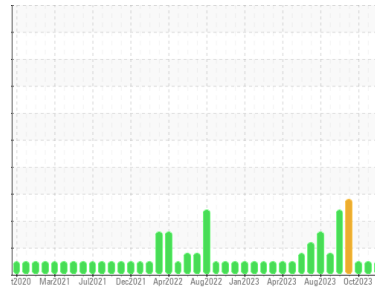




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**C-39**

Component

**Screw Compressor**

Fluid

**INGERSOLL-RAND SSR ULTRA COOLANT (--- 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 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 |             | <b>WC0820260</b>   | WC0820271   | WC0820274   |
| Sample Date   | Client Info |             | <b>05 Dec 2023</b> | 14 Nov 2023 | 03 Oct 2023 |
| Machine Age   | days        | Client Info | <b>0</b>           | 0           | 0           |
| Oil Age       | days        | Client Info | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >60 | <b>&lt;1</b> | <1       | <1       |
| Chromium | ppm    | ASTM D5185m >4  | <b>0</b>     | <1       | 0        |
| Nickel   | ppm    | ASTM D5185m     | <b>&lt;1</b> | <1       | <1       |
| Titanium | ppm    | ASTM D5185m     | <b>&lt;1</b> | <1       | 0        |
| Silver   | ppm    | ASTM D5185m     | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >5  | <b>&lt;1</b> | 2        | 0        |
| Lead     | ppm    | ASTM D5185m >10 | <b>&lt;1</b> | 1        | <1       |
| Copper   | ppm    | ASTM D5185m >30 | <b>&lt;1</b> | <1       | <1       |
| Tin      | ppm    | ASTM D5185m >15 | <b>&lt;1</b> | 0        | 0        |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | <1       | 0        |

## ADDITIVES

|            | method | limit/base      | current    | history1 | history2 |
|------------|--------|-----------------|------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0   | <b>0</b>   | 0        | 0        |
| Barium     | ppm    | ASTM D5185m 500 | <b>874</b> | 836      | 818      |
| Molybdenum | ppm    | ASTM D5185m 0   | <b>0</b>   | <1       | 7        |
| Manganese  | ppm    | ASTM D5185m     | <b>0</b>   | 0        | 0        |
| Magnesium  | ppm    | ASTM D5185m 0   | <b>0</b>   | <1       | <1       |
| Calcium    | ppm    | ASTM D5185m 0   | <b>0</b>   | 2        | 13       |
| Phosphorus | ppm    | ASTM D5185m 20  | <b>33</b>  | 44       | 41       |
| Zinc       | ppm    | ASTM D5185m 0   | <b>0</b>   | 0        | 0        |
| Sulfur     | ppm    | ASTM D5185m 200 | <b>160</b> | 275      | 303      |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >50  | <b>3</b>     | 3        | 2        |
| Sodium    | ppm    | ASTM D5185m      | <b>0</b>     | 2        | 0        |
| Potassium | ppm    | ASTM D5185m >20  | <b>3</b>     | 1        | 1        |
| Water     | %      | ASTM D6304 >0.1  | <b>0.076</b> | 0.054    | 0.088    |
| ppm Water | ppm    | ASTM D6304 >1000 | <b>762</b>   | 548      | 884.0    |

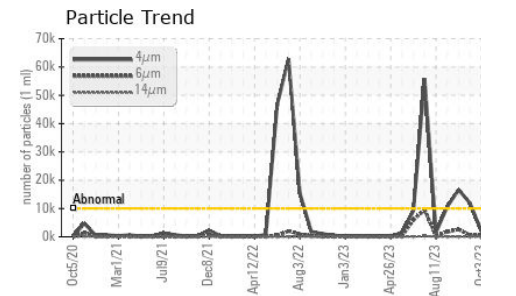
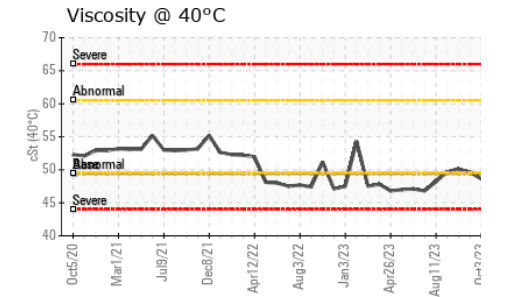
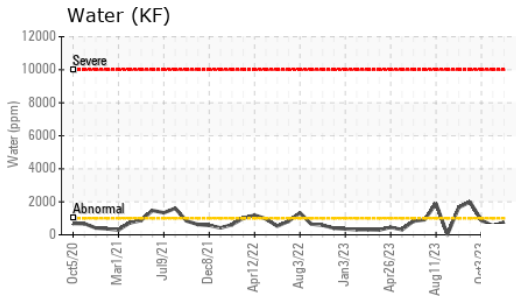
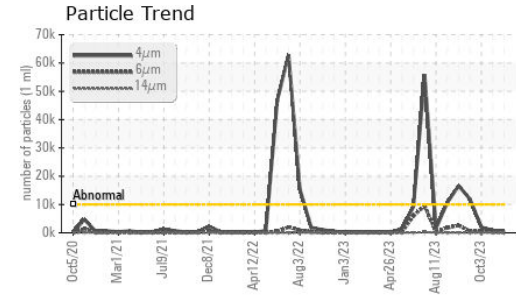
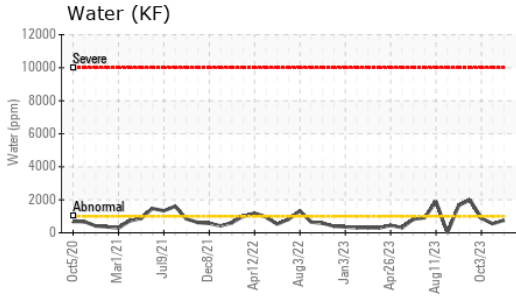
## FLUID CLEANLINESS

