

# **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

220 Simcoe Ch#2 [792224]

TW1000 MM2000 De2010 Nov2012 De2014 Jun2018 De2013 De2021 De202

Sample Rating Trend



YORK TYPE K (--- GAL)

**YORK SEHM506500** 

### DIAGNOSIS

#### A Recommendation

If not recently done change any filter driers to reduce moisture level. Resample at the next service interval to monitor.

Component Chiller

#### Wear

All component wear rates are normal.

#### Contamination

The elevated moisture content is associated with POE oils which are hygroscopic, and can absorb moisture from sampling and processing.

#### Fluid Condition

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

| Sample Number   |   | Client Info  |  | GTT0001502   | GTT64670                                       | GTT64671                              |
|---|---|--|--|--|--|---------------------------------------|
| Sample Date   |   | Client Info  |  | 20 Dec 2023  | 07 Mar 2023                                    | 22 Dec 2021                           |
| Machine Age   | hrs   | Client Info  |  | 0  |  |                                       |
| Oil Age   | hrs   | Client Info  |  | 0  |  |                                       |
| Oil Changed   |   | Client Info  |  | N/A  | N/A  | N/A                                   |
| Sample Status   |   |  |  | ATTENTION  | NORMAL   | ATTENTION                             |
| WEAR METALS   |   | method   | limit/base   | current  | history1                                       | history2                              |
| Iron  | ppm   | ASTM D5185(m)  | >8   | <1   | <1   | <1                                    |
| Chromium  | ppm   | ASTM D5185(m)  | >2   | 0  | <1   | <1                                    |
| Nickel  | ppm   | ASTM D5185(m)  |  | 0  |  |                                       |
| Titanium  | ppm   | ASTM D5185(m)  |  | 0  |  |                                       |
| Silver  | ppm   | ASTM D5185(m)  | >2   | 0  |  |                                       |
| Aluminum  | ppm   | ASTM D5185(m)  | >3   | <1   | <1   | <1                                    |
| Lead  | ppm   | ASTM D5185(m)  | >2   | <1   | <1   | <1                                    |
| Copper  | ppm   | ASTM D5185(m)  | >8   | 1  | 1  | <1                                    |
| Tin   | ppm   | ASTM D5185(m)  | >4   | 0  | <1   | <1                                    |
| Antimony  | ppm   | ASTM D5185(m)  |  | 0  |  |                                       |
| Vanadium  | ppm   | ASTM D5185(m)  |  | 0  |  |                                       |
| Beryllium   | ppm   | ASTM D5185(m)  |  | 0  |  |                                       |
| Cadmium   | ppm   | ASTM D5185(m)  |  | 0  |  |                                       |
|   |   |  |  |  |  |                                       |
| ADDITIVES   |   | method   | limit/base   | current  | history1                                       | history2                              |
| ADDITIVES<br>Boron  | ppm   | method<br>ASTM D5185(m)  | limit/base<br>0  | 0  | history1                                       | history2                              |
|   | ppm<br>ppm  |  |  |  |  |                                       |
| Boron   |   | ASTM D5185(m)  | 0  | 0<br>0<br>0  |  |                                       |
| Boron<br>Barium   | ppm   | ASTM D5185(m)<br>ASTM D5185(m)   | 0<br>0<br>0  | 0<br>0<br>0<br>0   |  |                                       |
| Boron<br>Barium<br>Molybdenum   | ppm<br>ppm  | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | 0<br>0<br>0  | 0<br>0<br>0  |  |                                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm<br>ppm   | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | 0<br>0<br>0<br>0   | 0<br>0<br>0<br>0   |  |                                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm<br>ppm                                    | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | 0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0<br>0  |  |                                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | 0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0  | <br><br>                                       | <br><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                      | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | 0<br>0<br>0<br>0<br>0<br>0<br>5  | 0<br>0<br>0<br>0<br>0<br>0<br>0  | <br><br><br>                                   | <br><br><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                      | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | 0<br>0<br>0<br>0<br>0<br>5<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>6   | <br><br><br><br>2                              | <br><br><br><br>1                     |
| 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        | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | 0<br>0<br>0<br>0<br>0<br>5<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>6<br>0  | <br><br><br>2<br>                              | <br><br><br><br>1                     |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | 0<br>0<br>0<br>0<br>0<br>5<br>0<br>10  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>6<br>0<br>4                                     | <br><br><br>22<br>                             | <br><br><br>1<br>                     |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS                                   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)                                   | 0<br>0<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br><b>limit/base</b>          | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>6<br>0<br>0<br><1<br>2<br>0<br>2<br>1      | <br><br><br>2<br><br>history1                  | <br><br><br><br>1<br><br>history2     |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon                        | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br><b>method</b><br>ASTM D5185(m)                  | 0<br>0<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br><b>limit/base</b>          | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>6<br>0<br>6<br>0<br><1<br>2                     | <br><br><br>2<br><br>history1                  | <br><br><br>1<br><br>history2         |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium              | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br><b>method</b><br>ASTM D5185(m)<br>ASTM D5185(m) | 0<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br><b>limit/base</b><br>>15        | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>6<br>0<br>0<br><1<br>2<br>0                     | <br><br><br>2<br><br>history1<br>              | <br><br><br><br>1<br><br>history2<br> |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<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 | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br><b>method</b><br>ASTM D5185(m)<br>ASTM D5185(m) | 0<br>0<br>0<br>0<br>0<br>5<br>0<br>10<br>10<br><b>limit/base</b><br>>15<br>>20 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>6<br>0<br>0<br><1<br>2<br>2<br>0<br>0<br>0 | <br><br><br>2<br><br>2<br><br>history1<br><br> | <br><br><br>1<br><br>history2         |



