



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

Machine Id
TMG16SED0165

Component
Hydraulic System

Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

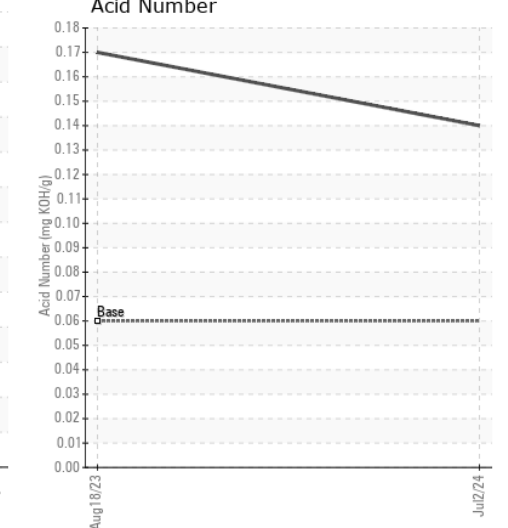
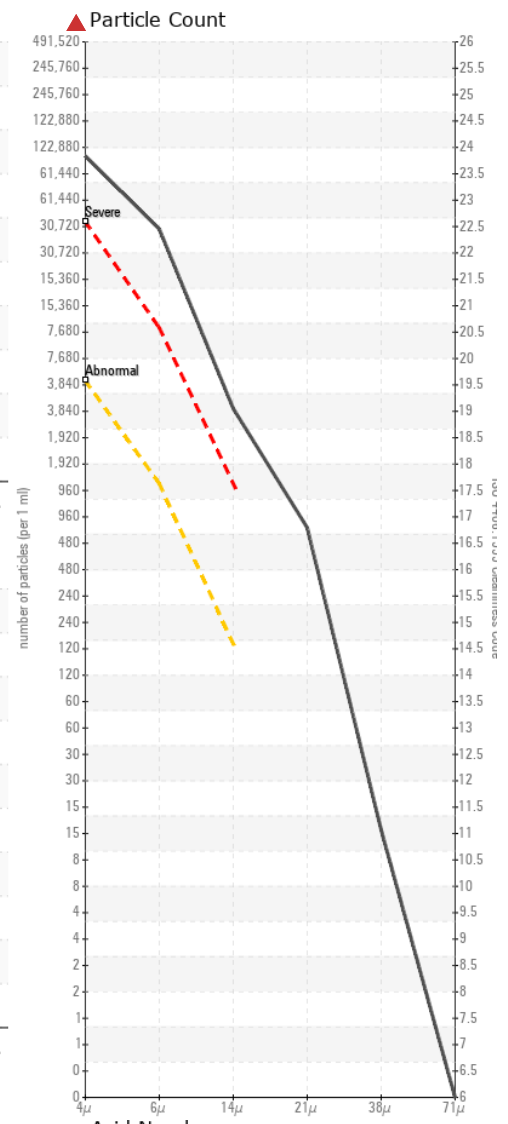
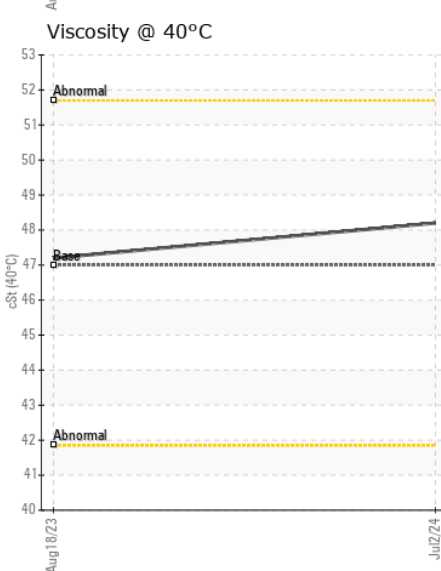
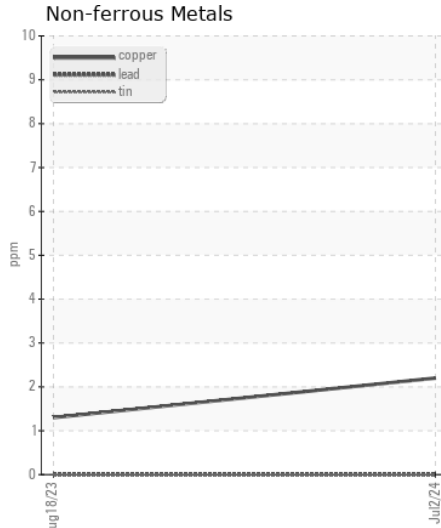
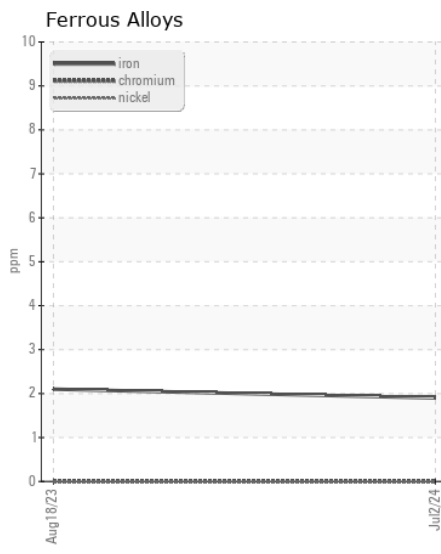
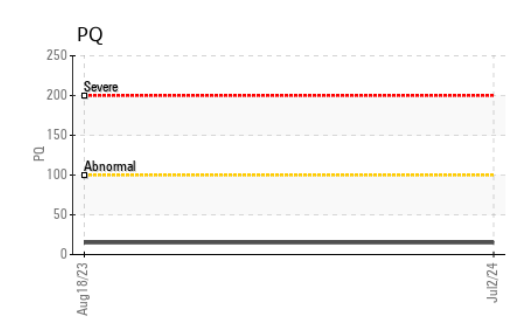
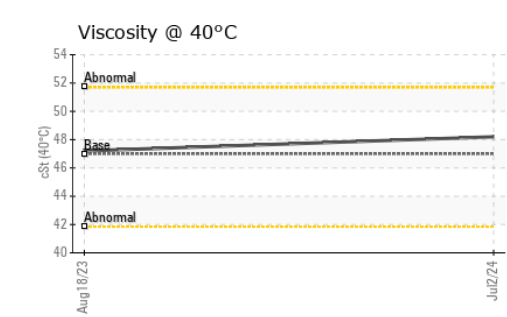
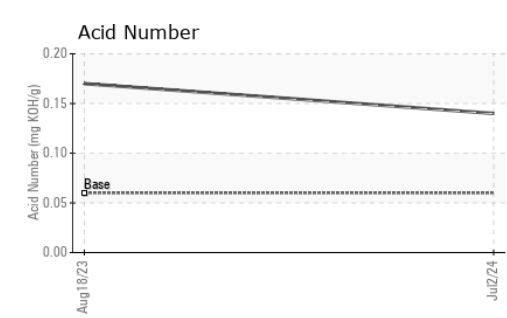
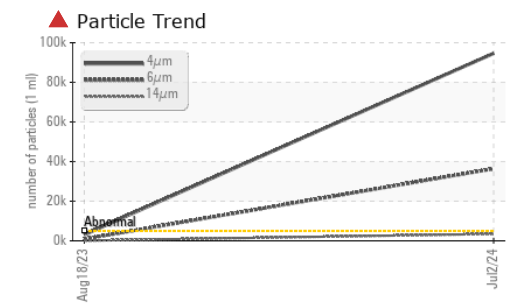
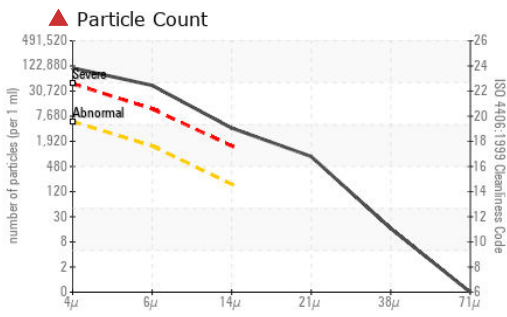
CONTAMINATION

