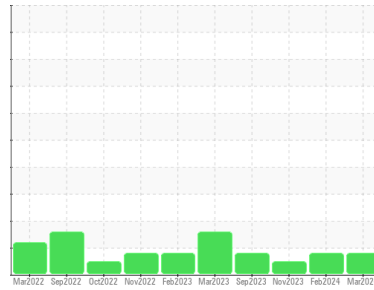




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

IBACO [CONHER]

Machine Id

IBACO BM COZAR IX

Component

Transmission (Manual)

Fluid

RALYO SAE 50 (60 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy SAE 50)

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

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

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | KL0014198 | KL0014156 | KL0013428 |
| Sample Date | Client Info | | 20 Mar 2024 | 06 Feb 2024 | 14 Nov 2023 |
| Machine Age | hrs | Client Info | 0 | 12106 | 11466 |
| Oil Age | hrs | Client Info | 225 | 1500 | 860 |
| Oil Changed | Client Info | | Not Chngd | Changed | Not Chngd |
| Sample Status | | | ABNORMAL | ATTENTION | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.1 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|----------|--------|-------------|---------|--------------|----------|----|
| Iron | ppm | ASTM D5185m | >200 | 14 | 13 | 5 |
| Chromium | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >7 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 18 | 16 | <1 |
| Lead | ppm | ASTM D5185m | >45 | 5 | 5 | 6 |
| Copper | ppm | ASTM D5185m | >225 | 39 | 32 | 32 |
| Tin | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | <1 |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|-------------|---------|-------------|----------|------|
| Boron | ppm | ASTM D5185m | | 2 | 3 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | 1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 13 | 12 | 8 |
| Calcium | ppm | ASTM D5185m | | 3352 | 3051 | 3177 |
| Phosphorus | ppm | ASTM D5185m | | 1047 | 904 | 1008 |
| Zinc | ppm | ASTM D5185m | | 838 | 759 | 822 |
| Sulfur | ppm | ASTM D5185m | | 7262 | 5488 | 6238 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|-------------|---------|--------------|----------|----|
| Silicon | ppm | ASTM D5185m | >125 | 57 | 50 | 7 |
| Sodium | ppm | ASTM D5185m | | 18 | 15 | 12 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | 1 |

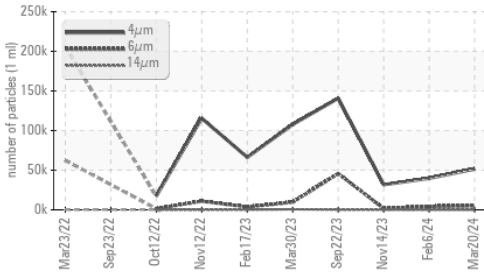
FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|--------------|----------|----------|
| Particles >4µm | ASTM D7647 | | 51531 | 39805 | 31696 |
| Particles >6µm | ASTM D7647 | >2500 | 5042 | 4329 | 1752 |
| Particles >14µm | ASTM D7647 | >320 | 50 | 75 | 45 |
| Particles >21µm | ASTM D7647 | >80 | 6 | 15 | 6 |
| Particles >38µm | ASTM D7647 | >20 | 1 | 3 | 0 |
| Particles >71µm | ASTM D7647 | >4 | 0 | 2 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >18/15 | 20/13 | 19/13 | 18/13 |

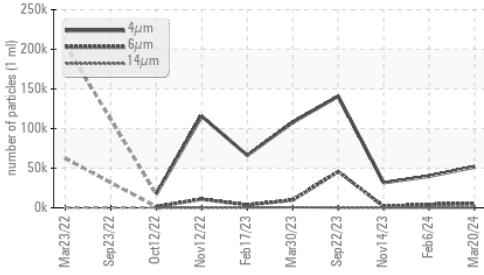
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.81 | 0.77 | 0.86 |

