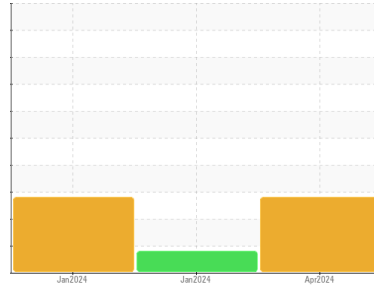




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area

{UNASSIGNED}

Machine Id

WRRCHB-1 (S/N 17-103)

Component

Hydraulic System

Fluid

AW HYDRAULIC OIL ISO 46 (375 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. (Customer Sample Comment: Believe fluid from 2017.)

Wear

The copper level is abnormal. All other component wear rates are normal.

Contamination

There is a high amount of particulates 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 | | WC0782795 | WC0782788 | WC0782787 |
| Sample Date | Client Info | | 22 Apr 2024 | 29 Jan 2024 | 28 Jan 2024 |
| Machine Age | hrs | Client Info | 42602 | 40598 | 40545 |
| Oil Age | hrs | Client Info | 42602 | 40598 | 40545 |
| Oil Changed | Client Info | | Not Chngd | Filtered | Not Chngd |
| Sample Status | | | ABNORMAL | ABNORMAL | ABNORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.05 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|-------------|----------|----------|
| Iron | ppm | ASTM D5185m >20 | 3 | 3 | 4 |
| Chromium | ppm | ASTM D5185m >20 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | <1 | <1 |
| 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 | ▲ 53 | ▲ 53 | ▲ 54 |
| Tin | ppm | ASTM D5185m >20 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | 0 | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 5 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m 5 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 5 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 25 | 0 | 0 | 2 |
| Calcium | ppm | ASTM D5185m 200 | 4 | 6 | 10 |
| Phosphorus | ppm | ASTM D5185m 300 | 232 | 231 | 246 |
| Zinc | ppm | ASTM D5185m 370 | 197 | 165 | 201 |
| Sulfur | ppm | ASTM D5185m 2500 | 1047 | 904 | 939 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | <1 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 0 | 0 |

FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|----------|------------|
| Particles >4µm | ASTM D7647 | >1300 | ▲ 14135 | 716 | ▲ 10346 |
| Particles >6µm | ASTM D7647 | >320 | ▲ 1980 | 87 | ▲ 1497 |
| Particles >14µm | ASTM D7647 | >40 | ▲ 70 | 5 | ▲ 60 |
| Particles >21µm | ASTM D7647 | >10 | ▲ 14 | 2 | ▲ 12 |
| Particles >38µm | ASTM D7647 | >3 | 0 | 0 | 0 |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >17/15/12 | ▲ 21/18/13 | 17/14/10 | ▲ 21/18/13 |

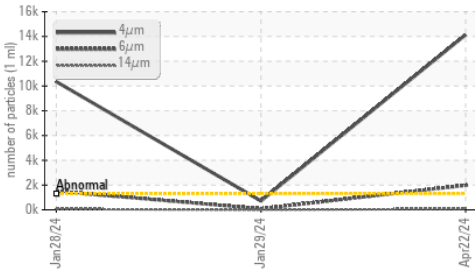
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.57 | 0.40 | 0.40 | 0.48 |

