



OIL ANALYSIS REPORT

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



Area
DE Samples - CAT LAB
Machine Id
CATERPILLAR 980H LOADER 6821 (S/N JMS06208)
Component
Rear Right Final Drive
Fluid
TULCO LUBSOIL TO-4 50 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | TO10002063 | TO10003146 | TO10002865 |
| Sample Date | | Client Info | | 08 May 2024 | 20 Feb 2024 | 13 Nov 2023 |
| Machine Age | hrs | Client Info | | 29374 | 28828 | 28310 |
| Oil Age | hrs | Client Info | | 5765 | 5219 | 4444 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Changed | Not Changd |
| Filter Changed | | Client Info | | N/A | None | None |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| PQ | | ASTM D8184 | >500 | 29 | 24 | 21 |
| Iron | ppm | ASTM D5185m | >800 | 18 | 10 | 10 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >75 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >75 | 3 | 1 | 1 |
| Tin | ppm | ASTM D5185m | >8 | <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

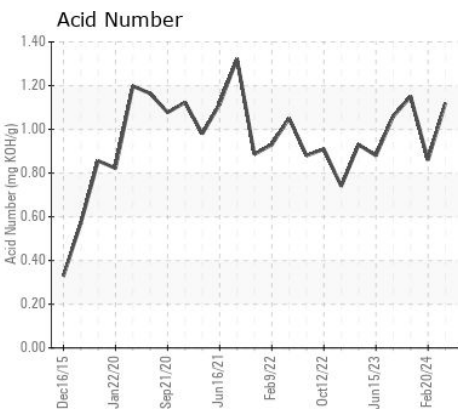
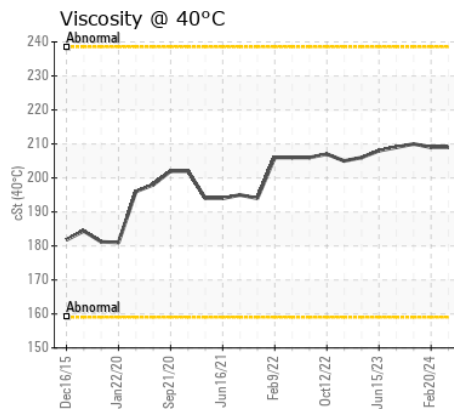
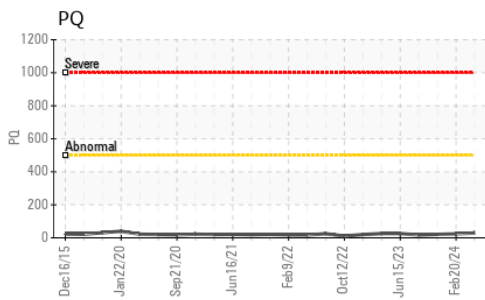
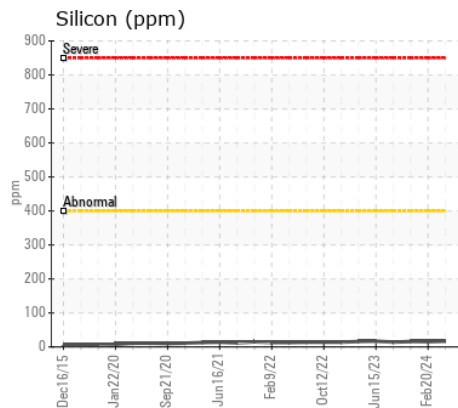
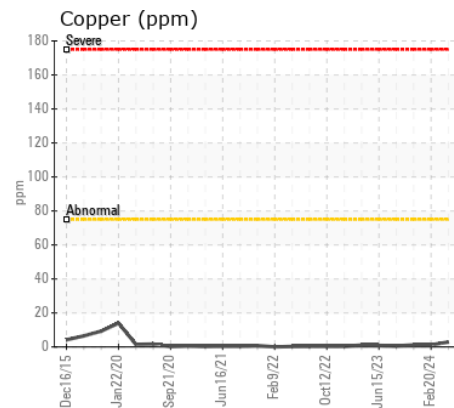
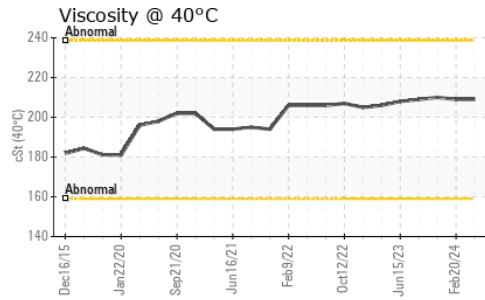
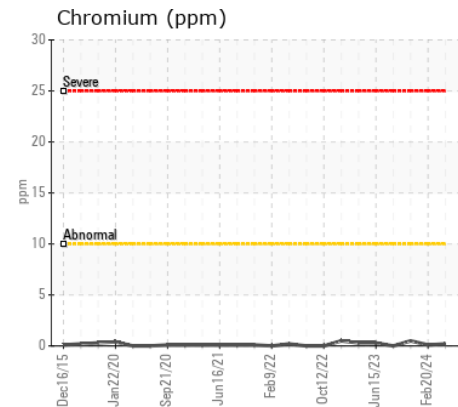
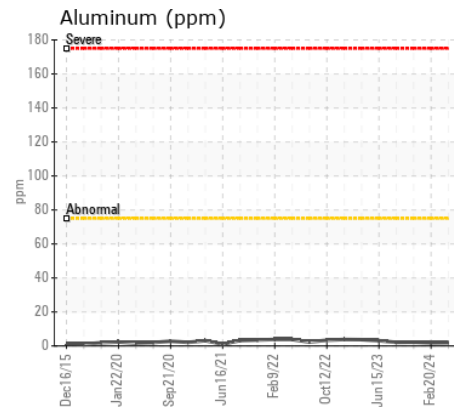
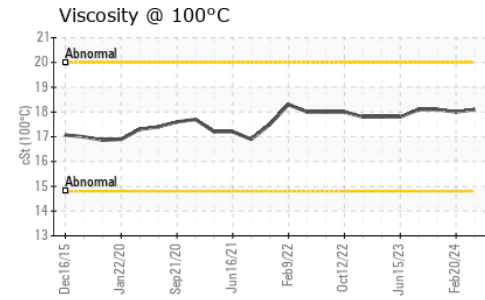
