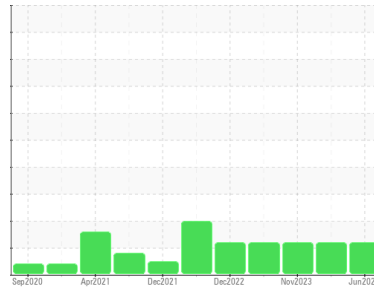




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id  
**ER1 HSRC-05 (S/N 60357)**  
 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 high 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>USP0013173</b>  | USP0007451  | USP0003631  |
| Sample Date   | Client Info |             | <b>12 Jun 2024</b> | 28 Feb 2024 | 13 Nov 2023 |
| Machine Age   | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| 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>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

## WEAR METALS

|          | method | limit/base     | current      | history1 | history2 |
|----------|--------|----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >8 | <b>0</b>     | 0        | 0        |
| Chromium | ppm    | ASTM D5185m >2 | <b>0</b>     | 0        | 0        |
| Nickel   | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2 | <b>0</b>     | 0        | <1       |
| Aluminum | ppm    | ASTM D5185m >3 | <b>&lt;1</b> | 0        | <1       |
| Lead     | ppm    | ASTM D5185m >2 | <b>0</b>     | 0        | 0        |
| 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        | <1       |
| 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>     | 1        | 0        |
| Molybdenum | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | <1       |
| Magnesium  | ppm    | ASTM D5185m    | <b>&lt;1</b> | <1       | 1        |
| Calcium    | ppm    | ASTM D5185m    | <b>0</b>     | <1       | 1        |
| 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>0</b>     | 0        | 0        |
| Sodium    | ppm    | ASTM D5185m      | <b>2</b>     | 0        | 1        |
| Potassium | ppm    | ASTM D5185m >20  | <b>3</b>     | 0        | 2        |
| Water     | %      | ASTM D6304 >0.01 | <b>0.001</b> | 0.001    | 0.001    |
| ppm Water | ppm    | ASTM D6304 >100  | <b>9</b>     | 0        | 9.2      |

## FLUID CLEANLINESS

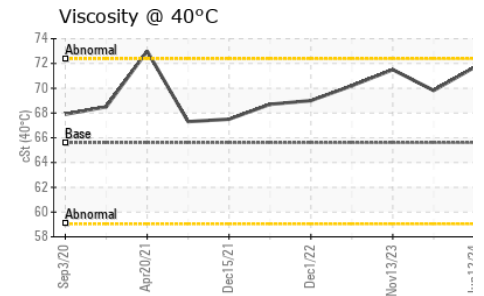
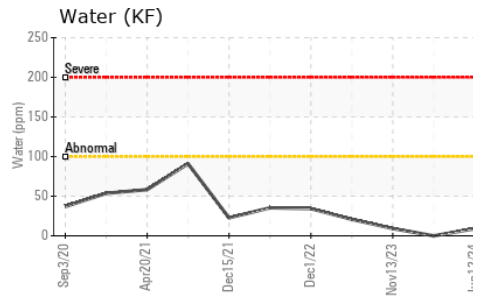
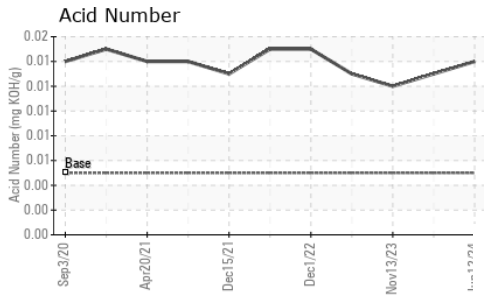
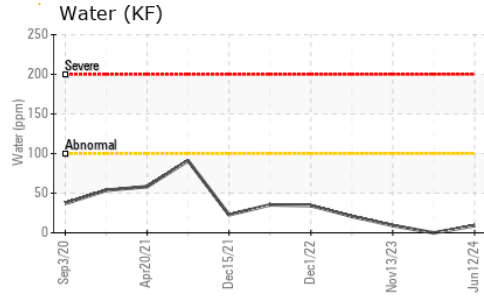
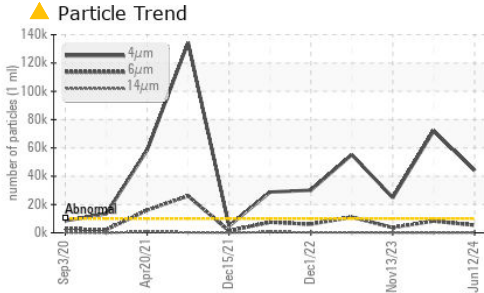
|                 | method       | limit/base | current           | history1   | history2   |
|-----------------|--------------|------------|-------------------|------------|------------|
| Particles >4µm  | ASTM D7647   | >10000     | <b>▲ 43956</b>    | ▲ 72111    | ▲ 24831    |
| Particles >6µm  | ASTM D7647   | >2500      | <b>▲ 5414</b>     | ▲ 8283     | ● 3688     |
| Particles >14µm | ASTM D7647   | >320       | <b>102</b>        | 100        | 110        |
| Particles >21µm | ASTM D7647   | >80        | <b>13</b>         | 14         | 24         |
| Particles >38µm | ASTM D7647   | >20        | <b>0</b>          | 0          | 1          |
| Particles >71µm | ASTM D7647   | >4         | <b>0</b>          | 0          | 0          |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15  | <b>▲ 23/20/14</b> | ▲ 23/20/14 | ▲ 22/19/14 |

