

PROBLEM SUMMARY

Sample Rating Trend

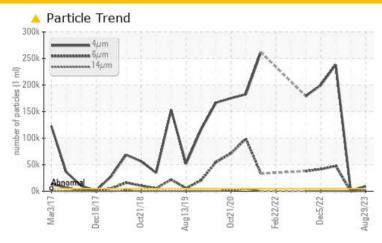


VM-6-VPPA (S/N G00617)

Pump Fluid

USPI VAC 100 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Resample at the next service interval to monitor.

| PROBLEMATIC TEST RESULTS | | | | | | | | | |
|--------------------------|--------------|-----------|-----------------|----------|--------------------------|--|--|--|--|
| Sample Status | | | ABNORMAL | NORMAL | SEVERE | | | | |
| Particles >4µm | ASTM D7647 | >5000 | <u> </u> | 645 | <u>\$\text{238264}\$</u> | | | | |
| Particles >6μm | ASTM D7647 | >1300 | 2817 | 211 | 47707 | | | | |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | 20/19/13 | 17/15/12 | 25/23/16 | | | | |

Customer Id: TYSJOSPRO Sample No.: USPM29443 Lab Number: 05938990 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

21 May 2023 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



29 Dec 2022 Diag: Doug Bogart

WEAR



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. The iron level is severe. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



05 Dec 2022 Diag: Doug Bogart

WEAR



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. The iron level is severe. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





OIL ANALYSIS REPORT

Sample Rating Trend



VM-6-VPPA (S/N G00617)

Pump

USPI VAC 100 (--- GAL)

Fluid

•

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. There is a trace of moisture present in the oil.

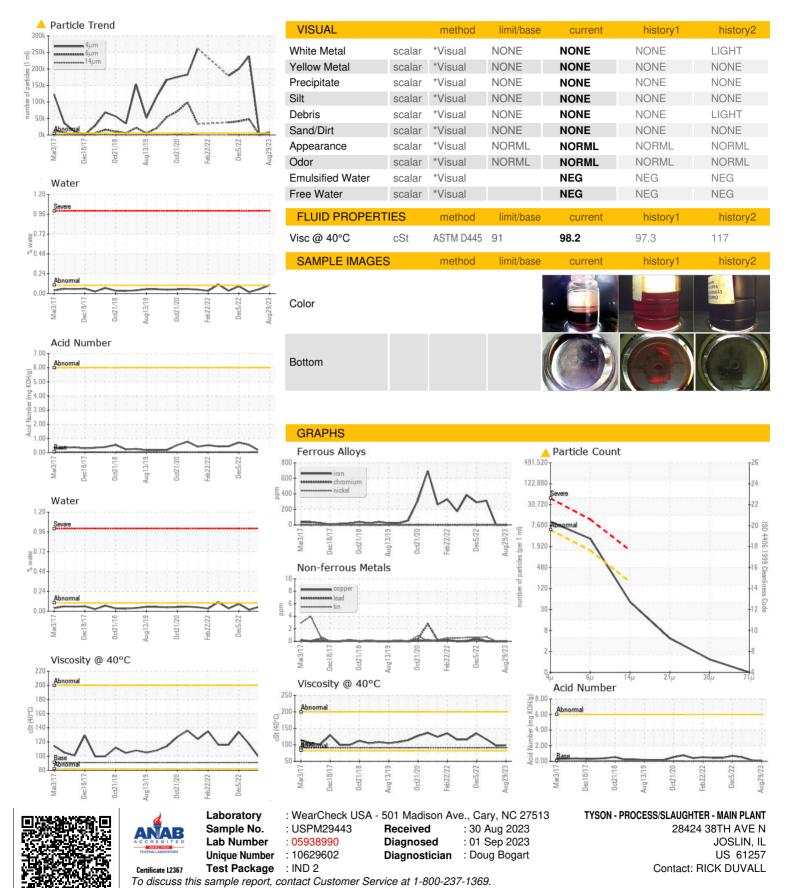
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| | | lar2017 Dec | 2017 Oct2018 Aug201 | 9 Oct2020 Feb2022 Dec20 | 022 Aug207 | |
|------------------|----------|--------------|---------------------|-------------------------|-------------|-------------------|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | USPM29443 | USPM28132 | USPM25495 |
| Sample Date | | Client Info | | 29 Aug 2023 | 21 May 2023 | 29 Dec 2022 |
| 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 | NORMAL | SEVERE |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >90 | <1 | 0 | 311 |
| Chromium | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >7 | 0 | 0 | 2 |
| Lead | ppm | ASTM D5185m | >12 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >30 | 0 | 0 | 0 |
| Tin | ppm | ASTM D5185m | >9 | 0 | 0 | <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 | 2 | 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 | 2 |
| Phosphorus | ppm | ASTM D5185m | 1800 | 760 | 804 | 1313 |
| Zinc | ppm | ASTM D5185m | 0 | 0 | 0 | 17 |
| Sulfur | ppm | ASTM D5185m | 0 | 0 | 0 | 52 |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >60 | 7 | 8 | 11 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 80 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | <1 | 2 |
| Water | % | ASTM D6304 | | 0.102 | 0.053 | 0.017 |
| ppm Water | ppm | ASTM D6304 | >.1 | 1021.7 | 532.8 | 178.3 |
| FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | >5000 | A 8681 | 645 | △ 238264 |
| Particles >6µm | | ASTM D7647 | >1300 | 2817 | 211 | <u> </u> |
| Particles >14µm | | ASTM D7647 | >160 | 44 | 28 | 448 |
| Particles >21µm | | ASTM D7647 | >40 | 4 | 11 | ▲ 83 |
| Particles >38µm | | ASTM D7647 | >10 | 1 | 1 | 10 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 1 | 2 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 20/19/13 | 17/15/12 | <u>△</u> 25/23/16 |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.05 | 0.079 | 0.136 | 0.539 |



OIL ANALYSIS REPORT



* - 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)

F: (402)423-6661

T: