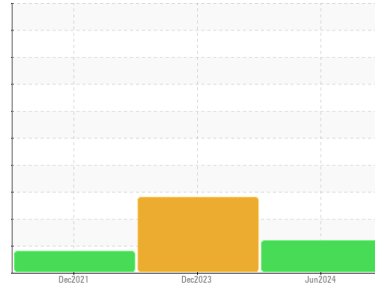




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

D230

Machine Id

71VP210-2 (S/N 1429022)

Component

Vacuum Pump

Fluid

JAX FLOW-GUARD 15-680 (1 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. 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

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 | | WC0941854 | WC0806755 | WC0634841 |
| Sample Date | Client Info | | 18 Jun 2024 | 18 Dec 2023 | 07 Dec 2021 |
| Machine Age | hrs | Client Info | 0 | 0 | 3350 |
| 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 >20 | 2 | 7 | <1 |
| Chromium | ppm | ASTM D5185m >20 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 2 | 0 | 11 |
| Lead | ppm | ASTM D5185m >20 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m >20 | 0 | 0 | <1 |
| Tin | ppm | ASTM D5185m >20 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | --- | --- | 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 | <1 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | <1 | 0 | <1 |
| Calcium | ppm | ASTM D5185m | 0 | <1 | 0 |
| Phosphorus | ppm | ASTM D5185m | 369 | 152 | 453 |
| Zinc | ppm | ASTM D5185m | 4 | 0 | 3 |
| Sulfur | ppm | ASTM D5185m | 522 | 581 | 453 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | 0 | ▲ 34 | 12 |
| Sodium | ppm | ASTM D5185m | 0 | 4 | 1 |
| Potassium | ppm | ASTM D5185m >20 | <1 | 0 | 0 |
| Water | % | ASTM D6304 >.1 | 0.002 | 0.00 | 0.007 |
| ppm Water | ppm | ASTM D6304 >1000 | 23 | 0 | 71.1 |

FLUID CLEANLINESS

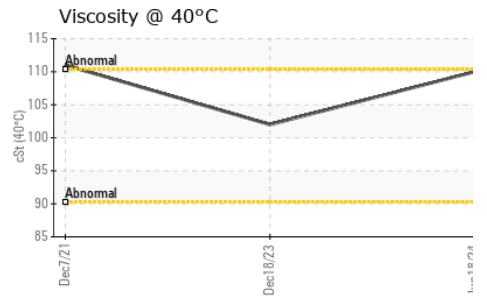
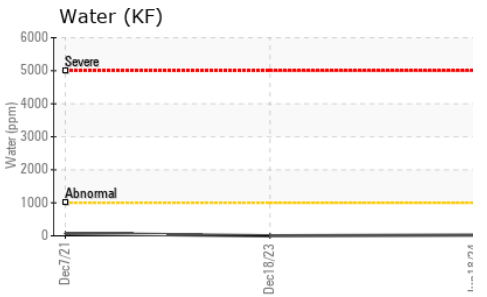
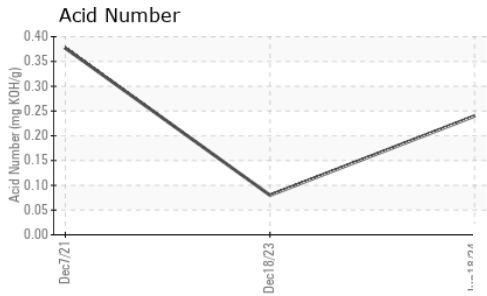
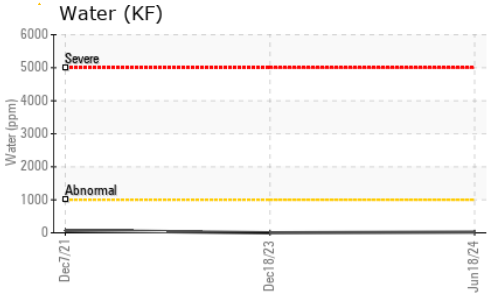
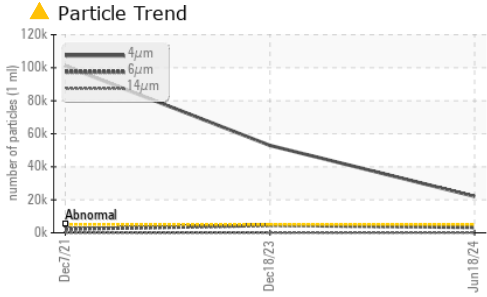
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|------------|
| Particles >4µm | ASTM D7647 | >5000 | ▲ 22073 | ▲ 52916 | ▲ 101064 |
| Particles >6µm | ASTM D7647 | >1300 | ▲ 3284 | ▲ 4536 | ▲ 2215 |
| Particles >14µm | ASTM D7647 | >160 | 63 | 15 | 10 |
| Particles >21µm | ASTM D7647 | >40 | 10 | 4 | 2 |
| Particles >38µm | ASTM D7647 | >10 | 1 | 1 | 0 |
| Particles >71µm | ASTM D7647 | >3 | 1 | 1 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | ▲ 22/19/13 | ▲ 23/19/11 | ▲ 24/18/10 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.24 | 0.08 | 0.377 |



