



OIL ANALYSIS REPORT

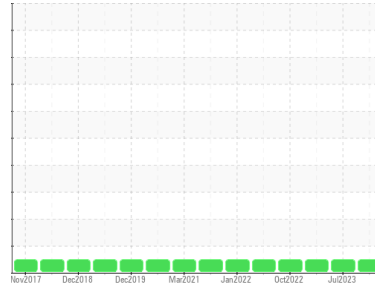
Sample Rating Trend

NORMAL



Machine Id
19 ER4 NEW (S/N S0071SFMNTHAC03)

Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

cv bn,./All component wear rates are normal.

Contamination

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

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 | | | USP0003529 | USP250043 | USP246712 |
| Sample Date | Client Info | | | 08 Nov 2023 | 08 Jul 2023 | 23 Feb 2023 |
| Machine Age | hrs | Client Info | | 41744 | 38797 | 35716 |
| 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 | 2 | 3 | 0 |
| Chromium | ppm | ASTM D5185m | >2 | 0 | 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 | >3 | 0 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >8 | 0 | 0 | 0 |
| Tin | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |

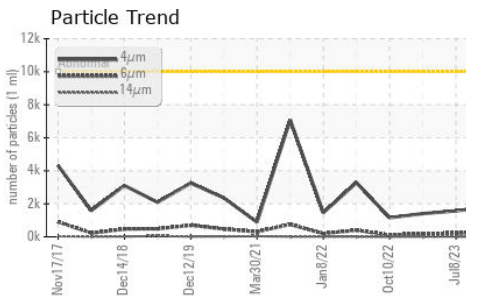
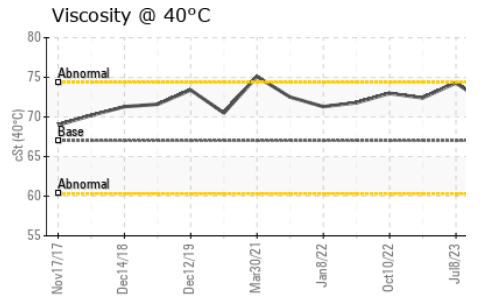
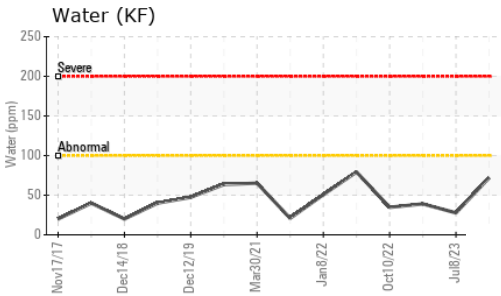
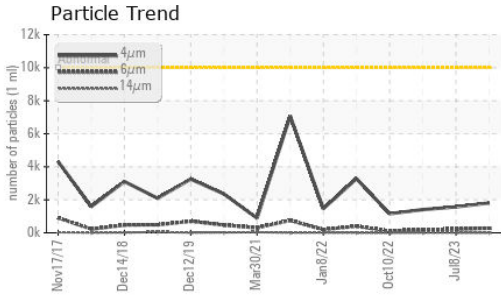
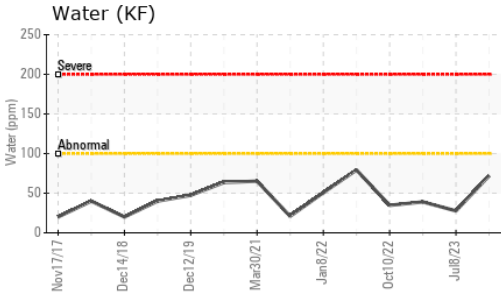
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Zinc | ppm | ASTM D5185m | | 1 | 3 | <1 |
| Sulfur | ppm | ASTM D5185m | 50 | 0 | 0 | 0 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >15 | 0 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Water | % | ASTM D6304 | >0.01 | 0.007 | 0.003 | 0.003 |
| ppm Water | ppm | ASTM D6304 | >100 | 72 | 27.7 | 39.0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >10000 | 1808 | 1571 | 1406 |
| Particles >6µm | | ASTM D7647 | >2500 | 277 | 223 | 194 |
| Particles >14µm | | ASTM D7647 | >320 | 8 | 8 | 10 |
| Particles >21µm | | ASTM D7647 | >80 | 1 | 2 | 3 |
| Particles >38µm | | ASTM D7647 | >20 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >4 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/15 | 18/15/10 | 18/15/10 | 18/15/10 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974 | 0.005 | 0.01 | 0.014 | 0.014 |