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|------------------|----------|--------------|-----------|--------------------|-------------|----------|
| Sample Number | | Client Info | | JR0212294 | JR0180349 | --- |
| Sample Date | | Client Info | | 02 Jul 2024 | 18 Aug 2023 | --- |
| Machine Age | hrs | Client Info | | 11783 | 10872 | --- |
| Oil Age | hrs | Client Info | | 0 | 0 | --- |
| Filter Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Changed | | Client Info | | Not Changed | Changed | --- |
| Filter Changed | | Client Info | | Not Changed | Changed | --- |
| Sample Status | | | | SEVERE | NORMAL | --- |
| PQ | | ASTM D8184 | | 15 | 15 | --- |
| Iron | ppm | ASTM D5185m | >20 | 2 | 2 | --- |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Silver | ppm | ASTM D5185m | | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >10 | 1 | <1 | --- |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m | >75 | 2 | 1 | --- |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Silicon | ppm | ASTM D5185m | >20 | 3 | 2 | --- |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | --- |
| Water | | WC Method | >0.1 | NEG | NEG | --- |
| Particles >4µm | | ASTM D7647 | >5000 | ▲ 94639 | 3074 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ 36394 | 878 | --- |
| Particles >14µm | | ASTM D7647 | >160 | ▲ 3475 | 71 | --- |
| Particles >21µm | | ASTM D7647 | >40 | ▲ 730 | 19 | --- |
| Particles >38µm | | ASTM D7647 | >10 | 14 | 0 | --- |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ 24/22/19 | 19/17/13 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | --- |
| Sodium | ppm | ASTM D5185m | | 1 | 1 | --- |
| Boron | ppm | ASTM D5185m | | 3 | <1 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | 5 | 3 | --- |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | --- |
| Magnesium | ppm | ASTM D5185m | | 17 | 10 | --- |
| Calcium | ppm | ASTM D5185m | | 177 | 497 | --- |
| Phosphorus | ppm | ASTM D5185m | 827 | 614 | 547 | --- |
| Zinc | ppm | ASTM D5185m | 0 | 77 | 186 | --- |
| Sulfur | ppm | ASTM D5185m | 13 | 300 | 701 | --- |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.06 | 0.14 | 0.17 | --- |
| Visc @ 40°C | cSt | ASTM D445 | 47 | 48.2 | 47.2 | --- |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0212294 **Received** : 03 Jul 2024
Lab Number : 06227320 **Tested** : 05 Jul 2024
Unique Number : 11110813 **Diagnosed** : 05 Jul 2024 - Wes Davis
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)