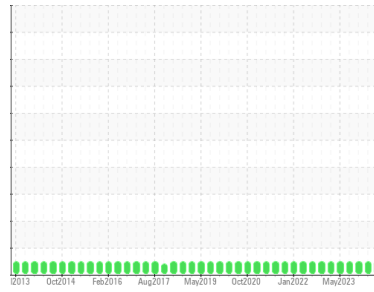




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**FES TYSOLA C-3 (S/N 00041036)**  
 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 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 |             | <b>USP0012678</b>  | USP0007563  | USP0003836  |
| Sample Date   | Client Info |             | <b>24 May 2024</b> | 22 Feb 2024 | 18 Nov 2023 |
| Machine Age   | hrs         | Client Info | <b>103754</b>      | 101403      | 102103      |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR METALS

|          | method | limit/base     | current      | history1 | history2 |
|----------|--------|----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >8 | <b>&lt;1</b> | 0        | <1       |
| Chromium | ppm    | ASTM D5185m >2 | <b>&lt;1</b> | 0        | <1       |
| Nickel   | ppm    | ASTM D5185m    | <b>&lt;1</b> | <1       | <1       |
| Titanium | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2 | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >3 | <b>0</b>     | 0        | <1       |
| Lead     | ppm    | ASTM D5185m >2 | <b>&lt;1</b> | 1        | <1       |
| Copper   | ppm    | ASTM D5185m >8 | <b>&lt;1</b> | 0        | <1       |
| Tin      | ppm    | ASTM D5185m >4 | <b>&lt;1</b> | 1        | <1       |
| Vanadium | ppm    | ASTM D5185m    | <b>&lt;1</b> | <1       | 0        |
| Cadmium  | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | <1       |

## ADDITIVES

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

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>&lt;1</b> | <1       | <1       |
| Sodium    | ppm    | ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |
| Potassium | ppm    | ASTM D5185m >20  | <b>2</b>     | <1       | 1        |
| Water     | %      | ASTM D6304 >0.01 | <b>0.004</b> | 0.007    | 0.003    |
| ppm Water | ppm    | ASTM D6304 >100  | <b>48</b>    | 79       | 37       |

## FLUID CLEANLINESS

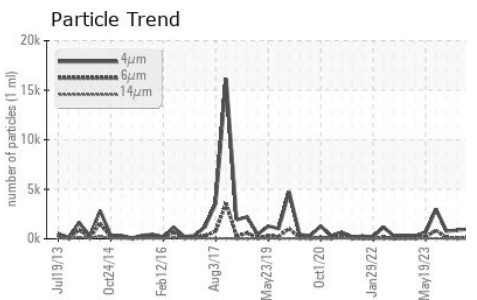
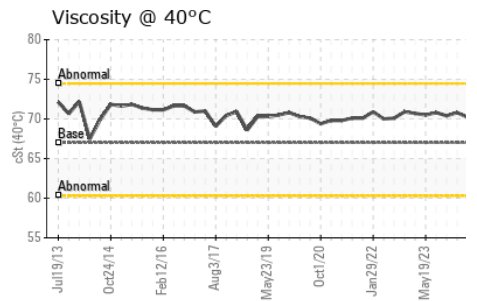
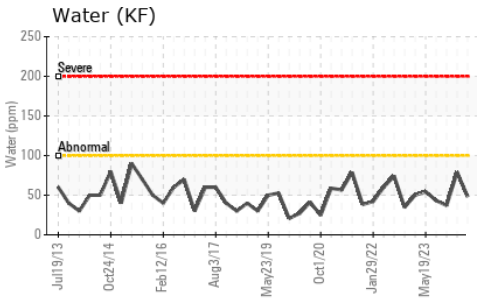
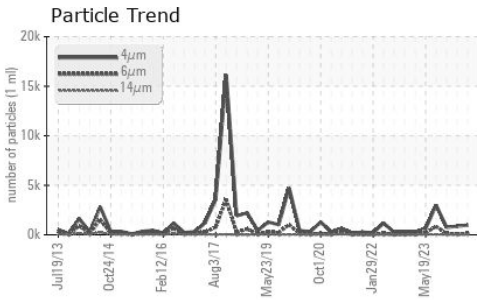
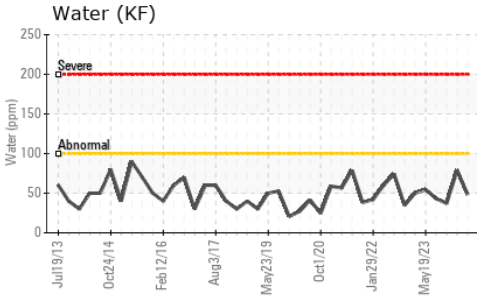
|                 | method           | limit/base | current         | history1 | history2 |
|-----------------|------------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647       |            | <b>974</b>      | 871      | 744      |
| Particles >6µm  | ASTM D7647 >2500 |            | <b>123</b>      | 104      | 122      |
| Particles >14µm | ASTM D7647 >320  |            | <b>9</b>        | 5        | 9        |
| Particles >21µm | ASTM D7647 >80   |            | <b>2</b>        | 1        | 4        |
| Particles >38µm | ASTM D7647 >20   |            | <b>0</b>        | 0        | 0        |
| Particles >71µm | ASTM D7647 >4    |            | <b>0</b>        | 0        | 0        |
| Oil Cleanliness | ISO 4406 (c)     | >--/18/15  | <b>17/14/10</b> | 17/14/10 | 17/14/10 |

