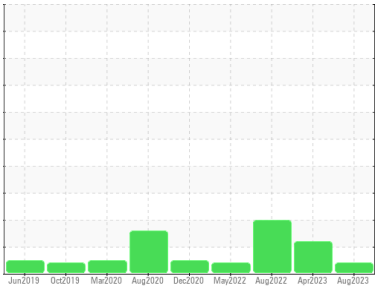
# PROBLEM SUMMARY

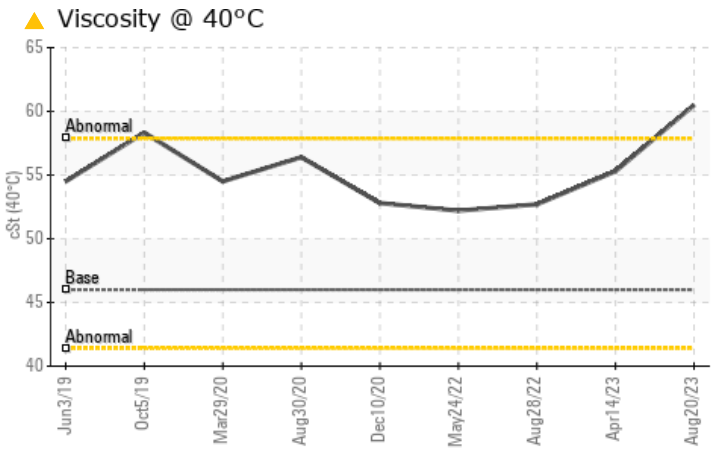
Sample Rating Trend




**VISCOSITY**

Machine Id
## INGERSOLL RAND AC 4 (S/N CK6129U04118)
Component
**Air Compressor**
Fluid
**INGERSOLL-RAND ULTRA FG (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46.0 | ▲ **60.5** | 55.3 | 52.7 |

**Customer Id:** PERPERUSP
**Sample No.:** USP0000503
**Lab Number:** 05929621
**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

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**14 Apr 2023 Diag: Doug Bogart**

**SEDIMENT**

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.All component wear rates are normal. There is a moderate amount of visible silt present in the sample. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

**28 Aug 2022 Diag: Doug Bogart**

**ISO**

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 high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

**24 May 2022 Diag: Doug Bogart**

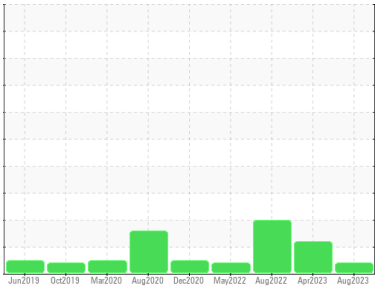
**ADDITIVES**

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. Additive levels indicate the addition of a different brand or type of oil. Confirmed. The AN level is acceptable for this fluid.

**view report**

# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## INGERSOLL RAND AC 4 (S/N CK6129U04118)
Component
**Air Compressor**
Fluid
**INGERSOLL-RAND ULTRA FG (--- 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 oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **USP0000503** | USP245948 | USP242986 |
| Sample Date | | Client Info | | **20 Aug 2023** | 14 Apr 2023 | 28 Aug 2022 |
| Machine Age | hrs | Client Info | | **0** | 45743 | 41232 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | 3 | 4 |
| Chromium | ppm | ASTM D5185m | >4 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 0 | 2 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >40 | **<1** | 1 | 2 |
| Tin | ppm | ASTM D5185m | >5 | **0** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | | **22** | 34 | 137 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | **<1** | 0 | 2 |
| Calcium | ppm | ASTM D5185m | | **1** | 6 | 32 |
| Phosphorus | ppm | ASTM D5185m | | **213** | 134 | 163 |
| Zinc | ppm | ASTM D5185m | | **0** | 0 | 22 |
| Sulfur | ppm | ASTM D5185m | | **321** | 279 | 425 |

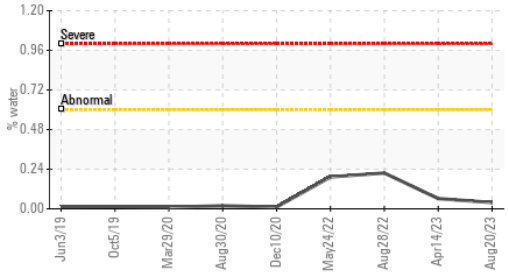
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | <1 | 2 |
| Sodium | ppm | ASTM D5185m | | **16** | 11 | 49 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | <1 | 7 |
| Water | % | ASTM D6304 | >0.6 | **0.038** | 0.062 | 0.217 |
| ppm Water | ppm | ASTM D6304 | >6000 | **388.8** | 621.9 | 2172.0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >20000 | **7637** | --- | ▲ 115887 |
| Particles >6µm | | ASTM D7647 | >2500 | **1522** | --- | ▲ 33092 |
| Particles >14µm | | ASTM D7647 | >320 | **45** | --- | ▲ 2127 |
| Particles >21µm | | ASTM D7647 | >80 | **8** | --- | ▲ 368 |
| Particles >38µm | | ASTM D7647 | >20 | **0** | --- | 19 |
| Particles >71µm | | ASTM D7647 | >4 | **0** | --- | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >21/18/15 | **20/18/13** | --- | ▲ 24/22/18 |

