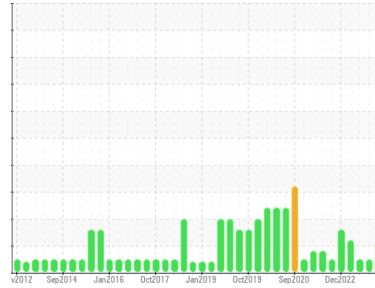




# PROBLEM SUMMARY

## Sample Rating Trend

ISO

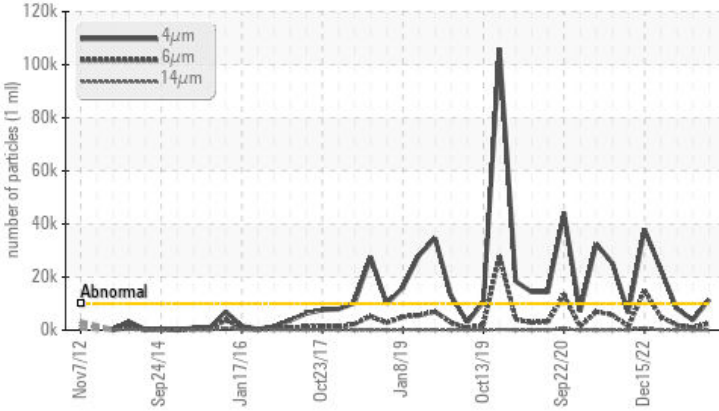


Machine Id  
**TYSVIC 9 (S/N KT-0005)**

Component  
**Refrigeration Compressor**  
Fluid  
**USPI ALT-68 SC (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status   |              |           | ATTENTION  | NORMAL   | NORMAL   |
|-----------------|--------------|-----------|------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >10000    | ▲ 11529    | 3786     | 8114     |
| Particles >6µm  | ASTM D7647   | >2500     | ▲ 2523     | 913      | 1902     |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15 | ▲ 21/19/13 | 19/17/12 | 20/18/13 |

Customer Id: TYSVIC01  
Sample No.: USP0003478  
Lab Number: 06007019  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Doug Bogart +1 (800)237-1369 x4016  
[dougb@wearcheckusa.com](mailto:dougb@wearcheckusa.com)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 31 Aug 2023 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 29 May 2023 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 02 Mar 2023 Diag: Doug Bogart

ISO



Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

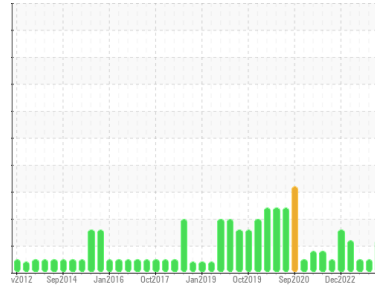
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**TYSVIC 9 (S/N KT-0005)**  
 Component  
**Refrigeration Compressor**  
 Fluid  
**USPI ALT-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 | <b>USP0003478</b>  | USP0000331  | USP243285   |
| Sample Date   | Client Info | <b>13 Nov 2023</b> | 31 Aug 2023 | 29 May 2023 |
| Machine Age   | hrs         | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             | <b>ATTENTION</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        | 0  |
| Nickel   | ppm        | ASTM D5185m    | <b>0</b>     | 0        | <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        | 0  |
| Lead     | ppm        | ASTM D5185m >2 | <b>0</b>     | <1       | <1 |
| Copper   | ppm        | ASTM D5185m >8 | <b>0</b>     | 0        | 0  |
| Tin      | ppm        | ASTM D5185m >4 | <b>0</b>     | 0        | 0  |
| Vanadium | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 0  |
| Cadmium  | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 0  |