## FLUID DEGRADATION

|                  | method   | limit/base      | current      | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974 0.005 | <b>0.014</b> | 0.013    | 0.012    |



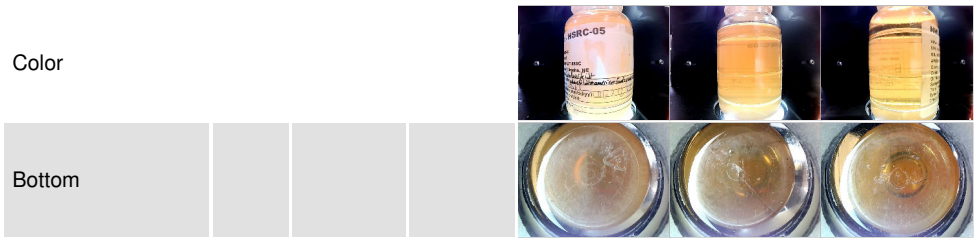
# OIL ANALYSIS REPORT



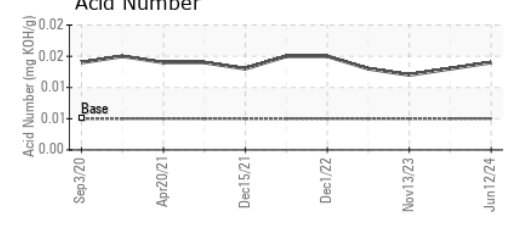
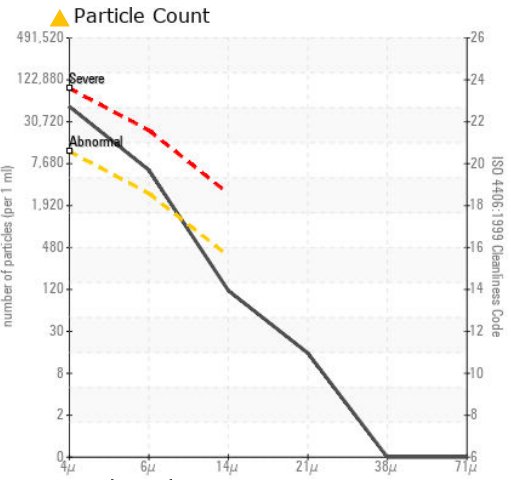
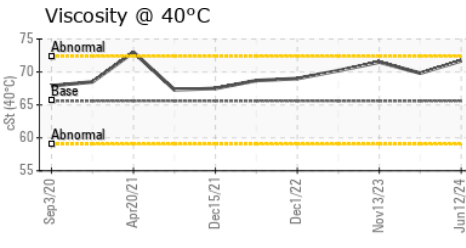
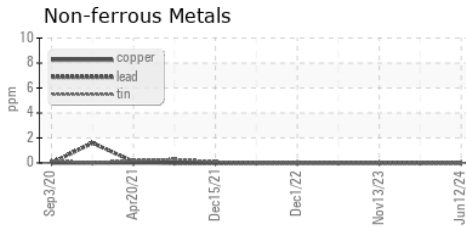
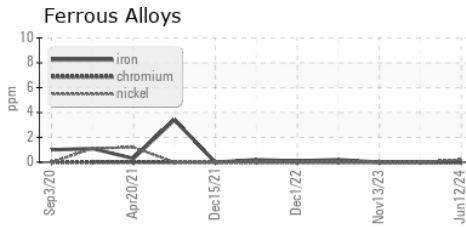
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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  | 65.6    | 71.7     | 69.82    |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USP0013173  
**Lab Number** : 06215829  
**Unique Number** : 11088693  
**Test Package** : IND 2  
**Received** : 20 Jun 2024  
**Tested** : 21 Jun 2024  
**Diagnosed** : 24 Jun 2024 - Doug Bogart

**AMERICAN FOODS GROUP**  
 4430 S 110TH ST  
 OMAHA, NE  
 US 68137  
 Contact: Service Manager

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)