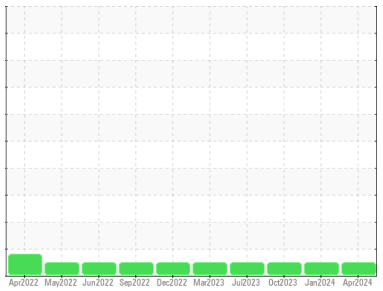
# OIL ANALYSIS REPORT

Sample Rating Trend




**NORMAL**

Machine Id
## LINE 2 QX (S/N C8600)
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 | | **USPM6160383** | USPM30748 | USPM29945 |
| Sample Date | | Client Info | | **24 Apr 2024** | 27 Jan 2024 | 08 Oct 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 | **18** | 19 | 21 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **3** | 2 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| 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 | **<1** | <1 | <1 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **2** | 2 | 2 |
| Calcium | ppm | ASTM D5185m | 0 | **25** | 25 | 20 |
| Phosphorus | ppm | ASTM D5185m | 1800 | **1370** | 1340 | 1301 |
| Zinc | ppm | ASTM D5185m | 0 | **273** | 235 | 178 |
| Sulfur | ppm | ASTM D5185m | 0 | **115** | 69 | 83 |

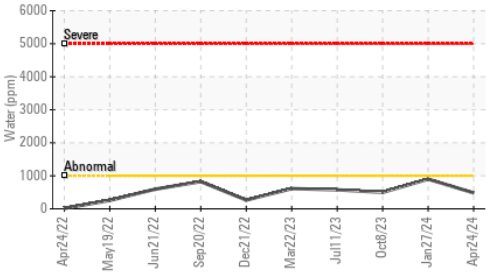
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **14** | 16 | 15 |
| Sodium | ppm | ASTM D5185m | | **69** | 63 | 40 |
| Potassium | ppm | ASTM D5185m | >20 | **6** | 5 | 5 |
| Water | % | ASTM D6304 | >.1 | **0.048** | 0.089 | 0.049 |
| ppm Water | ppm | ASTM D6304 | >1000 | **483** | 899 | 498.5 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **356** | 283 | 542 |
| Particles >6µm | | ASTM D7647 | >1300 | **74** | 99 | 171 |
| Particles >14µm | | ASTM D7647 | >160 | **12** | 12 | 20 |
| Particles >21µm | | ASTM D7647 | >40 | **4** | 4 | 5 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **16/13/11** | 15/14/11 | 16/15/11 |

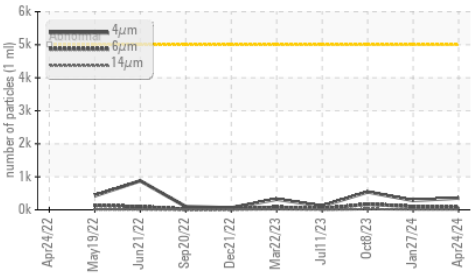
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.05 | **3.56** | 2.64 | 2.06 |

# OIL ANALYSIS REPORT

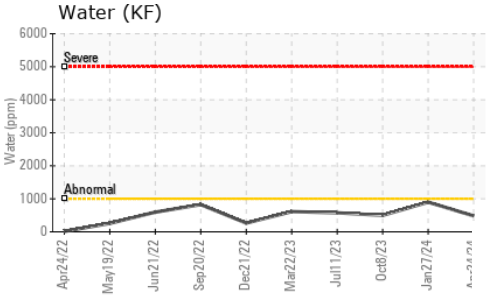
Water (KF)



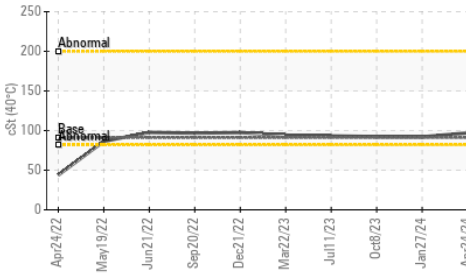

Particle Trend



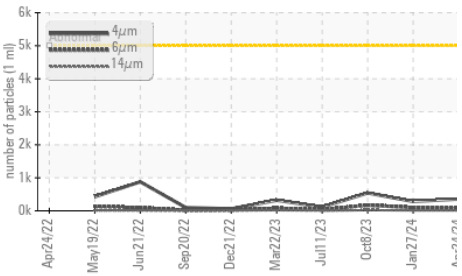

Water (KF)




Viscosity @ 40°C

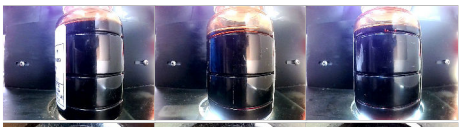



Particle Trend



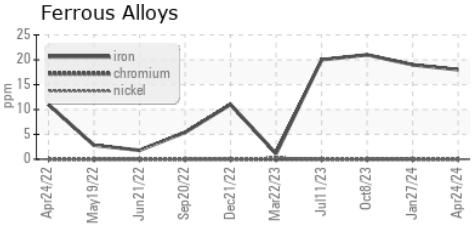

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | 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 | **97.0** | 92.1 | 92.4 |

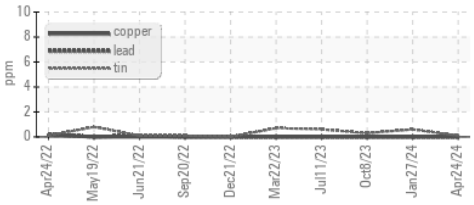
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

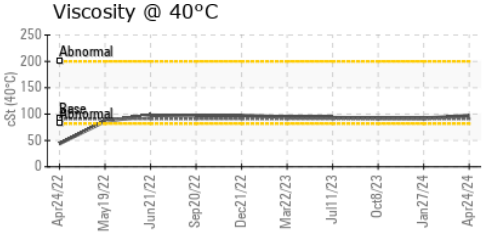
Ferrous Alloys



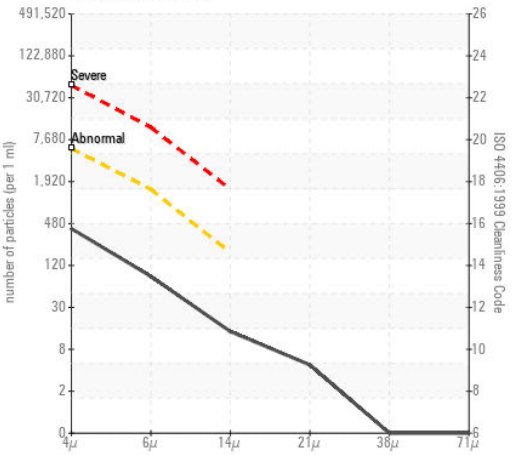

Non-ferrous Metals



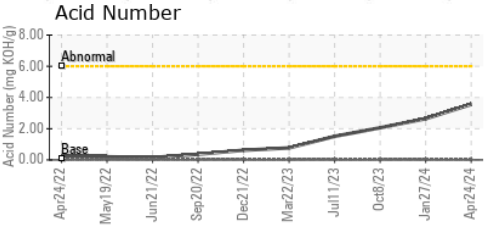

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : USPM6160383
**Lab Number** : 06160383
**Unique Number** : 10995806
**Test Package** : IND 2

**Received** : 25 Apr 2024
**Tested** : 26 Apr 2024
**Diagnosed** : 29 Apr 2024 - Doug Bogart

**TYSON HILLSHIRE - NEW LONDON**
N3620 COUNTY RD D
NEW LONDON, WI
US 54961
Contact:
T:
F:

Certificate L2367

*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
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*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*