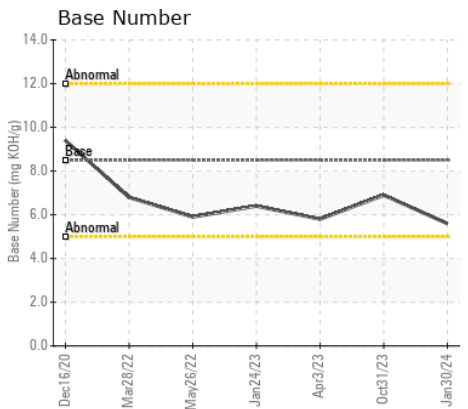
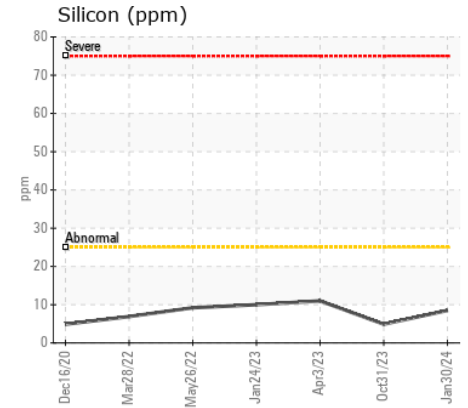
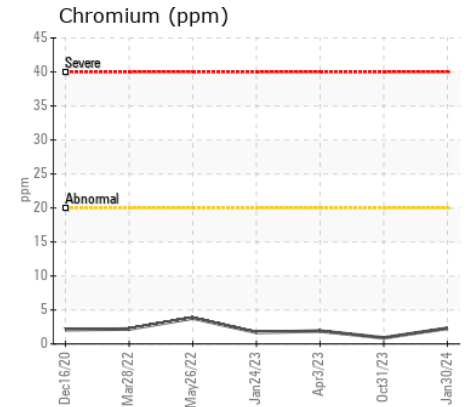
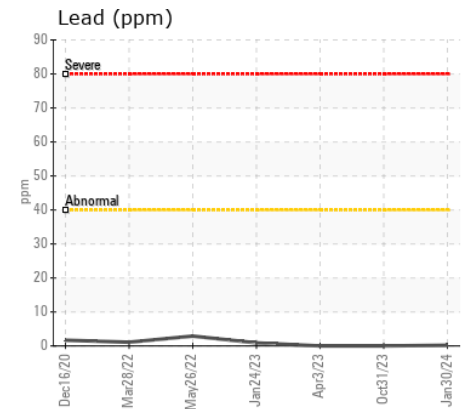
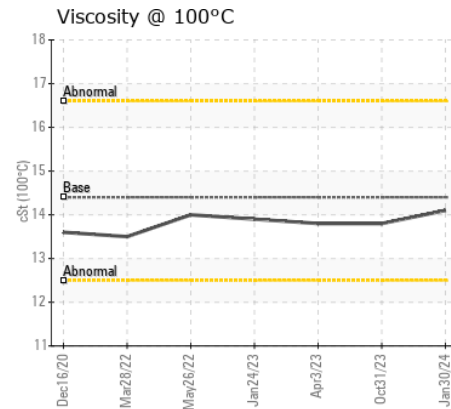
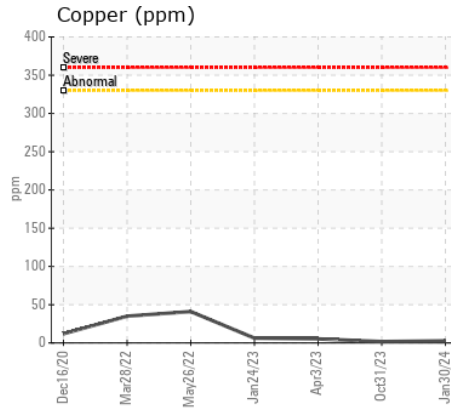
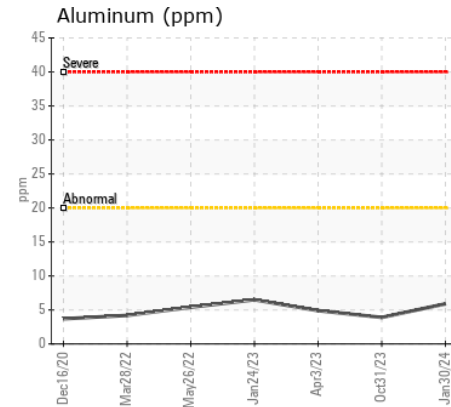
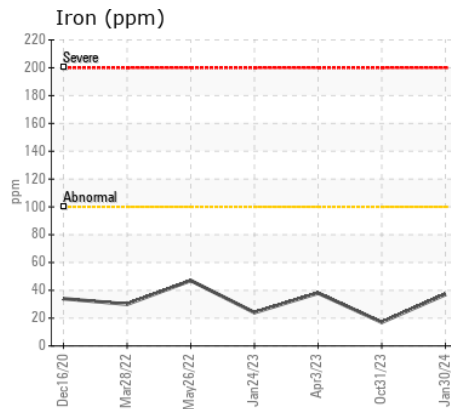
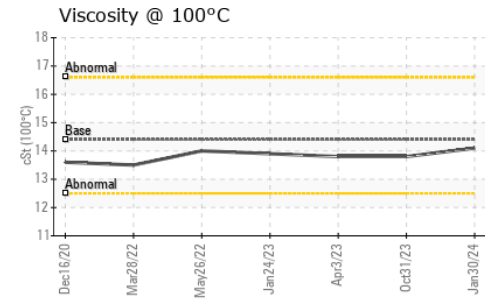
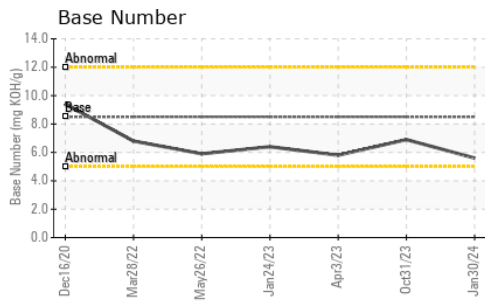
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 8 | 5 | 11 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 4 | 3 |
| 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 | 0.8 | 0.4 | 0.8 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.6 | 9.8 | 11.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 24.2 | 19.5 | 23.5 |
| 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 | 4 | <1 | 6 |
| Boron | ppm | ASTM D5185m | 250 | 13 | 27 | 16 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 6 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 87 | 84 | 82 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 236 | 168 | 149 |
| Calcium | ppm | ASTM D5185m | 3000 | 2050 | 2070 | 2221 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1032 | 1022 | 1010 |
| Zinc | ppm | ASTM D5185m | 1350 | 1275 | 1202 | 1318 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3705 | 3807 | 4196 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.8 | 15.6 | 18.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 5.6 | 6.9 | 5.8 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 14.1 | 13.8 | 13.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0870860 **Received** : 29 Feb 2024
Lab Number : 06104845 **Tested** : 01 Mar 2024
Unique Number : 10903075 **Diagnosed** : 01 Mar 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)