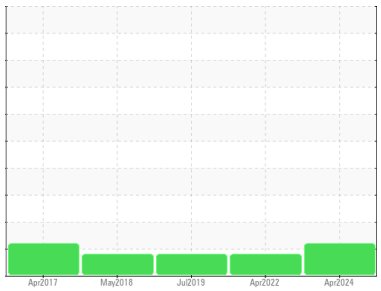
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## TKS PRESS 3 UNIT 5-6
Component
**Hydraulic System**
Fluid
**TULCO LUBSOIL SUPER HYDRAULIC AW 68 (50 GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

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

**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 | | **TO50000873** | TO5000731 | TO5000426 |
| Sample Date | | Client Info | | **17 Apr 2024** | 20 Apr 2022 | 23 Jul 2019 |
| Machine Age | yrs | Client Info | | **0** | 0 | 0 |
| Oil Age | yrs | Client Info | | **0** | 3 | 0 |
| Oil Changed | | Client Info | | **N/A** | Not Changd | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **15** | 18 | 18 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **2** | 4 | 4 |
| Copper | ppm | ASTM D5185m | >75 | **26** | 34 | 27 |
| Tin | ppm | ASTM D5185m | >10 | **<1** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | **3** | 3 | 5 |
| Calcium | ppm | ASTM D5185m | | **8** | 3 | 4 |
| Phosphorus | ppm | ASTM D5185m | 425 | **144** | 171 | 188 |
| Zinc | ppm | ASTM D5185m | 500 | **114** | 163 | 175 |
| Sulfur | ppm | ASTM D5185m | 1900 | **5666** | 3476 | 5266 |

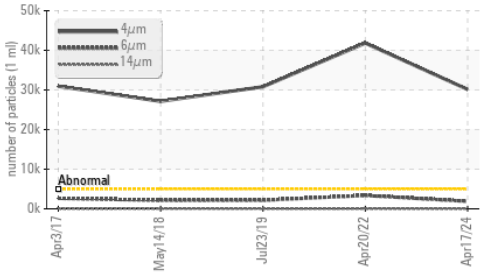
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **13** | 17 | 20 |
| Sodium | ppm | ASTM D5185m | | **<1** | <1 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 8 | 2 |
| Water | % | ASTM D6304 | >0.1 | **0.001** | 0.008 | 0.005 |
| ppm Water | ppm | ASTM D6304 | >1000 | **3** | 81.7 | 50 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **30129** | ▲ 41826 | ▲ 30805 |
| Particles >6µm | | ASTM D7647 | >1300 | ● **1885** | ▲ 3370 | ● 2161 |
| Particles >14µm | | ASTM D7647 | >160 | **16** | 28 | 25 |
| Particles >21µm | | ASTM D7647 | >40 | **4** | 6 | 7 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **22/18/11** | ▲ 23/19/12 | ▲ 22/18/12 |

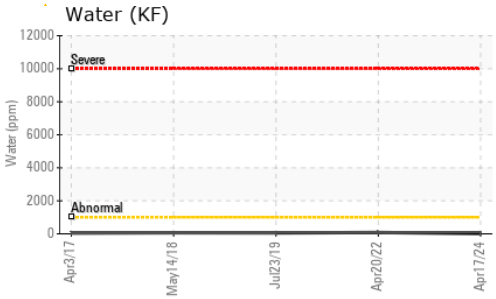
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.7 | **0.30** | 0.34 | 0.372 |

# OIL ANALYSIS REPORT

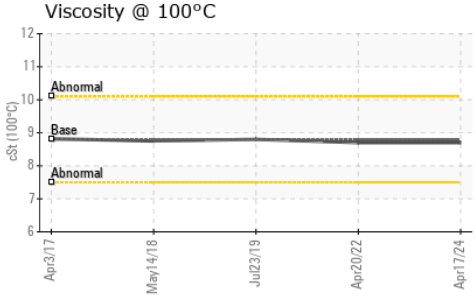
Particle Trend



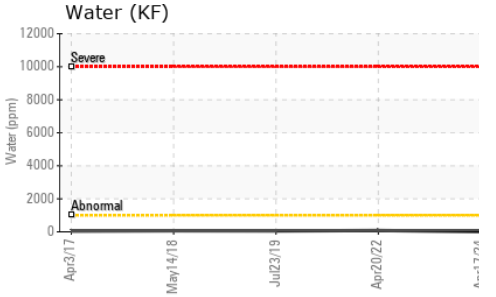

Water (KF)



