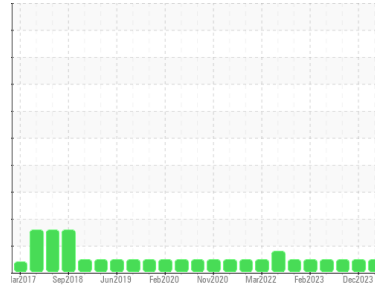




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**VACUUM 4A (S/N FM362013)**

Component  
**Pump**  
Fluid  
**USPI VAC 100 (--- 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>USPM36522</b>   | USPM31809   | USPM29704   |
| Sample Date   | Client Info |             | <b>25 Mar 2024</b> | 18 Dec 2023 | 12 Sep 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>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >90 | <b>0</b>     | 1        | 0        |
| Chromium | ppm    | ASTM D5185m >5  | <b>&lt;1</b> | <1       | 0        |
| Nickel   | ppm    | ASTM D5185m >5  | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >7  | <b>&lt;1</b> | 0        | 0        |
| Lead     | ppm    | ASTM D5185m >12 | <b>0</b>     | 0        | 0        |
| Copper   | ppm    | ASTM D5185m >30 | <b>0</b>     | 0        | 0        |
| Tin      | ppm    | ASTM D5185m >9  | <b>&lt;1</b> | 0        | 0        |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | <1       |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | 0        | <1       |

## ADDITIVES

|            | method | limit/base       | current    | history1 | history2 |
|------------|--------|------------------|------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m      | <b>0</b>   | 0        | <1       |
| Magnesium  | ppm    | ASTM D5185m 0    | <b>0</b>   | <1       | 0        |
| Calcium    | ppm    | ASTM D5185m 0    | <b>0</b>   | 1        | 0        |
| Phosphorus | ppm    | ASTM D5185m 1800 | <b>516</b> | 543      | 592      |
| Zinc       | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |
| Sulfur     | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >60  | <b>2</b>     | 3        | 2        |
| Sodium    | ppm    | ASTM D5185m      | <b>0</b>     | <1       | 0        |
| Potassium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | <1       | 3        |
| Water     | %      | ASTM D6304 >.1   | <b>0.021</b> | 0.020    | 0.036    |
| ppm Water | ppm    | ASTM D6304 >1000 | <b>212</b>   | 202      | 362.4    |

## FLUID CLEANLINESS

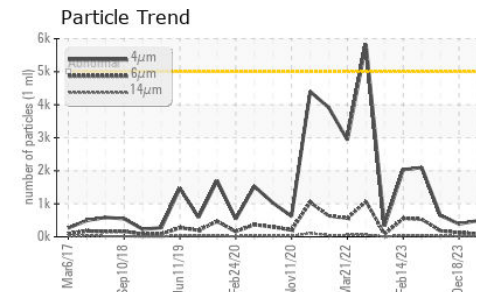
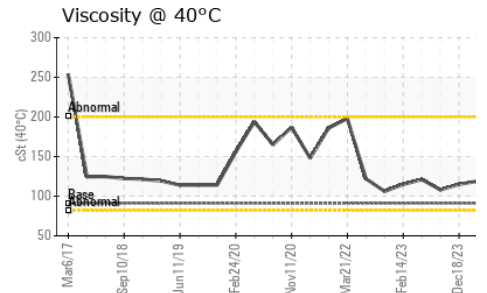
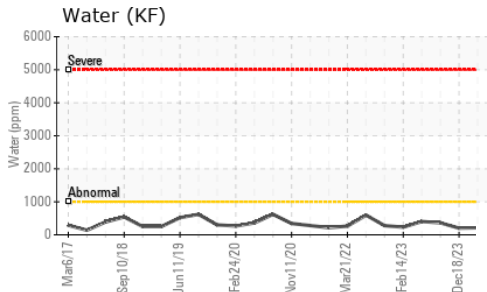
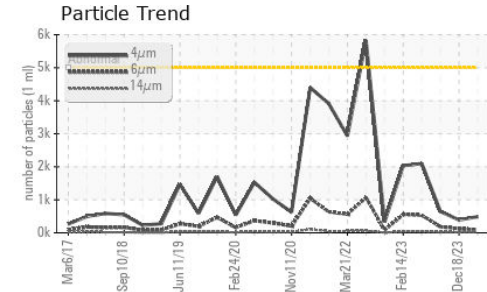
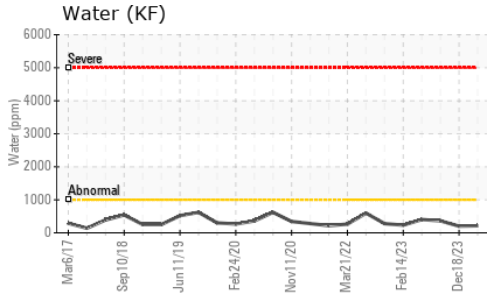
|                 | method       | limit/base | current         | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >5000      | <b>489</b>      | 391      | 645      |
| Particles >6µm  | ASTM D7647   | >1300      | <b>94</b>       | 124      | 183      |
| Particles >14µm | ASTM D7647   | >160       | <b>20</b>       | 17       | 20       |
| Particles >21µm | ASTM D7647   | >40        | <b>5</b>        | 7        | 6        |
| Particles >38µm | ASTM D7647   | >10        | <b>0</b>        | 3        | 1        |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>        | 1        | 0        |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14  | <b>16/14/11</b> | 16/14/11 | 17/15/11 |

