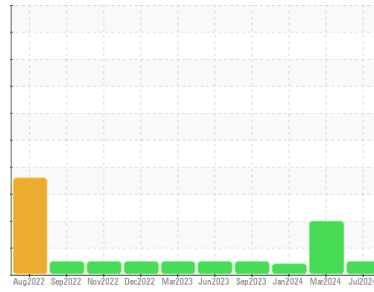




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**BUSCH VP-11A (S/N 0103/091807)**  
 Component  
**Right Vacuum 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>USPM37004</b>   | USPM36562   | USPM30534   |
| Sample Date   | Client Info |             | <b>01 Jul 2024</b> | 29 Mar 2024 | 07 Jan 2024 |
| 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>      | ATTENTION   | ABNORMAL    |

## WEAR METALS

|          | method | limit/base      | current  | history1 | history2 |
|----------|--------|-----------------|----------|----------|----------|
| Iron     | ppm    | ASTM D5185m >20 | <b>0</b> | 0        | 8        |
| Chromium | ppm    | ASTM D5185m >20 | <b>0</b> | 0        | <1       |
| Nickel   | ppm    | ASTM D5185m >20 | <b>0</b> | <1       | <1       |
| Titanium | ppm    | ASTM D5185m     | <b>0</b> | 0        | <1       |
| Silver   | ppm    | ASTM D5185m     | <b>0</b> | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >20 | <b>0</b> | 0        | 2        |
| Lead     | ppm    | ASTM D5185m >20 | <b>0</b> | 0        | <1       |
| Copper   | ppm    | ASTM D5185m >20 | <b>0</b> | 0        | <1       |
| Tin      | ppm    | ASTM D5185m >20 | <b>0</b> | <1       | <1       |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b> | <1       | 0        |
| 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        | <1       |
| Manganese  | ppm    | ASTM D5185m      | <b>0</b>   | 0        | <1       |
| Magnesium  | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |
| Calcium    | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 1        |
| Phosphorus | ppm    | ASTM D5185m 1800 | <b>875</b> | 903      | 1053     |
| Zinc       | ppm    | ASTM D5185m 0    | <b>0</b>   | 0        | 0        |
| Sulfur     | ppm    | ASTM D5185m 0    | <b>0</b>   | 2        | 3        |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>2</b>     | 2        | 4        |
| Sodium    | ppm    | ASTM D5185m      | <b>&lt;1</b> | 1        | 1        |
| Potassium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | 3        | 2        |
| Water     | %      | ASTM D6304 >.1   | <b>0.063</b> | 0.033    | 0.032    |
| ppm Water | ppm    | ASTM D6304 >1000 | <b>640</b>   | 331      | 323      |

## FLUID CLEANLINESS

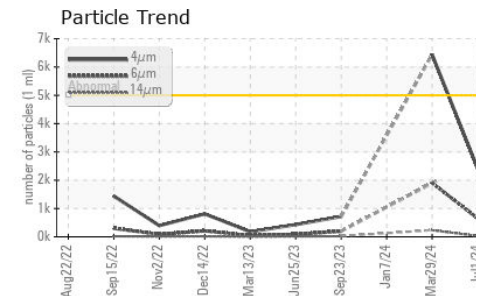
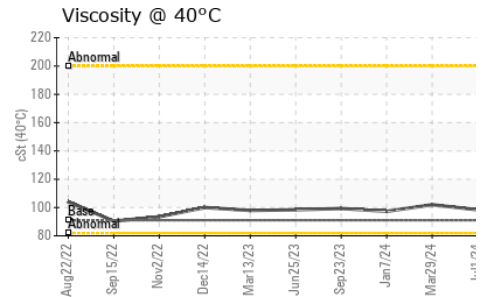
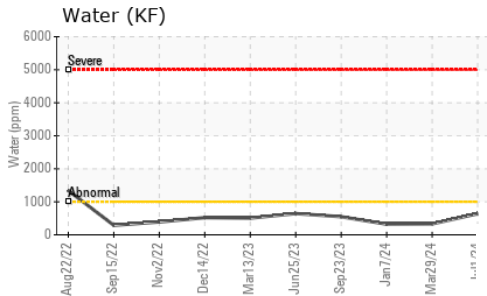
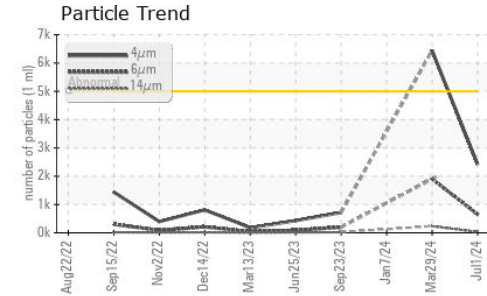
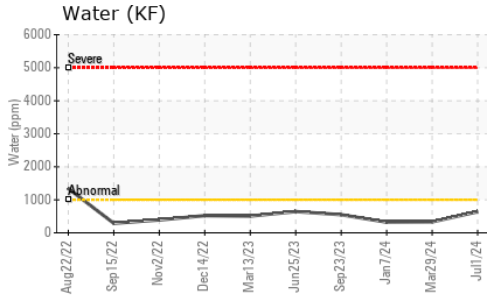
|                 | method       | limit/base | current         | history1   | history2 |
|-----------------|--------------|------------|-----------------|------------|----------|
| Particles >4µm  | ASTM D7647   | >5000      | <b>2417</b>     | ● 6439     | ---      |
| Particles >6µm  | ASTM D7647   | >1300      | <b>654</b>      | ● 1902     | ---      |
| Particles >14µm | ASTM D7647   | >160       | <b>29</b>       | ● 234      | ---      |
| Particles >21µm | ASTM D7647   | >40        | <b>4</b>        | ● 64       | ---      |
| Particles >38µm | ASTM D7647   | >10        | <b>0</b>        | 5          | ---      |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>        | 0          | ---      |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14  | <b>18/17/12</b> | ● 20/18/15 | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current      | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.05 | <b>0.071</b> | 0.07     | 0.08     |



