

## **GREASE ANALYSIS**

## Sample Rating Trend



Machine Id

## **1ST STAGE MOTOR CTG-300**

Outboard Grease

{not provided} (--- GAL)

|  | G١ |  |  |
|--|----|--|--|
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|  |    |  |  |

#### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type and NLGI grade of the grease on your next sample. Analytical Ferrography: Lack of debris and high Silicon metals value suggests this is a silicon-based grease. If this is not correct, please contact us to clarify. Analysis suggests this component is operating correctly, with minimal amounts of wear debris and contamination. Wear debris along with normal rubbing wear, includes 1-3 particles of ferrous rubbing, sliding, and cutting wear - all well within typical/trace amounts for this type of analysis.

#### Wear

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

#### **Grease Condition**

The condition of the grease is acceptable for the time in service.

### Contaminants

There is no indication of any contamination in the grease.

|                                                            |           |                                                             | N.                    | 1ay2024                               |                      |                  |
|------------------------------------------------------------|-----------|-------------------------------------------------------------|-----------------------|---------------------------------------|----------------------|------------------|
|                                                            |           |                                                             |                       |                                       |                      |                  |
| SAMPLE INFORM                                              | MATION    | method                                                      | limit/base            | current                               | history1             | history2         |
| Sample Number                                              |           | Client Info                                                 |                       | RP0041529                             |                      |                  |
| Sample Date                                                |           | Client Info                                                 |                       | 19 May 2024                           |                      |                  |
| Machine Age                                                | hrs       | Client Info                                                 |                       | 0                                     |                      |                  |
| Grease Age                                                 | hrs       | Client Info                                                 |                       | 0                                     |                      |                  |
| Grease Serviced                                            |           | Client Info                                                 |                       | N/A                                   |                      |                  |
| Sample Status                                              |           |                                                             |                       | NORMAL                                |                      |                  |
| WEAR METALS                                                |           | method                                                      | limit/base            | current                               | history1             | history2         |
| PQ                                                         |           | ASTM D8184                                                  | >200                  | 17                                    |                      |                  |
| ron                                                        | ppm       | ASTM D5185m                                                 | >250                  | 31                                    |                      |                  |
| Chromium                                                   | ppm       | ASTM D5185m                                                 | >10                   | <1                                    |                      |                  |
| Nickel                                                     | ppm       | ASTM D5185m                                                 | >5                    | <1                                    |                      |                  |
| Cadmium                                                    | ppm       | ASTM D5185m                                                 |                       | 0                                     |                      |                  |
| Titanium                                                   | ppm       | ASTM D5185m                                                 |                       | <1                                    |                      |                  |
| √anadium                                                   | ppm       | ASTM D5185m                                                 |                       | 0                                     |                      |                  |
| _ead                                                       | ppm       | ASTM D5185m                                                 | >25                   | 0                                     |                      |                  |
| Copper                                                     | ppm       | ASTM D5185m                                                 | >75                   | <1                                    |                      |                  |
| Tin                                                        | ppm       | ASTM D5185m                                                 | >5                    | 4                                     |                      |                  |
| Silver                                                     | ppm       | ASTM D5185m                                                 | >5                    | <1                                    |                      |                  |
| ADDITIVES                                                  |           | method                                                      | limit/base            | current                               | history1             | history2         |
| Boron                                                      | ppm       | ASTM D5185m                                                 |                       | 8                                     |                      |                  |
| Magnesium                                                  | ppm       | ASTM D5185m                                                 |                       | <1                                    |                      |                  |
| Manganese                                                  | ppm       | ASTM D5185m                                                 |                       | <1                                    |                      |                  |
| Molybdenum                                                 | ppm       | ASTM D5185m                                                 |                       | 0                                     |                      |                  |
| Phosphorus                                                 | ppm       | ASTM D5185m                                                 |                       | 66                                    |                      |                  |
| Zinc                                                       | ppm       | ASTM D5185m                                                 |                       | 22                                    |                      |                  |
| THICKENER/SO                                               | AΡ        | method                                                      | limit/base            | current                               | history1             | history2         |
| Aluminum                                                   | ppm       | ASTM D5185m                                                 |                       | <1                                    |                      |                  |
| Barium                                                     | ppm       | ASTM D5185m                                                 |                       | 0                                     |                      |                  |
| Calcium                                                    | ppm       | ASTM D5185m                                                 |                       | 4                                     |                      |                  |
| Sodium                                                     | ppm       | ASTM D5185m                                                 |                       | 16                                    |                      |                  |
| Lithium                                                    | ppm       | ASTM D5185m                                                 |                       | •                                     |                      |                  |
| CONTAMINANTS                                               | 1-1-      | AO INI BOTOOM                                               |                       | 3                                     |                      |                  |
| CONTAMINANTS                                               |           | method                                                      | limit/base            | current                               | history1             | history2         |
|                                                            |           |                                                             | limit/base >150       |                                       |                      | history2         |
| Silicon                                                    | 8         | method                                                      |                       | current                               | history1             |                  |
| Silicon<br>Potassium                                       | ppm       | method<br>ASTM D5185m                                       |                       | current<br>34128                      | history1             |                  |
| Silicon<br>Potassium<br>Water                              | ppm       | method ASTM D5185m ASTM D5185m                              | >150<br>>0.1          | current<br>34128<br>7                 | history1             |                  |
| Silicon<br>Potassium<br>Water                              | ppm % ppm | method ASTM D5185m ASTM D5185m ASTM D6304                   | >150<br>>0.1          | current<br>34128<br>7<br>0.034        | history1             |                  |
| Silicon<br>Potassium<br>Water<br>opm Water<br>GREASE CONDI | ppm % ppm | Method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304        | >150<br>>0.1<br>>1000 | current<br>34128<br>7<br>0.034<br>344 | history1<br><br><br> |                  |
| Silicon<br>Potassium<br>Water<br>opm Water                 | ppm % ppm | method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 method | >150<br>>0.1<br>>1000 | current 34128 7 0.034 344 current     | history1 history1    | <br><br>history2 |