## FLUID DEGRADATION

|                  | method   | limit/base      | current      | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.05 | <b>0.086</b> | 0.095    | 0.084    |



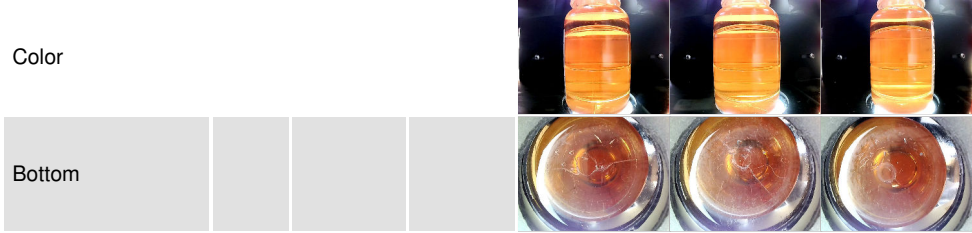
# OIL ANALYSIS REPORT



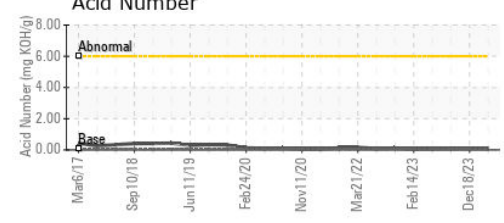
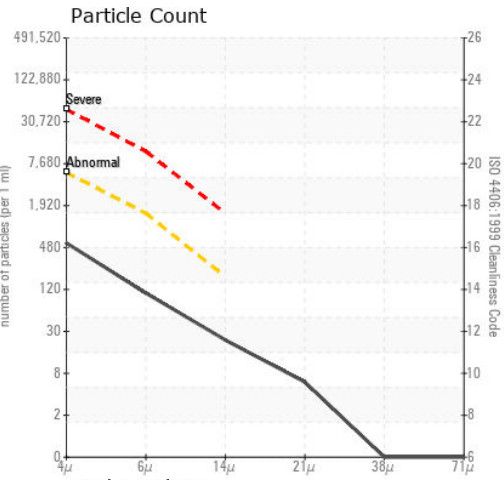
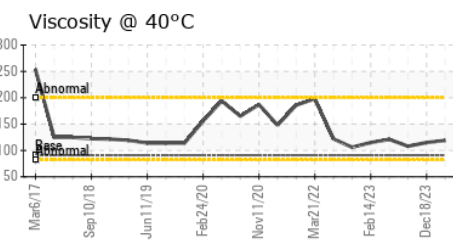
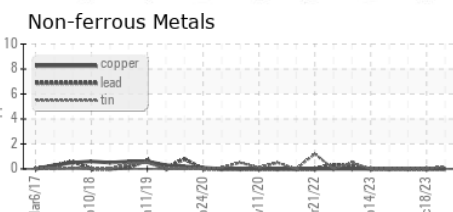
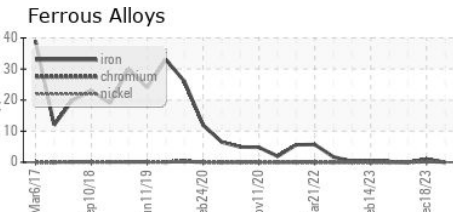
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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    | >.1     | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base   | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 91 | 119     | 115      | 108      |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USPM36522  
**Lab Number** : 06133380  
**Unique Number** : 10952845  
**Test Package** : IND 2  
**Received** : 29 Mar 2024  
**Tested** : 02 Apr 2024  
**Diagnosed** : 02 Apr 2024 - Doug Bogart

**CARGILL MEAT**  
 DODGE CITY, KS  
 US  
 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)