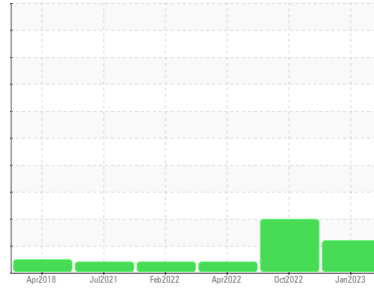




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id MAIN HYDRAULIC TANK

Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 32 (200 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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 | | WC0755655 | WC0701724 | WC0691990 |
| Sample Date | Client Info | | 16 Jan 2023 | 08 Oct 2022 | 27 Apr 2022 |
| Machine Age | yrs | Client Info | 0 | 0 | 0 |
| Oil Age | yrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | Not Changd |
| Sample Status | | | ABNORMAL | ABNORMAL | ATTENTION |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|---------|----------|----------|
| Iron | ppm | ASTM D5185m >20 | 2 | 1 | 1 |
| Chromium | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >20 | 6 | 6 | 9 |
| Tin | ppm | ASTM D5185m >20 | 0 | 0 | <1 |
| Antimony | ppm | ASTM D5185m | --- | --- | --- |
| 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 | 6 | 8 | 1 |
| Barium | ppm | ASTM D5185m 5 | <1 | 2 | 0 |
| Molybdenum | ppm | ASTM D5185m 5 | 6 | 6 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m 25 | 12 | 13 | 2 |
| Calcium | ppm | ASTM D5185m 200 | 124 | 127 | 52 |
| Phosphorus | ppm | ASTM D5185m 300 | 309 | 309 | 340 |
| Zinc | ppm | ASTM D5185m 370 | 384 | 392 | 405 |
| Sulfur | ppm | ASTM D5185m 2500 | 1074 | 1135 | 759 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|---------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | 4 | 2 | 0 |
| Sodium | ppm | ASTM D5185m | 0 | <1 | <1 |
| Potassium | ppm | ASTM D5185m >20 | 3 | 3 | 0 |
| Water | % | ASTM D6304 >0.05 | NEG | NEG | NEG |

FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|------------|------------|------------|
| Particles >4µm | ASTM D7647 | >5000 | ▲ 20632 | ▲ 32240 | ▲ 7682 |
| Particles >6µm | ASTM D7647 | >1300 | ▲ 1817 | ▲ 9054 | 544 |
| Particles >14µm | ASTM D7647 | >160 | 36 | ▲ 801 | 30 |
| Particles >21µm | ASTM D7647 | >40 | 9 | ▲ 164 | 10 |
| Particles >38µm | ASTM D7647 | >10 | 1 | 10 | 0 |
| Particles >71µm | ASTM D7647 | >3 | 1 | 1 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | ▲ 22/18/12 | ▲ 22/20/17 | ▲ 20/16/12 |

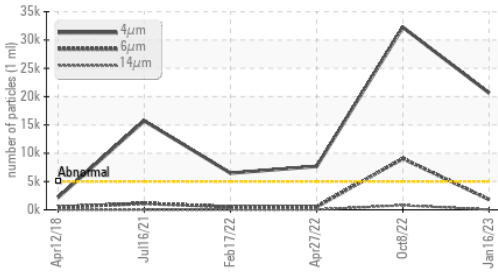
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|---------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.57 | 0.31 | 0.32 | 0.29 |

