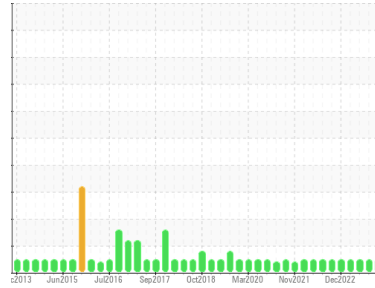




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
DC
Machine Id
AMMONIA COMPRESSOR 3 (S/N B36087)
Component
Refrigeration Compressor
Fluid
VILTER 717 COMPRESSOR OIL ISO 68 (--- 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

Increase in viscosity noted and confirmed. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0866196 | WC0836313 | WC0820729 |
| Sample Date | Client Info | | 13 Nov 2023 | 30 Aug 2023 | 31 May 2023 |
| Machine Age | hrs | Client Info | 12620 | 12589 | 12124 |
| 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 | 1 |
| Chromium | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | 1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >3 | <1 | <1 | 0 |
| Lead | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >8 | <1 | <1 | 0 |
| Tin | ppm | ASTM D5185m >4 | 0 | 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 | 0 |
| Molybdenum | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m 0 | 2 | 0 | 0 |
| Calcium | ppm | ASTM D5185m 0 | 2 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m 0 | 1 | 2 | 4 |
| Zinc | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 36 | 13 | 37 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | <1 | 1 | <1 |
| Sodium | ppm | ASTM D5185m | <1 | 0 | <1 |
| Potassium | ppm | ASTM D5185m >20 | 1 | 0 | 0 |
| Water | % | ASTM D6304 >0.01 | 0.002 | 0.001 | 0.001 |
| ppm Water | ppm | ASTM D6304 >100 | 22.2 | 4.2 | 13.8 |

FLUID CLEANLINESS

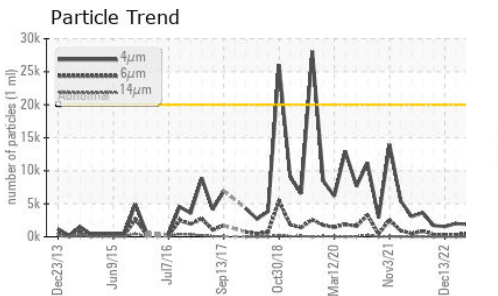
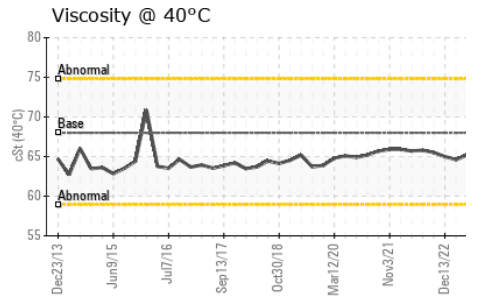
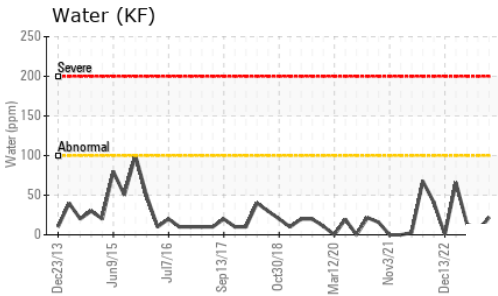
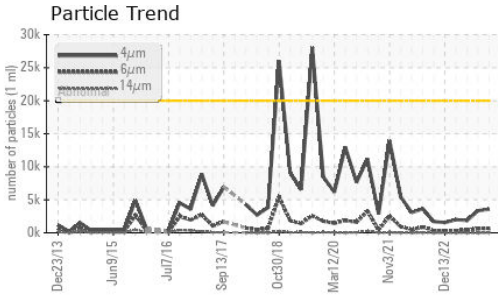
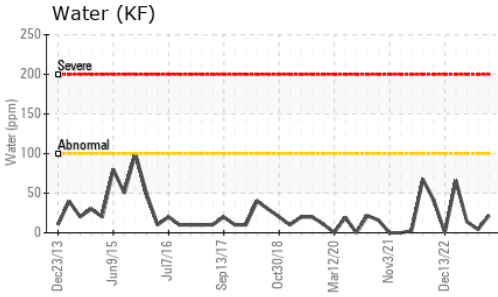
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >20000 | 3579 | 3348 | 1859 |
| Particles >6µm | ASTM D7647 | >2500 | 654 | 637 | 418 |
| Particles >14µm | ASTM D7647 | >320 | 26 | 15 | 14 |
| Particles >21µm | ASTM D7647 | >80 | 3 | 3 | 4 |
| Particles >38µm | ASTM D7647 | >20 | 0 | 1 | 1 |
| Particles >71µm | ASTM D7647 | >4 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >21/18/15 | 19/17/12 | 19/16/11 | 18/16/11 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|---------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974 0.2 | 0.013 | 0.016 | 0.015 |



