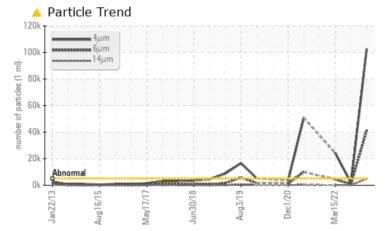


PROBLEM SUMMARY

TYSSPRBS PAW HYDRAULIC

Hydraulic System Fluid AW HYDRAULIC OIL ISO 46 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS Sample Status NORMAL ABNORMAL ABNORMAL Particles >4µm ASTM D7647 >5000 102682 1723 ▲ 24293 Particles >6µm ASTM D7647 >1300 41426 938 **4390** 4742 Particles >14µm ASTM D7647 >160 160 **1**95 Particles >21um ASTM D7647 >40 **1557** 54 39 8 Particles >38µm ASTM D7647 >10 86 2 **Oil Cleanliness** ISO 4406 (c) >19/17/14 A 24/23/19 18/17/14 ▲ 22/19/15

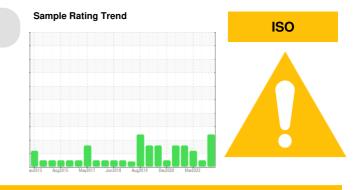
Customer Id: TYSSPRAR Sample No.: USP239281 Lab Number: 05899944 Test Package: IND 2



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 AC | ACTIONS | | | | | |
|----------------|---------|------|---------|---|--|--|
| Action | Status | Date | Done By | Description | | |
| Change Filter | | | ? | We recommend you service the filters on this component. | | |

HISTORICAL DIAGNOSIS

27 Jul 2022 Diag: Jonathan Hester



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.



view report

15 Mar 2022 Diag: Doug Bogart



We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. 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.

06 Dec 2021 Diag: Doug Bogart

We recommend you service the filters on this component. We advise that you inspect for the source(s) of metal. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample. Moderate concentration of visible metal present. All component wear rates are normal. Moderate concentration of visible dirt/debris 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

Machine Id TYSSPRBS PAW HYDRAULIC Component

Hydraulic System

AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

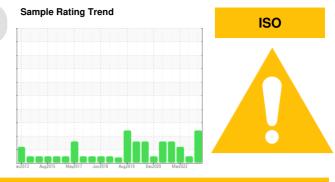
All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

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



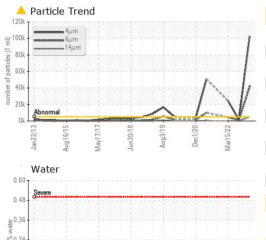
| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|------------------------|----------|----------------------------|------------|-------------------|-------------|-------------------|
| Sample Number | | Client Info | | USP239281 | USP240801 | USP235073 |
| Sample Date | | Client Info | | 16 Jul 2023 | 27 Jul 2022 | 15 Mar 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 | ABNORMAL |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >20 | 2 | 2 | <1 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | <1 | 1 |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Copper | ppm | | >20 | 2 | 1 | <1 |
| Tin | ppm | | >20 | 0 | <1 | 0 |
| Antimony | ppm | ASTM D5185m | - | | | |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | le le | method | limit/base | current | history1 | history2 |
| | | | | | | |
| Boron | ppm | ASTM D5185m | 5 | 0 | 0 | 1 |
| Barium | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | 0 | 0 <1 | 0 |
| Manganese Magnesium | ppm | ASTM D5185m ASTM D5185m | 25 | 0 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 200 | 0 | 0 | <1 |
| | ppm | ASTM D5185m | 300 | 102 | 118 | 103 |
| Phosphorus Zinc | ppm | ASTM D5185m | 370 | 0 | 2 | 0 |
| Sulfur | ppm | ASTM D5185m | 2500 | 2097 | 1936 | 1546 |
| | ppm | | | | | |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >15 | 0 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Water | % | ASTM D6304 | | 0.005 | 0.003 | 0.002 |
| ppm Water | ppm | ASTM D6304 | >500 | 56.8 | 25.3 | 17.1 |
| FLUID CLEANLIN | ESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | >5000 | 102682 | 1723 | A 24293 |
| Particles >6µm | | ASTM D7647 | >1300 | <u> </u> | 938 | 4 390 |
| Particles >14µm | | ASTM D7647 | >160 | 4742 | 160 | 1 95 |
| Particles >21µm | | ASTM D7647 | >40 | 🔺 1557 | 54 | 39 |
| Particles >38µm | | ASTM D7647 | >10 | <mark>/</mark> 86 | 8 | 2 |
| Particles >71µm | | ASTM D7647 | | 3 | 1 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 4/23/19 | 18/17/14 | A 22/19/15 |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | 0.47 | 0.36 | 0.32 |

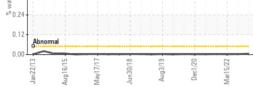
Acid Number (AN) Report Id: TYSSPRAR [WUSCAR] 05899944 (Generated: 07/18/2023 18:29:49) Rev: 1

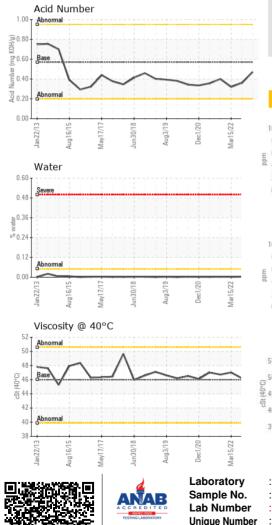
Contact/Location: VERNON MARS - TYSSPRAR



OIL ANALYSIS REPORT

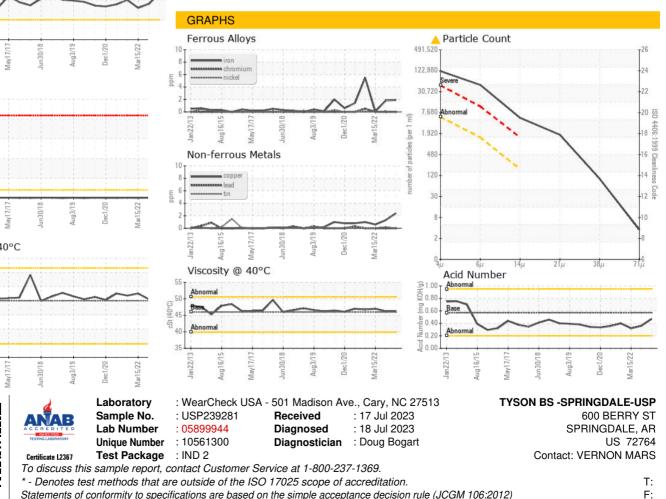






| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | LIGHT | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | VLITE |
| 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 | >0.05 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPERT | TIES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | 46.3 | 46.2 | 47.0 |
| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
| Color | | | | | | |
| | | | | | | |

Bottom



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: VERNON MARS - TYSSPRAR