## ADDITIVES

| method     | limit/base | current        | history1     | history2 |    |
|------------|------------|----------------|--------------|----------|----|
| Boron      | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 0  |
| Barium     | ppm        | ASTM D5185m    | <b>0</b>     | 2        | 0  |
| Molybdenum | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 0  |
| Manganese  | ppm        | ASTM D5185m    | <b>0</b>     | 0        | <1 |
| Magnesium  | ppm        | ASTM D5185m    | <b>&lt;1</b> | 0        | 0  |
| Calcium    | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 0  |
| Phosphorus | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 1  |
| Zinc       | ppm        | ASTM D5185m    | <b>0</b>     | 0        | 0  |
| Sulfur     | ppm        | ASTM D5185m 50 | <b>0</b>     | 0        | 0  |

## CONTAMINANTS

| method    | limit/base | current          | history1     | history2 |       |
|-----------|------------|------------------|--------------|----------|-------|
| Silicon   | ppm        | ASTM D5185m >15  | <b>3</b>     | 3        | 3     |
| Sodium    | ppm        | ASTM D5185m      | <b>0</b>     | 0        | <1    |
| Potassium | ppm        | ASTM D5185m >20  | <b>&lt;1</b> | 1        | 2     |
| Water     | %          | ASTM D6304 >0.01 | <b>0.005</b> | 0.003    | 0.006 |
| ppm Water | ppm        | ASTM D6304 >100  | <b>51.6</b>  | 36.7     | 62.8  |

## FLUID CLEANLINESS

| method          | limit/base             | current           | history1 | history2 |
|-----------------|------------------------|-------------------|----------|----------|
| Particles >4µm  | ASTM D7647 >10000      | <b>▲ 11529</b>    | 3786     | 8114     |
| Particles >6µm  | ASTM D7647 >2500       | <b>▲ 2523</b>     | 913      | 1902     |
| Particles >14µm | ASTM D7647 >320        | <b>60</b>         | 35       | 57       |
| Particles >21µm | ASTM D7647 >80         | <b>8</b>          | 6        | 10       |
| Particles >38µm | ASTM D7647 >20         | <b>0</b>          | 1        | 0        |
| Particles >71µm | ASTM D7647 >4          | <b>0</b>          | 0        | 0        |
| Oil Cleanliness | ISO 4406 (c) >20/18/15 | <b>▲ 21/19/13</b> | 19/17/12 | 20/18/13 |

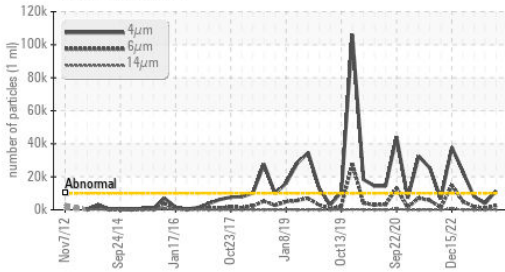
## FLUID DEGRADATION

| method           | limit/base | current         | history1     | history2 |       |
|------------------|------------|-----------------|--------------|----------|-------|
| Acid Number (AN) | mg KOH/g   | ASTM D974 0.005 | <b>0.015</b> | 0.014    | 0.015 |

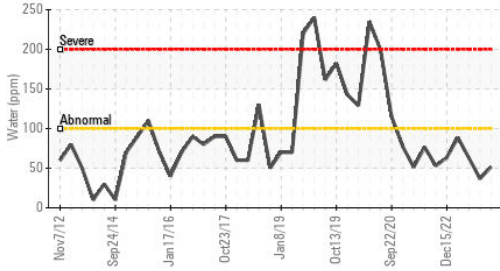


# OIL ANALYSIS REPORT

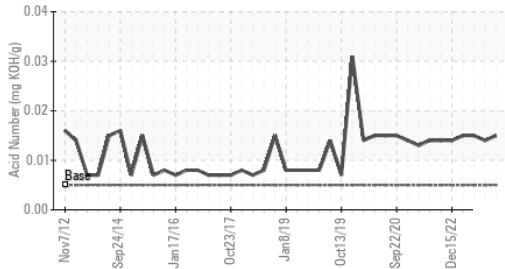
## ▲ Particle Trend



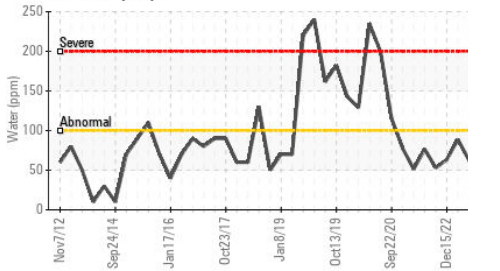
## Water (KF)