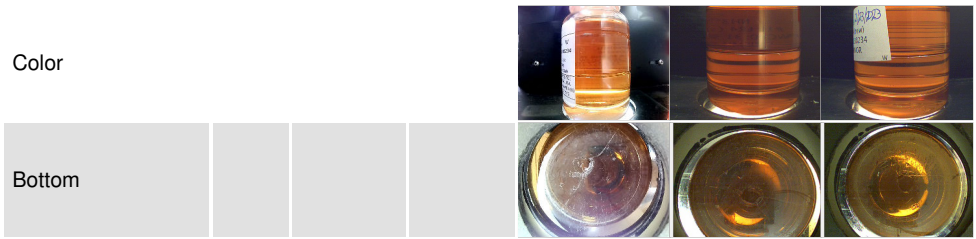
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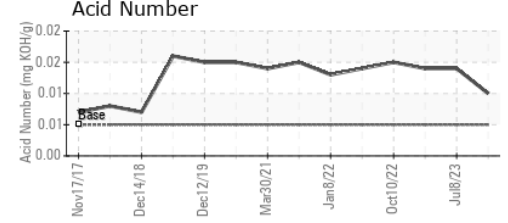
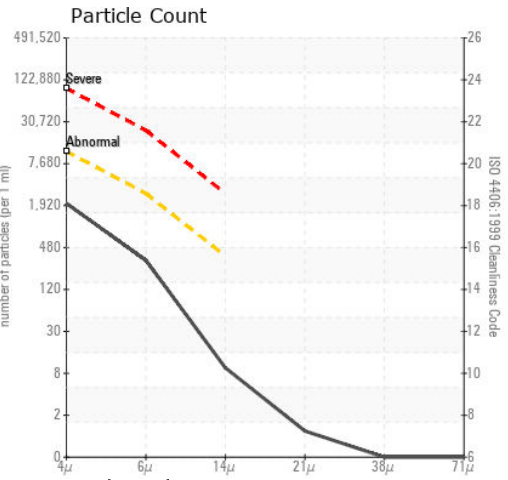
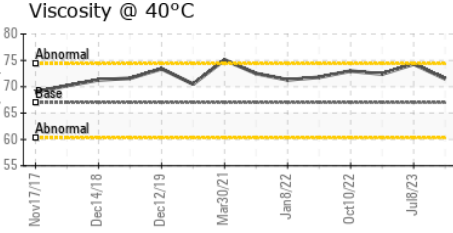
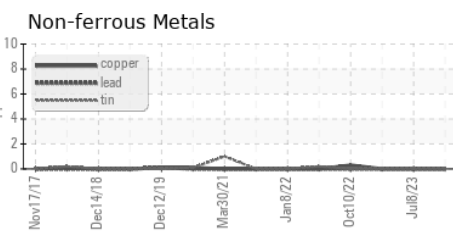
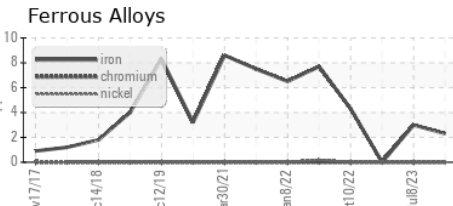
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | 71.5 | 74.3 | 72.4 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0003529 **Received** : 22 Nov 2023
Lab Number : 06015178 **Diagnosed** : 26 Nov 2023
Unique Number : 10754322 **Diagnostician** : Doug Bogart
Test Package : IND 2

SMITHFIELD FOODS - NORTH PLANT
 601 N CHURCH ST
 SMITHFIELD, VA
 US 23430
 Contact:

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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