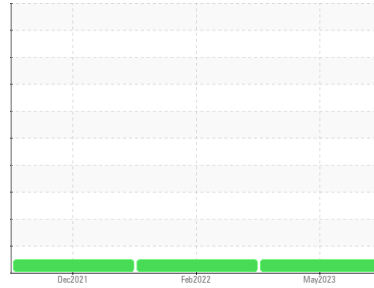




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
TK332

Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 32 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | WC0698905 | WC0636248 | WC0612925 |
| Sample Date | Client Info | | | 02 May 2023 | 02 Feb 2022 | 16 Dec 2021 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | Client Info | | | Not Changed | Not Changed | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m | >20 | 12 | 13 | 12 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >75 | 3 | 4 | 4 |
| Tin | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | --- | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 5 | 0 | 2 | 5 |
| Barium | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | 0 | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 25 | 5 | 4 | 4 |
| Calcium | ppm | ASTM D5185m | 200 | 91 | 100 | 96 |
| Phosphorus | ppm | ASTM D5185m | 300 | 328 | 376 | 331 |
| Zinc | ppm | ASTM D5185m | 370 | 262 | 269 | 275 |
| Sulfur | ppm | ASTM D5185m | 2500 | 3767 | 3127 | 2748 |

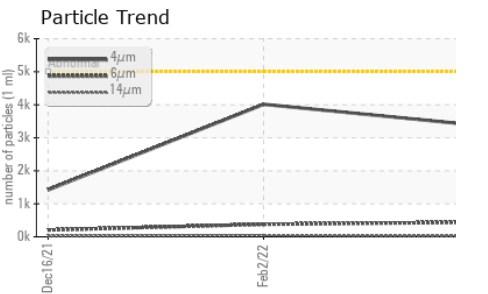
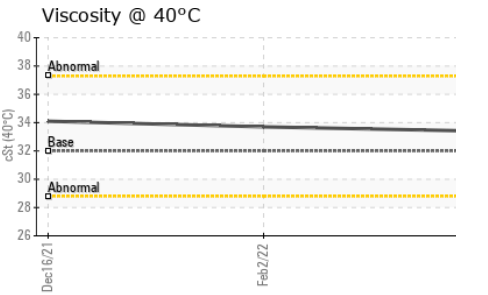
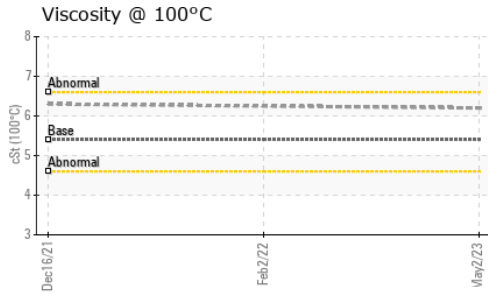
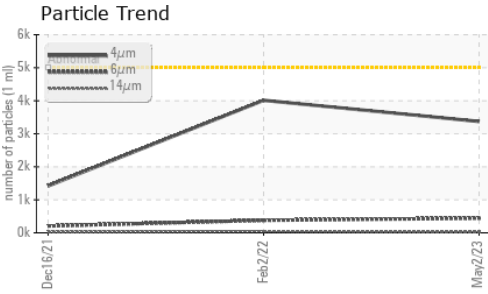
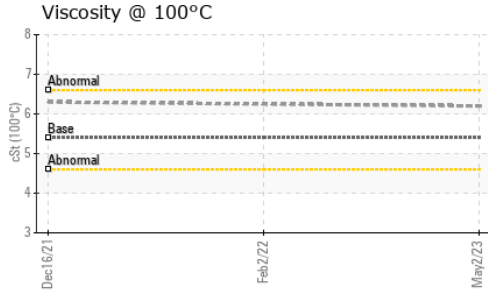
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >20 | 1 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | <1 | <1 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >5000 | 3373 | 4013 | 1419 |
| Particles >6µm | | ASTM D7647 | >1300 | 442 | 379 | 206 |
| Particles >14µm | | ASTM D7647 | >160 | 21 | 47 | 24 |
| Particles >21µm | | ASTM D7647 | >40 | 4 | 15 | 7 |
| Particles >38µm | | ASTM D7647 | >10 | 0 | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 19/16/12 | 19/16/13 | 18/15/12 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | 0.26 | 0.26 | 0.256 |