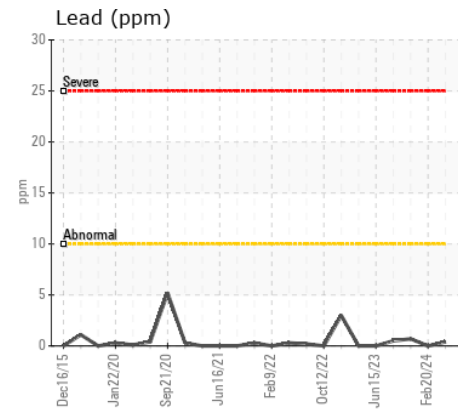
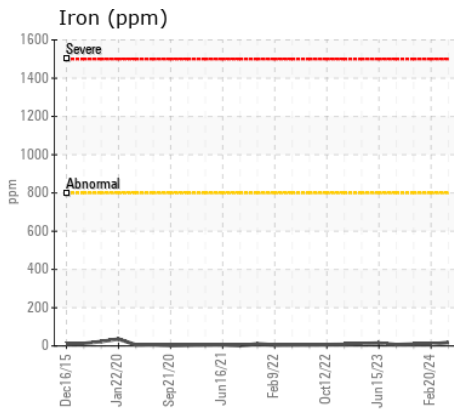
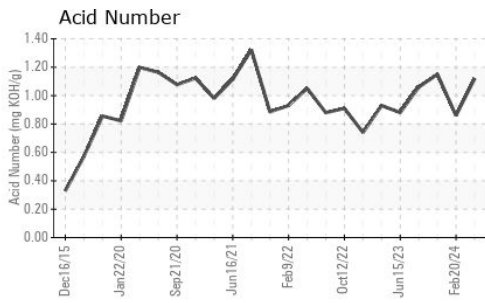
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >400 | 17 | 15 | 16 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 0 | 0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| | | | | | | |
|----------------------|----------|-------------|--|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | <1 | 4 | 5 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 12 | 14 | 0 |
| Calcium | ppm | ASTM D5185m | | 3530 | 3314 | 3394 |
| Phosphorus | ppm | ASTM D5185m | | 962 | 908 | 795 |
| Zinc | ppm | ASTM D5185m | | 1149 | 1131 | 1115 |
| Sulfur | ppm | ASTM D5185m | | 5793 | 4786 | 4344 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.12 | 0.86 | 1.15 |
| Visc @ 40°C | cSt | ASTM D445 | | 209 | 209 | 210 |
| Visc @ 100°C | cSt | ASTM D445 | | 18.1 | 18.0 | 18.1 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | 94 | 93 | 94 |



Certificate L2367

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

Sample No. : TO10002063

Lab Number : 06177817

Unique Number : 11029143

Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

Received : 13 May 2024

Tested : 15 May 2024

Diagnosed : 15 May 2024 - Wes Davis

ANCHOR STONE TULSA ROCK

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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)