

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

0-2 GEA ER2 (S/N XB0138) Component

Refrigeration Compressor USPI ALT-68 SC (160 GAL)

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.

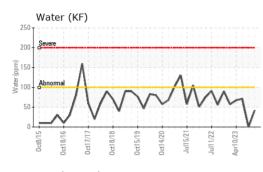


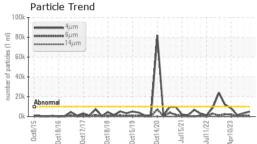


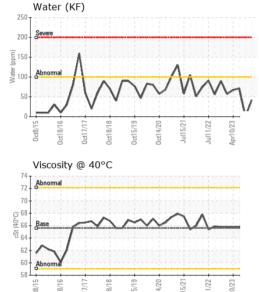
| SAMPLE INFORM | 1ATION | method | limit/base | current | history1 | history2 |
|---|------------|--------------|------------|-------------|-------------|-------------|
| Sample Number | | Client Info | | USP0004807 | USP0001091 | USP250194 |
| Sample Date | | Client Info | | 04 Jan 2024 | 11 Oct 2023 | 06 Jul 2023 |
| Machine Age | hrs | Client Info | | 124430 | 124430 | 123037 |
| 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 | 4 | 3 | 5 |
| Chromium | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Lead | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >0 >4 | 0 | 0 | <1 |
| Vanadium | | ASTM D5185m | 24 | 0 | 0 | 0 |
| Cadmium | ppm ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | pp | method | limit/base | current | history1 | history2 |
| Boron | | ASTM D5185m | intil Dase | | 0 | 0 |
| | ppm | | | 0 | | 0 |
| Barium | ppm | ASTM D5185m | | 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 | | 3 | <1 | 0 |
| Phosphorus | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 50 | 0 | 3 | 0 |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Water | % | ASTM D6304 | >0.01 | 0.004 | 0.00 | 0.007 |
| ppm Water | ppm | ASTM D6304 | >100 | 42 | 0.00 | 71.3 |
| FLUID CLEANLIN | ESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | >10000 | 4746 | 3515 | 1385 |
| Particles >6µm | | ASTM D7647 | >2500 | 615 | 985 | 322 |
| Particles >14µm | | ASTM D7647 | >320 | 16 | 55 | 21 |
| Particles >21µm | | ASTM D7647 | >80 | 4 | 7 | 5 |
| Particles >38µm | | ASTM D7647 | >20 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >4 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/15 | 19/16/11 | 19/17/13 | 18/16/12 |
| FLUID DEGRADATION method limit/base current history1 history2 | | | | | | |
| Acid Number (AN) | mg KOH/g | ASTM D974 | 0.005 | 0.014 | 0.014 | 0.015 |



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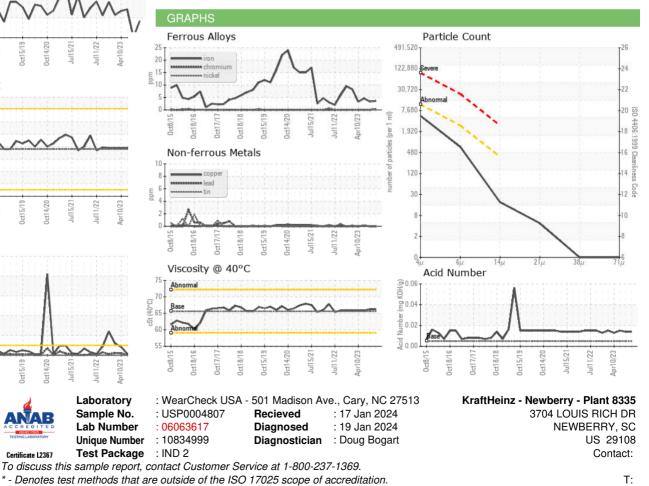




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|--------|---------|---------------|----------|-----------------|----------|----------|----------|----------|-----------|
| 62 | \sim | 11 | | | | | | | |
| 60 | Abno | ma | | | | | | | |
| 58 | | | | | | | | | |
| | 0ct8/15 | 0ct18/16 | 0ct17/17 | 0ct18/18 | Oct15/19 | 4/20 | Jul15/21 | Jul11/22 | Apr10/23 |
| | Oct | Oct1 | Oct1 | Oct1 | Oct1 | Oct14/20 | Jul | Int | prl |
| | | 0 | 0 | 0 | 0 | 0 | | , | 4 |
| | Dar | ticlo T | Frend | | | | | | |
| 100k - | Pai | ucie | nenu | | | | | | |
| 1001 | | 4/ | /m | | | | | | |
| 80k - | | | | | | | | | |
| | ****** | 444444 | μm | | | - A - | | | |
| 60k - | | | | | | - A- | | | |
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| | Oct | Oct1 | Oct1 | Oct1 | Oct1 | 0ct14/20 | Jul | Jul11/22 | prl |
| | | 0 | 0 | 0 | 0 | 0 | | , | 4 |
| | | | | | 1 | | 1. | abora | atory |

number of particles (1 ml)

| 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 | 66.2 | 66.2 | 65.8 |
| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
| | | | | | | MH3 MU-2 GEA EI MELLE 29200 |
| Color | | | | • | a | |
| | | | | | | |
| | | | | | | |
| Bottom | | | | | | 1 ACCONT |



* - 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)

Certificate L2367

Contact/Location: ? ? - KRANEWUSP

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