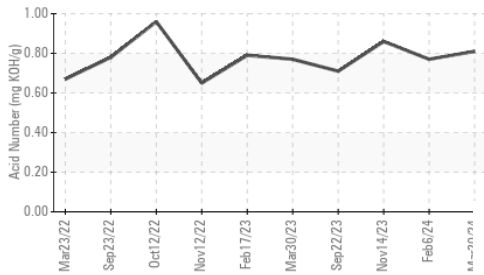
▲ Particle Trend



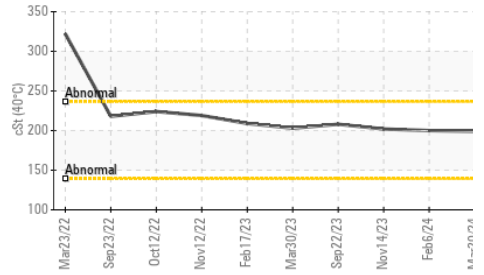
▲ Particle Trend



Acid Number



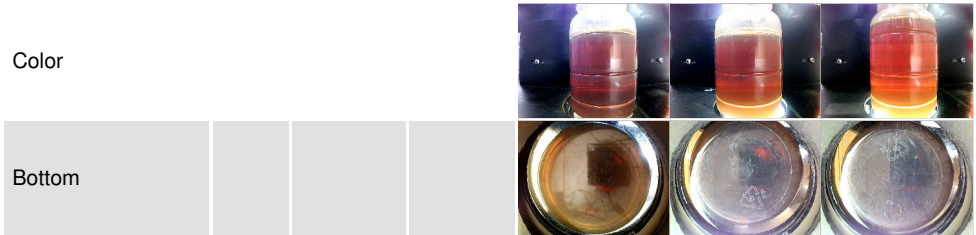
Viscosity @ 40°C



| 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 | LIGHT | 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 |

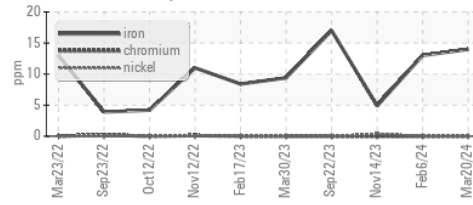
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 199 | 200 | 202 |

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

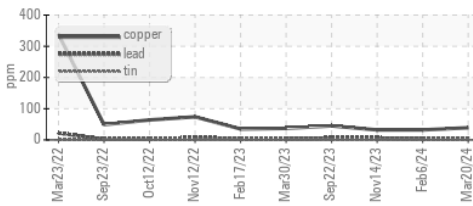


GRAPHS

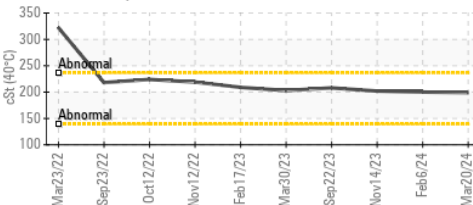
Ferrous Alloys



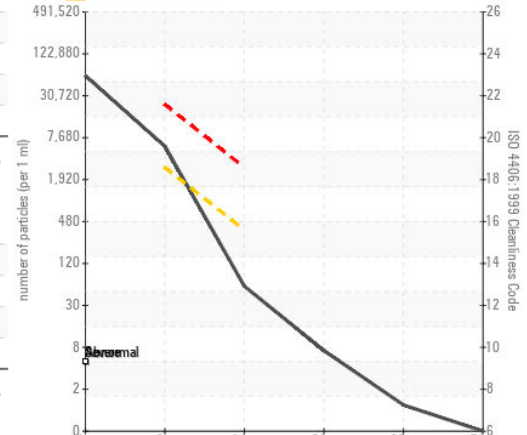
Non-ferrous Metals



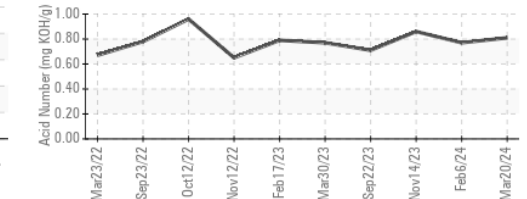
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014198 **Received** : 18 Apr 2024
Lab Number : 06153079 **Tested** : 19 Apr 2024
Unique Number : 10983157 **Diagnosed** : 22 Apr 2024 - Angela Borella
Test Package : MOB 2 (Additional Tests: PrtCount)

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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 MX 83140

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