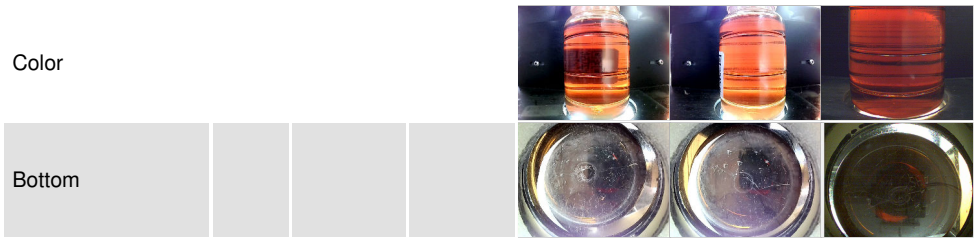
OIL ANALYSIS REPORT



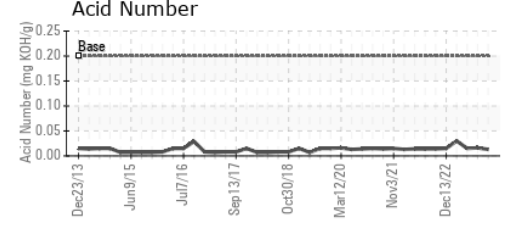
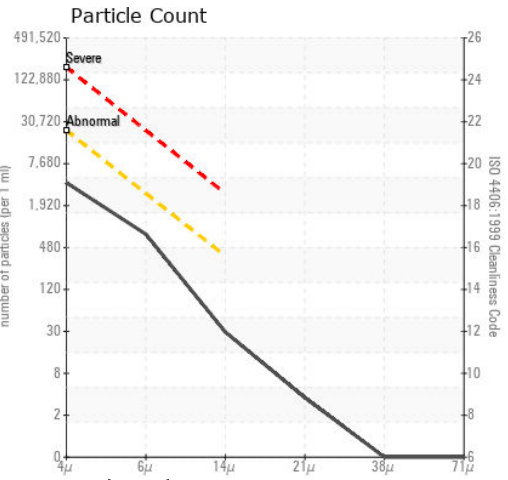
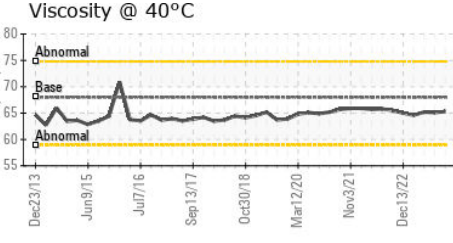
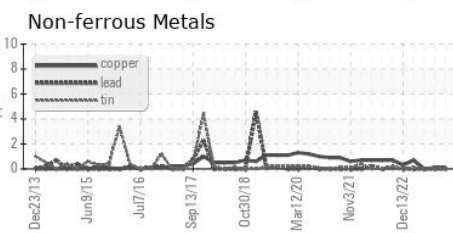
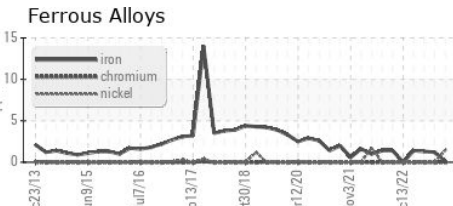
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE |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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 68 | 65.3 | 65.1 | 65.2 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0866196 **Received** : 20 Nov 2023
Lab Number : 06012484 **Diagnosed** : 22 Nov 2023
Unique Number : 10751628 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: PrtCount)

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 OSCEOLA, IA
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 F: (641)342-8047

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)