

OIL ANALYSIS REPORT

LINE 4 MAIN (SOUTH) (S/N U193000036) Vacuum Pump

Fluid USPI VAC 100 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

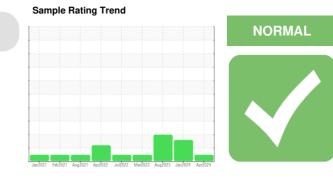
All component wear rates are normal.

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

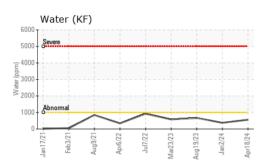
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

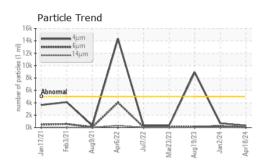


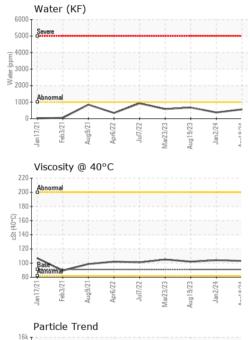
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|------------------|---------------|--------------|------------|-------------|-------------|-------------|
| Sample Number | | Client Info | | USPM36752 | USPM31738 | USPM29191 |
| Sample Date | | Client Info | | 18 Apr 2024 | 02 Jan 2024 | 19 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 | ATTENTION | ATTENTION |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >20 | 29 | 25 | 10 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >20 | 1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 0 | 2 | 6 | 6 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 2 | 5 | 5 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 0 | 2 | 34 | 2 |
| Calcium | ppm | ASTM D5185m | 0 | 85 | 185 | 9191 |
| Phosphorus | ppm | ASTM D5185m | 1800 | 1085 | 1313 | 1341 |
| Zinc | ppm | ASTM D5185m | 0 | 38 | 0103 | 77 |
| Sulfur | ppm | ASTM D5185m | 0 | 173 | 415 | 504 |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >15 | 6 | 4 | 4 |
| Sodium | ppm | ASTM D5185m | | 26 | 22 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 2 | 2 |
| Water | % | ASTM D6304 | >.1 | 0.055 | 0.037 | 0.067 |
| ppm Water | ppm | ASTM D6304 | >1000 | 559 | 375 | 671.1 |
| FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | >5000 | 314 | 690 | 8909 |
| Particles >6µm | | ASTM D7647 | >1300 | 51 | 212 | 138 |
| Particles >14µm | | ASTM D7647 | >160 | 7 | 35 | 40 |
| Particles >21µm | | ASTM D7647 | >40 | 2 | 11 | 15 |
| Particles >38µm | | ASTM D7647 | >10 | 0 | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 15/13/10 | 17/15/12 | 20/14/12 |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.05 | 0.50 | 0.55 | 0.45 |

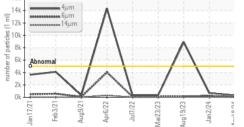


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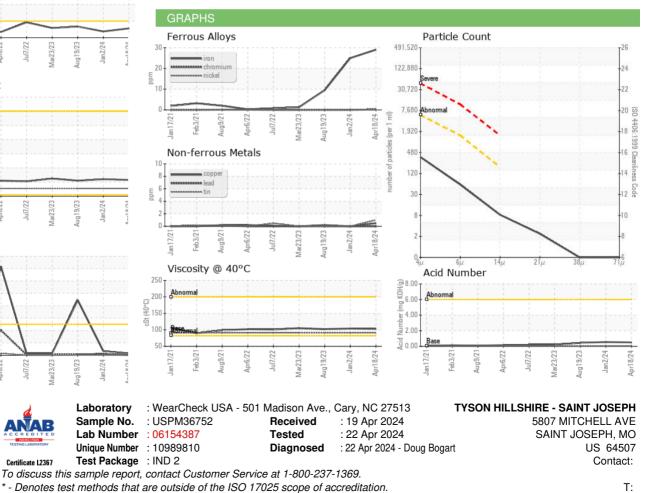




S

| 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 PROPER | TIES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 91 | 103 | 104 | 102 |
| SAMPLE IMAGE | S | method | limit/base | current | history1 | history2 |
| Color | | | | | 0. | |

Bottom



* - 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)

Certificate 12367

Contact/Location: ? ? - TYSSAI Page 2 of 2

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