

# **OIL ANALYSIS REPORT**

### Sample Rating Trend



Machine Id

# 6 600HP (S/N JOB 03590-002-1-01-02)

Refrigeration Compressor

USPI ALT-68 SC (--- GAL)

#### Recommendation

Resample at the next service interval to monitor.

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.

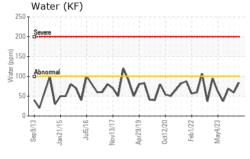
### **Fluid Condition**

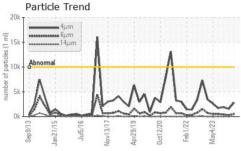
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

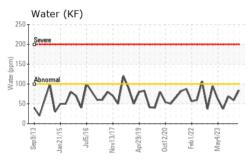
|                  |          | 22013 Jan20  | 15 Jul2016 Nov2017 | Aprž019 Oct2020 Feb2022 N | 1ay2023     |             |
|------------------|----------|--------------|--------------------|---------------------------|-------------|-------------|
| SAMPLE INFORM    | MATION   | method       | limit/base         | current                   | history1    | history2    |
| Sample Number    |          | Client Info  |                    | USP0011458                | USP0007137  | USP0002946  |
| Sample Date      |          | Client Info  |                    | 14 May 2024               | 05 Feb 2024 | 30 Oct 2023 |
| 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    |          |              |                    | NORMAL                    | NORMAL      | NORMAL      |
| WEAR METALS      |          | method       | limit/base         | current                   | history1    | history2    |
| Iron             | ppm      | ASTM D5185m  | >8                 | <1                        | 0           | 0           |
| Chromium         | ppm      | ASTM D5185m  | >2                 | <1                        | <1          | 0           |
| Nickel           | ppm      | ASTM D5185m  |                    | <1                        | <1          | 0           |
| Titanium         | ppm      | ASTM D5185m  |                    | <1                        | 0           | 0           |
| Silver           | ppm      | ASTM D5185m  | >2                 | 0                         | 0           | 0           |
| Aluminum         | ppm      | ASTM D5185m  | >3                 | 1                         | <1          | 0           |
| Lead             | ppm      | ASTM D5185m  | >2                 | 0                         | <1          | 0           |
| Copper           | ppm      | ASTM D5185m  | >8                 | <1                        | <1          | 0           |
| Tin              | ppm      | ASTM D5185m  | >4                 | <1                        | <1          | 0           |
| Vanadium         | ppm      | ASTM D5185m  |                    | <1                        | 0           | 0           |
| Cadmium          | ppm      | ASTM D5185m  |                    | <1                        | 0           | 0           |
| ADDITIVES        |          | method       | limit/base         | current                   | history1    | history2    |
| Boron            | ppm      | ASTM D5185m  |                    | 0                         | 0           | 0           |
| Barium           | ppm      | ASTM D5185m  |                    | 0                         | 0           | 0           |
| Molybdenum       | ppm      | ASTM D5185m  |                    | 0                         | 0           | 0           |
| Manganese        | ppm      | ASTM D5185m  |                    | 0                         | <1          | 0           |
| Magnesium        | ppm      | ASTM D5185m  |                    | <1                        | <1          | 0           |
| Calcium          | ppm      | ASTM D5185m  |                    | 0                         | 0           | 0           |
| Phosphorus       | ppm      | ASTM D5185m  |                    | 1                         | 0           | 0           |
| Zinc             | ppm      | ASTM D5185m  |                    | 0                         | 0           | 0           |
| Sulfur           | ppm      | ASTM D5185m  | 50                 | 14                        | 42          | 0           |
| CONTAMINANTS     |          | method       | limit/base         | current                   | history1    | history2    |
| Silicon          | ppm      | ASTM D5185m  | >15                | 4                         | 3           | 3           |
| Sodium           | ppm      | ASTM D5185m  |                    | 2                         | 0           | 0           |
| Potassium        | ppm      | ASTM D5185m  | >20                | 2                         | 2           | <1          |
| Water            | %        | ASTM D6304   | >0.01              | 0.008                     | 0.005       | 0.006       |
| ppm Water        | ppm      | ASTM D6304   | >100               | 84                        | 59          | 68.9        |
| FLUID CLEANLIN   | ESS      | method       | limit/base         | current                   | history1    | history2    |
| Particles >4µm   |          | ASTM D7647   | >10000             | 2799                      | 1536        | 1893        |
| Particles >6µm   |          | ASTM D7647   | >2500              | 533                       | 281         | 436         |
| Particles >14μm  |          | ASTM D7647   | >320               | 36                        | 23          | 24          |
| Particles >21μm  |          | ASTM D7647   | >80                | 9                         | 7           | 5           |
| Particles >38μm  |          | ASTM D7647   | >20                | 0                         | 1           | 1           |
| Particles >71μm  |          | ASTM D7647   |                    | 0                         | 0           | 0           |
| Oil Cleanliness  |          | ISO 4406 (c) | >20/18/15          | 19/16/12                  | 18/15/12    | 18/16/12    |
| FLUID DEGRADA    | TION     | method       | limit/base         | current                   | history1    | history2    |
| Acid Number (AN) | mg KOH/g | ASTM D974    | 0.005              | 0.014                     | 0.014       | 0.014       |