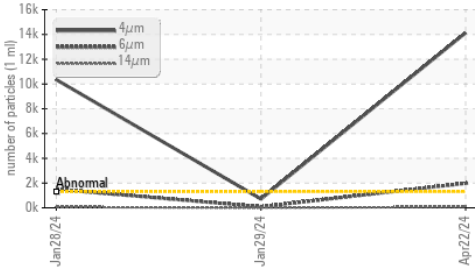


OIL ANALYSIS REPORT

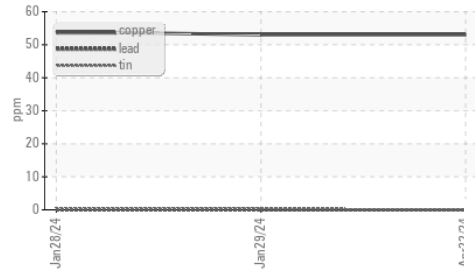
Particle Trend



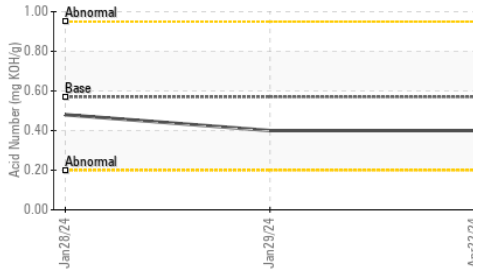
Particle Trend



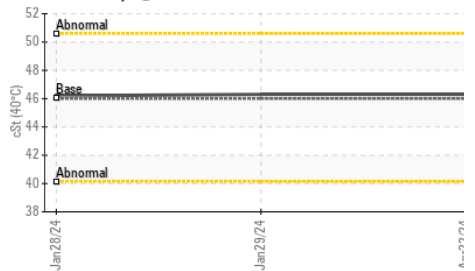
Non-ferrous Metals



Acid Number



Viscosity @ 40°C



| 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 | >0.05 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 46 | 46.3 | 46.3 | 46.2 |

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

Color

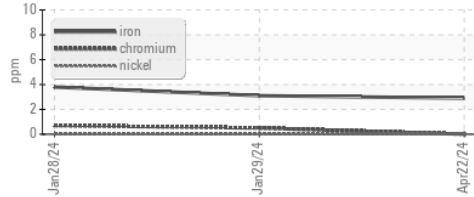


Bottom

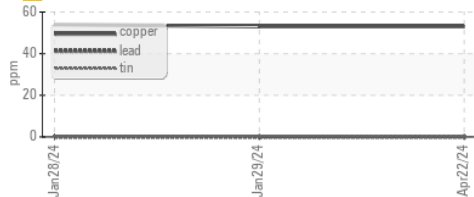


GRAPHS

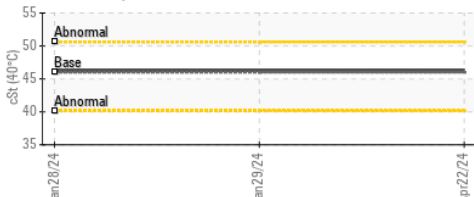
Ferrous Alloys



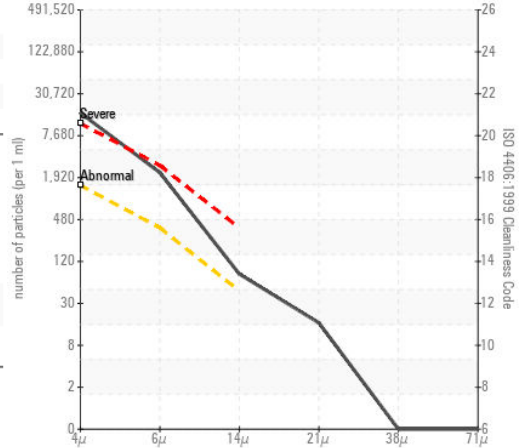
Non-ferrous Metals



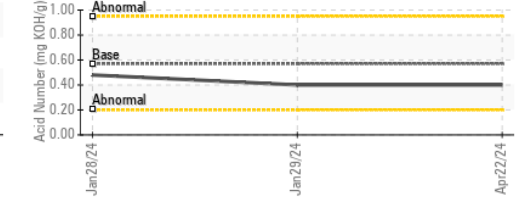
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0782795

Lab Number : 06159030

Unique Number : 10994453

Test Package : IND 2

Received : 24 Apr 2024

Tested : 25 Apr 2024

Diagnosed : 26 Apr 2024 - Jonathan Hester

WEST SIDE SOLUTIONS

4506 HWY 90

CONWAY, SC

US 29526-9631

Contact: KEN ANDRE

westsidesolutionsus@gmail.com

T: (216)577-5014

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)