

# PROBLEM SUMMARY

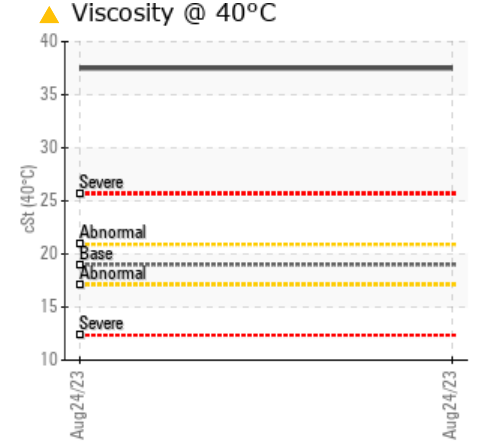
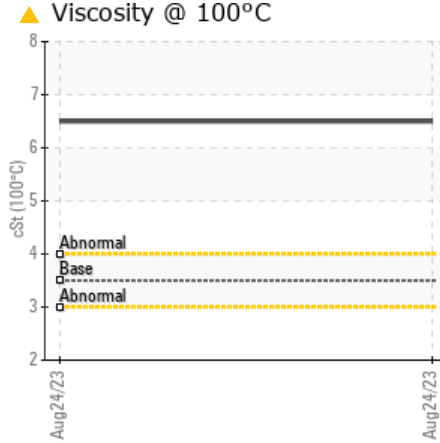
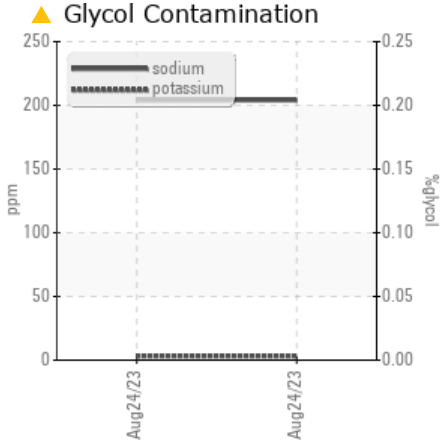
Sample Rating Trend

**COOL CHEMICALS**

Machine Id  
**Heater C**  
Component  
**Heat Transfer Fluid**  
Fluid  
**EASTMAN THERMINOL 55 (--- GAL)**



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise an early resample to confirm this situation.

## PROBLEMATIC TEST RESULTS

| Sample Status                  | ATTENTION | --- | --- |
|--------------------------------|-----------|-----|-----|
| Sodium ppm ASTM D5185m >21     | ▲ 204     | --- | --- |
| Visc @ 40°C cSt ASTM D445 19   | ▲ 37.5    | --- | --- |
| Visc @ 100°C cSt ASTM D445 3.5 | ▲ 6.5     | --- | --- |

Customer Id: ERGHALKS  
Sample No.: TO10002494  
Lab Number: 05937229  
Test Package: IND 2



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To discuss the diagnosis or test data:  
Doug Bogart +1 (800)237-1369 x4016  
[dougb@wearcheckusa.com](mailto:dougb@wearcheckusa.com)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

| Action   | Status | Date | Done By | Description  |
|----------|--------|------|---------|--|
| Resample | ---    | ---  | ?       | We advise an early resample to confirm this situation. |

## HISTORICAL DIAGNOSIS

# OIL ANALYSIS REPORT

Sample Rating Trend



COOL CHEMICALS



Machine Id

**Heater C**

Component

**Heat Transfer Fluid**

Fluid

**EASTMAN THERMINOL 55 (--- GAL)**

**DIAGNOSIS**

**▲ Recommendation**

We advise an early resample to confirm this situation.

**Wear**

All component wear rates are normal.

**Contamination**

The high sodium (Na) level indicates the possible presence of salt water. The amount and size of particulates present in the system are acceptable.

**▲ Fluid Condition**

The fluid viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

**SAMPLE INFORMATION**    method    limit/base    current    history1    history2

|               |             |             |                    |     |     |
|---------------|-------------|-------------|--------------------|-----|-----|
| Sample Number | Client Info |             | <b>TO10002494</b>  | --- | --- |
| Sample Date   | Client Info |             | <b>24 Aug 2023</b> | --- | --- |
| Machine Age   | yrs         | Client Info | <b>17</b>          | --- | --- |
| Oil Age       | yrs         | Client Info | <b>17</b>          | --- | --- |
| Oil Changed   | Client Info |             | <b>Not Changed</b> | --- | --- |
| Sample Status |             |             | <b>ATTENTION</b>   | --- | --- |

