

# **OIL ANALYSIS REPORT**

Sample Rating Trend

WATER

#### Machine Id

## OAKWOOD VILLAGE EAST GRASSLANDS C-1B CIRC 1 (S/N U18C00507)

Refrigeration Compressor

Fluid TRANE 0048 (--- GAL)

### DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

#### Wear

All component wear rates are normal.

### Contamination

There is a light concentration of water present in the oil.

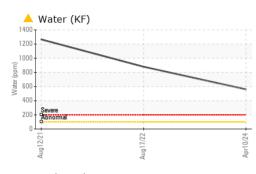
#### **Fluid Condition**

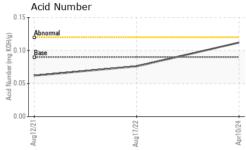
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

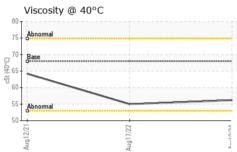
| SAMPLE INFORM  | IATION   | method   | limit/base  | current   | history1   | history2   |
|--|--|--|---|---|--|--|
| Sample Number  |  | Client Info  |   | WC0730394   | WC0730372  | WC0340235  |
| Sample Date  |  | Client Info  |   | 10 Apr 2024   | 17 Aug 2022  | 12 Aug 2021  |
| Machine Age  | 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  | <1  | <1   | 3  |
| Chromium   | ppm  | ASTM D5185m  | >2  | 0   | 0  | 0  |
| Nickel   | ppm  | ASTM D5185m  |   | 0   | 0  | 0  |
| Titanium   | ppm  | ASTM D5185m  |   | 0   | 0  | 0  |
| Silver   | ppm  | ASTM D5185m  | >2  | 0   | 0  | 0  |
| Aluminum   | ppm  | ASTM D5185m  | >3  | 0   | 0  | <1   |
| Lead   | ppm  | ASTM D5185m  | >2  | 0   | 0  | 1  |
| Copper   | ppm  | ASTM D5185m  | >8  | 0   | 0  | 1  |
| Tin  | ppm  | ASTM D5185m  | >4  | 0   | <1   | 1  |
| Antimony   | ppm  | ASTM D5185m  |   |   |  | 0  |
| Vanadium   | ppm  | ASTM D5185m  |   | 0   | 0  | 0  |
| C a alma is sea  | nnm  | ACTM DE10Em  |   | 0   | 0  | 0  |
| Cadmium  | ppm  | ASTM D5185m  |   | U   | 0  | 0  |
| ADDITIVES  | ррп  | method   | limit/base  | current   | 0<br>history1  | history2   |
|  | ppm  |  | limit/base  |   |  | ÷  |
| ADDITIVES  |  | method   |   | current   | history1   | history2   |
| ADDITIVES<br>Boron   | ppm  | method<br>ASTM D5185m  | 1   | current<br>2  | history1   | history2<br>8  |
| ADDITIVES<br>Boron<br>Barium   | ppm<br>ppm   | method<br>ASTM D5185m<br>ASTM D5185m   | 1<br>0<br>0   | current<br>2<br>0   | history1<br>1<br><1  | history2<br>8<br>0   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum   | ppm<br>ppm<br>ppm  | method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1<br>0<br>0   | current<br>2<br>0<br>0  | history1<br>1<br><1<br>0   | history2<br>8<br>0<br>0  |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm<br>ppm<br>ppm   | method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1<br>0<br>0<br>0<br>0   | current<br>2<br>0<br>0<br>0   | history1<br>1<br><1<br>0<br>0  | history2<br>8<br>0<br>0<br>0   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm                                    | method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1<br>0<br>0<br>0<br>0   | current<br>2<br>0<br>0<br>0<br>0<br>0   | history1 1 1 0 0 0 0 2</th <th>history2<br/>8<br/>0<br/>0<br/>0<br/>0<br/>0</th>   | history2<br>8<br>0<br>0<br>0<br>0<br>0   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | Method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1<br>0<br>0<br>0<br>0<br>0  | 2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | history1 1 1 0 0 0 0 0 0 0</th <th>history2           8           0           0           0           0           0           0           0           0           0           0           0           0</th>   | history2           8           0           0           0           0           0           0           0           0           0           0           0           0   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | Method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1<br>0<br>0<br>0<br>0<br>0<br>5   | Current<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | history1 1 1 0 0 0 0 2</th <th>history2 8 0 0 0 0 0 0 4</th>   | history2 8 0 0 0 0 0 0 4   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | Method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1<br>0<br>0<br>0<br>0<br>5<br>0   | Current<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | history1 1 1 0 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0</th <th>history2           8           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0</th> | history2           8           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0                                   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1<br>0<br>0<br>0<br>0<br>0<br>5<br>0<br>0<br>10   | Current<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | history1 1 1 0 0 0 0 2 0 10 10</th <th>history2           8           0           0           0           0           0           0           0           0           0           31</th>  | history2           8           0           0           0           0           0           0           0           0           0           31  |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | methodASTM D5185mASTM D5185m  | 1<br>0<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10  | current           2           0   | history1           1           <1           0           0           0           0           0           0           0           0           1           1           <10           history1   | history2           8           0           0           0           0           0           0           0           0           31           history2   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon                                 | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | methodASTM D5185mASTM D5185m   | 1<br>0<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10  | current           2           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           3   | history1           1           <1           0           0           0           0           0           0           0           0           0           0           0           0           10           history1           3  | history2           8           0           0           0           0           0           0           31           history2           6   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium                       | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | methodASTM D5185mASTM D5185m   | 1<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br>limit/base<br>>15                              | current           2           0           3           0   | history1           1           <1           0           0           0           0           0           0           0           0           0           0           0           0           10           history1           3           0  | history2           8           0           0           0           0           0           0           0           0           0           0           0           0           0           10           10           31           history2           6           0 |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium          | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | method           ASTM D5185m   | 1<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br><i>limit/base</i><br>>15<br><i>s</i> 20        | current           2           0   | history1           1           <1           0           0           0           0           0           0           0           0           10           history1           3           0           0           0  | history2           8           0           0           0           0           0           0           0           0           31           history2           6           0           0   |
| ADDITIVES<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>Water | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | method           ASTM D5185m           ASTM D5185m | 1<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br>10<br>2<br>10<br>2<br>15<br>20<br>>20<br>>0.01 | current         2         0 | history1         1         <1         0         0         0         0         0         0         0         0         10         history1         3         0         0         0         0         0         0         0         0         0         0.087                                      | history2         8         0         0         0         0         0         31         history2         6         0         0         0         0         0.126   |



# **OIL ANALYSIS REPORT**

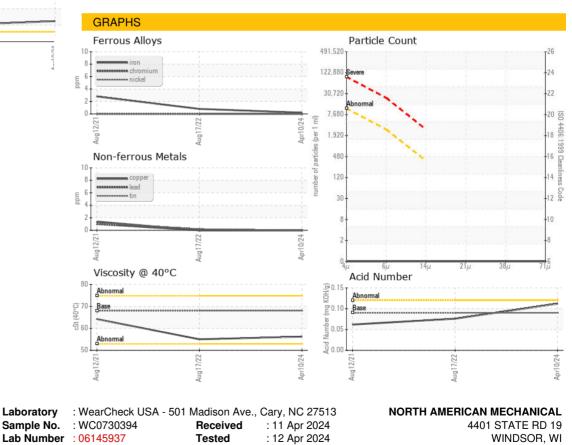






VISUAL method limit/base history1 history2 current NONE NONE White Metal \*Visual NONE NONE scalar Yellow Metal NONE NONE NONE NONE scalar \*Visual NONE Precipitate scalar \*Visua NONE NONE NONE Silt scalar \*Visual NONE NONE NONE NONE NONE Debris \*Visual NONE NONE LIGHT scalar Sand/Dirt NONE scalar \*Visual NONE NONE NONE NORML Appearance \*Visual NORML NORML NORML scalar Odor \*Visual NORML NORML NORML scalar NORML \*Visual **Emulsified Water** scalar >0.01 NEG NEG NEG Free Water scalar \*Visual NEG NEG NEG FLUID PROPERTIES method limit/base curren history history Visc @ 40°C cSt ASTM D445 68 56.2 55.0 64.2 history2 SAMPLE IMAGES method limit/base current history1 Color

Bottom





 Unique Number
 : 10976015
 Diagnosed
 : 12 Apr 2024 - Doug Bogart

 Certificate L2367
 Test Package
 : IND 2 (Additional Tests: PrtCount, PrtCountNAS)
 Count of the count of the

Report Id: NORDEF [WUSCAR] 06145937 (Generated: 04/12/2024 16:12:55) Rev: 1

Contact/Location: STACEY QUAM - NORDEF

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US 53598

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