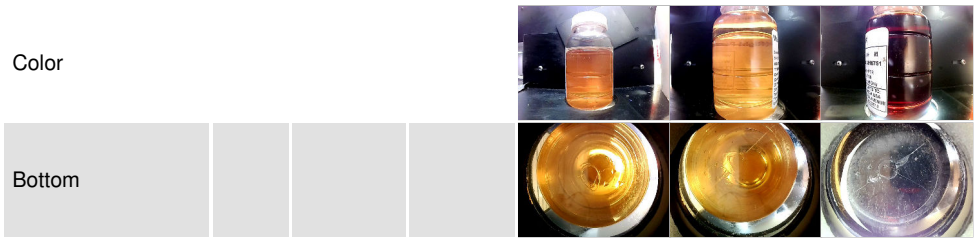
# OIL ANALYSIS REPORT



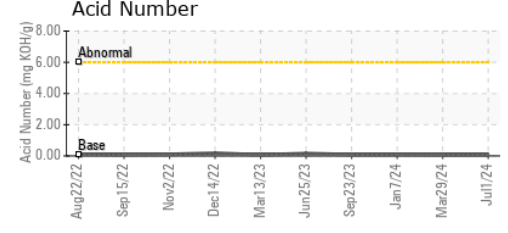
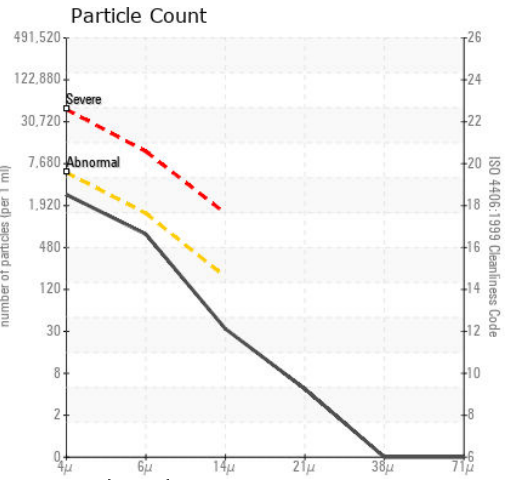
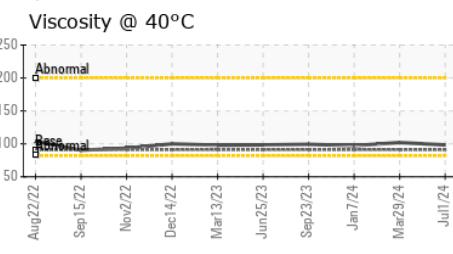
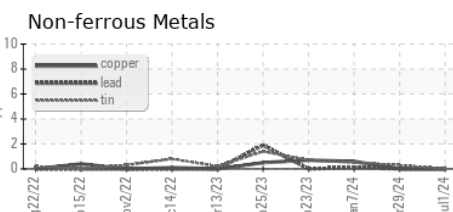
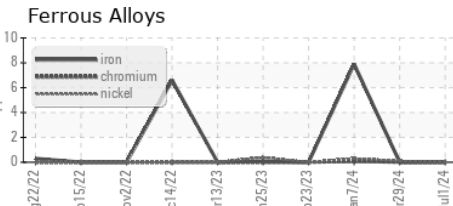
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | ▲ MODER  |
| 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 | 98.4    | 102      | 97.3     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USPM37004 **Received** : 15 Jul 2024  
**Lab Number** : 06236026 **Tested** : 16 Jul 2024  
**Unique Number** : 11124860 **Diagnosed** : 16 Jul 2024 - Doug Bogart  
**Test Package** : IND 2

**TYSON - AMARILLO-PRO**  
 AMARILLO, TX  
 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)