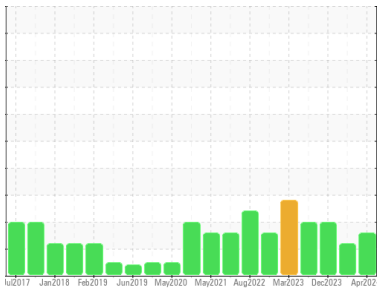
# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## FAB-CV 2-PUMP 1 (S/N U140400202)
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 a high amount of silt (particulates < 14 microns in size) present in the oil.

**Fluid Condition**
A decrease in the viscosity is noted. Confirmed. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **USPM36796** | USP0005329 | USPM31690 |
| Sample Date | | Client Info | | **23 Apr 2024** | 28 Jan 2024 | 28 Dec 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 | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >90 | **0** | <1 | 0 |
| Chromium | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >7 | **0** | 0 | <1 |
| Lead | ppm | ASTM D5185m | >12 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >30 | **<1** | <1 | 0 |
| Tin | ppm | ASTM D5185m | >9 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| 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 | **<1** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | 1800 | **627** | 763 | 826 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 0 | **117** | 60 | 0 |

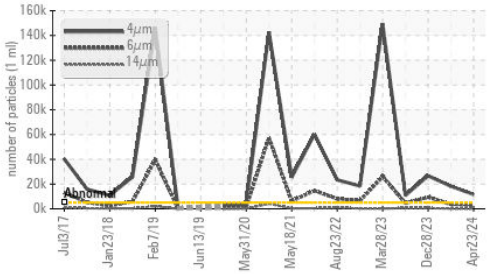
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >60 | **8** | 4 | 2 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | 2 |
| Water | % | ASTM D6304 | >.1 | **0.025** | 0.028 | 0.033 |
| ppm Water | ppm | ASTM D6304 | >1000 | **250** | 290 | 337 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **11581** | ▲ 18203 | ▲ 26662 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **2702** | ▲ 3670 | ▲ 9410 |
| Particles >14µm | | ASTM D7647 | >160 | **125** | 140 | ▲ 557 |
| Particles >21µm | | ASTM D7647 | >40 | **29** | 30 | ▲ 105 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 4 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **21/19/14** | ▲ 21/19/14 | ▲ 22/20/16 |

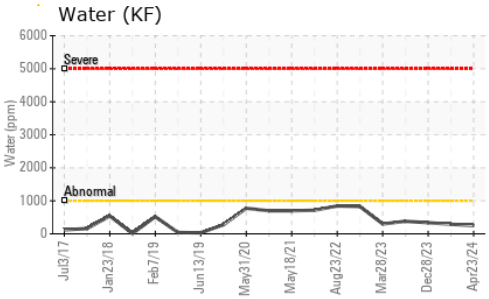
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.05 | **0.08** | 0.096 | 0.06 |

# OIL ANALYSIS REPORT

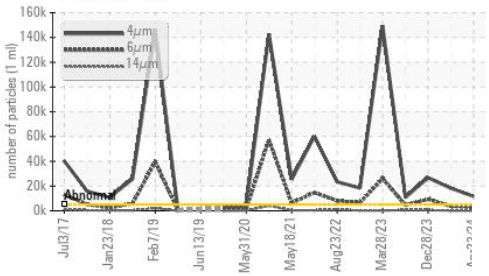
Particle Trend



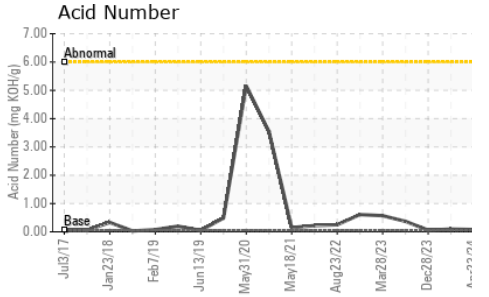

Water (KF)



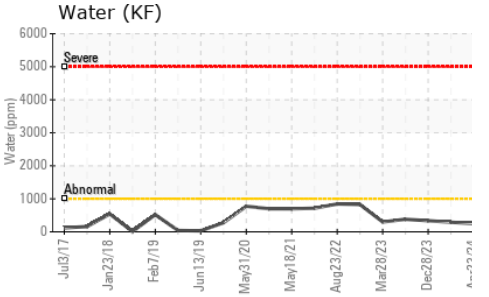

Particle Trend




Acid Number




Water (KF)



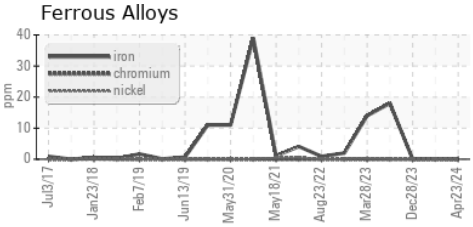

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **LIGHT** | NONE | 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 | ▲ **66.69** | 86.1 | 97.2 |

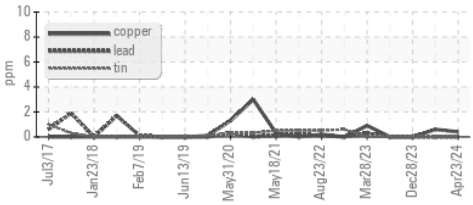
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

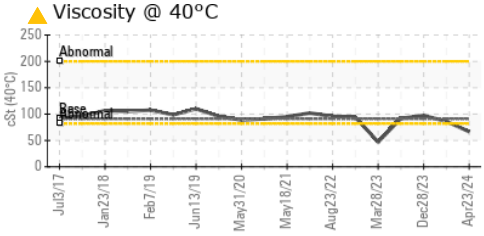
Ferrous Alloys



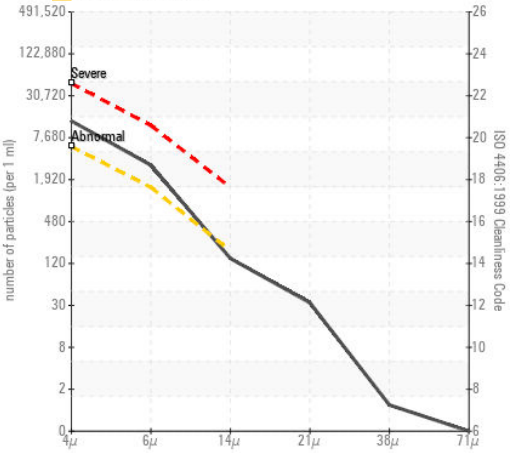

Non-ferrous Metals



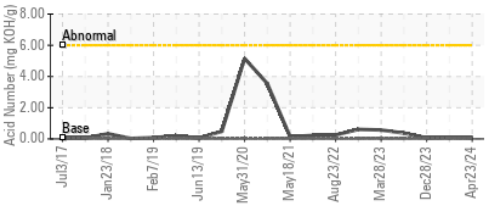

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : USPM36796
**Lab Number** : 06159147
**Unique Number** : 10994570
**Test Package** : IND 2

**Received** : 24 Apr 2024
**Tested** : 29 Apr 2024
**Diagnosed** : 29 Apr 2024 - Doug Bogart

**JBS - TOLLESON**

TOLLESON, AZ
US 85353
Contact:

T:
F:

*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)*