



OIL ANALYSIS REPORT

| | |
|-----------------|---------------|
| WEAR | SEVERE |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Area
Milliken
 Machine Id
INGERSOLL RAND EE4347U19082 - MILLIKEN
 Component
Compressor
 Fluid
INGERSOLL-RAND SSR ULTRA COOLANT (--- GAL)

RECOMMENDATION

The oil is near the end of it's useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | APCI2320834 | APCI2320833 | APC0000297 |
| Sample Date | | Client Info | | 05 Mar 2024 | 05 Dec 2023 | 18 Sep 2023 |
| Machine Age | hrs | Client Info | | 37456 | 33169 | 33401 |
| Oil Age | hrs | Client Info | | 2000 | 4000 | 0 |
| Filter Age | hrs | Client Info | | 2000 | 2000 | 0 |
| Oil Changed | | Client Info | | N/A | Not Changd | Not Changd |
| Filter Changed | | Client Info | | N/A | Changed | Not Changd |
| Sample Status | | | | SEVERE | SEVERE | SEVERE |

WEAR

The tin level is severe. All other component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|--------------|--------------|
| Iron | ppm | ASTM D5185m | >50 | 0 | 2 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 0 | 2 | 3 |
| Lead | ppm | ASTM D5185m | >25 | 0 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >50 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | ▲ 278 | ▲ 233 | ▲ 148 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

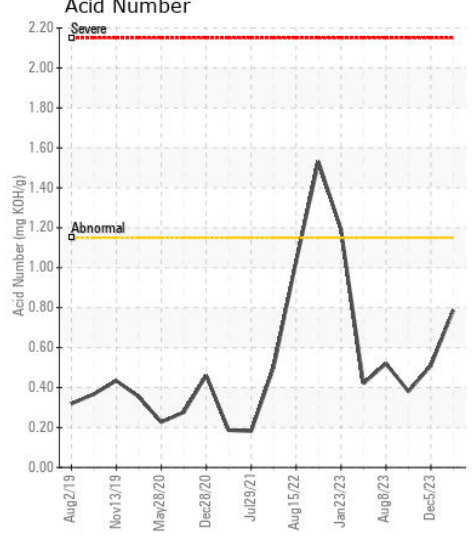
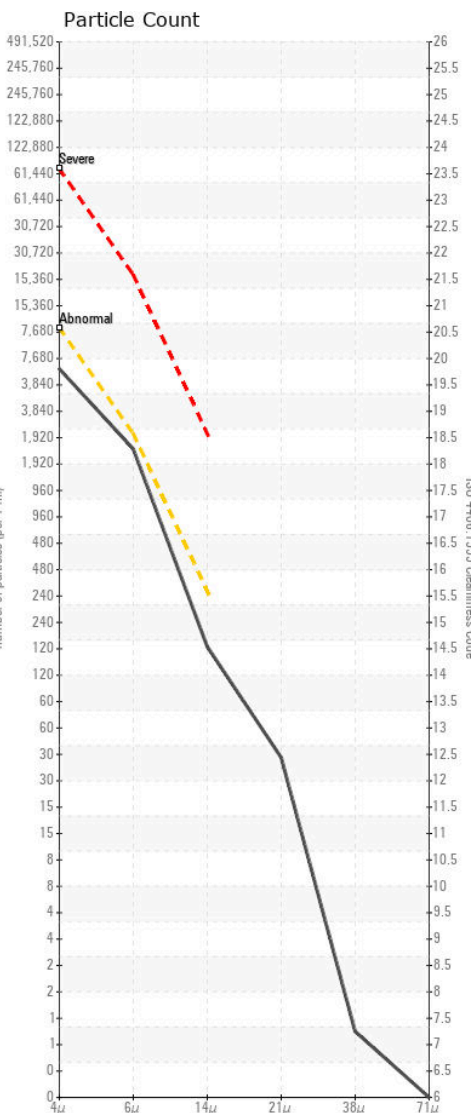
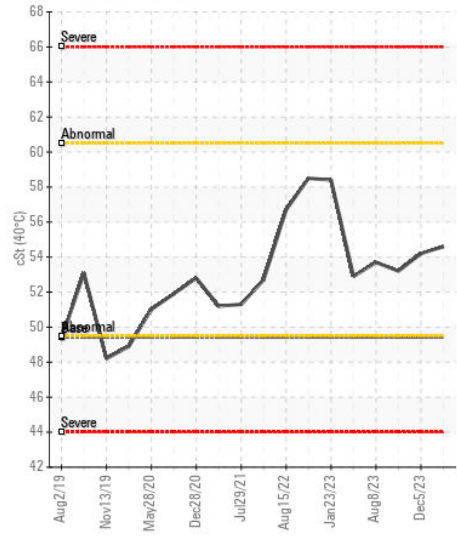
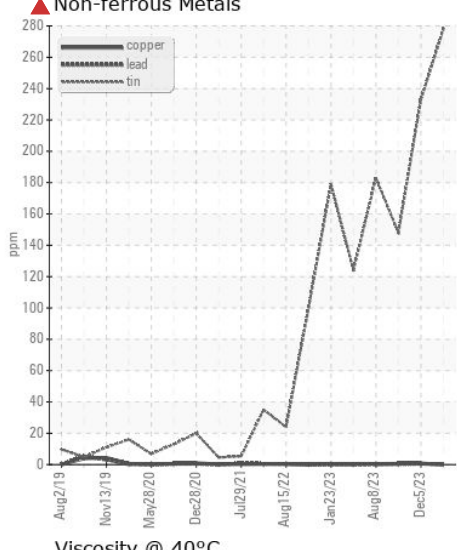
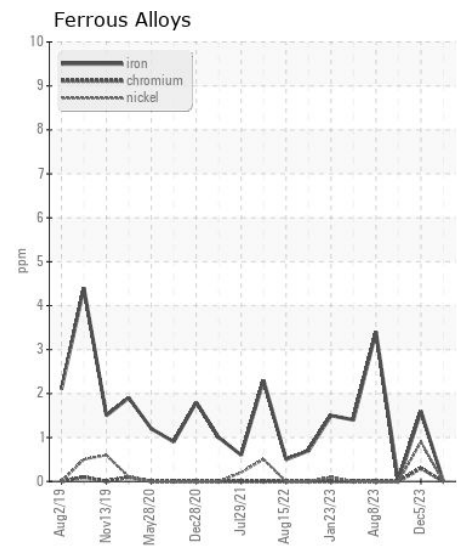
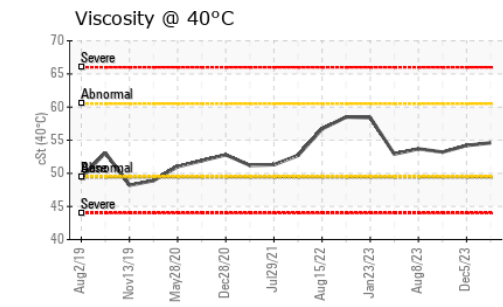
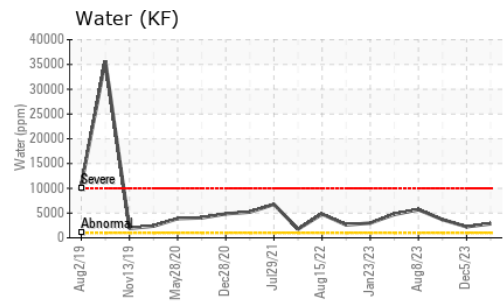
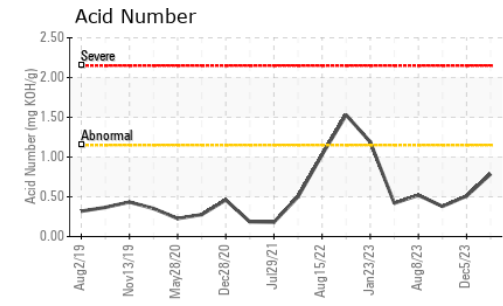
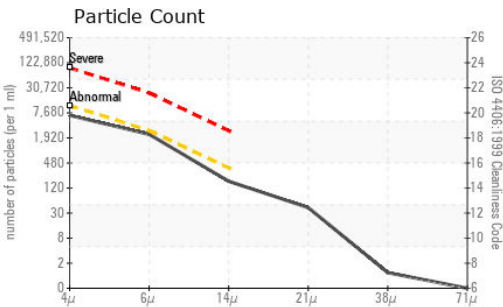
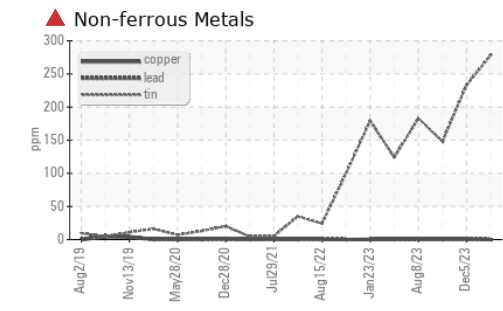
The amount and size of particulates present in the system are acceptable.