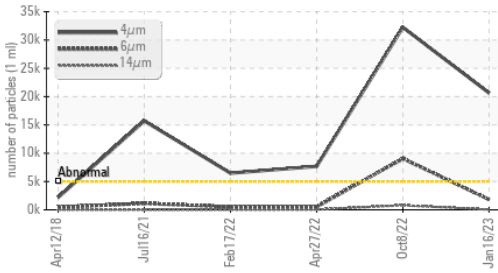


OIL ANALYSIS REPORT

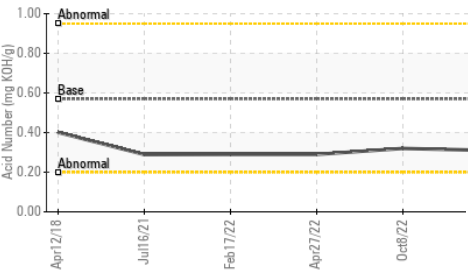
▲ Particle Trend



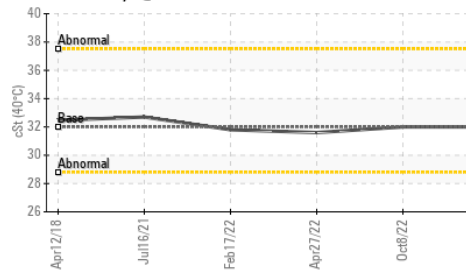
▲ Particle Trend



Acid Number



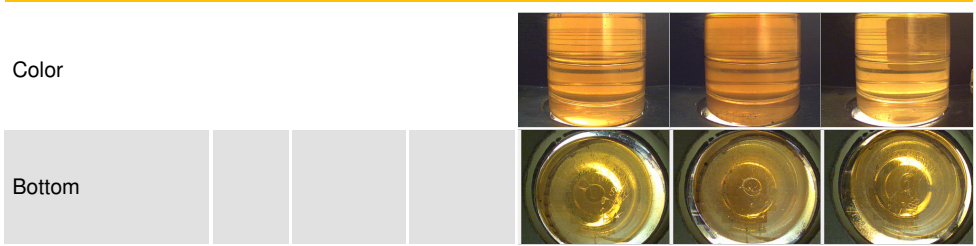
Viscosity @ 40°C



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.05 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

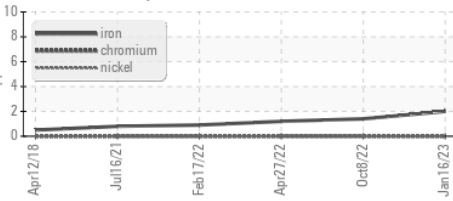
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 32 | 32.0 | 31.6 |

SAMPLE IMAGES

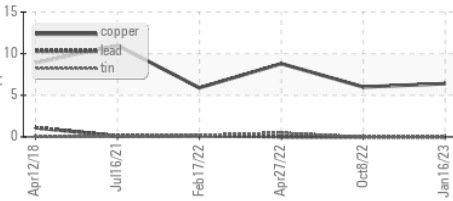


GRAPHS

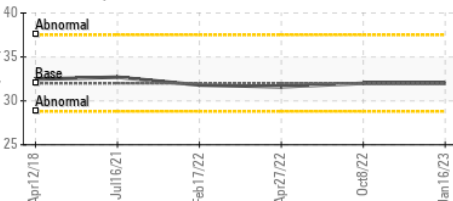
Ferrous Alloys



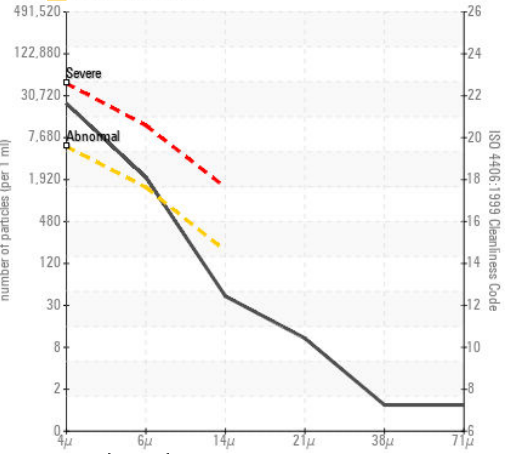
Non-ferrous Metals



Viscosity @ 40°C



▲ Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0755655 **Received** : 02 Feb 2023
Lab Number : 05757667 **Diagnosed** : 04 Feb 2023
Unique Number : 10322274 **Diagnostician** : Don Baldrige
Test Package : PLANT

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 CARTERSVILLE, GA
 US 30120
 Contact: JASON WEISS
 jasonweiss@allmetals.com
 T: (770)427-7379
 F:

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)