



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

Machine Id
HITACHI 470LC-6 M08-0874 60147
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0165757 | JR0147572 | JR0124986 |
| Sample Date | | Client Info | | 17 Oct 2023 | 16 Dec 2022 | 15 Jul 2022 |
| Machine Age | hrs | Client Info | | 8816 | 7959 | 7369 |
| Oil Age | hrs | Client Info | | 3716 | 2859 | 2269 |
| Filter Age | hrs | Client Info | | 857 | 590 | 622 |
| Oil Changed | | Client Info | | Not Changed | Not Changed | Not Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | ATTENTION | NORMAL |

WEAR

All component wear rates are normal.

| PQ | UOM | Method | Limit/Abn | Current | History1 | History2 |
|--------------|--------|-------------|-----------|--------------|----------|----------|
| PQ | | ASTM D8184 | | 12 | 14 | 19 |
| Iron | ppm | ASTM D5185m | >20 | 2 | 3 | 2 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >75 | 0 | 1 | 2 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

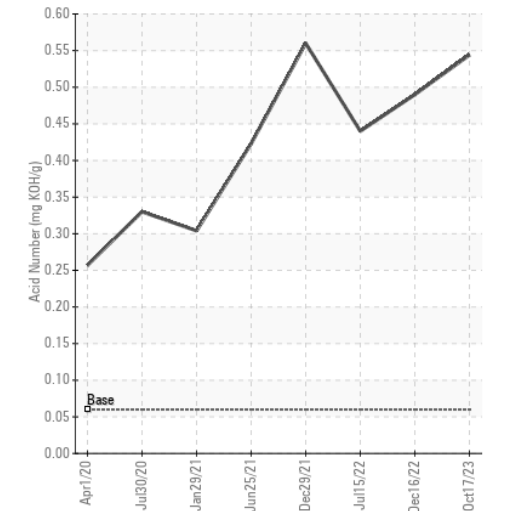
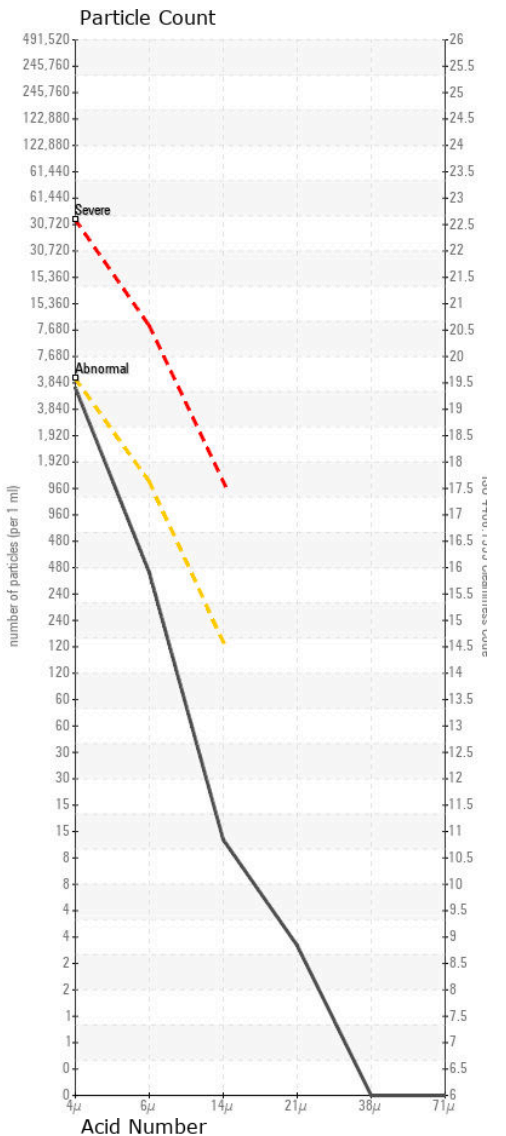
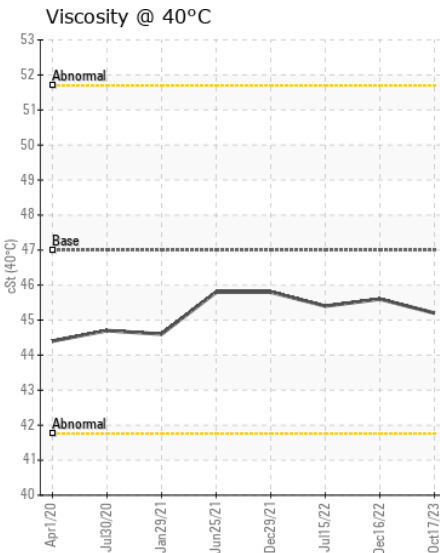
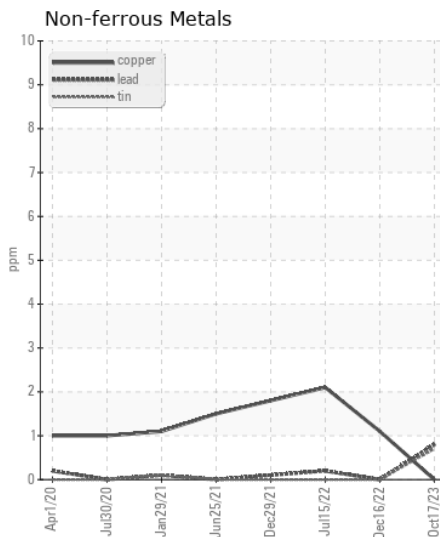
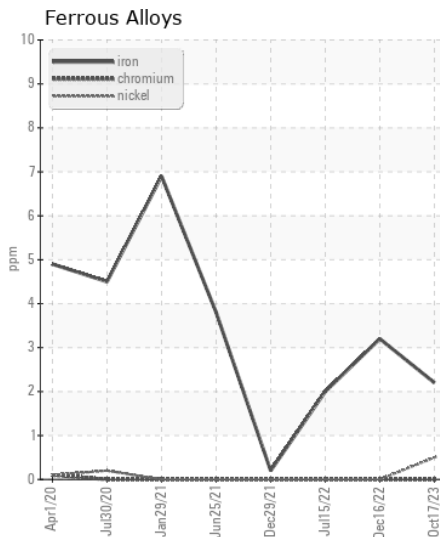
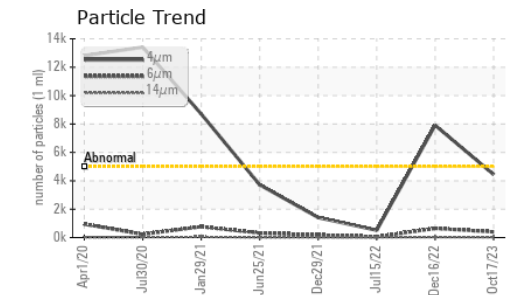
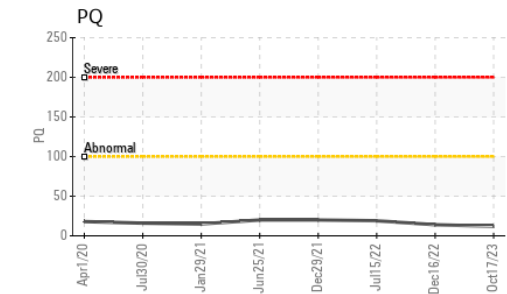
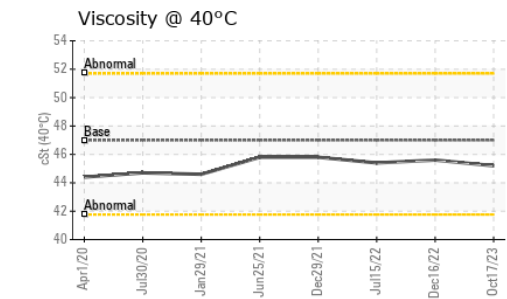
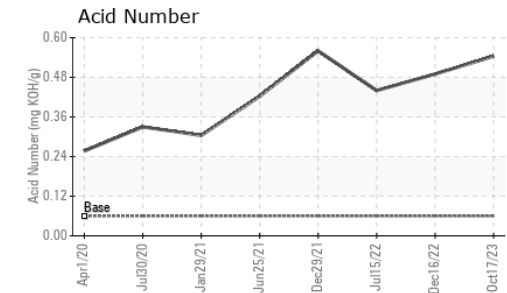
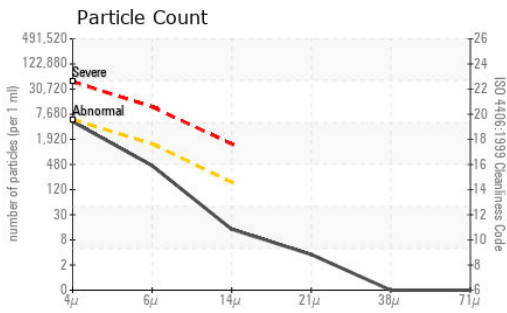