|                 | method       | limit/base | current         | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >10000     | <b>448</b>      | 876      | 1985     |
| Particles >6µm  | ASTM D7647   | >2500      | <b>195</b>      | 342      | 483      |
| Particles >14µm | ASTM D7647   | >320       | <b>30</b>       | 35       | 26       |
| Particles >21µm | ASTM D7647   | >80        | <b>11</b>       | 8        | 8        |
| Particles >38µm | ASTM D7647   | >20        | <b>3</b>        | 1        | 1        |
| Particles >71µm | ASTM D7647   | >4         | <b>1</b>        | 0        | 0        |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15  | <b>16/15/12</b> | 17/16/12 | 18/16/12 |

## FLUID DEGRADATION

|                  | method   | limit/base | current      | history1 | history2 |
|------------------|----------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | <b>0.062</b> | 0.069    | 0.047    |

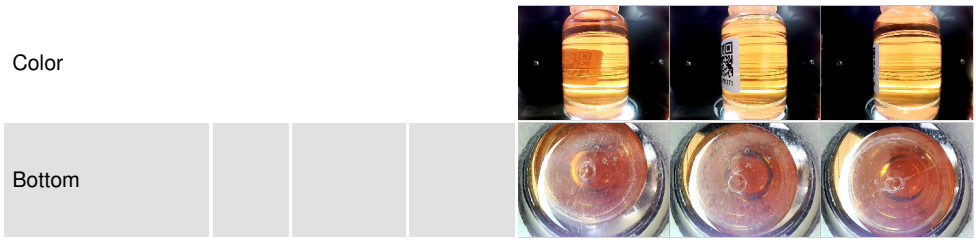
# OIL ANALYSIS REPORT



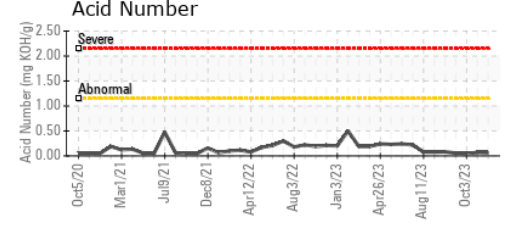
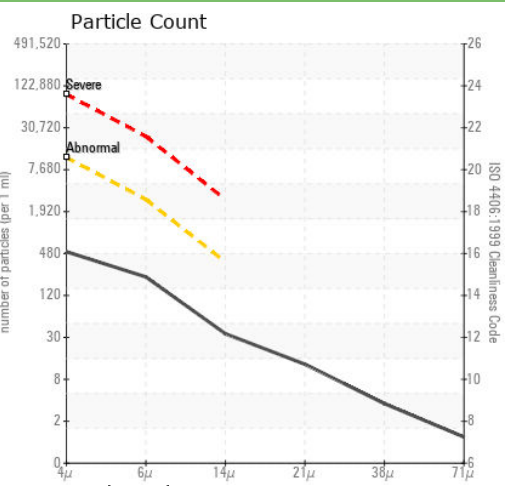
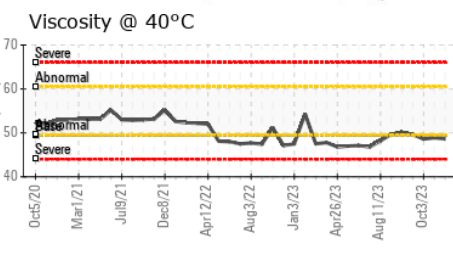
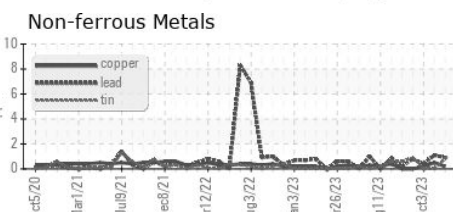
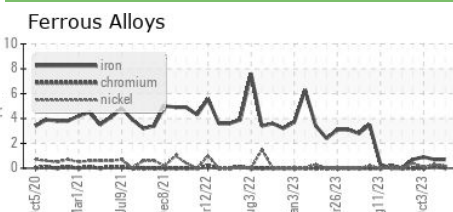
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.1    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 49.4    | 48.6     | 48.9     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0820260 **Received** : 08 Dec 2023  
**Lab Number** : 06030000 **Diagnosed** : 12 Dec 2023  
**Unique Number** : 10779791 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**UGI ENERGY SERVICES - LNG FACILITY**  
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 jbarrett@ugies.com  
 T:  
 F:

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)