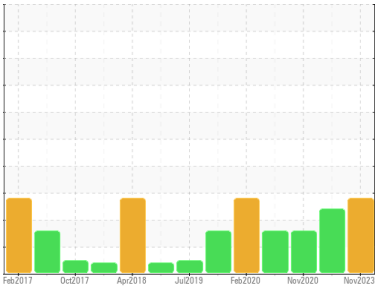
# PROBLEM SUMMARY

Sample Rating Trend

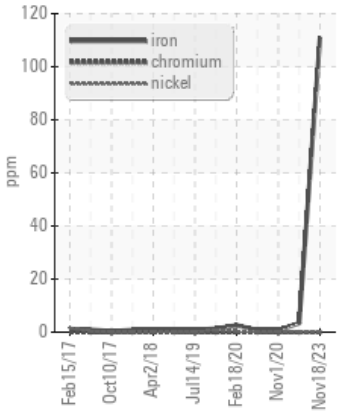



**DEGRADATION**

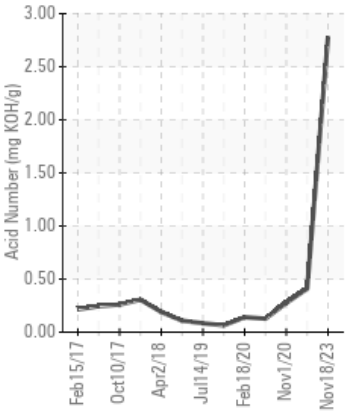
Machine Id
## SULLAIR BOX SHOP (S/N 003-120654)
Component
**Compressor**
Fluid
**{not provided} (--- GAL)**

## COMPONENT CONDITION SUMMARY

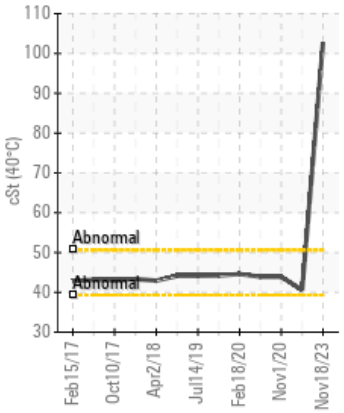
▲ Ferrous Alloys



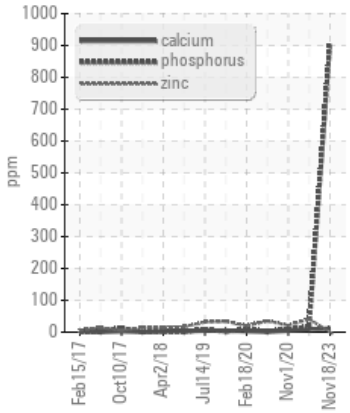

▲ Acid Number




▲ Viscosity @ 40°C




▲ Additives




## RECOMMENDATION

We advise an early resample to confirm this situation.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ABNORMAL | MARGINAL |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | ▲ **111** | 3 | <1 |
| Phosphorus | ppm | ASTM D5185m | | ▲ **910** | 19 | 8 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | ▲ **2.78** | 0.41 | 0.275 |
| Visc @ 40°C | cSt | ASTM D445 | | ▲ **102.7** | 40.6 | 43.9 |

**Customer Id:** JBSBEA
**Sample No.:** USPM31296
**Lab Number:** 06010890
**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 |
|---|---|---|---|---|
| Resample | --- | --- | ? | We advise an early resample to confirm this situation. |

## HISTORICAL DIAGNOSIS

**13 Jul 2023 Diag: Doug Bogart**

WATER

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 moderate amount of silt (particulates < 6 microns in size) present in the oil. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**01 Nov 2020 Diag: Doug Bogart**

WATER

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a trace of moisture present 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

**31 May 2020 Diag: Doug Bogart**

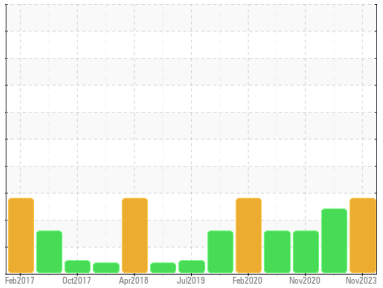
WATER

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a trace of moisture present 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