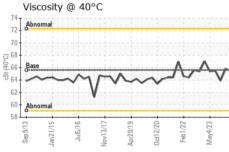


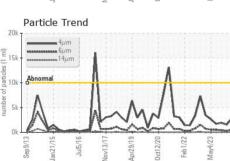
## **OIL ANALYSIS REPORT**

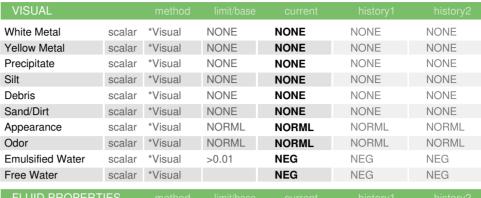












| FLUID FNOFEN | IIEO | memou     |      |      | HISTOLAL | HISTORYZ |
|--------------|------|-----------|------|------|----------|----------|
| Visc @ 40°C  | cSt  | ASTM D445 | 65.6 | 65.5 | 65.8     | 63.9     |

| OMMI EL IMMALO |   |
|----------------|---|
|                | _ |
|                |   |
|                |   |
|                |   |
| Color          |   |
| 00101          |   |
|                |   |





| Fer     | rous        | Alloys  | 5        |            |            |             |         | Particle Count   |           |
|---------|-------------|---------|----------|------------|------------|-------------|---------|--|-----------|
|         | in          | on.     |          |            |            |             |         | 491,520  |           |
|         | annanan Ch  | romium  |          |            |            |             |         | 122,880 Severe   |           |
|         |             | UNUI    |          |            |            | ٨           |         | 30,720   |           |
| _       | 200         |         | A        |            |            | 11          |         | Abnormal 7,680   |           |
| Sep9/13 | Jan21/15    | Jul5/16 | Nov13/17 | Apr29/19.  | Oct12/20   | Feb1/22     | May4/23 | 1,920 480 480 120 120 120 120 120 120 120 120 120 12   |           |
|         |             |         |          |            | 00         | 4           | M       | 1,320  |           |
| Nor     | n-ferr      | ous N   | 4etals   |            |            |             |         | 480 480  |           |
|         | co          | opper   |          |            |            |             |         | 120  |           |
|         | enement (i) |         |          | A          |            |             |         | 30   |           |
|         |             |         |          | -/\        |            |             |         | 8  |           |
| E       | 122         | 20071   | -        | - E        | 20         | 22          | 23      | 2  |           |
| Sep9/13 | Jan21/15    | Jul5/16 | Nov13/17 | Apr29/19   | Oct12/20   | Feb1/22     | May4/23 |  |           |
| Vis     | cosity      | @ 4     |          |            |            |             |         | 0μ 6μ 14μ 21μ :<br>Acid Number   | 38μ 71,   |
|         | ormal       |         | 11177    |            | 11777      |             | 1177777 | 至0.02  |           |
| Base    |             |         |          |            |            |             |         | Acid Mumber (100 from Month of | ~~        |
| -       |             | ~~      | V~       | ~~         | ~          | <b>-</b> ^- | ~~      | 0.01   |           |
| Abno    | ormal       |         | -        |            |            |             |         | W 0.01- Base   |           |
| Sep9/13 | Jan21/15    | Jul5/16 | Nov13/17 | Apr29/19 - | Oct12/20 - | Feb 1/22 -  | May4/23 | Ac Sep9/13 T Jul5/15 - Jul5/15 - Apr29/19 - Apr29/19 - Oct12/20  | Feb1/22 + |
|         | - Bernine   | LD      | 443      | (3)        | 64         | -           | 4       | 2 2 2 2 2  |           |





Certificate 12367

Laboratory Sample No.

Lab Number : 06178815 Unique Number : 11030141

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : USP0011458 Received : 14 May 2024 **Tested** : 17 May 2024

Test Package : IND 2

Diagnosed : 17 May 2024 - Doug Bogart

**GEORGES INC** 501 N LIBERTY STREET HARRISONBURG, VA US 22802

Contact:

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)