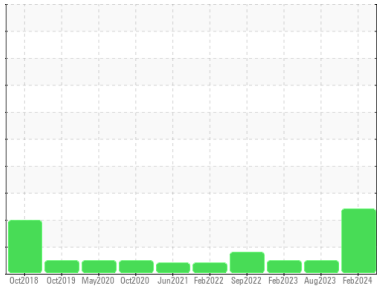
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## AT3210 (S/N XA0631)
Component
**Gearbox**
Fluid
**MOBIL SHC 630 (--- GAL)**

## DIAGNOSIS

**▲ Recommendation**
Resample at the next service interval to monitor.

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

**▲ Contamination**
There is a moderate 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 | | **USP0007640** | USP0000319 | USP246039 |
| Sample Date | | Client Info | | **19 Feb 2024** | 29 Aug 2023 | 15 Feb 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **<1** | 2 | 3 |
| Chromium | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **0** | <1 | 0 |
| Lead | ppm | ASTM D5185m | >100 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >200 | **0** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >25 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | | **381** | 419 | 375 |
| Zinc | ppm | ASTM D5185m | | **0** | 0 | 1 |
| Sulfur | ppm | ASTM D5185m | | **26** | 25 | 97 |

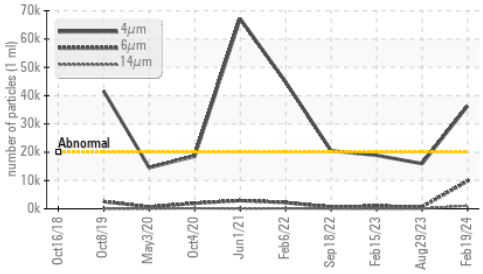
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **47** | 37 | 43 |
| Sodium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 2 | 0 |
| Water | % | ASTM D6304 | >0.2 | **0.001** | 0.001 | 0.011 |
| ppm Water | ppm | ASTM D6304 | >2000 | **4** | 5.5 | 110.2 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >20000 | ▲ **36332** | 15950 | 18904 |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **9770** | 658 | 913 |
| Particles >14µm | | ASTM D7647 | >640 | ▲ **1085** | 46 | 31 |
| Particles >21µm | | ASTM D7647 | >160 | ▲ **367** | 14 | 8 |
| Particles >38µm | | ASTM D7647 | >40 | ▲ **46** | 2 | 2 |
| Particles >71µm | | ASTM D7647 | >10 | **9** | 1 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | ▲ **22/20/17** | 21/17/13 | 21/17/12 |

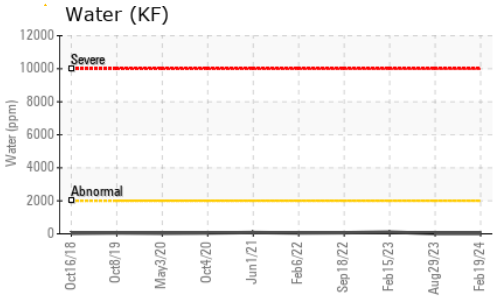
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.41** | 0.46 | 0.43 |

# OIL ANALYSIS REPORT

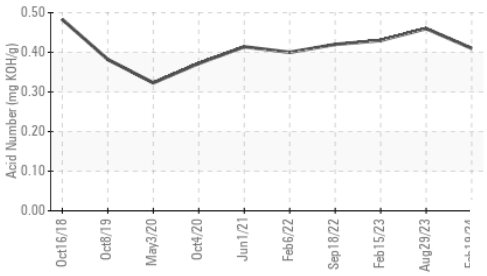
Particle Trend



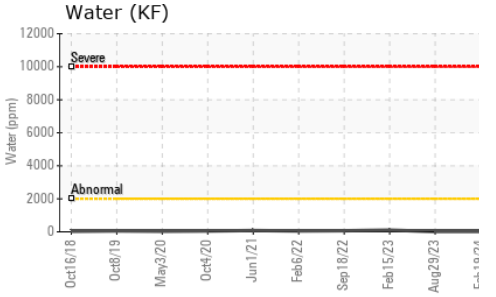

Water (KF)



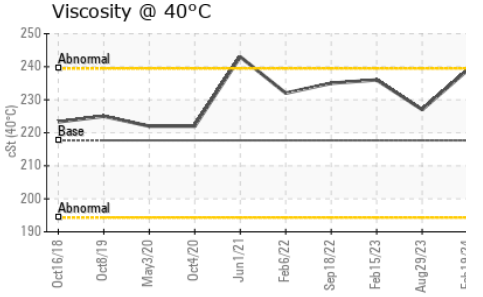

Acid Number




Water (KF)




Viscosity @ 40°C



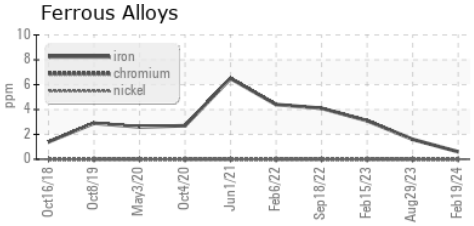

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **LIGHT** | NONE | VLITE |
| 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 | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 217.7 | **239** | 227 | 236 |

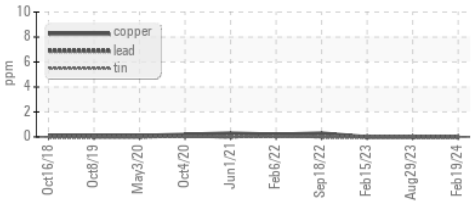
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

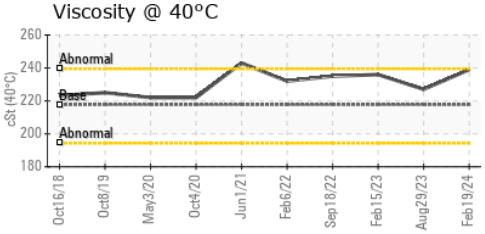
Ferrous Alloys



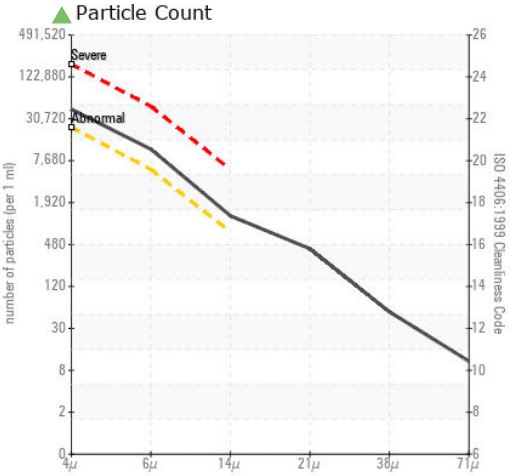

Non-ferrous Metals



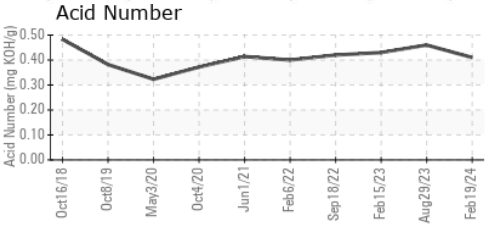

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : USP0007640
**Lab Number** : 06100178
**Unique Number** : 10898408
**Test Package** : IND 2

**Received** : 26 Feb 2024
**Tested** : 27 Feb 2024
**Diagnosed** : 27 Feb 2024 - Doug Bogart

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)*

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