



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

Machine Id
8313042
 Component
Diesel Engine
 Fluid
{not provided} (--- GAL)

RECOMMENDATION

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 | | IL0030990 | IL0034817 | IL05967549 |
| Sample Date | | Client Info | | 06 Mar 2024 | 01 Dec 2023 | 16 Aug 2023 |
| Machine Age | mls | Client Info | | 170563 | 145674 | 119856 |
| Oil Age | mls | Client Info | | 0 | 40000 | 40000 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 12 | 23 | 12 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 2 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 11 | 4 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 5 | 2 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 2 | 1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

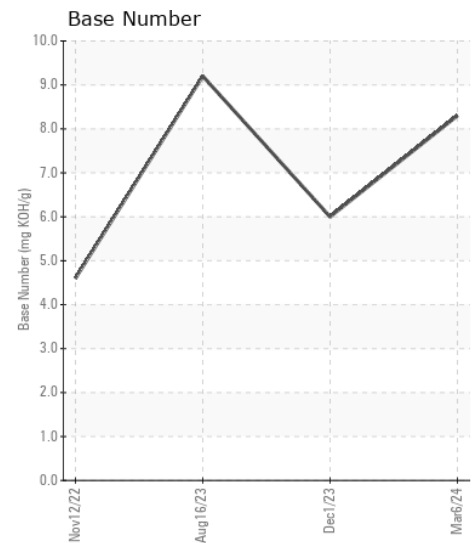
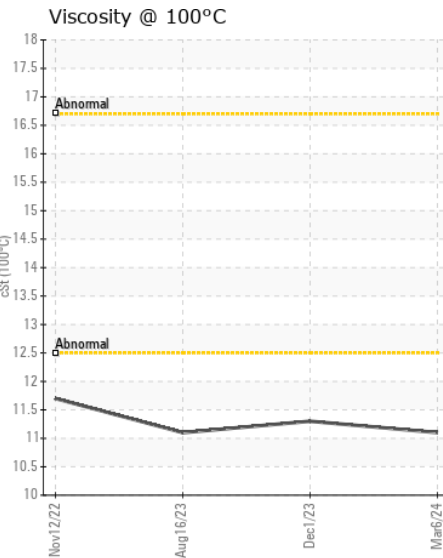
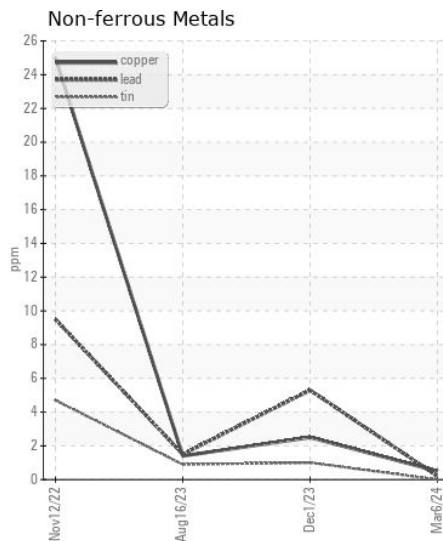
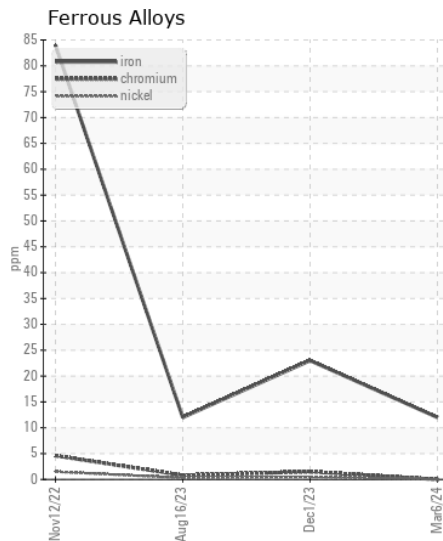
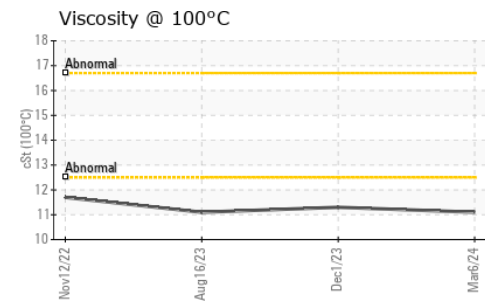
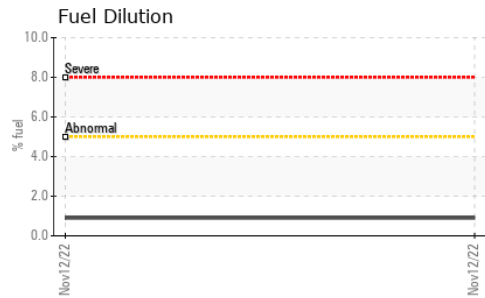
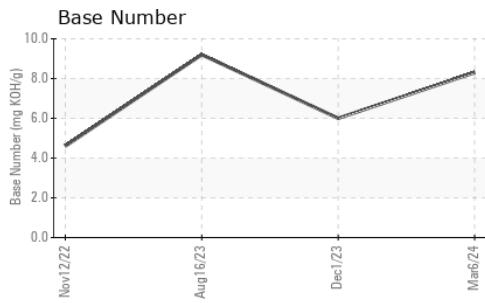
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 7 | 9 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 5 | 28 | 13 |
| Fuel | % | ASTM D3524 | >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 | 0.3 | 0.5 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.6 | 11.5 | 8.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.7 | 24.9 | 22.5 |
| 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 | | 2 | 4 | 2 |
| Boron | ppm | ASTM D5185m | | 31 | 15 | 28 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 41 | 43 | 44 |
| Manganese | ppm | ASTM D5185m | | 0 | 1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 506 | 489 | 504 |
| Calcium | ppm | ASTM D5185m | | 1733 | 1620 | 1650 |
| Phosphorus | ppm | ASTM D5185m | | 789 | 699 | 722 |
| Zinc | ppm | ASTM D5185m | | 963 | 887 | 899 |
| Sulfur | ppm | ASTM D5185m | | 2864 | 2304 | 2470 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 22.4 | 27.1 | 21.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 8.3 | 6.0 | 9.2 |
| Visc @ 100°C | cSt | ASTM D445 | | 11.1 | 11.3 | 11.1 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : IL0030990

Lab Number : 06123358

Unique Number : 10937509

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 20 Mar 2024

Tested : 22 Mar 2024

Diagnosed : 22 Mar 2024 - Sean Felton

IDEALRELEASE OF ATLANTA - FULTON

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ATLANTA, GA

US 30331

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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)