**DEGRADATION**

Machine Id
## SULLAIR BOX SHOP (S/N 003-120654)
Component
**Compressor**
Fluid
**{not provided} (--- GAL)**

## DIAGNOSIS

**▲ Recommendation**
We advise an early resample to confirm this situation.

**▲ Wear**
The iron level is abnormal.

**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**
An increase in the AN level is noted. The oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand or type of oil. Confirmed. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **USPM31296** | USPM27405 | USPM5105654 |
| Sample Date | | Client Info | | **18 Nov 2023** | 13 Jul 2023 | 01 Nov 2020 |
| 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** | ABNORMAL | MARGINAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | ▲ **111** | 3 | <1 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | **4** | <1 | 0 |
| Lead | ppm | ASTM D5185m | >25 | **<1** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **0** | 1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | **1** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **17** | 0 | 2 |
| Barium | ppm | ASTM D5185m | | **0** | 739 | 361 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | **<1** | 4 | <1 |
| Calcium | ppm | ASTM D5185m | | **11** | 8 | 4 |
| Phosphorus | ppm | ASTM D5185m | | ▲ **910** | 19 | 8 |
| Zinc | ppm | ASTM D5185m | | **0** | 41 | 21 |
| Sulfur | ppm | ASTM D5185m | | **17** | 460 | 308 |

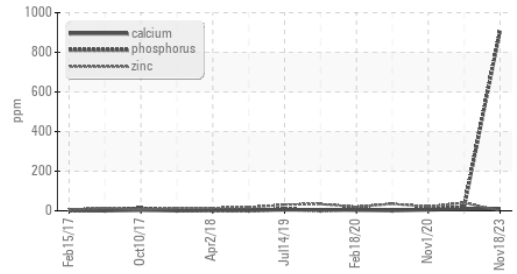
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **6** | 2 | <1 |
| Sodium | ppm | ASTM D5185m | | **4** | 132 | 170 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 8 | 2 |
| Water | % | ASTM D6304 | >0.1 | **0.060** | ▲ 0.473 | ▲ 0.253 |
| ppm Water | ppm | ASTM D6304 | >1000 | **608.6** | ▲ 4734.1 | ▲ 2539.4 |

| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Particles >4µm | ASTM D7647 | >10000 | **7279** | ▲ 11259 | 1913 |
| Particles >6µm | ASTM D7647 | >2500 | **2389** | 2050 | 165 |
| Particles >14µm | ASTM D7647 | >320 | **189** | 89 | 6 |
| Particles >21µm | ASTM D7647 | >80 | **39** | 18 | 2 |
| Particles >38µm | ASTM D7647 | >20 | **1** | 0 | 0 |
| Particles >71µm | ASTM D7647 | >4 | **1** | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15 | **20/18/15** | ▲ 21/18/14 | 18/15/10 |

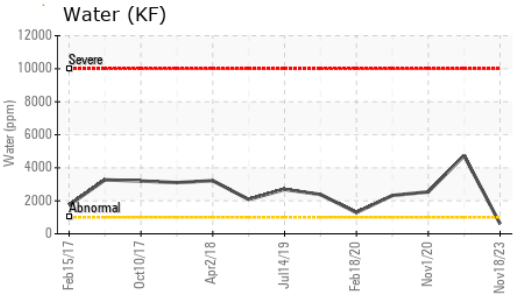
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | ▲ **2.78** | 0.41 | 0.275 |

# OIL ANALYSIS REPORT

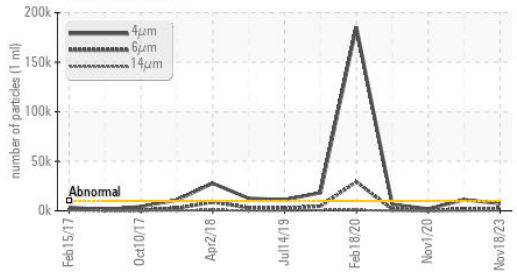
Additives



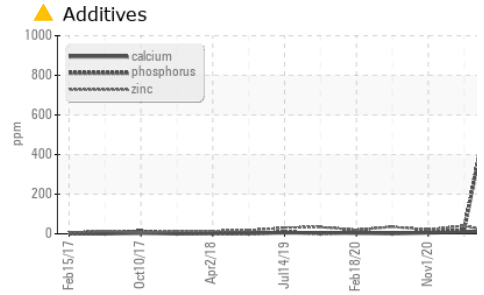

Water (KF)