**WEAR METALS**    method    limit/base    current    history1    history2

|          |     |             |      |              |     |     |
|----------|-----|-------------|------|--------------|-----|-----|
| Iron     | ppm | ASTM D5185m | >200 | <b>12</b>    | --- | --- |
| Chromium | ppm | ASTM D5185m | >21  | <b>&lt;1</b> | --- | --- |
| Nickel   | ppm | ASTM D5185m | >21  | <b>0</b>     | --- | --- |
| Titanium | ppm | ASTM D5185m | >21  | <b>&lt;1</b> | --- | --- |
| Silver   | ppm | ASTM D5185m | >21  | <b>0</b>     | --- | --- |
| Aluminum | ppm | ASTM D5185m | >21  | <b>&lt;1</b> | --- | --- |
| Lead     | ppm | ASTM D5185m | >21  | <b>&lt;1</b> | --- | --- |
| Copper   | ppm | ASTM D5185m | >21  | <b>&lt;1</b> | --- | --- |
| Tin      | ppm | ASTM D5185m | >21  | <b>&lt;1</b> | --- | --- |
| Vanadium | ppm | ASTM D5185m |      | <b>&lt;1</b> | --- | --- |
| Cadmium  | ppm | ASTM D5185m |      | <b>&lt;1</b> | --- | --- |

**ADDITIVES**    method    limit/base    current    history1    history2

|            |     |             |  |            |     |     |
|------------|-----|-------------|--|------------|-----|-----|
| Boron      | ppm | ASTM D5185m |  | <b>0</b>   | --- | --- |
| Barium     | ppm | ASTM D5185m |  | <b>0</b>   | --- | --- |
| Molybdenum | ppm | ASTM D5185m |  | <b>0</b>   | --- | --- |
| Manganese  | ppm | ASTM D5185m |  | <b>1</b>   | --- | --- |
| Magnesium  | ppm | ASTM D5185m |  | <b>7</b>   | --- | --- |
| Calcium    | ppm | ASTM D5185m |  | <b>231</b> | --- | --- |
| Phosphorus | ppm | ASTM D5185m |  | <b>13</b>  | --- | --- |
| Zinc       | ppm | ASTM D5185m |  | <b>12</b>  | --- | --- |
| Sulfur     | ppm | ASTM D5185m |  | <b>480</b> | --- | --- |

**CONTAMINANTS**    method    limit/base    current    history1    history2

|           |     |             |         |              |     |     |
|-----------|-----|-------------|---------|--------------|-----|-----|
| Silicon   | ppm | ASTM D5185m | >25     | <b>&lt;1</b> | --- | --- |
| Sodium    | ppm | ASTM D5185m | >21     | <b>▲ 204</b> | --- | --- |
| Potassium | ppm | ASTM D5185m | >20     | <b>3</b>     | --- | --- |
| Water     | %   | ASTM D6304  | >0.0601 | <b>0.008</b> | --- | --- |
| ppm Water | ppm | ASTM D6304  | >601    | <b>84.4</b>  | --- | --- |

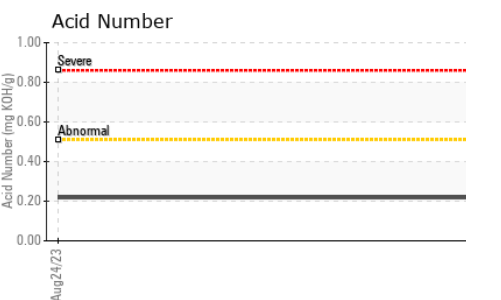
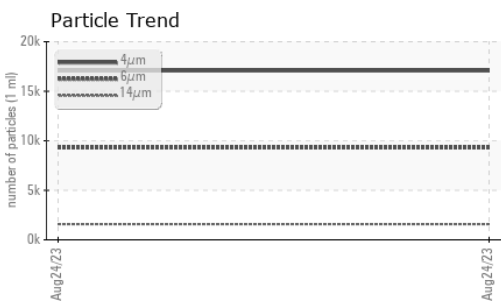
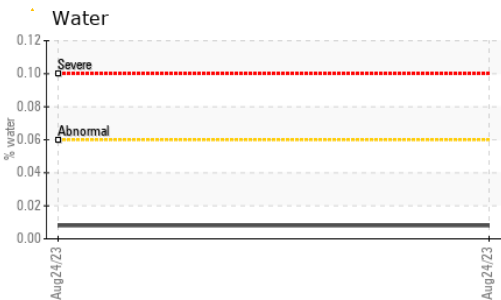
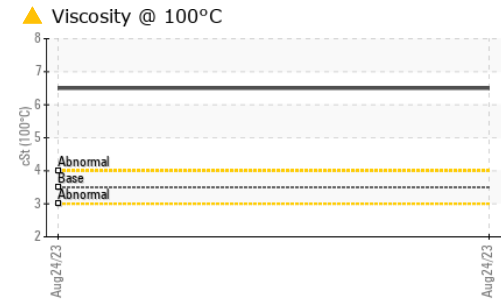
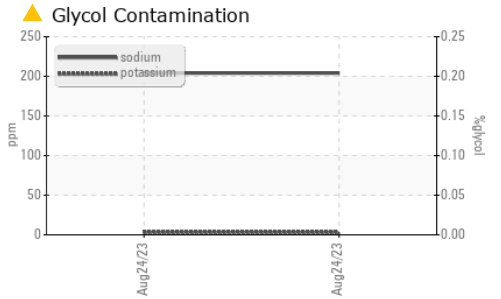
**FLUID CLEANLINESS**    method    limit/base    current    history1    history2