## **GREASE ANALYSIS**





Certificate 12367

Laboratory

**Sample No.** : RP0041529

Lab Number : 06183824 Unique Number : 11035150

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** 

: 17 May 2024 : 07 Jun 2024 Diagnosed

: 07 Jun 2024 - Aaron Black

**ENGIE-MATEP** 474 BROOKLINE AVE BOSTON, MA US 02215 Contact: ROBERT ST SAUVEUR robert.stsauveur@engie.com

Test Package: GRS 3 (Additional Tests: SCREEN) 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.

T: (401)651-9381

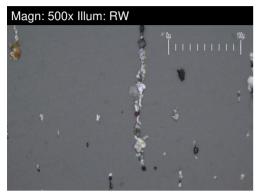


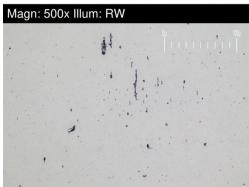
## **FERROGRAPHY REPORT**

Machine Id

# 1ST STAGE MOTOR CTG-300 Component Outboard Grease

{not provided} (--- GAL)









| FERROGRAPHY           |            | method      | limit/base | current | history1 | history2 |
|-----------------------|------------|-------------|------------|---------|----------|----------|
| Ferrous Rubbing       | Scale 0-10 | *ASTM D7684 |            | 2       |          |          |
| Ferrous Sliding       | Scale 0-10 | *ASTM D7684 |            | 1       |          |          |
| Ferrous Cutting       | Scale 0-10 | *ASTM D7684 |            | 1       |          |          |
| Ferrous Rolling       | Scale 0-10 | *ASTM D7684 |            | 1       |          |          |
| Ferrous Break-in      | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Ferrous Spheres       | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Ferrous Black Oxides  | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Ferrous Red Oxides    | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Ferrous Corrosive     | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Ferrous Other         | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Nonferrous Rubbing    | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Nonferrous Sliding    | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Nonferrous Cutting    | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Nonferrous Rolling    | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Nonferrous Other      | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Carbonaceous Material | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Lubricant Degradation | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Sand/Dirt             | Scale 0-10 | ASTM D7684  |            |         |          |          |
| Fibres                | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Spheres               | Scale 0-10 | *ASTM D7684 |            |         |          |          |
| Other                 | Scale 0-10 | *ASTM D7684 |            | 2       |          |          |

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