

OIL ANALYSIS REPORT

Machine Id MCQUAY CHAMPLAIN BLDG CH-1 (S/N 5TA81055-00)

Refrigeration Compressor

Fluid EMKARATE RL 32H (8 GAL)

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

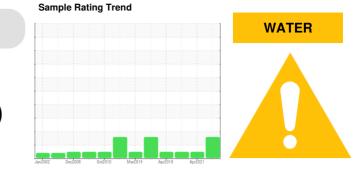
All component wear rates are normal.

Contamination

There is a trace of moisture present in the oil.

Fluid Condition

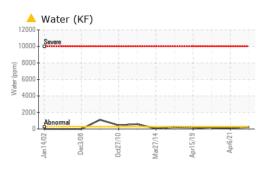
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

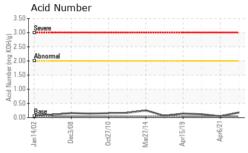


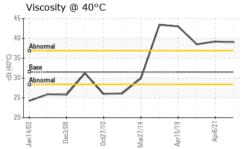
| SAMPLE INFORM | ATION | method | limit/base | current | history1 | history2 |
|--|--|---|---|--|--|--|
| Sample Number | | Client Info | | WC0660704 | WC0384488 | WCI2310421 |
| Sample Date | | Client Info | | 18 Mar 2024 | 06 Apr 2021 | 23 Mar 2020 |
| Machine Age | hrs | Client Info | | 56806 | 47360 | 44610 |
| Oil Age | hrs | Client Info | | 56806 | 0 | 44610 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | MARGINAL | NORMAL | NORMAL |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 26 | 17 | 13 |
| Chromium | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >50 | <1 | <1 | <1 |
| Lead | ppm | ASTM D5185m | >2 | <1 | 2 | 1 |
| Copper | ppm | ASTM D5185m | >100 | <1 | <1 | 2 |
| Tin | ppm | ASTM D5185m | >4 | 2 | 2 | 1 |
| Antimony | ppm | ASTM D5185m | | | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | 1-1- | | | • | Ŭ | |
| ADDITIVES | 1- 1- | method | limit/base | current | history1 | history2 |
| | ppm | | limit/base 0 | - | | |
| ADDITIVES | | method ASTM D5185m | | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 0 | current 0 | history1 2 | history2 <1 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 0 | Current 0 0 | <mark>history1</mark> 2 0 | <mark>history2</mark> <1 0 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 0 | Current O O O O | history1 2 0 <1 | history2 <1 0 <1 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 | Current 0 0 0 <1 | history1 2 0 <1 <1 | history2 <1 0 <1 0 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 | Current 0 0 0 0 <1 <1 | history1 2 0 <1 <1 <1 | history2 <1 0 <1 0 0 0 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm ppm | Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 0 | Current 0 0 0 <1 <1 <1 0 | history1 2 0 <1 <1 <1 <1 <1 <1 | history2 <1 0 <1 0 0 0 0 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm ppm | Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 0 5 | current 0 0 0 0 <1 <1 9 | history1 2 0 <1 <1 <1 <1 <1 <1 11 | history2 <1 0 <1 0 0 0 0 5 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 0 5 10 | Current 0 0 0 <1 <1 <1 0 9 61 | history1 2 0 <1 <1 <1 <1 <1 11 58 | history2 <1 0 <1 0 0 0 0 5 47 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 0 5 10 50 | current 0 0 0 0 2 1 2 9 61 90 | history1 2 0 <1 <1 <1 <1 <1 11 58 32 | history2 <1 0 <1 0 0 0 5 47 35 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 0 0 5 10 50 limit/base | Current | history1 2 0 <1 <1 <1 <1 <1 11 58 32 32 history1 | <1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm | Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m | 0 0 0 0 0 5 10 50 limit/base | current 0 0 0 0 <1 <1 0 9 61 90 current 6 | history1 2 0 <1 | <1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm | methodASTM D5185mASTM D5185m | 0 0 0 0 0 5 10 50 10 50 limit/base | Current 0 0 0 -1 -1 -1 0 9 61 90 Current 6 -1 -1 | history1 2 0 <1 <1 <1 <1 32 history1 17 1 | <1 0 <1 0 0 0 0 0 0 0 0 0 0 0 0 18 <1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 0 0 0 5 10 50 10 50 limit/base >50 | current 0 0 0 0 <1 <1 0 9 61 90 current 6 <1 <1 | history1 2 0 <1 <1 <1 <1 58 32 history1 17 1 <1 17 1 <1 1 1 <1 | <1 0 <1 0 <1 0 0 0 0 0 0 0 0 1 0 18 <1 0 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | methodASTM D5185mASTM D5185m | 0 0 0 0 0 5 5 10 5 0 10 5 0 10 5 0 10 5 0 20 > 20 > 0.02 | current 0 0 0 <1 <1 0 9 61 90 current 6 <1 <1 0 90 current 6 <1 <1 <1 <0.022 | history1 2 0 <1 | <1 |



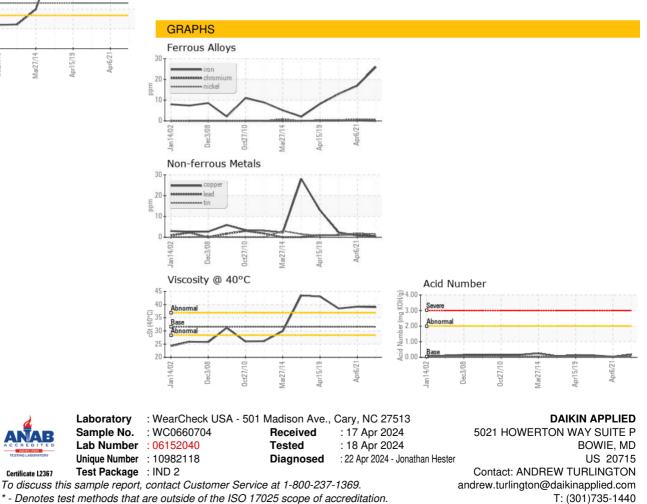
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| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | 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 | >0.02 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPERT | IES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 31.5 | 39.0 | 39.2 | 38.5 |
| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
| Color | | | | | | |
| Bottom | | | | | | |



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: MCQUPP [WUSCAR] 06152040 (Generated: 04/23/2024 15:21:38) Rev: 1

Certificate 12367

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