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >20 | <1 | 1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >5000 | 4441 | 7908 | 518 |
| Particles >6µm | | ASTM D7647 | >1300 | 396 | 646 | 55 |
| Particles >14µm | | ASTM D7647 | >160 | 12 | 26 | 12 |
| Particles >21µm | | ASTM D7647 | >40 | 3 | 8 | 5 |
| Particles >38µm | | ASTM D7647 | >10 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 19/16/11 | 20/17/12 | 16/13/11 |
| 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 | >0.1 | 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 | | 1 | <1 | 0 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 2 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | <1 | 1 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | 6 | 4 | 9 |
| Calcium | ppm | ASTM D5185m | | 295 | 359 | 383 |
| Phosphorus | ppm | ASTM D5185m | 827 | 588 | 577 | 572 |
| Zinc | ppm | ASTM D5185m | 0 | 181 | 188 | 198 |
| Sulfur | ppm | ASTM D5185m | 13 | 1559 | 1794 | 1750 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.06 | 0.544 | 0.49 | 0.44 |
| Visc @ 40°C | cSt | ASTM D445 | 47 | 45.2 | 45.6 | 45.4 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0165757 **Received** : 23 Oct 2023
Lab Number : 05986360 **Tested** : 25 Oct 2023
Unique Number : 10709022 **Diagnosed** : 25 Oct 2023 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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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)