## **OIL ANALYSIS REPORT**

| VISUAL        |        | method        | limit/base | current | history1 | history2 |  |  |  |
|---------------|--------|---------------|------------|---------|----------|----------|--|--|--|
| White Metal   | scalar | Visual*       | NONE       | NONE    |          |          |  |  |  |
| Yellow Metal  | scalar | Visual*       | NONE       | NONE    |          |          |  |  |  |
| Precipitate   | scalar | Visual*       | NONE       | NONE    |          |          |  |  |  |
| Silt          | scalar | Visual*       | NONE       | NONE    |          |          |  |  |  |
| Debris        | scalar | Visual*       | NONE       | NONE    |          |          |  |  |  |
| Sand/Dirt     | scalar | Visual*       | NONE       | NONE    |          |          |  |  |  |
| Appearance    | scalar | Visual*       | NORML      | NORML   |          |          |  |  |  |
| Odor          | scalar | Visual*       | NORML      | NORML   |          |          |  |  |  |
| FLUID PROPERT | IES    | method        | limit/base | current | history1 | history2 |  |  |  |
| Visc @ 40°C   | cSt    | ASTM D7279(m) | 32.0       | 37.1    |          |          |  |  |  |
| SAMPLE IMAGES |        | method        | limit/base | current | history1 | history2 |  |  |  |
| Color         |        |               |            | БТТАЙ   | no image | no image |  |  |  |
| Bottom        |        |               |            | Ø       | no image | no image |  |  |  |
| GRAPHS        |        |               |            |         |          |          |  |  |  |



 Lab Number
 : 02606410
 Diagnosed
 : 12 Jan 2024

 Unique Number
 : 5707496
 Diagnostician
 : Bill Quesnel

 Test Package
 : IND 2 (Additional Tests: KV40)
 : Bill Quesnel

 To discuss this sample report, contact Customer Service at 1-905-847-9300 Ext 26.
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

 Damages: Seller shall in no event be liable for special, incidental, or consequential damages, of a commercial nature, resulting from any cause.

: 03 Jan 2024

Recieved

Ainsworth Electric 131 Bermondsey Road Toronto, ON CA M4A 1X4 Contact: Service Manager invoices@ainsworth.com T: (905)694-6302 F:

Sample No.

: GTT0001502