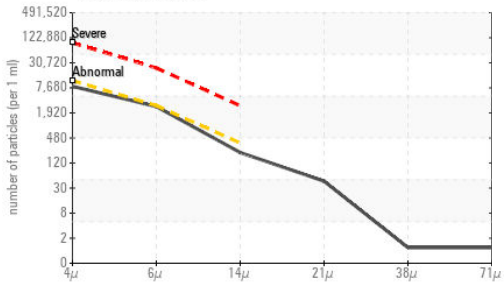

Particle Trend




Additives

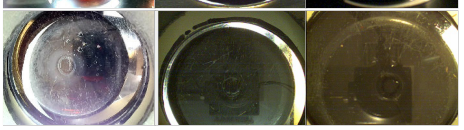



Particle Count



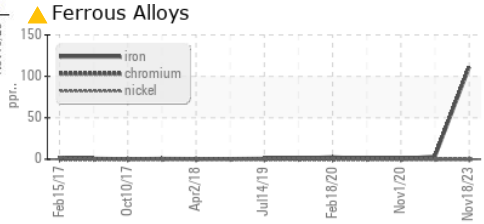

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | | ▲ **102.7** | 40.6 | 43.9 |

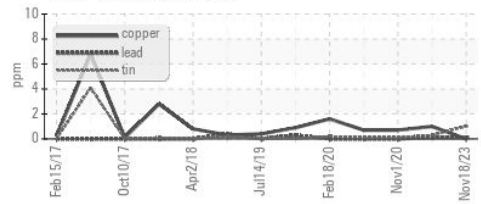
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

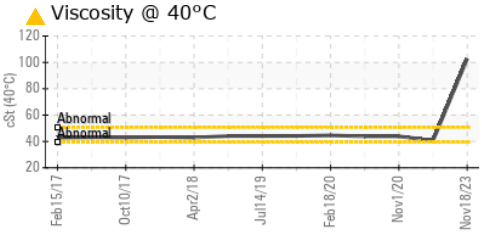
Ferrous Alloys



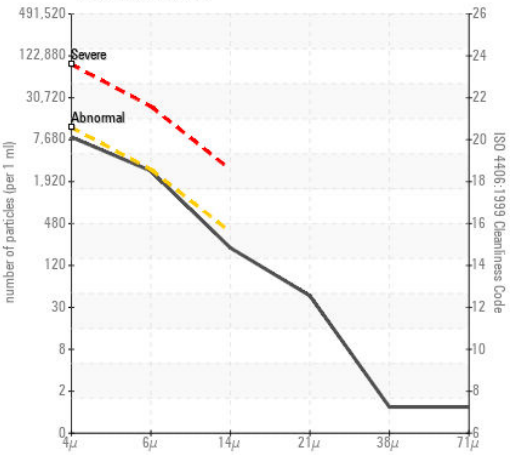

Non-ferrous Metals



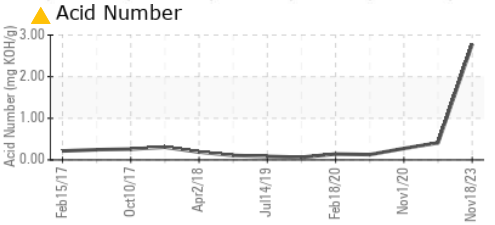

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : USPM31296 | **Received** | : 17 Nov 2023 |
| **Lab Number** | : 06010890 | **Diagnosed** | : 22 Nov 2023 |
| **Unique Number** | : 10750034 | **Diagnostician** | : Doug Bogart |
| **Test Package** | : IND 2 | | |

*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)*

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