

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id SW-1 (S/N 09302-004-1-01-13)

Refrigeration Compressor

USPI ALT-68 SC (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

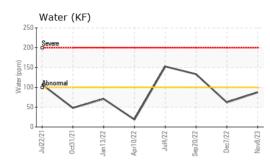
Fluid Condition

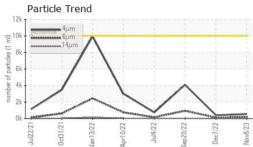
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

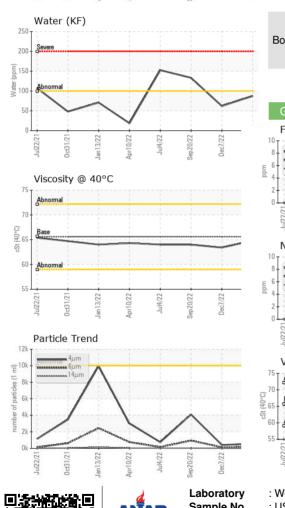
| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|------------------|---------------|--------------|------------|-------------|-------------|-------------|
| Sample Number | | Client Info | | USP0003746 | USP240501 | USP240247 |
| Sample Date | | Client Info | | 08 Nov 2023 | 07 Dec 2022 | 20 Sep 2022 |
| Machine Age | hrs | Client Info | | 11835 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >8 | <1 | <1 | 2 |
| Chromium | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Tin | | ASTM D5185m | >0 >4 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| | ppm | | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | - | - | - |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | <1 | 1 | 0 |
| Calcium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Zinc | ppm | ASTM D5185m | | 0 | 4 | 1 |
| Sulfur | ppm | ASTM D5185m | 50 | 0 | 25 | 24 |
| CONTAMINANTS | ; | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >15 | 2 | 3 | 3 |
| Sodium | ppm | ASTM D5185m | | 0 | <1 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | 0 |
| Water | % | ASTM D6304 | >0.01 | 0.008 | 0.006 | 0.013 |
| ppm Water | ppm | ASTM D6304 | >100 | 87.4 | 62.0 | 133.2 |
| FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | >10000 | 549 | 406 | 4085 |
| Particles >6µm | | ASTM D7647 | >2500 | 176 | 114 | 942 |
| Particles >14µm | | ASTM D7647 | >320 | 11 | 8 | 26 |
| Particles >21µm | | ASTM D7647 | >80 | 1 | 2 | 2 |
| Particles >38µm | | ASTM D7647 | >20 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >4 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/15 | 16/15/11 | 16/14/10 | 19/17/12 |
| FLUID DEGRADA | | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D974 | 0.005 | 0.015 | 0.015 | 0.015 |
| (-) | 0 - 0 | | - | - | - | - |



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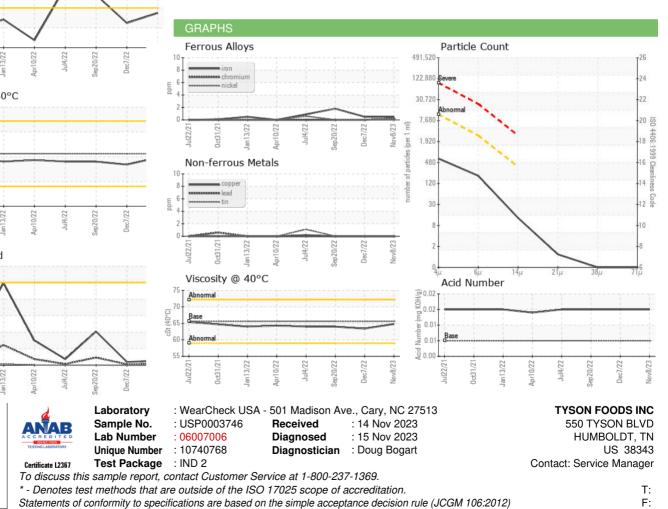






| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | 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 | >0.01 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPER | TIES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 65.6 | 64.8 | 63.4 | 64.0 |
| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
| Color | | | | HI3 - Sa HA NOG THE LOCAL THE LOCAL HERE AND AND AND HERE AND AND AND HERE AND AND AND HERE AND AND AND AND HERE AND AND AND AND HERE AND AND AND AND HERE AND AND AND AND AND HERE AND AND AND AND AND HERE AND AND AND AND AND AND HERE AND AND AND AND AND AND HERE AND AND AND AND AND AND AND HERE AND AND AND AND AND AND AND AND AND AND AND AND AND AND AND AND AND AND AND | aree | |
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Contact/Location: Service Manager - TYSHUM