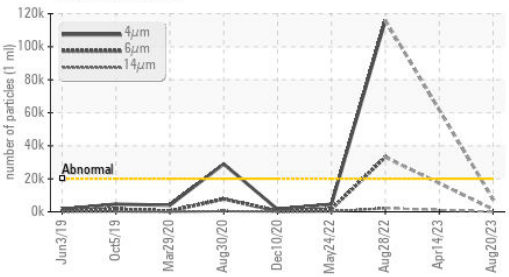
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.70** | 0.53 | 0.51 |

# OIL ANALYSIS REPORT

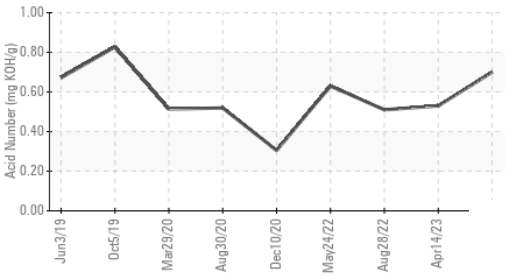
Water



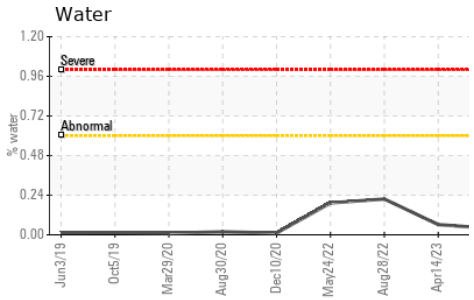

Particle Trend



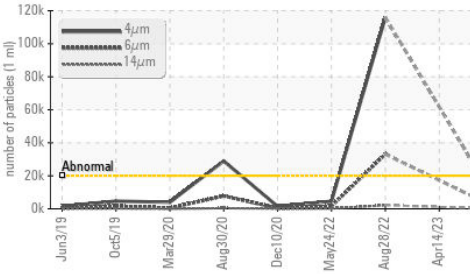

Acid Number




Water

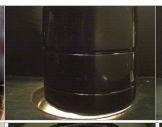
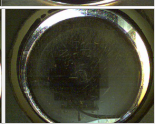



Particle Trend



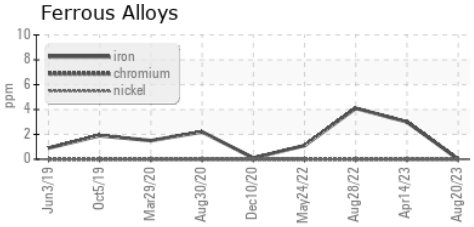

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | ▲ MODER | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | ▲ MODER | 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 | >0.6 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46.0 | ▲ **60.5** | 55.3 | 52.7 |

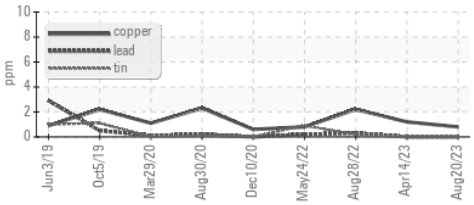
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  |  |
| Bottom | | |  |  |  |

## GRAPHS

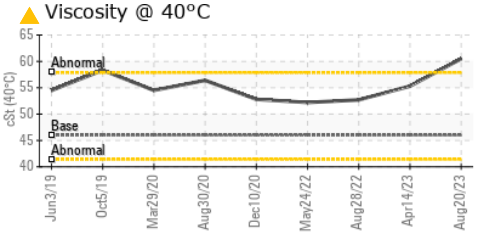
Ferrous Alloys



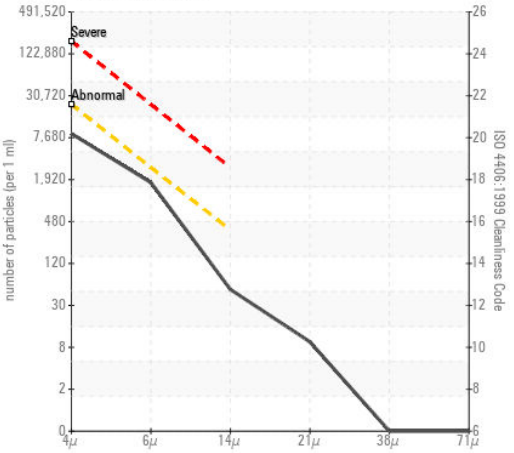

Non-ferrous Metals



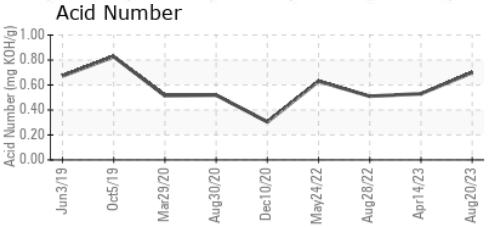

▲ Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : USP0000503 **Received** : 21 Aug 2023
**Lab Number** : 05929621 **Diagnosed** : 23 Aug 2023
**Unique Number** : 10609568 **Diagnostician** : Doug Bogart
**Test Package** : IND 2

Certificate L2367

*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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