|                 |  |              |           |                 |     |     |
|-----------------|--|--------------|-----------|-----------------|-----|-----|
| Particles >4µm  |  | ASTM D7647   |           | <b>17069</b>    | --- | --- |
| Particles >6µm  |  | ASTM D7647   | >10240000 | <b>9298</b>     | --- | --- |
| Particles >14µm |  | ASTM D7647   | >10240000 | <b>1582</b>     | --- | --- |
| Particles >21µm |  | ASTM D7647   | >25600000 | <b>533</b>      | --- | --- |
| Particles >38µm |  | ASTM D7647   | >640000   | <b>82</b>       | --- | --- |
| Particles >71µm |  | ASTM D7647   | >160000   | <b>8</b>        | --- | --- |
| Oil Cleanliness |  | ISO 4406 (c) | >--/30/30 | <b>21/20/18</b> | --- | --- |

**FLUID DEGRADATION**    method    limit/base    current    history1    history2

|                  |          |            |  |              |     |     |
|------------------|----------|------------|--|--------------|-----|-----|
| Acid Number (AN) | mg KOH/g | ASTM D8045 |  | <b>0.218</b> | --- | --- |
|------------------|----------|------------|--|--------------|-----|-----|

# OIL ANALYSIS REPORT



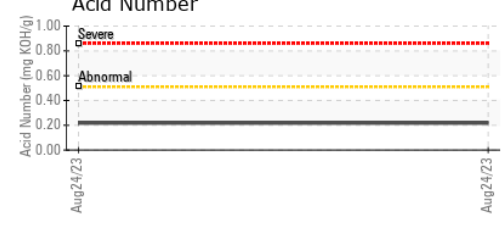
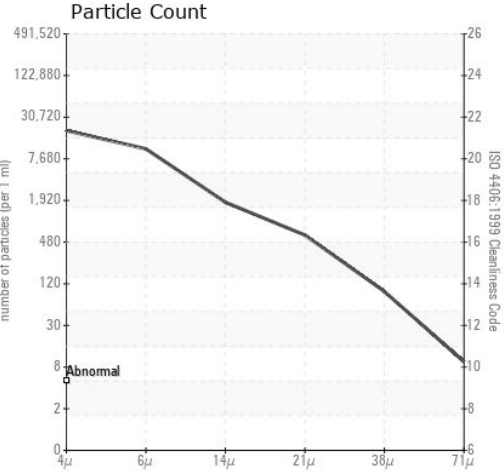
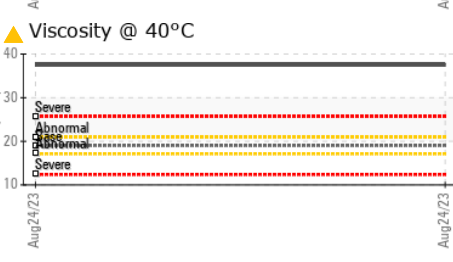
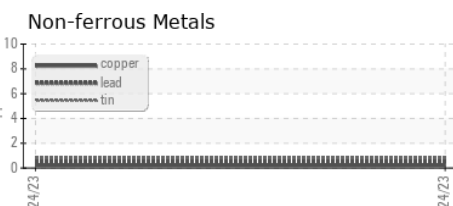
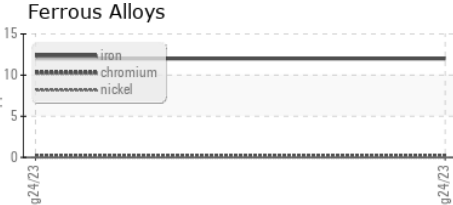
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      |
| Debris           | scalar | *Visual    | NONE    | LIGHT    | ---      |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      |
| Emulsified Water | scalar | *Visual    | >0.0601 | NEG      | ---      |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| FLUID PROPERTIES     | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C          | cSt    | ASTM D445  | 19      | ▲ 37.5   | ---      |
| Visc @ 100°C         | cSt    | ASTM D445  | 3.5     | ▲ 6.5    | ---      |
| Viscosity Index (VI) | Scale  | ASTM D2270 | 24      | 126      | ---      |

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

|        |  |  |  |  |          |          |
|--------|--|--|--|--|----------|----------|
| Color  |  |  |  |  | no image | no image |
| Bottom |  |  |  |  | no image | no image |

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10002494 **Received** : 29 Aug 2023  
**Lab Number** : 05937229 **Diagnosed** : 14 Sep 2023  
**Unique Number** : 10622500 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**ERGON - HALSTEAD**  
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 HALSTEAD, KS  
 US 67056  
 Contact: RUDY HERNANDEZ  
 Rudy.Hernandez@ergon.com

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)