## FLUID DEGRADATION

|                  | method   | limit/base      | current      | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974 0.005 | <b>0.014</b> | 0.013    | 0.014    |



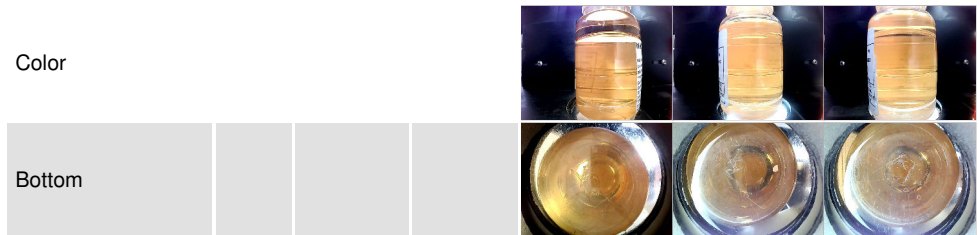
# OIL ANALYSIS REPORT



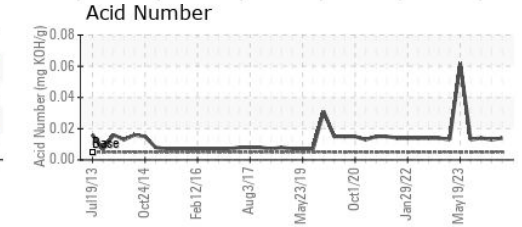
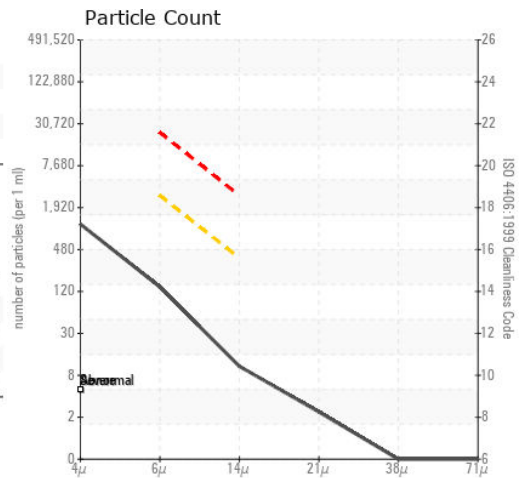
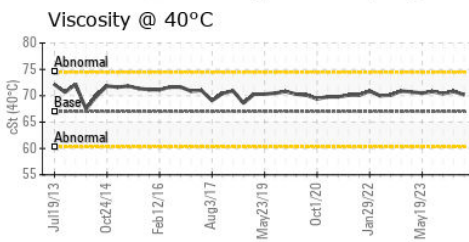
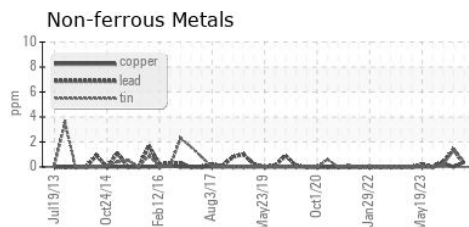
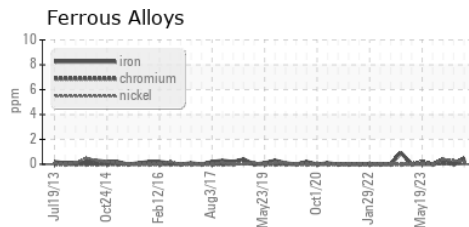
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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      | 70.2     | 70.8     |

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



## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : USP0012678  
 Lab Number : 06198234  
 Unique Number : 11060357  
 Test Package : IND 2

TYSON DC -OLATHE-USP  
 OLATHE, KS  
 US  
 Contact: ROCKY DENNIS

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)

T:  
F: