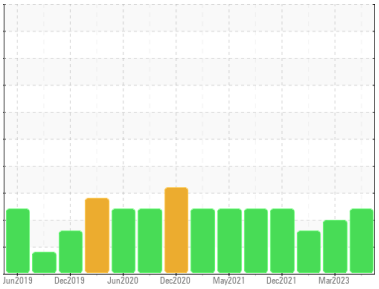
# PROBLEM SUMMARY

Sample Rating Trend

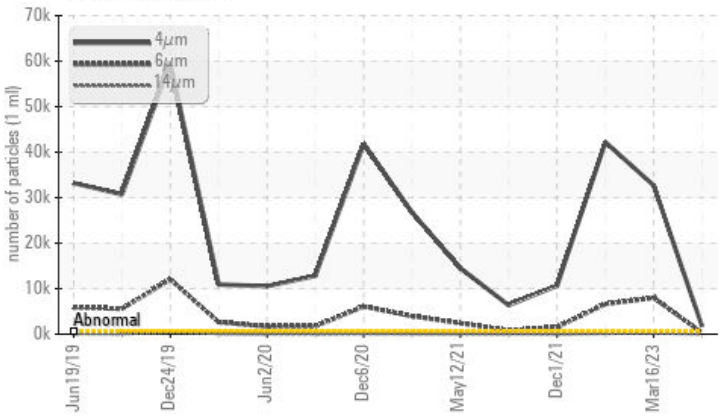



**WATER**

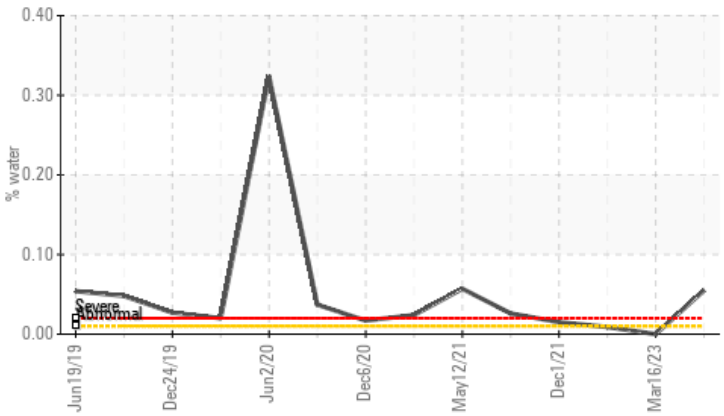
Area
## HOPSON PLANT
Machine Id
## C-4113
Component
**Refrigeration Compressor**
Fluid
**FRICK COMPRESSOR OIL #12B (250 GAL)**

## COMPONENT CONDITION SUMMARY

▲ Particle Trend




▲ Water




## RECOMMENDATION

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

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Water | % | ASTM D6304 | >0.01 | ▲ **0.055** | 0.00 | 0.009 |
| ppm Water | ppm | ASTM D6304 | >100 | ▲ **551.1** | 0.00 | 92.1 |
| Particles >4µm | | ASTM D7647 | >640 | ▲ **1777** | ▲ 32687 | ▲ 42200 |
| Oil Cleanliness | | ISO 4406 (c) | >16/15/13 | ▲ **18/15/11** | ▲ 22/20/15 | ▲ 23/20/14 |

**Customer Id:** TARHOPS
**Sample No.:** TO90002284
**Lab Number:** 05931600
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Angela Borella +1 800-237-1369
angela.borella@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 if applicable. |

## HISTORICAL DIAGNOSIS

**16 Mar 2023 Diag: Doug Bogart**

ISO

We recommend you service the filters on this component if applicable. 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

**08 Mar 2022 Diag: Don Baldridge**

ISO

We recommend you service the filters on this component if applicable. 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

**01 Dec 2021 Diag: Doug Bogart**

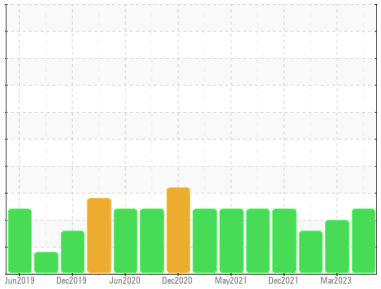
WATER

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. There is a trace of moisture 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
## HOPSON PLANT
Machine Id
## C-4113
Component
**Refrigeration Compressor**
Fluid
**FRICK COMPRESSOR OIL #12B (250 GAL)**

## DIAGNOSIS

**Recommendation**

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

**Wear**

All component wear rates are normal.

**Contamination**

There is a high amount of silt (particulates < 14 microns in size) present in the oil. There is a trace of moisture 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 | | **TO90002284** | TO90002383 | TO90001768 |
| Sample Date | | Client Info | | **15 Aug 2023** | 16 Mar 2023 | 08 Mar 2022 |
| Machine Age | mths | Client Info | | **3** | 3 | 3 |
| Oil Age | mths | Client Info | | **3** | 3 | 3 |
| 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 | **4** | 5 | 0 |
| Chromium | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >3 | **0** | 1 | 0 |
| Lead | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >8 | **<1** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >4 | **1** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 2 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | | **<1** | 2 | 0 |
| Calcium | ppm | ASTM D5185m | | **10** | 14 | 0 |
| Phosphorus | ppm | ASTM D5185m | | **19** | 22 | 26 |
| Zinc | ppm | ASTM D5185m | | **0** | 5 | 0 |
| Sulfur | ppm | ASTM D5185m | | **21** | 42 | 36 |

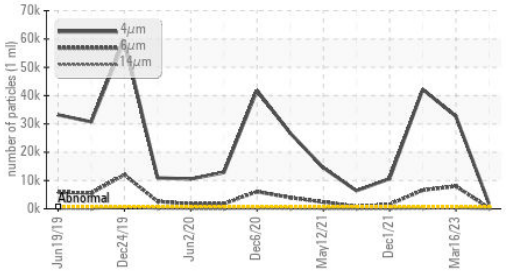
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **6** | 6 | 5 |
| Sodium | ppm | ASTM D5185m | | **2** | <1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | <1 | 0 |
| Water | % | ASTM D6304 | >0.01 | ▲ **0.055** | 0.00 | 0.009 |
| ppm Water | ppm | ASTM D6304 | >100 | ▲ **551.1** | 0.00 | 92.1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >640 | ▲ **1777** | ▲ 32687 | ▲ 42200 |
| Particles >6µm | | ASTM D7647 | >320 | **304** | ▲ 7981 | ▲ 6587 |
| Particles >14µm | | ASTM D7647 | >80 | **19** | ▲ 245 | ▲ 137 |
| Particles >21µm | | ASTM D7647 | >20 | **7** | ▲ 34 | ▲ 20 |
| Particles >38µm | | ASTM D7647 | >4 | **0** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >16/15/13 | ▲ **18/15/11** | ▲ 22/20/15 | ▲ 23/20/14 |

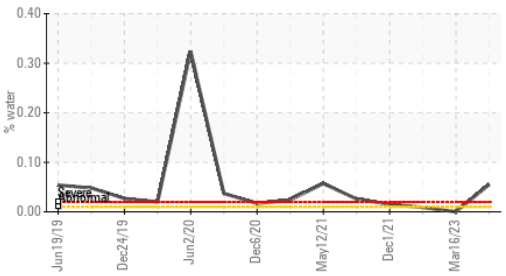
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974 | | **0.015** | 0.015 | 0.034 |

# OIL ANALYSIS REPORT

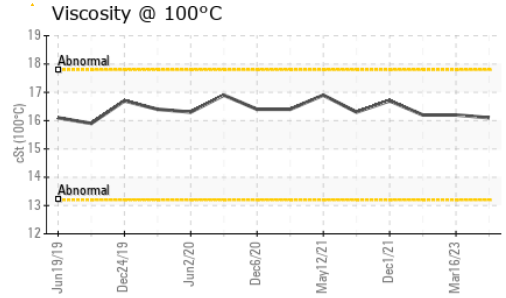
Particle Trend



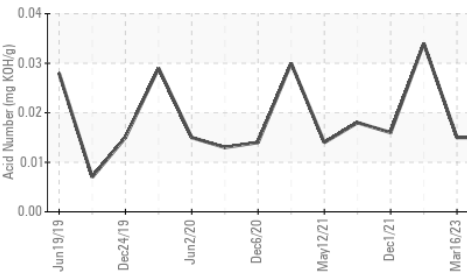

Water



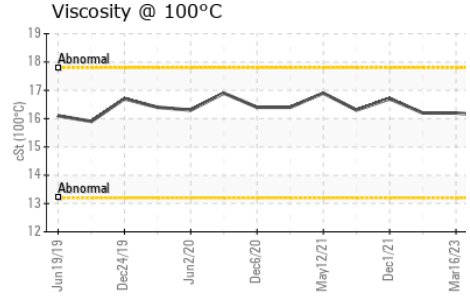

Viscosity @ 100°C




Acid Number



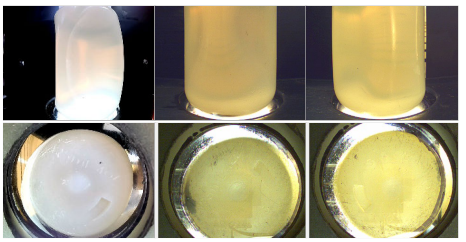

Viscosity @ 100°C




| 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** | LIGHT | 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 |

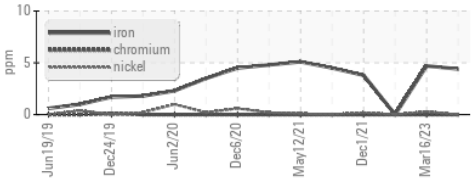
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | | **104** | 104 | 104 |
| Visc @ 100°C | cSt | ASTM D445 | | **16.1** | 16.2 | 16.2 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | **166** | 167 | 167 |

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

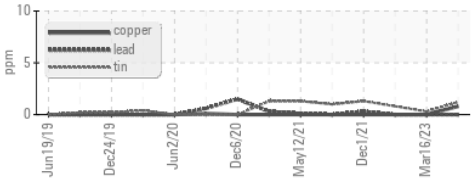


## GRAPHS

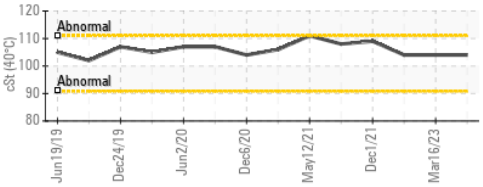
Ferrous Alloys



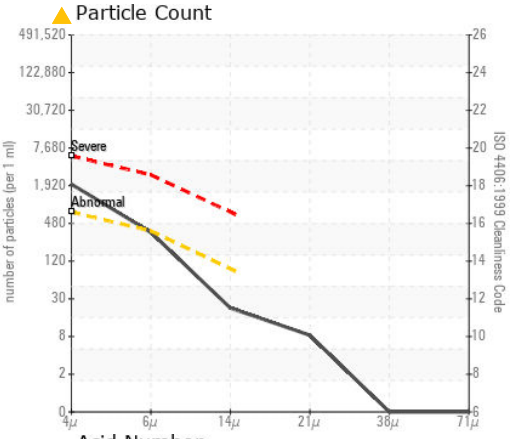

Non-ferrous Metals



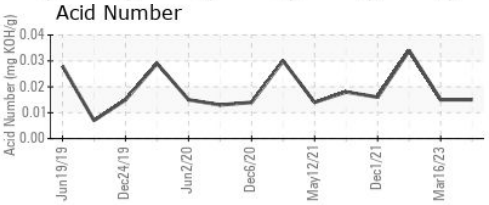

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TO90002284 **Received** : 22 Aug 2023
**Lab Number** : 05931600 **Diagnosed** : 24 Aug 2023
**Unique Number** : 10616871 **Diagnostician** : Angela Borella
**Test Package** : IND 2 ( Additional Tests: KV100, PrtCount, VI )

*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)*

**TARGA RESOURCES - HOPSON**
13110 EAST CR 230
MIDLAND, TX
US 79706
Contact: KENNETH BATLA
kbatla@targaresources.com
T:
F:

Report Id: TARHOPS [WUSCAR] 05931600 (Generated: 08/24/2023 15:29:18) Rev: 1

Submitted By: ERIC THORNTON