# PROBLEM SUMMARY
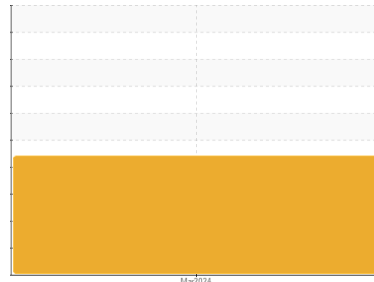
**Sample Rating Trend**

**DEGRADATION**

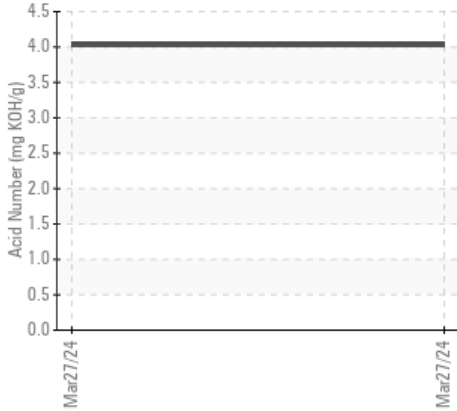Area
## NOT GIVEN
Machine Id
## INGERSOLL RAND VK2888U16323 - HARTMAN
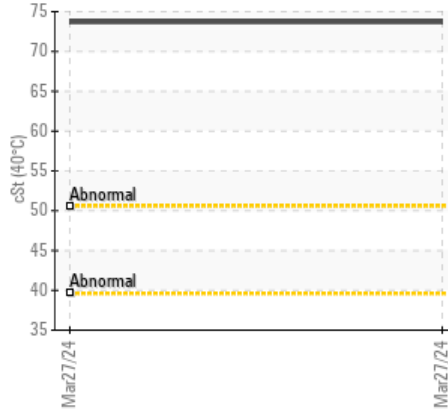Component
**Compressor**

Mar2024
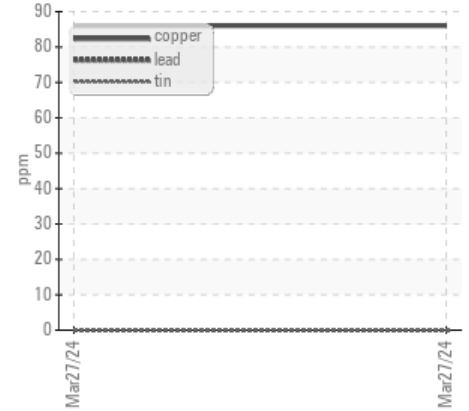
## COMPONENT CONDITION SUMMARY

▲ Acid Number

▲ Viscosity @ 40°C

▲ Non-ferrous Metals

copper
lead
tin

Abnormal

Abnormal

### RECOMMENDATION

Recommend drain oil if not already done and flush with cleaner before refilling with oil. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

### PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | --- | --- |
| Copper | ppm | ASTM D5185m | >50 | ▲ **86** | --- | --- |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | ▲ **4.03** | --- | --- |
| Visc @ 40°C | cSt | ASTM D445 | | ▲ **73.7** | --- | --- |

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Fluid | --- | --- | ? | Recommend drain oil if not already done and flush with cleaner before refilling with oil. |
| Flush System | --- | --- | ? | Recommend drain oil if not already done and flush with cleaner before refilling with oil. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Information Required | --- | --- | ? | Please specify the brand, type, and viscosity of the oil on your next sample. |

## HISTORICAL DIAGNOSIS
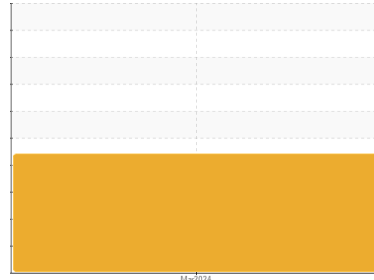
Report Id: UCJOHSAI [WUSCAR] 06141467 (Generated: 04/10/2024 17:34:02) Rev: 1     Contact/Location: RACHEL VON HATTEN - UCJOHSAI

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# OIL ANALYSIS REPORT

**DEGRADATION**

Area
## NOT GIVEN
Machine Id
## INGERSOLL RAND VK2888U16323 - HARTMAN
Component
**Compressor**



## DIAGNOSIS

### ▲ Recommendation
Recommend drain oil if not already done and flush with cleaner before refilling with oil. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

