

CARRIER DETRIOIT WAYNE JOINT BLDG AUTH CITY COUNTY CHILLER 1 (S/N 2443) Component Component Refrigeration Compressor

{not provided} (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

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The copper level is abnormal. All other component wear rates are normal.

CONTAMINATION

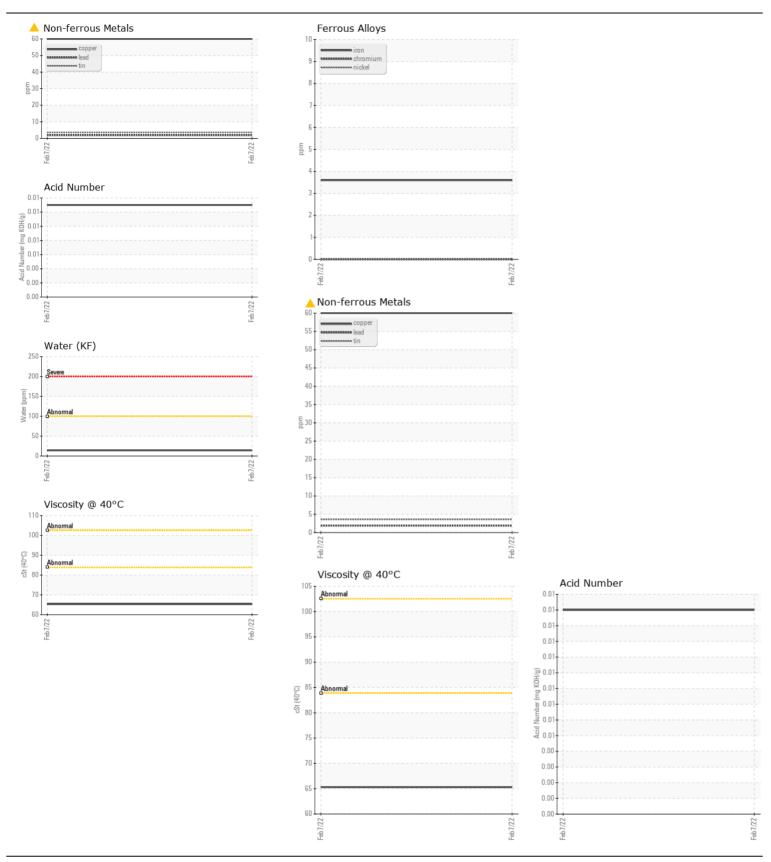
There is no indication of any contamination in the oil.

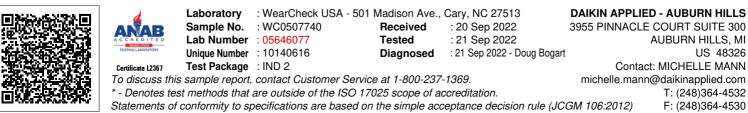
FLUID CONDITION

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

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|--|--|---|--|----------|---|
| Sample Number | | Client Info | | WC0507740 | | |
| Sample Date | | Client Info | | 07 Feb 2022 | | |
| Machine Age | hrs | Client Info | | 3935 | | |
| Oil Age | hrs | Client Info | | 0 | | |
| Filter Age | hrs | Client Info | | 0 | | |
| Oil Changed | | Client Info | | Changed | | |
| Filter Changed | | Client Info | | Changed | | |
| Sample Status | | | | ABNORMAL | | |
| Iran | | | . 50 | A | | |
| Iron | ppm | | >50 | 4 | | |
| Chromium Nickel | ppm | ASTM D5185m | >10 | 0 | | |
| | ppm | ASTM D5185m | | 0 | | |
| Titanium Silver | ppm | ASTM D5185m ASTM D5185m | | 0 | | |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | | |
| Lead | ppm | ASTM D5185m | >10 | 2 | | |
| Copper | ppm | ASTM D5185m | >50 | 2 <u> 60</u> | | |
| Tin | ppm | ASTM D5185m | >10 | 4 | | |
| Vanadium | ppm | ASTM D5185m | >10 | 4 0 | | |
| White Metal | ppm scalar | *Visual | NONE | NONE | | |
| Yellow Metal | scalar | *Visual | NONE | NONE | | |
| | Scala | visuai | | NONE | | |
| Silicon | ppm | ASTM D5185m | >15 | 5 | | |
| Potassium | | | 00 | • | | |
| 1 otaoolam | ppm | ASTM D5185m | >20 | 0 | | |
| Water | ppm % | ASTM D5185m ASTM D6304 | >20 >0.01 | 0 0.001 | | |
| | | | | - | | |
| Water | % | ASTM D6304 | >0.01 | 0.001 | | |
| Water ppm Water | % ppm | ASTM D6304 ASTM D6304 | >0.01 >100 | 0.001 14.1 | | |
| Water ppm Water Silt | % ppm scalar | ASTM D6304 ASTM D6304 *Visual | >0.01 >100 NONE | 0.001 14.1 NONE | | |
| Water ppm Water Silt Debris | % ppm scalar scalar | ASTM D6304 ASTM D6304 *Visual *Visual | >0.01 >100 NONE NONE | 0.001 14.1 NONE VLITE | | |
| Water ppm Water Silt Debris Sand/Dirt | % ppm scalar scalar scalar | ASTM D6304 ASTM D6304 *Visual *Visual *Visual | >0.01 >100 NONE NONE NONE | 0.001 14.1 NONE VLITE NONE | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance | % ppm scalar scalar scalar scalar | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual | >0.01 >100 NONE NONE NONE | 0.001 14.1 NONE VLITE NONE NORML | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water | % ppm scalar scalar scalar scalar scalar | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NONE NORML NORML NEG | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium | % ppm scalar scalar scalar scalar scalar scalar | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NONE NORML NORML NEG | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron | % ppm scalar scalar scalar scalar scalar scalar ppm ppm | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NONE NORML NORML NEG 1 0 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium | % ppm scalar scalar scalar scalar scalar scalar ppm ppm | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NORML NEG 1 0 0 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum | % ppm scalar scalar scalar scalar scalar scalar ppm ppm | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 0 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese | % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 0 0 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium | % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 0 2 1 0 0 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium | % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NORML 1 0 0 0 2 1 0 0 1 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium | % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm pp | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 0 <1 0 1 0 1 56 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm pp | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 0 <1 0 1 56 23 | | |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | % % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm pp | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 2 1 0 1 56 23 1211 | | Image: section of the sectio |
| Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm pp | ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >0.01 >100 NONE NONE NORML NORML | 0.001 14.1 NONE VLITE NORML NORML NEG 1 0 0 0 <1 0 1 56 23 | | |

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