



OIL ANALYSIS REPORT

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



Machine Id
CATERPILLAR 3512 ULB CAT (S/N 7NJ00728)
Component
Compressor
Fluid
LO-ASH ENGINE OIL SAE 40 (50 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment:
Top Up Amount: 2.5 GAL)

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | KL0013817 | KL0013815 | KL0013823 |
| Sample Date | | Client Info | | 03 Jul 2024 | 03 Jun 2024 | 06 May 2024 |
| Machine Age | hrs | Client Info | | 89406 | 88692 | 88024 |
| Oil Age | hrs | Client Info | | 89406 | 668 | 477 |
| Filter Age | hrs | Client Info | | 0 | 668 | 477 |
| Oil Changed | | Client Info | | Oil Added | 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 | >50 | 6 | 3 | 3 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >15 | 1 | <1 | 1 |
| Lead | ppm | ASTM D5185m | >65 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >65 | <1 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

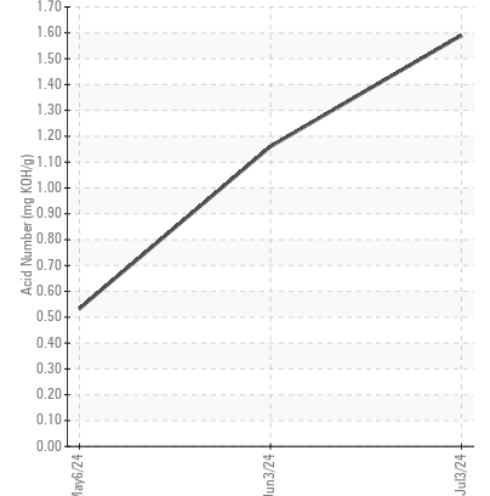
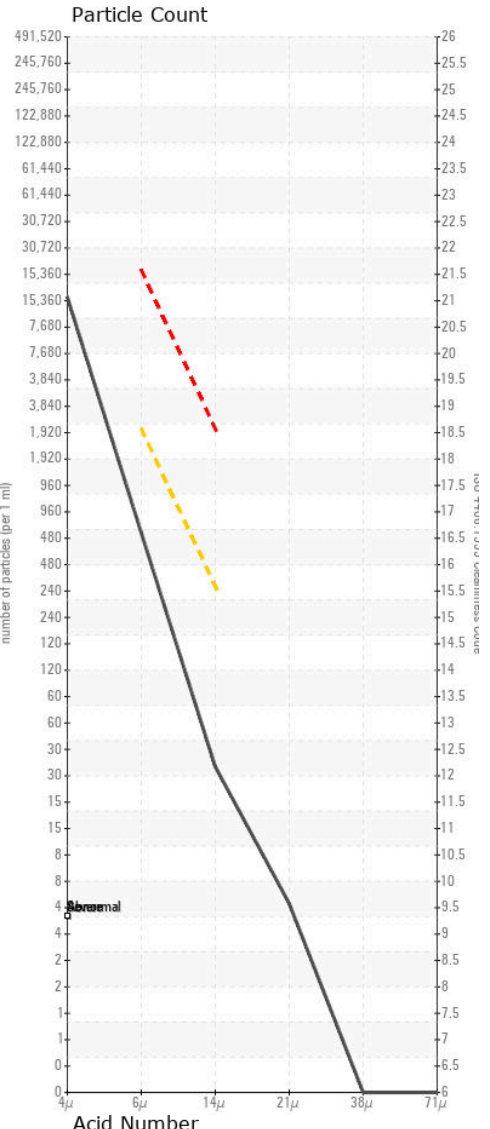
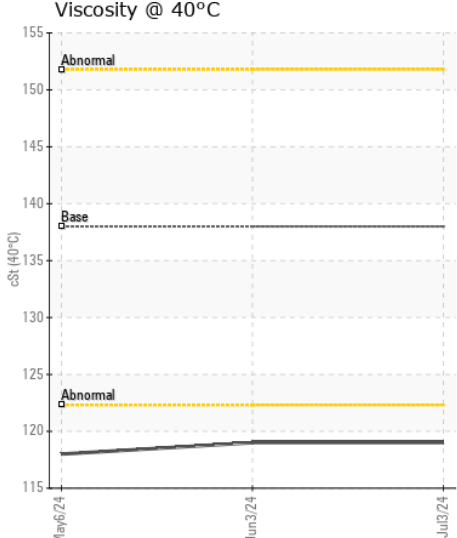
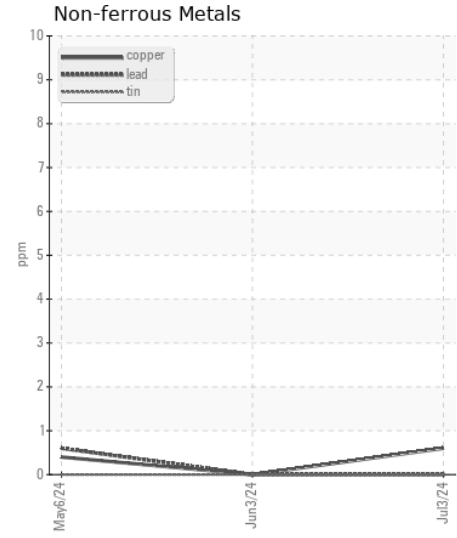
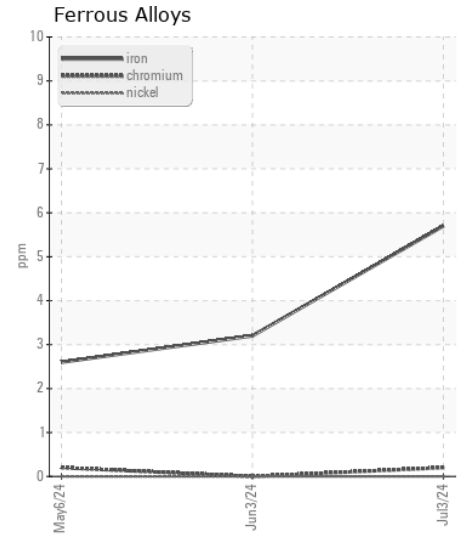
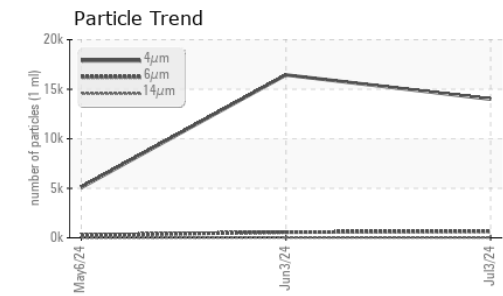
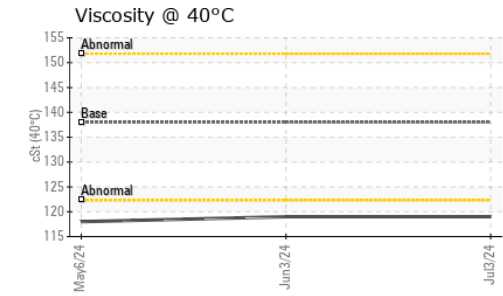
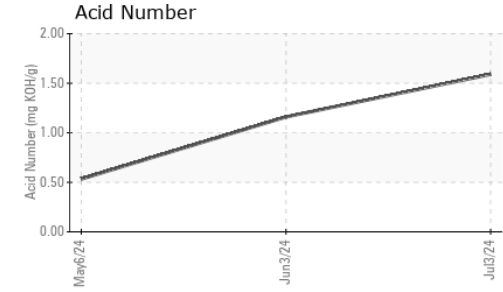
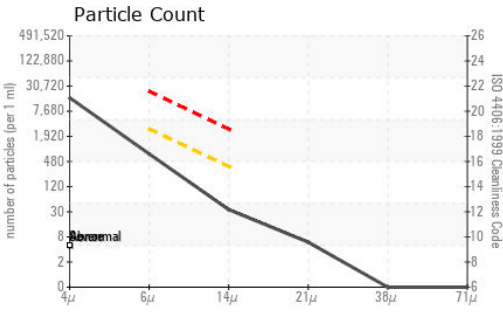
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