### ▲ Wear
The copper level is abnormal. All other component wear rates are normal.

### Contamination
There is no indication of any contamination in the oil.

### ▲ Fluid Condition
The AN level is above the recommended limit. TAN level indicates possible presence of varnish.

| SAMPLE INFORMATION | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Sample Number | Client Info | | UCH06141467 | --- | --- |
| Sample Date | Client Info | | 27 Mar 2024 | --- | --- |
| Machine Age | hrs | Client Info | 31112 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | | Client Info | Not Changd | --- | --- |
| Sample Status | | | SEVERE | --- | --- |

| CONTAMINATION | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Water | WC Method | >0.1 | NEG | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | 5 | --- | --- |
| Chromium | ppm | ASTM D5185m | >10 | 0 | --- | --- |
| Nickel | ppm | ASTM D5185m | | 0 | --- | --- |
| Titanium | ppm | ASTM D5185m | | 0 | --- | --- |
| Silver | ppm | ASTM D5185m | | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >25 | 0 | --- | --- |
| Lead | ppm | ASTM D5185m | >25 | 0 | --- | --- |
| Copper | ppm | ASTM D5185m | >50 | ▲ 86 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| Cadmium | ppm | ASTM D5185m | | 0 | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | <1 | --- | --- |
| Barium | ppm | ASTM D5185m | | 6 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 0 | --- | --- |
| Manganese | ppm | ASTM D5185m | | 1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 0 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 0 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 119 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 229 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 268 | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | 0 | --- | --- |
| Sodium | ppm | ASTM D5185m | | 50 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 7 | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | ▲ 4.03 | --- | --- |

# OIL ANALYSIS REPORT

## Acid Number

(graph)

## Viscosity @ 40°C

(graph — Abnormal lines at ~50 and ~40)

## Non-ferrous Metals

(graph — copper, lead, tin)
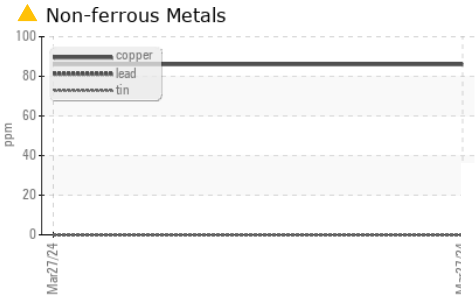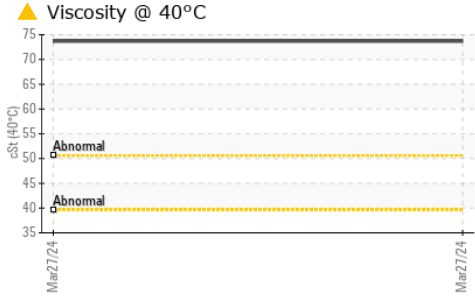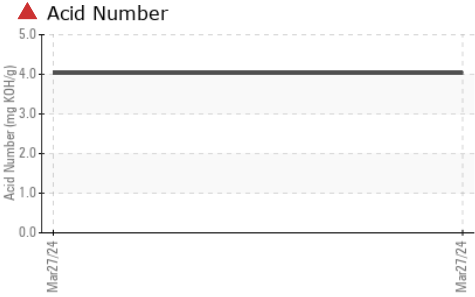
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt | scalar | *Visual | NONE | **NONE** | --- | --- |
| Debris | scalar | *Visual | NONE | **NONE** | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | --- | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | --- | --- |
| Odor | scalar | *Visual | NORML | **NORML** | --- | --- |
| Emulsified Water | scalar | *Visual | >0.1 | **NEG** | --- | --- |
| Free Water | scalar | *Visual | | **NEG** | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | ▲ **73.7** | --- | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | (image) | no image | no image |
| Bottom | | | (image) | no image | no image |

## GRAPHS
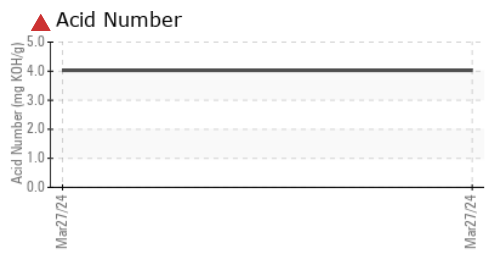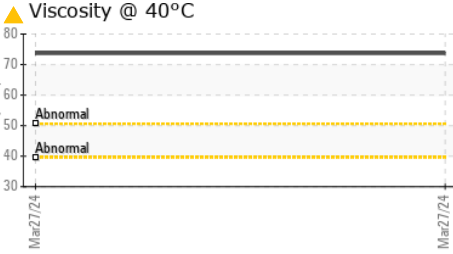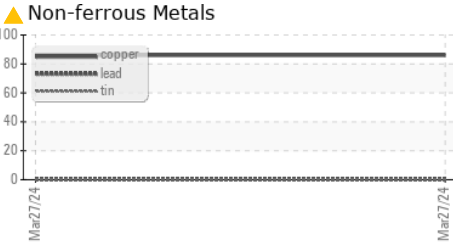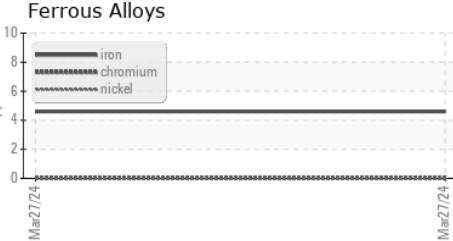
### Ferrous Alloys

(graph — iron, chromium, nickel)

### Non-ferrous Metals

(graph — copper, lead, tin)

### Viscosity @ 40°C

(graph — Abnormal lines at ~50 and ~40)

### Acid Number

(graph)

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*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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