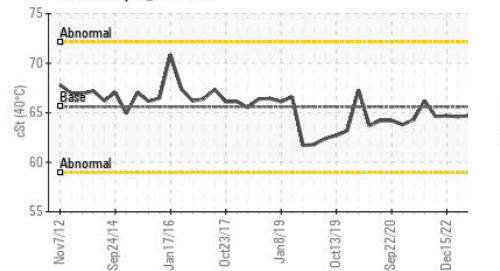
## Acid Number



## Water (KF)



## Viscosity @ 40°C



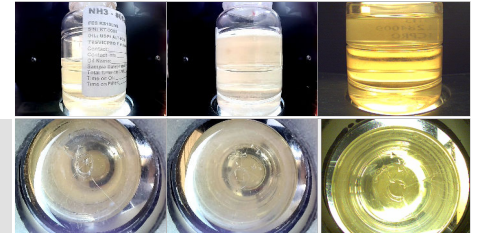
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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  | 65.6    | 65.4     | 65.0     |

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

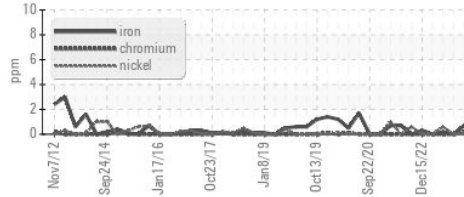
Color

Bottom

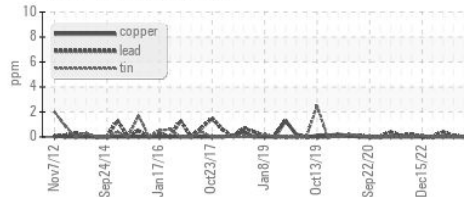


## GRAPHS

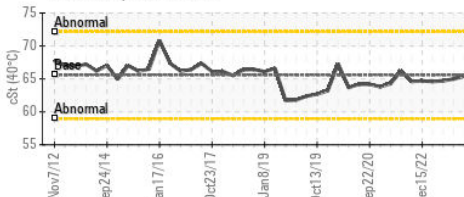
### Ferrous Alloys



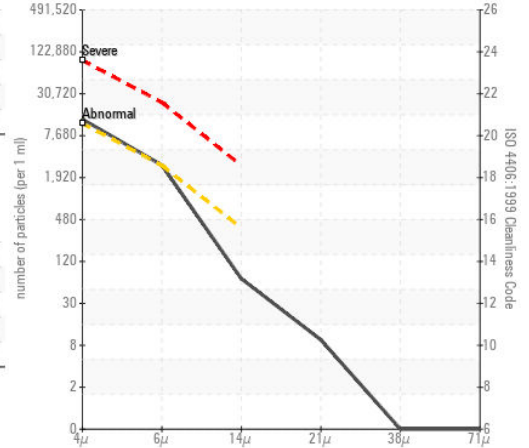
### Non-ferrous Metals



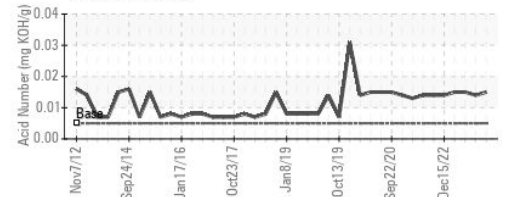
### Viscosity @ 40°C



### ▲ Particle Count



### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USP0003478 **Received** : 14 Nov 2023  
**Lab Number** : 06007019 **Diagnosed** : 15 Nov 2023  
**Unique Number** : 10740781 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2

**TYSON -VICKSBURG-USP - TYSVICPRO**  
 1785 INTERPLEX DR  
 VICKSBURG, MS  
 US 39183  
 Contact: RICK DUNN

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: