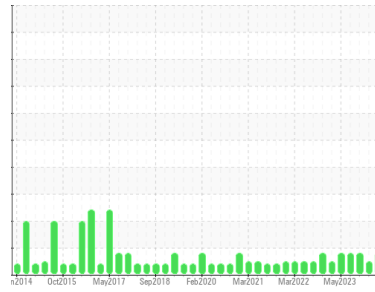




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

NH3 Compressor

Machine Id

CARCAL-8 RWB-134 (FRICK) (S/N TDSH193L2269D)

Component

Refrigeration Compressor

Fluid

USPI 1009-68 SC (--- 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 silt (particulates < 14 microns in size) 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 | USP0008001 | USP0005067 | USP0003171 |
| Sample Date | Client Info | 04 Apr 2024 | 15 Jan 2024 | 19 Oct 2023 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | ATTENTION | NORMAL | ATTENTION |

WEAR METALS

| method | limit/base | current | history1 | history2 | |
|----------|------------|----------------|--------------|----------|----|
| Iron | ppm | ASTM D5185m >8 | 0 | 2 | <1 |
| Chromium | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >3 | <1 | 1 | <1 |
| Lead | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >8 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m >4 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 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 | 2 | 0 |
| Phosphorus | ppm | ASTM D5185m | 0 | 0 | 0 |
| Zinc | ppm | ASTM D5185m | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m 50 | 1444 | 2180 | 2169 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|------------------|--------------|----------|-------|
| Silicon | ppm | ASTM D5185m >15 | 0 | 1 | <1 |
| Sodium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Potassium | ppm | ASTM D5185m >20 | <1 | <1 | 2 |
| Water | % | ASTM D6304 >0.01 | 0.003 | 0.003 | 0.006 |
| ppm Water | ppm | ASTM D6304 >100 | 34 | 38 | 60.9 |

FLUID CLEANLINESS

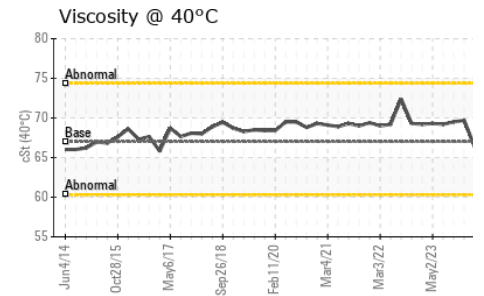
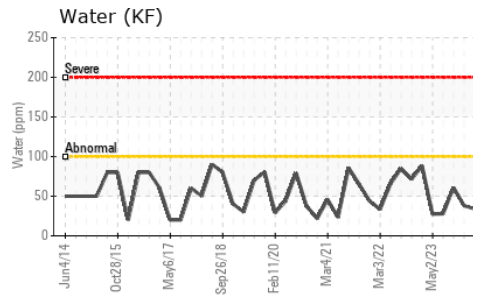
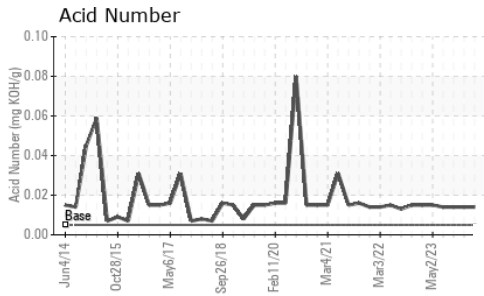
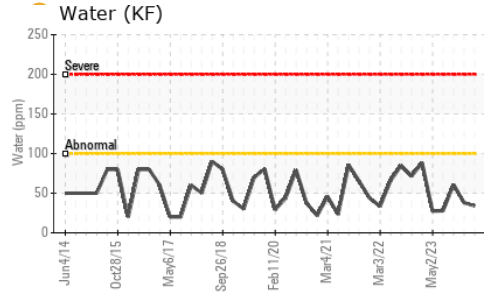
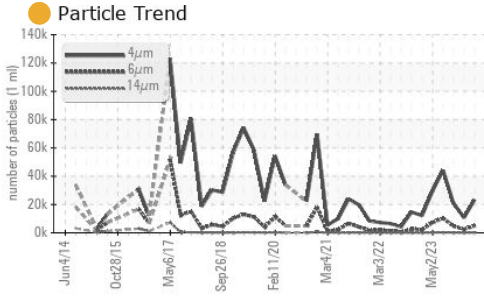
| method | limit/base | current | history1 | history2 |
|-----------------|------------------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | 23418 | 10751 | 20685 |
| Particles >6µm | ASTM D7647 >2500 | 4919 | 2481 | 4623 |
| Particles >14µm | ASTM D7647 >320 | 175 | 94 | 179 |
| Particles >21µm | ASTM D7647 >80 | 32 | 14 | 38 |
| Particles >38µm | ASTM D7647 >20 | 0 | 0 | 1 |
| Particles >71µm | ASTM D7647 >4 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) >--/18/15 | 22/19/15 | 21/18/14 | 22/19/15 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|-----------------|--------------|----------|-------|
| Acid Number (AN) | mg KOH/g | ASTM D974 0.005 | 0.014 | 0.014 | 0.014 |



