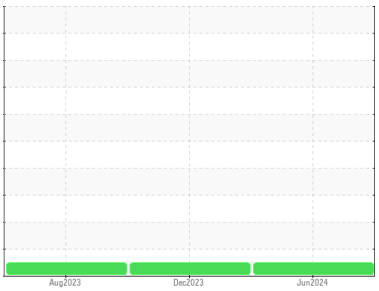
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## 8600 14 PUMP 3 (S/N 0141900131)
Component
**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 | | **USPM37673** | USPM31895 | USP0000511 |
| Sample Date | | Client Info | | **05 Jun 2024** | 07 Dec 2023 | 22 Aug 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | <1 | 0 |
| Phosphorus | ppm | ASTM D5185m | 1800 | **861** | 998 | 1011 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 0 | **17** | 19 | 21 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **10** | 11 | 12 |
| Sodium | ppm | ASTM D5185m | | **<1** | 2 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Water | % | ASTM D6304 | >.1 | **0.052** | 0.060 | 0.077 |
| ppm Water | ppm | ASTM D6304 | >1000 | **527** | 605 | 773.1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **979** | 2696 | 186 |
| Particles >6µm | | ASTM D7647 | >1300 | **253** | 722 | 61 |
| Particles >14µm | | ASTM D7647 | >160 | **9** | 38 | 9 |
| Particles >21µm | | ASTM D7647 | >40 | **3** | 6 | 3 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **17/15/10** | 19/17/12 | 15/13/10 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.05 | **0.24** | 0.15 | 0.10 |

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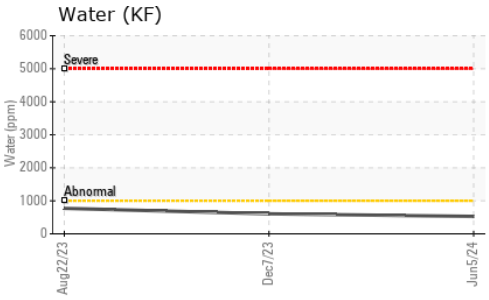
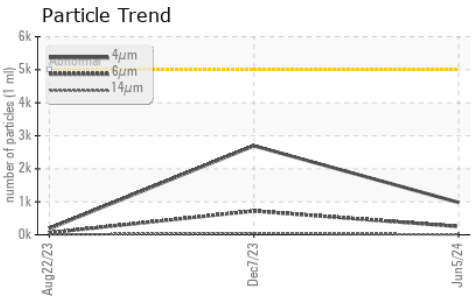
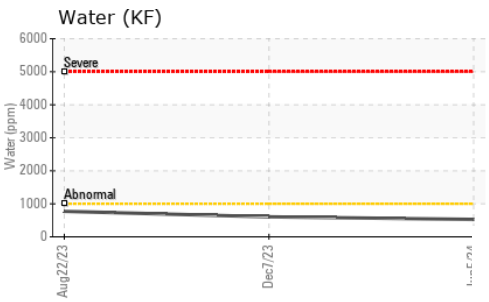
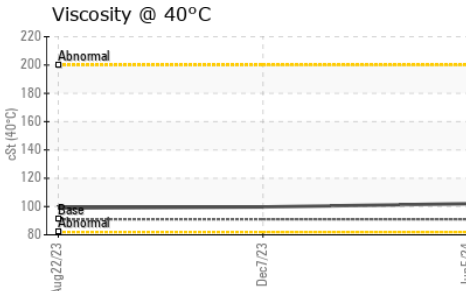
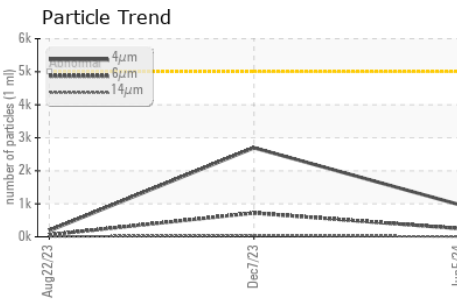


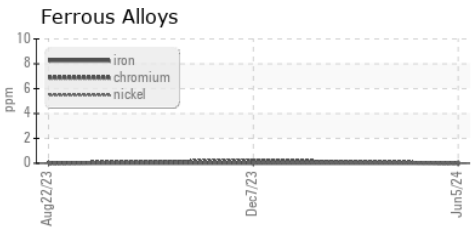



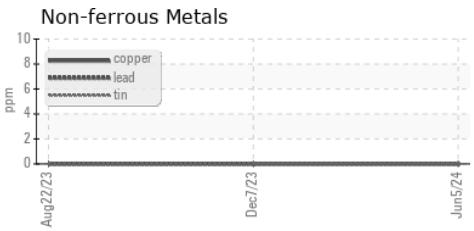

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | NONE |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | *Visual | >.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

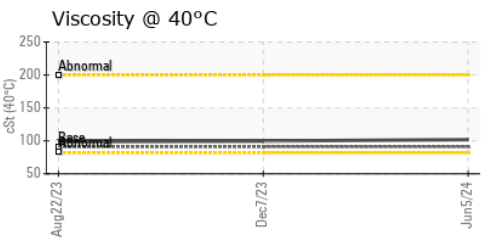
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 91 | **102** | 99.7 | 99.0 |

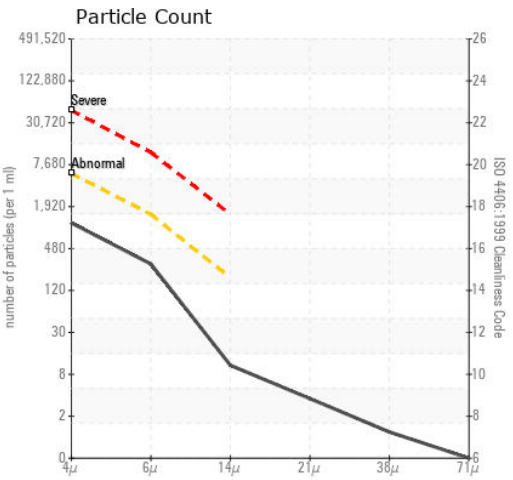
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

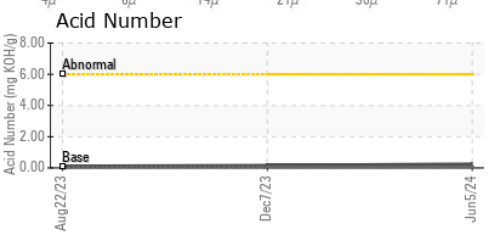
## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : USPM37673
**Lab Number** : 06206568
**Unique Number** : 11074029
**Test Package** : IND 2

**Received** : 11 Jun 2024
**Tested** : 13 Jun 2024
**Diagnosed** : 14 Jun 2024 - Doug Bogart

**JBS - OMAHA**
3435 EDWARD BABE GOMEZ AVE
OMAHA, NE
US 68107
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)*

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