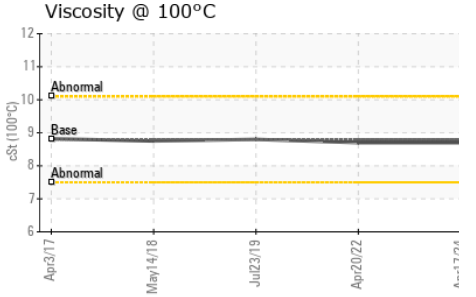

Viscosity @ 100°C




Water (KF)

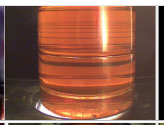
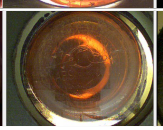



Viscosity @ 100°C



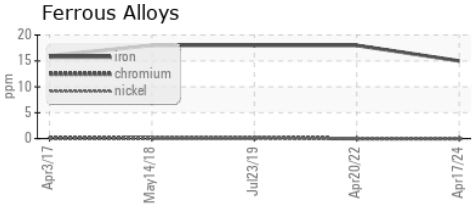

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 67.4 | **66.1** | 66.4 | 66.2 |
| Visc @ 100°C | cSt | ASTM D445 | 8.8 | **8.7** | 8.7 | 8.8 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 102 | **103** | 102 | 105 |

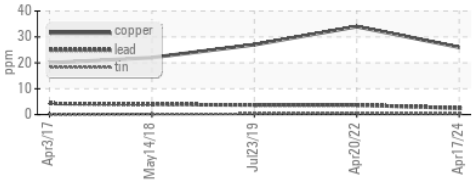
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  |  |
| Bottom | | |  |  |  |

## GRAPHS

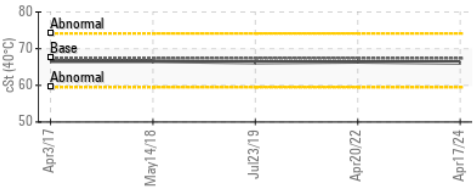
Ferrous Alloys



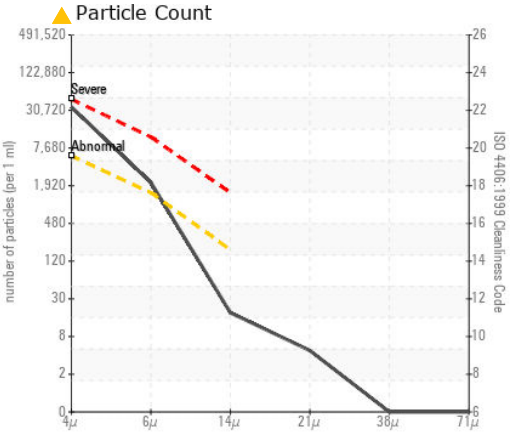

Non-ferrous Metals



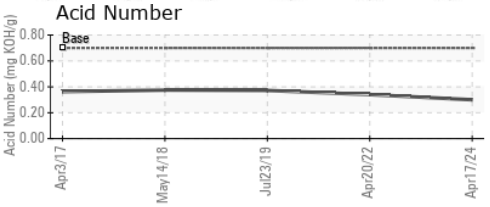

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TO50000873 **Received** : 22 Apr 2024
**Lab Number** : 06155905 **Tested** : 23 Apr 2024
**Unique Number** : 10991328 **Diagnosed** : 24 Apr 2024 - Don Baldridge
**Test Package** : IND 2 ( Additional Tests: KF, KV100, VI )

*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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