



OIL ANALYSIS REPORT

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

Machine Id
282
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 32 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0554799 | WC0679416 | WC0585266 |
| Sample Date | | Client Info | | 15 Nov 2022 | 27 May 2022 | 27 Jun 2021 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changed | Not Changed | N/A |
| Filter Changed | | Client Info | | Changed | Changed | N/A |
| Sample Status | | | | ATTENTION | ABNORMAL | ATTENTION |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >20 | 7 | 7 | 7 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >75 | 2 | 3 | 4 |
| Tin | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

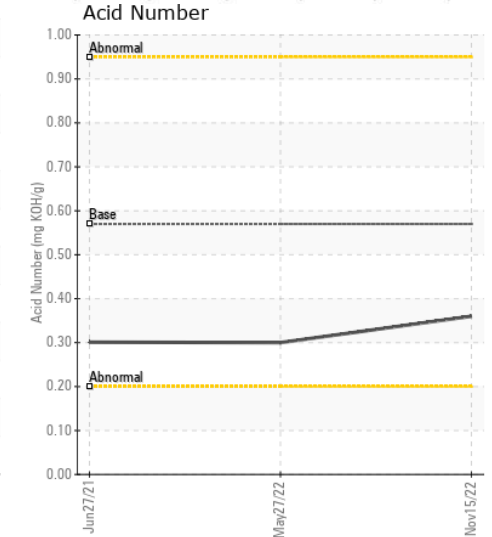
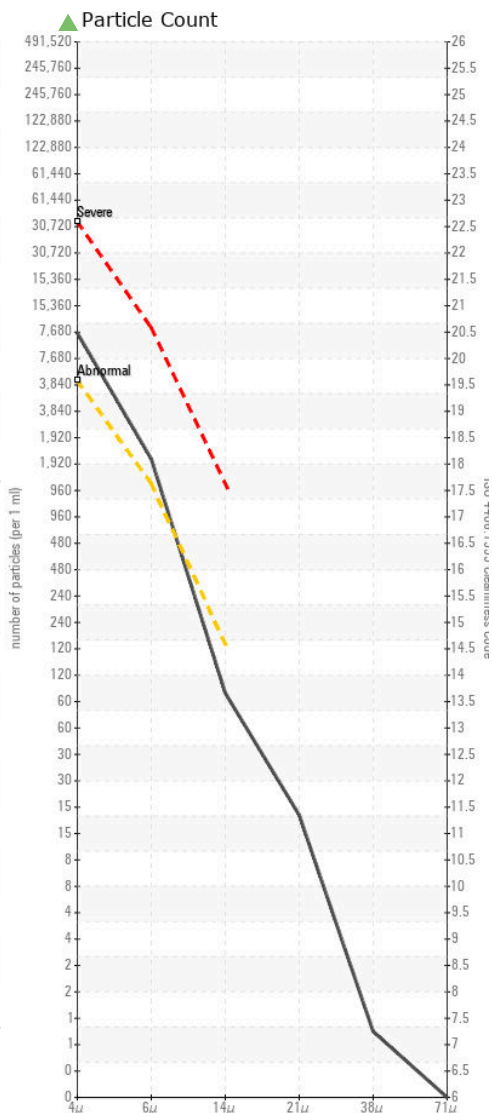
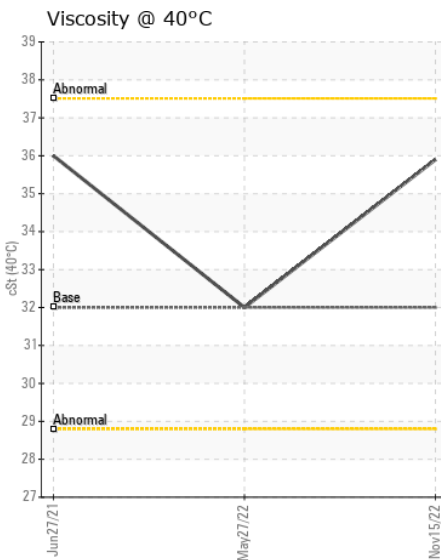
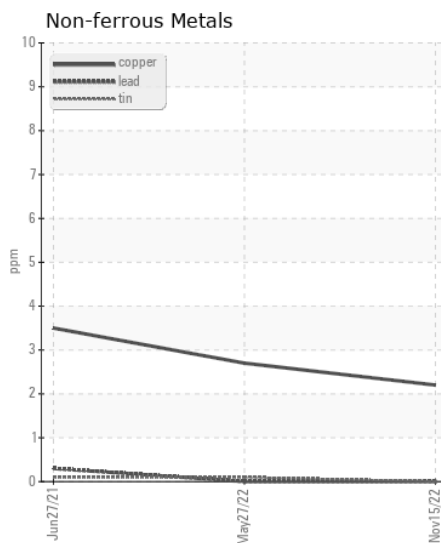
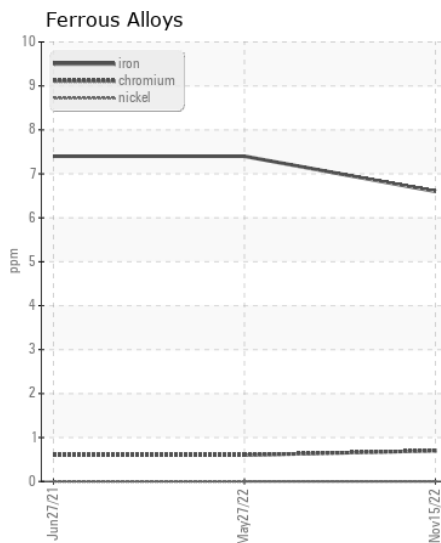
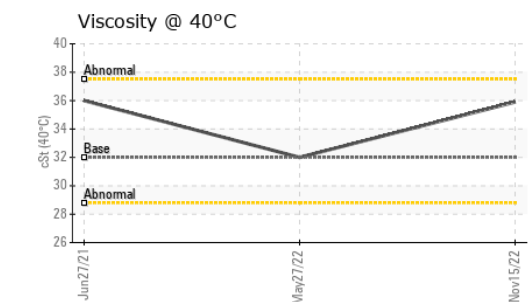
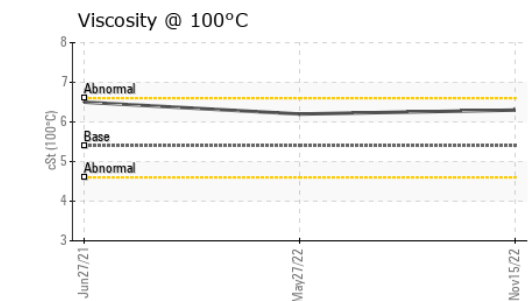
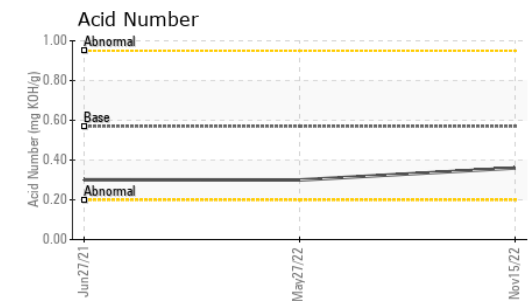
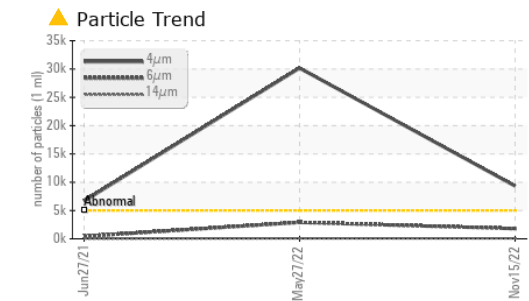
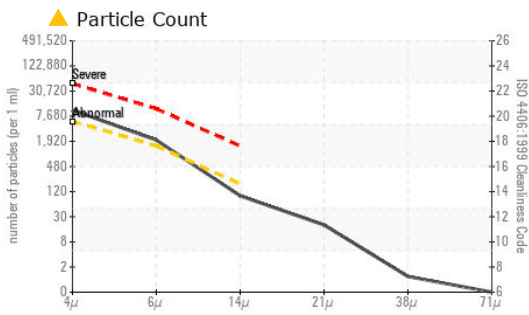
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