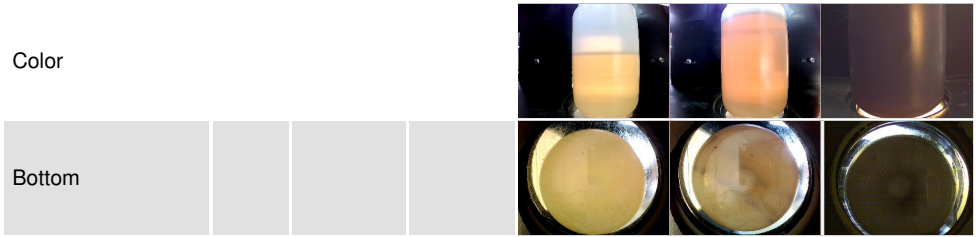
OIL ANALYSIS REPORT



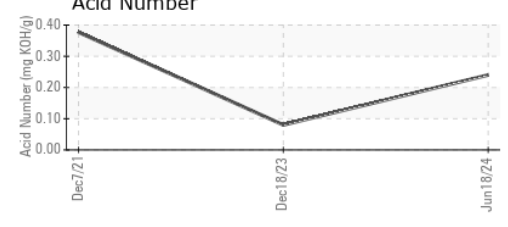
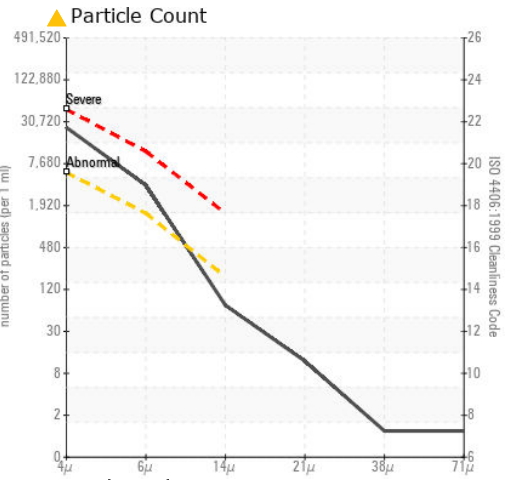
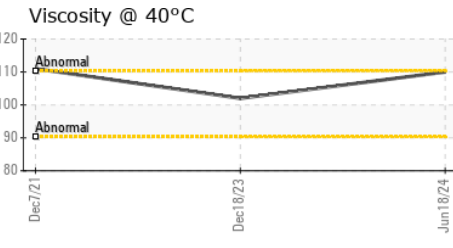
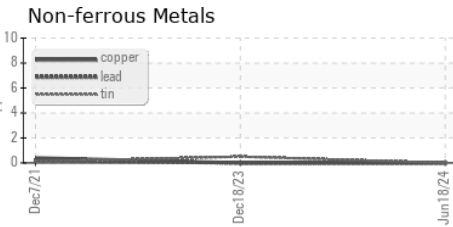
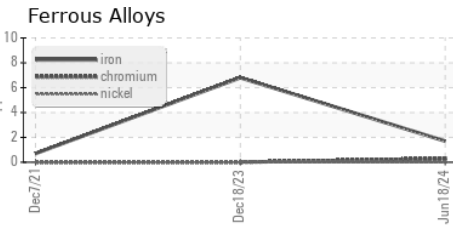
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 110 | 102 | 111 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0941854 **Received** : 19 Jun 2024
Lab Number : 06214685 **Tested** : 20 Jun 2024
Unique Number : 11087549 **Diagnosed** : 21 Jun 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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 CLAYTON, NC
 US 27520
 Contact: KEN TERRY
 kenneth.terry@grifols.com
 T: (919)359-4362
 F: (919)359-4767

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)