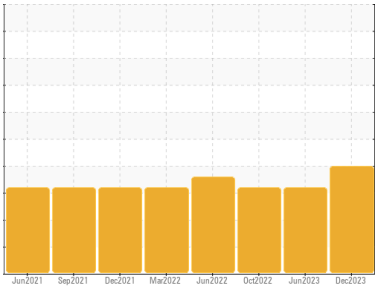
# PROBLEM SUMMARY

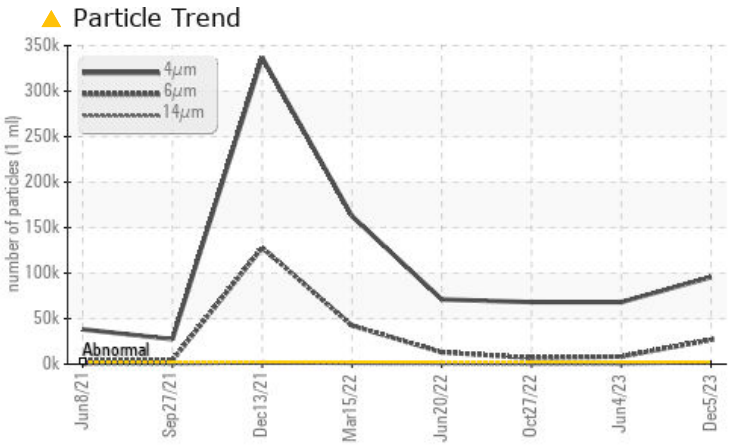
Sample Rating Trend

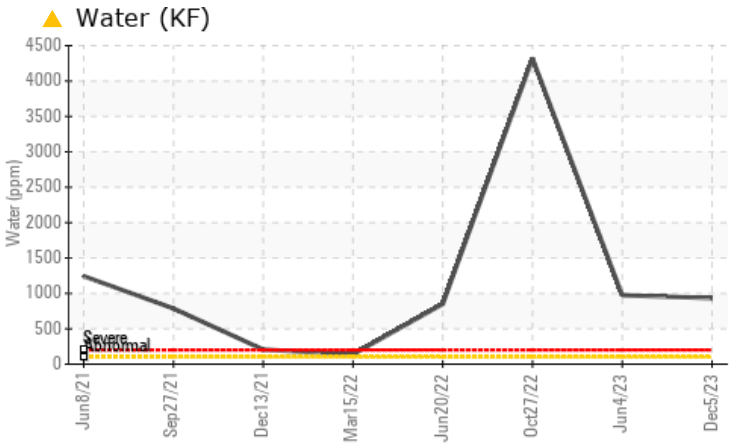



**WATER**

Area
## Jackson County 2 Plant/Cryogenic/Compressor
Machine Id
## C-2161 (S/N 10241D20819396)
Component
**Refrigeration Compressor**
Fluid
**SUMMIT PGS-100 (250 GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Water | % | ASTM D6304 | >0.01 | ▲ **0.093** | ▲ 0.097 | ▲ 0.432 |
| ppm Water | ppm | ASTM D6304 | >100 | ▲ **932** | ▲ 973.6 | ▲ 4320 |
| Particles >4µm | | ASTM D7647 | >2500 | ▲ **95594** | ▲ 68095 | ▲ 68155 |
| Particles >6µm | | ASTM D7647 | >320 | ▲ **26742** | ▲ 8341 | ▲ 6769 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **1484** | ▲ 143 | ▲ 122 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **366** | 15 | 17 |
| Particles >38µm | | ASTM D7647 | >4 | ▲ **16** | 1 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >18/15/13 | ▲ **24/22/18** | ▲ 23/20/14 | ▲ 23/20/14 |

**Customer Id:** ETCJCTY
**Sample No.:** TO90002480
**Lab Number:** 06026537
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |

## HISTORICAL DIAGNOSIS

**04 Jun 2023 Diag: Jonathan Hester**

WATER

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. There is a light concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**27 Oct 2022 Diag: Don Baldridge**

WATER

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. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**20 Jun 2022 Diag: Don Baldridge**