| | | | | | | |
|------------------|--------|--------------|-----------|-------------------|------------|------------|
| Silicon | ppm | ASTM D5185m | >20 | 1 | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 0 | <1 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >5000 | ▲ 9327 | ▲ 30168 | ▲ 6666 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ 1797 | ▲ 2905 | 445 |
| Particles >14µm | | ASTM D7647 | >160 | 84 | 82 | 38 |
| Particles >21µm | | ASTM D7647 | >40 | 17 | 20 | 12 |
| Particles >38µm | | ASTM D7647 | >10 | 1 | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ 20/18/14 | ▲ 22/19/14 | ▲ 20/16/12 |
| 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 | | 0 | 1 | 0 |
| Boron | ppm | ASTM D5185m | 5 | <1 | 4 | 6 |
| Barium | ppm | ASTM D5185m | 5 | 1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | <1 | <1 | 1 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 25 | 9 | 3 | 6 |
| Calcium | ppm | ASTM D5185m | 200 | 65 | 92 | 74 |
| Phosphorus | ppm | ASTM D5185m | 300 | 339 | 351 | 341 |
| Zinc | ppm | ASTM D5185m | 370 | 436 | 431 | 449 |
| Sulfur | ppm | ASTM D5185m | 2500 | 4037 | 3071 | 2617 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | 0.36 | 0.30 | 0.301 |
| Visc @ 40°C | cSt | ASTM D445 | 32 | 35.9 | 32.0 | 36.0 |
| Visc @ 100°C | cSt | ASTM D445 | 5.4 | 6.3 | 6.2 | 6.5 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 102 | 125 | 146 | 135 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0554799 **Received** : 26 Jan 2023
Lab Number : 05750772 **Diagnosed** : 29 Jan 2023
Unique Number : 10310376 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: KV100, VI)

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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)