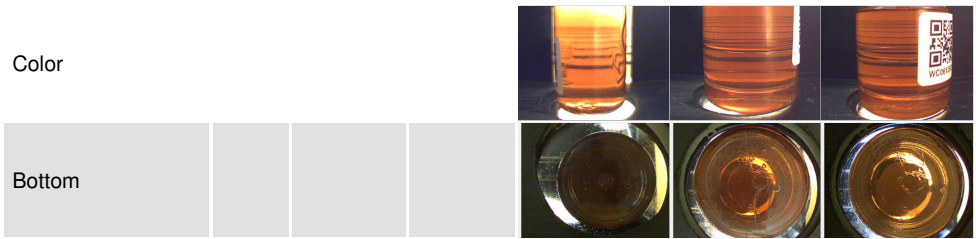
OIL ANALYSIS REPORT



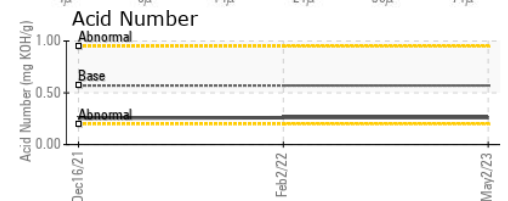
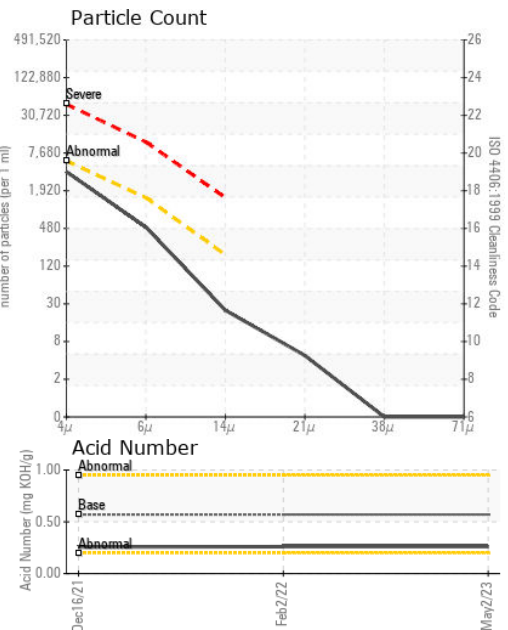
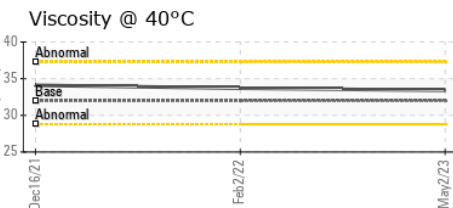
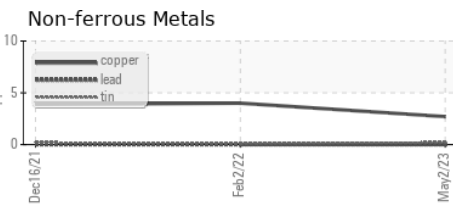
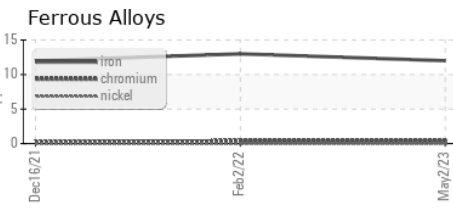
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| 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 |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 32 | 33.7 | 34.1 |
| Visc @ 100°C | cSt | ASTM D445 | 5.4 | --- | 6.3 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 102 | --- | 137 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0698905 **Received** : 14 Aug 2023
Lab Number : 05924240 **Diagnosed** : 15 Aug 2023
Unique Number : 10604187 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: KV100, VI)

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 F: (301)797-7284

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)