



WEAR CHECK

OIL ANALYSIS REPORT

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

Machine Id
3806
Component
Diesel Engine
Fluid
SHELL 10W30 (42 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0916561 | WC0878551 | WC0822930 |
| Sample Date | | Client Info | | 30 Apr 2024 | 08 Jan 2024 | 05 Aug 2023 |
| Machine Age | mls | Client Info | | 263946 | 248523 | 224029 |
| Oil Age | mls | Client Info | | 15442 | 24494 | 4820 |
| Filter Age | mls | Client Info | | 15442 | 24494 | 4820 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >90 | 17 | 19 | 7 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 1 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | 4 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 2 | 5 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 2 | <1 | <1 |
| 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

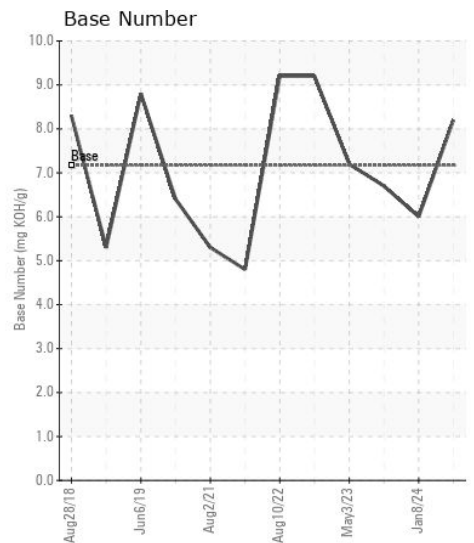
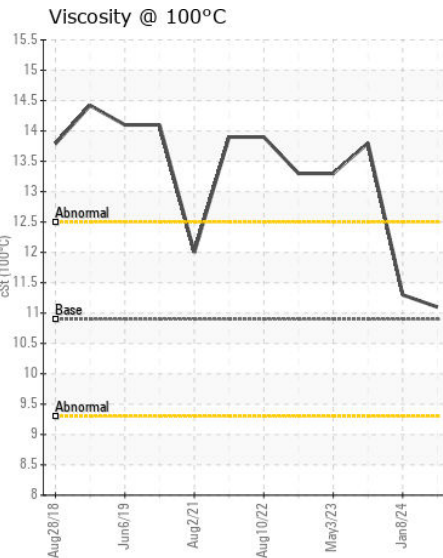
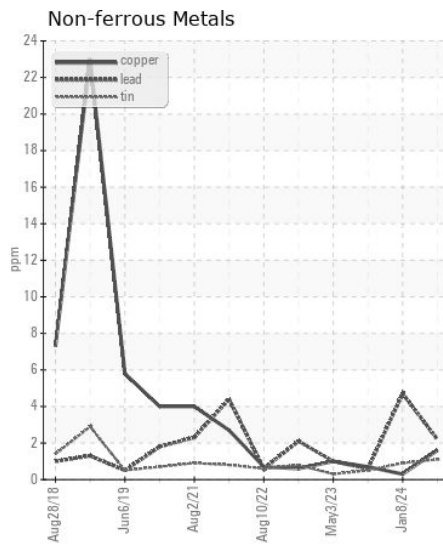
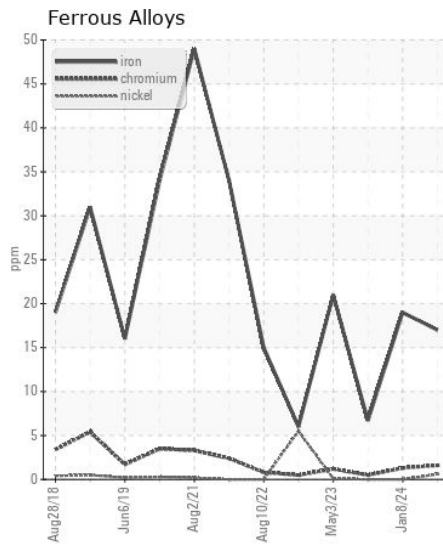
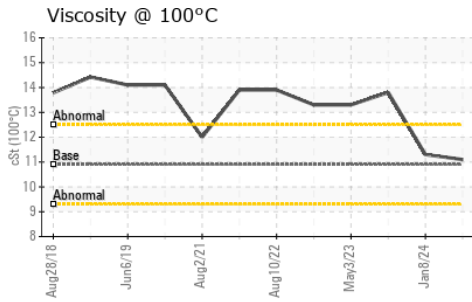
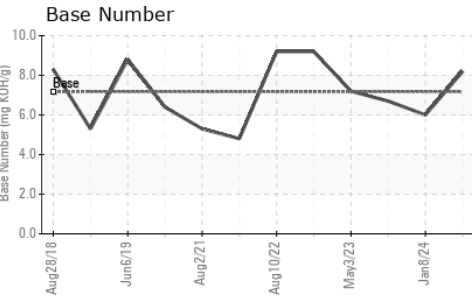
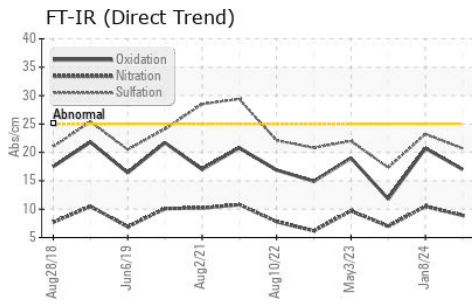
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 5 | 5 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 8 | 6 | 5 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >6 | 0.3 | 0.4 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.9 | 10.5 | 7.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.7 | 23.2 | 17.3 |
| 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 | | 2 | <1 | 2 |
| Boron | ppm | ASTM D5185m | | 1 | 5 | 24 |
| Barium | ppm | ASTM D5185m | | 1 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | | 61 | 59 | 21 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 470 | 979 | 928 | 127 |
| Calcium | ppm | ASTM D5185m | 1150 | 1086 | 1204 | 2198 |
| Phosphorus | ppm | ASTM D5185m | 94 | 1041 | 1142 | 941 |
| Zinc | ppm | ASTM D5185m | 1030 | 1251 | 1323 | 1175 |
| Sulfur | ppm | ASTM D5185m | | 3153 | 3048 | 4181 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 17.0 | 20.7 | 11.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 7.17 | 8.2 | 6.0 | 6.7 |
| Visc @ 100°C | cSt | ASTM D445 | 10.90 | 11.1 | 11.3 | 13.8 |



Certificate L2367

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

Sample No. : WC0916561

Lab Number : 06191933

Unique Number : 11048685

Test Package : FLEET

Received : 28 May 2024

Tested : 29 May 2024

Diagnosed : 29 May 2024 - Wes Davis

CARCO TRANSPORTATION

3403 EAST ROOSEVELT ROAD

LITTLE ROCK, AR

US 72206

Contact: DENNIS CATES

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T: (800)967-0777

F:

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)