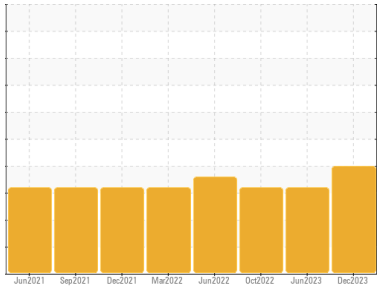
WATER

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. There is a light concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend




**WATER**

Area
## Jackson County 2 Plant/Cryogenic/Compressor
Machine Id
## C-2161 (S/N 10241D20819396)
Component
**Refrigeration Compressor**
Fluid
**SUMMIT PGS-100 (250 GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
There is a high amount of particulates present in the oil. There is a light concentration of water present in the oil.

**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 | | **TO90002480** | TO90002483 | TO90002066 |
| Sample Date | | Client Info | | **05 Dec 2023** | 04 Jun 2023 | 27 Oct 2022 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >8 | **3** | 4 | 5 |
| Chromium | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | **<1** | 0 | 2 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >3 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >8 | **<1** | <1 | 2 |
| Tin | ppm | ASTM D5185m | >4 | **1** | 1 | 2 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 2 | **0** | 0 | <1 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **0** | <1 | <1 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | 11 | 11 |
| Phosphorus | ppm | ASTM D5185m | 0 | **38** | 18 | 19 |
| Zinc | ppm | ASTM D5185m | 0 | **75** | 63 | 58 |
| Sulfur | ppm | ASTM D5185m | 5 | **0** | 0 | 17 |

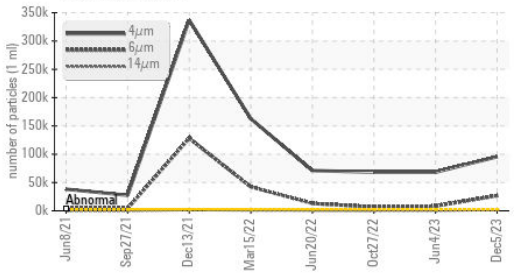
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **7** | 3 | 4 |
| Sodium | ppm | ASTM D5185m | | **10** | 4 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 3 | 1 |
| Water | % | ASTM D6304 | >0.01 | ▲ **0.093** | ▲ 0.097 | ▲ 0.432 |
| ppm Water | ppm | ASTM D6304 | >100 | ▲ **932** | ▲ 973.6 | ▲ 4320 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | ▲ **95594** | ▲ 68095 | ▲ 68155 |
| Particles >6µm | | ASTM D7647 | >320 | ▲ **26742** | ▲ 8341 | ▲ 6769 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **1484** | ▲ 143 | ▲ 122 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **366** | 15 | 17 |
| Particles >38µm | | ASTM D7647 | >4 | ▲ **16** | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | **1** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/15/13 | ▲ **24/22/18** | ▲ 23/20/14 | ▲ 23/20/14 |

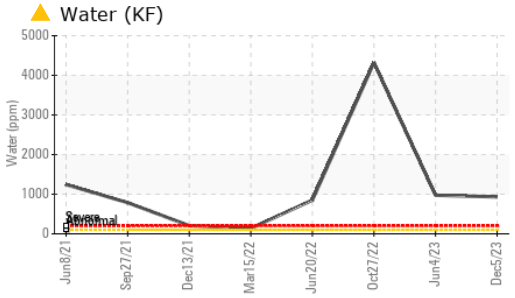
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974 | 0.1 | **0.034** | 0.125 | 0.046 |

# OIL ANALYSIS REPORT

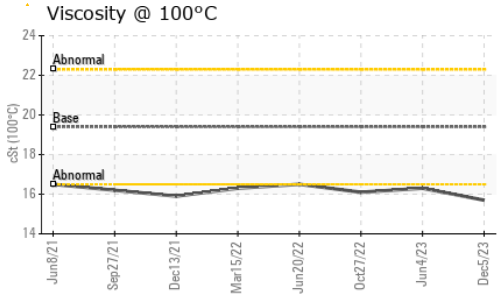
Particle Trend



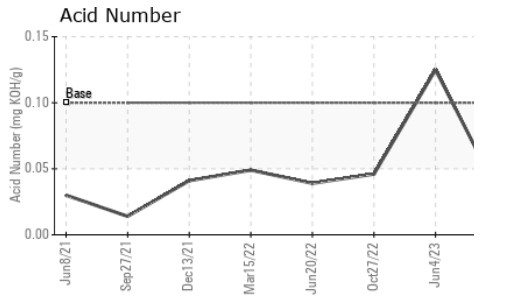

Water (KF)