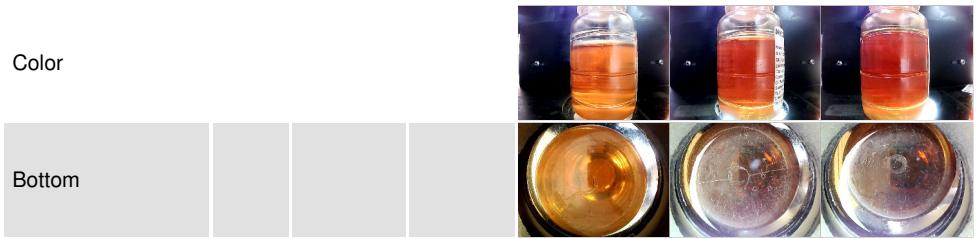
OIL ANALYSIS REPORT



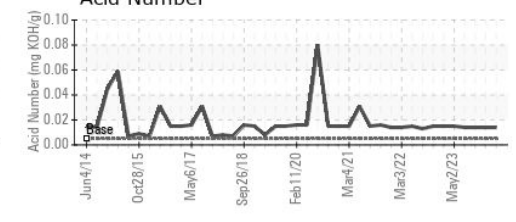
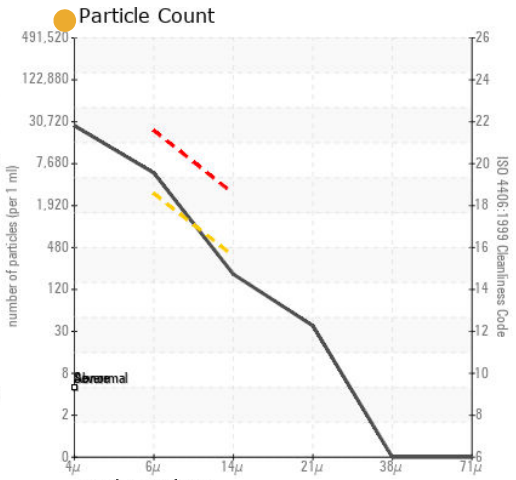
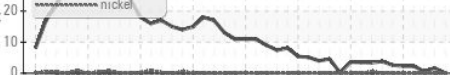
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | >0.01 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 67 | 66.4 | 69.7 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP008001
Lab Number : 06139940
Unique Number : 10964748
Test Package : IND 2

Received : 05 Apr 2024
Tested : 08 Apr 2024
Diagnosed : 08 Apr 2024 - Doug Bogart

CARGILL-CALIFORNIA
 1001 E. SMITH STREET
 CALIFORNIA, MO
 US 65018
 Contact: REFRIGERATION DEPT.

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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