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|------------|----------|
| Silicon | ppm | ASTM D5185m | >25 | <1 | 2 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | 6 | 7 | 8 |
| Water | % | ASTM D6304 | >0.1 | 0.283 | 0.222 | 0.368 |
| ppm Water | ppm | ASTM D6304 | >1000 | 2839 | 2227 | 3680.4 |
| Particles >4µm | | ASTM D7647 | >10000 | 5835 | ● 15505 | 774 |
| Particles >6µm | | ASTM D7647 | >2500 | 2045 | ● 2628 | 221 |
| Particles >14µm | | ASTM D7647 | >320 | 154 | 146 | 23 |
| Particles >21µm | | ASTM D7647 | >80 | 36 | 46 | 7 |
| Particles >38µm | | ASTM D7647 | >20 | 1 | 4 | 0 |
| Particles >71µm | | ASTM D7647 | >4 | 0 | 1 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/15 | 20/18/14 | ● 21/19/14 | 17/15/12 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | 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 |

FLUID CONDITION

The AN level is acceptable for this fluid.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|-------|
| Sodium | ppm | ASTM D5185m | | 51 | 52 | 35 |
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 500 | 536 | 590 | 580 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | 1 | <1 | 2 |
| Calcium | ppm | ASTM D5185m | 0 | 4 | 4 | 4 |
| Phosphorus | ppm | ASTM D5185m | 20 | 0 | 23 | 7 |
| Zinc | ppm | ASTM D5185m | 0 | 0 | 0 | <1 |
| Sulfur | ppm | ASTM D5185m | 200 | 324 | 217 | 336 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.787 | 0.51 | 0.380 |
| Visc @ 40°C | cSt | ASTM D445 | 49.4 | 54.6 | 54.2 | 53.2 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : APC12320834 **Received** : 21 Mar 2024
Lab Number : 06125661 **Tested** : 25 Mar 2024
Unique Number : 10939812 **Diagnosed** : 25 Mar 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

AIR PRODUCTS AND CHEMICALS INC - ALLENTOWN
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 protzema@airproducts.com

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)