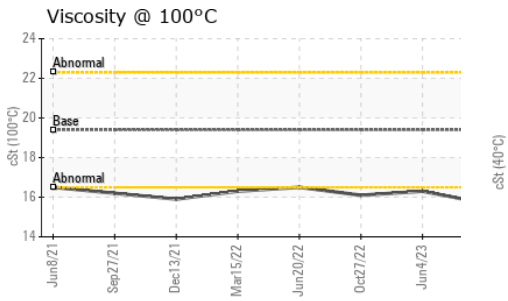

Viscosity @ 100°C




Acid Number



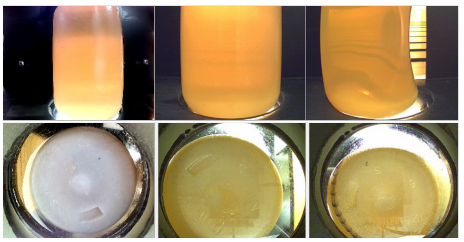

Viscosity @ 100°C




| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.01 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

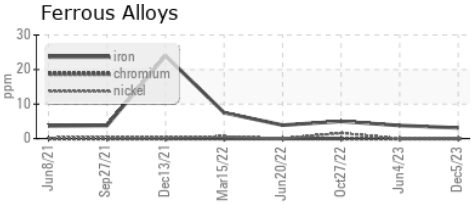
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 100 | **90.8** | 93.13 | 96.8 |
| Visc @ 100°C | cSt | ASTM D445 | 19.4 | **15.7** | 16.3 | 16.1 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 218 | **184** | 189 | 178 |

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

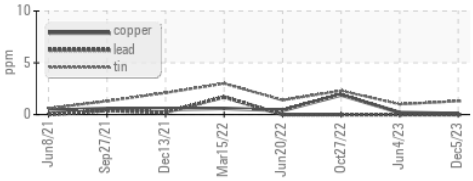


## GRAPHS

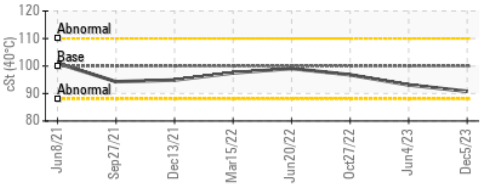
Ferrous Alloys



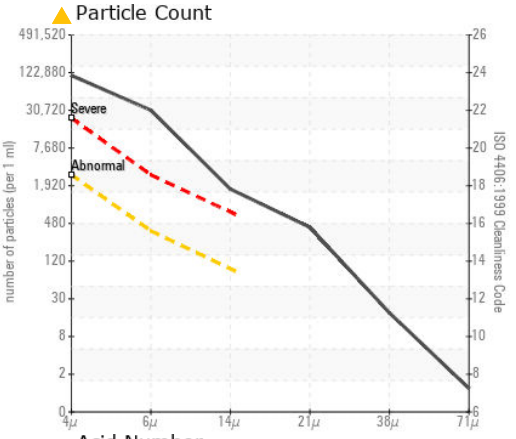

Non-ferrous Metals



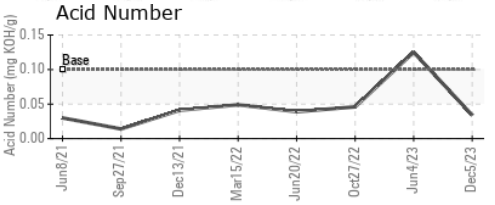

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TO90002480 **Received** : 06 Dec 2023
**Lab Number** : 06026537 **Diagnosed** : 07 Dec 2023
**Unique Number** : 10776328 **Diagnostician** : Jonathan Hester
**Test Package** : IND 2 ( Additional Tests: KV100, PrtCount, VI )

**ETC - JACKSON COUNTY**

,
US
Contact: Service Manager

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)*