| | | | | | | |
|------------------|--------|--------------|--------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >35 | 3 | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 0 | <1 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | | 14002 | 16445 | 5077 |
| Particles >6µm | | ASTM D7647 | >2500 | 640 | 572 | 266 |
| Particles >14µm | | ASTM D7647 | >320 | 30 | 29 | 4 |
| Particles >21µm | | ASTM D7647 | >80 | 5 | 3 | 1 |
| Particles >38µm | | ASTM D7647 | >20 | 0 | 0 | 1 |
| Particles >71µm | | ASTM D7647 | >4 | 0 | 0 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >18/15 | 16/12 | 16/12 | 15/9 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | LIGHT | 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 | >0.1 | 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 | | 0 | 1 | 2 |
| Boron | ppm | ASTM D5185m | 37 | <1 | 8 | 0 |
| Barium | ppm | ASTM D5185m | 12 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 200 | 65 | 2 | 1 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 5 | 7 | 7 | 0 |
| Calcium | ppm | ASTM D5185m | 1600 | 1366 | 1395 | 1425 |
| Phosphorus | ppm | ASTM D5185m | 300 | 269 | 291 | 302 |
| Zinc | ppm | ASTM D5185m | 400 | 351 | 349 | 345 |
| Sulfur | ppm | ASTM D5185m | 2600 | 3098 | 3324 | 3118 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.59 | 1.16 | 0.533 |
| Visc @ 40°C | cSt | ASTM D445 | 138 | 119 | 119 | 118 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013817 **Received** : 08 Jul 2024
Lab Number : 06230746 **Tested** : 10 Jul 2024
Unique Number : 11114239 **Diagnosed** : 10 Jul 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

STRACHAN EXPLORATION
 992 S 4TH AVENUE
 BRIGHTON, CT
 US 80601
 Contact: DENNIS JACKSON

Certificate L2367
 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)

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