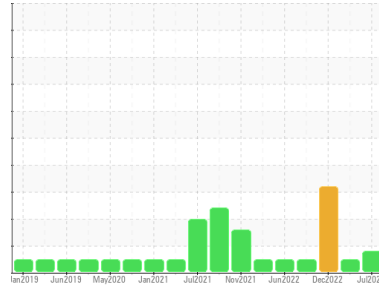




PROBLEM SUMMARY

Sample Rating Trend



SEDIMENT



Machine Id
BUSCH VAC PUMP 9 (S/N 5596438)
 Component
Pump
 Fluid
USPI VAC 100 (--- GAL)

COMPONENT CONDITION SUMMARY

No relevant graphs to display

RECOMMENDATION

We recommend you service the filters on this component. 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.

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |
|---------------|--------|---------|------|----------|--------|----------|
| Silt | scalar | *Visual | NONE | ▲ MODER | NONE | NONE |

Customer Id: SIOSIOIOW
 Sample No.: USP255075
 Lab Number: 05899949
 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

| Action | Status | Date | Done By | Description |
|---------------|--------|------|---------|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |
| Alert | --- | --- | ? | We were unable to perform a particle count due to a high concentration of particles present in this sample. |

HISTORICAL DIAGNOSIS

22 Mar 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.

[view report](#)



11 Dec 2022 Diag: Jonathan Hester

WATER



We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of particulates present in the oil. Free water present. The AN level is acceptable for this fluid.

[view report](#)



05 Sep 2022 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.

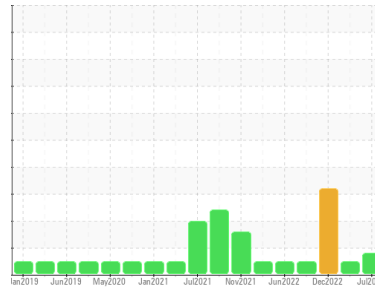
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



SEDIMENT



Machine Id
BUSCH VAC PUMP 9 (S/N 5596438)

Component
Pump
Fluid
USPI VAC 100 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of visible silt present in the sample.

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 | USP255075 | USPM27662 | USPM25172 |
| Sample Date | Client Info | 16 Jul 2023 | 22 Mar 2023 | 11 Dec 2022 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 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 >90 | 18 | <1 | <1 |
| Chromium | ppm | ASTM D5185m >5 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >5 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m >3 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >7 | 0 | <1 | <1 |
| Lead | ppm | ASTM D5185m >12 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >30 | 1 | 0 | <1 |
| Tin | ppm | ASTM D5185m >9 | 0 | <1 | 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 | 0 | 0 |
| Barium | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m 0 | 0 | 1 | 0 |
| Calcium | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m 1800 | 436 | 313 | 429 |
| Zinc | ppm | ASTM D5185m 0 | 0 | 6 | 0 |
| Sulfur | ppm | ASTM D5185m 0 | 1233 | 820 | 1032 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|-----------------|--------------|----------|-------|
| Silicon | ppm | ASTM D5185m >60 | 3 | 5 | 7 |
| Sodium | ppm | ASTM D5185m | 0 | <1 | 0 |
| Potassium | ppm | ASTM D5185m >20 | 0 | <1 | 0 |
| Water | % | ASTM D6304 | 0.011 | 0.007 | 0.054 |
| ppm Water | ppm | ASTM D6304 >.1 | 112.4 | 76.0 | 540 |

