



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
Front 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 | | TO10003088 | TO10003143 | TO10002861 |
| 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 | 4701 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | 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 | 44 | 45 | 39 |
| Iron | ppm | ASTM D5185m | >800 | 51 | 43 | 41 |
| 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 | 4 | 4 | 4 |
| Lead | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >75 | 4 | 2 | 3 |
| 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

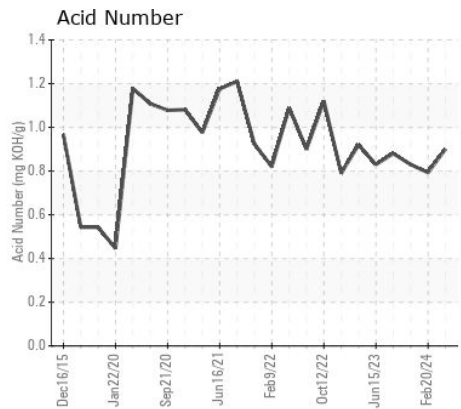
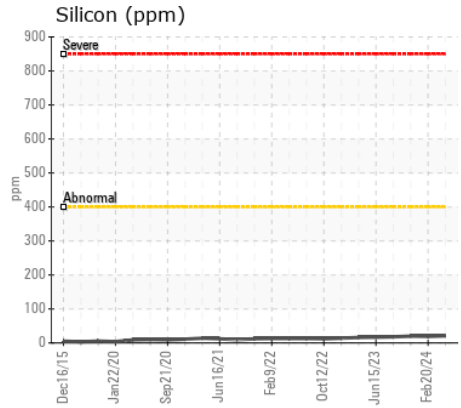
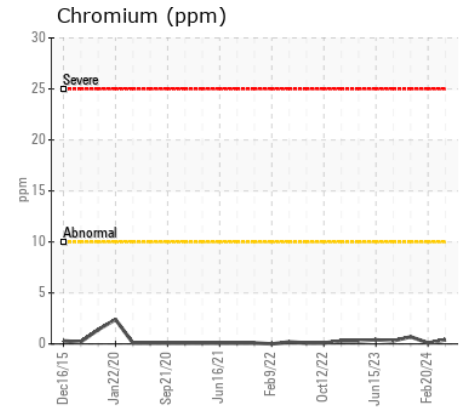
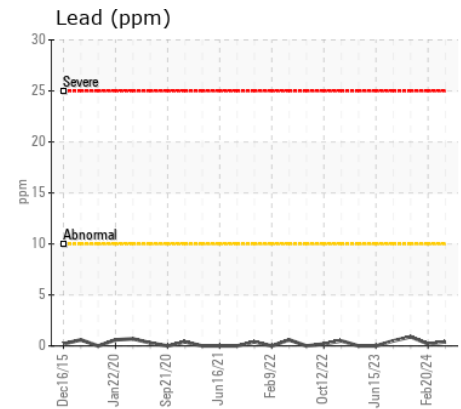
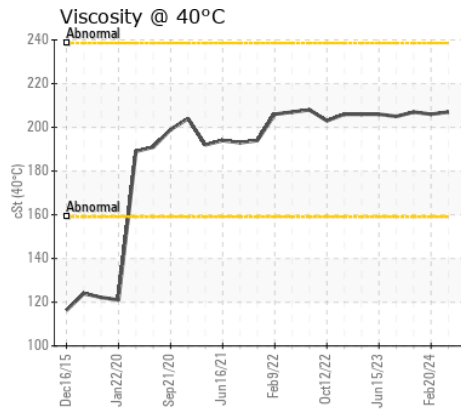
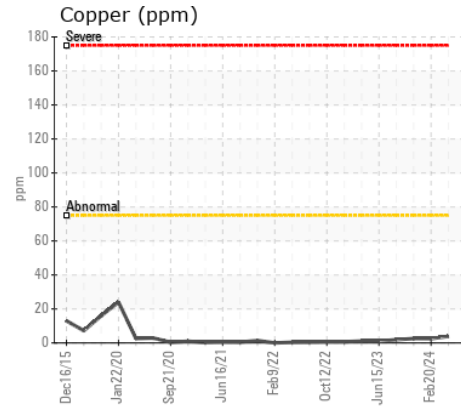
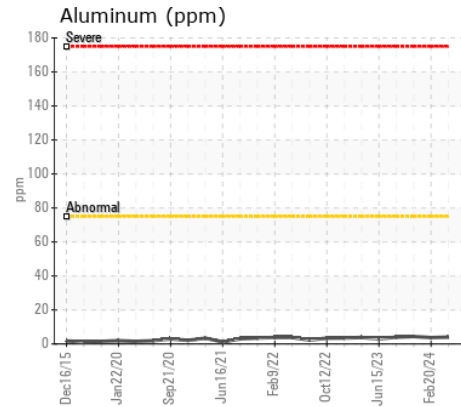
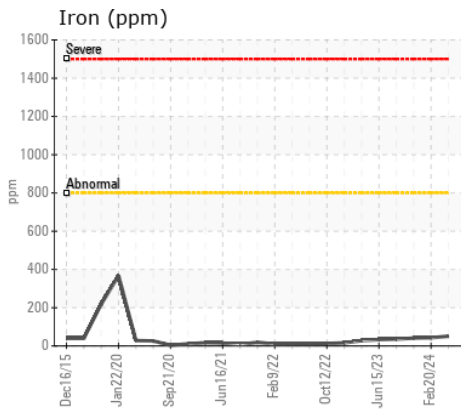
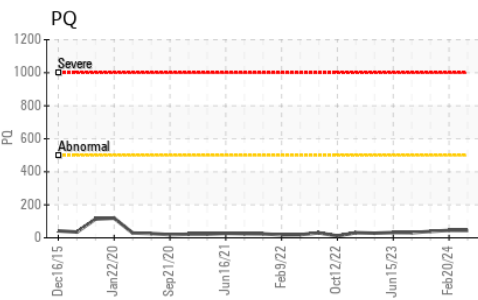
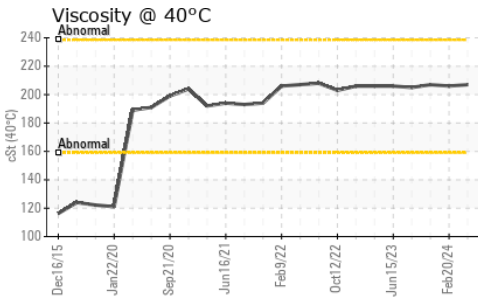
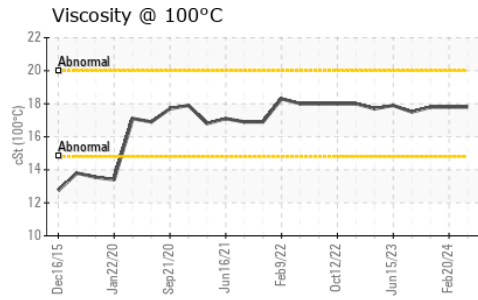
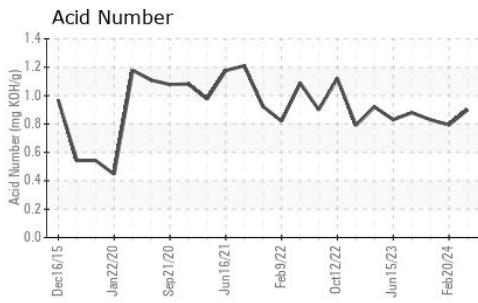
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >400 | 21 | 19 | 20 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | <1 | 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 | | 2 | 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 | | 17 | 19 | 0 |
| Calcium | ppm | ASTM D5185m | | 4499 | 4176 | 4282 |
| Phosphorus | ppm | ASTM D5185m | | 907 | 825 | 724 |
| Zinc | ppm | ASTM D5185m | | 1051 | 991 | 969 |
| Sulfur | ppm | ASTM D5185m | | 5939 | 4829 | 4384 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.90 | 0.793 | 0.83 |
| Visc @ 40°C | cSt | ASTM D445 | | 207 | 206 | 207 |
| Visc @ 100°C | cSt | ASTM D445 | | 17.8 | 17.8 | 17.8 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | 93 | 93 | 93 |



Certificate L2367

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

Sample No. : TO10003088

Lab Number : 06177820

Unique Number : 11029146

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

TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE

TULSA, OK

US 74137

Contact: MIKE SNYDER

msnyder@anchorstoneco.com

T: (417)850-9635

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)