FLUID CLEANLINESS

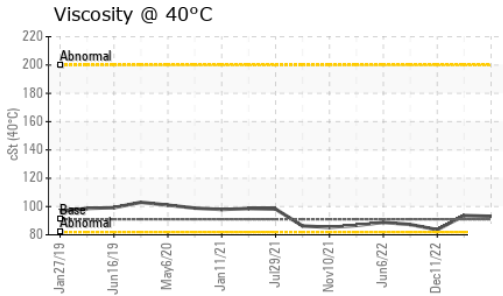
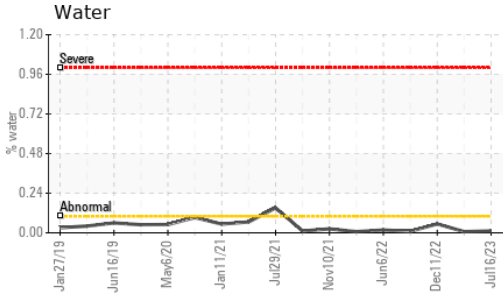
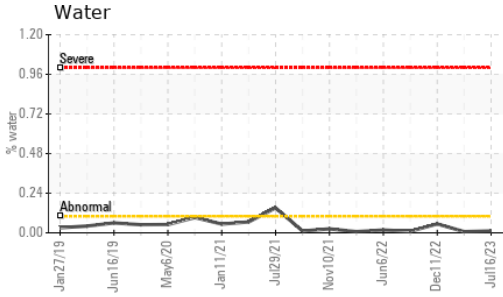
| method | limit/base | current | history1 | history2 |
|-----------------|------------------------|------------|----------|------------|
| Particles >4µm | ASTM D7647 >5000 | --- | 588 | ▲ 200553 |
| Particles >6µm | ASTM D7647 >1300 | --- | 144 | ▲ 79837 |
| Particles >14µm | ASTM D7647 >160 | --- | 19 | ▲ 281 |
| Particles >21µm | ASTM D7647 >40 | --- | 5 | 13 |
| Particles >38µm | ASTM D7647 >10 | --- | 1 | 1 |
| Particles >71µm | ASTM D7647 >3 | --- | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) >19/17/14 | --- | 16/14/11 | ▲ 25/23/15 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|-----------------|-------------|----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.05 | 0.21 | 0.305 | 0.17 |



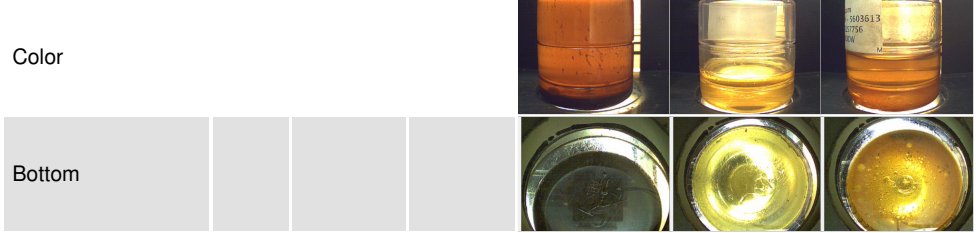
OIL ANALYSIS REPORT



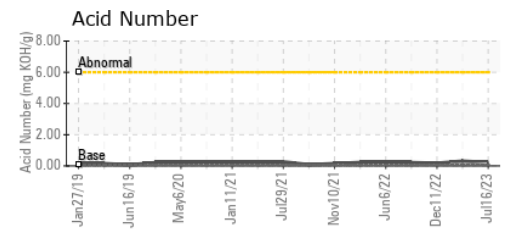
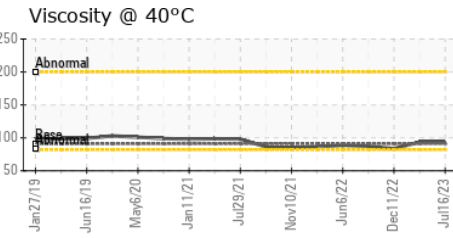
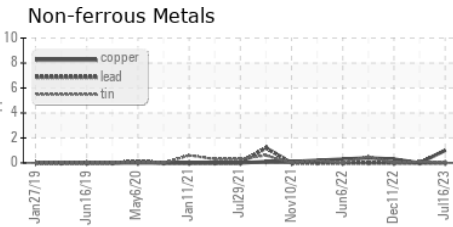
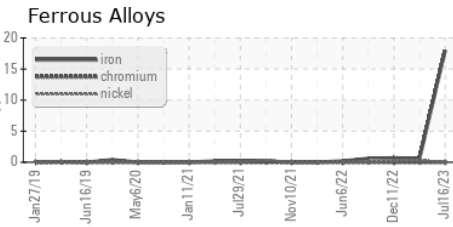
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | NEG | NEG | 0.2% |
| Free Water | scalar | *Visual | NEG | NEG | ▲ 2.0 |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 91 | 93.1 | 93.6 | 83.6 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP255075 **Received** : 17 Jul 2023
Lab Number : 05899949 **Diagnosed** : 18 Jul 2023
Unique Number : 10561305 **Diagnostician** : Doug Bogart
Test Package : IND 2

SIUXPREME PACKAGING COMPANY
 2800 MURRAY STREET
 SIOUX CITY, IA
 US 51111
 Contact: Service Manager

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)