

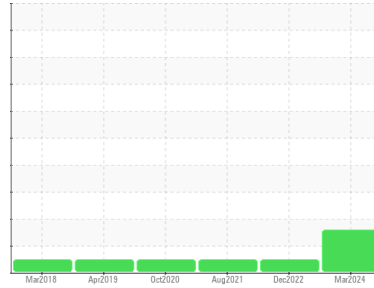


OIL ANALYSIS REPORT



Area
[GTT224-351]
 Machine Id
CARRIER 4604Q04581(A1)
 Component
Chiller
 Fluid
COMP OIL (POE) ISO 220 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation
 Resample in 3 months to monitor this situation. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
 Iron ppm levels are abnormal. Compressor rotor wear, rotor thrust bearing wear, compressor rotor main bearing wear or possibly slide valve wear indicated. Copper ppm levels are noted. The elevated copper reading suggests the effects of oil migration through the evaporator (oil loss from the compressor) possibly occurring during intervals of operation at low cooling load conditions.

Contamination
 The water content is negligible. There is no indication of any contamination in the oil.

Fluid Condition
 The AN level is acceptable for this fluid.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GTT0002294	GTT15063	GTT15064
Sample Date	Client Info	21 Mar 2024	07 Dec 2022	19 Aug 2021
Machine Age	hrs	0	---	---
Oil Age	hrs	0	---	---
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm	ASTM D5185(m) >8	▲ 8	<1	2
Chromium ppm	ASTM D5185(m) >2	0	<1	<1
Nickel ppm	ASTM D5185(m)	0	---	---
Titanium ppm	ASTM D5185(m)	<1	---	---
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	● 14	<1	4
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
Boron ppm	ASTM D5185(m) 5	<1	---	---
Barium ppm	ASTM D5185(m) 5	0	---	---
Molybdenum ppm	ASTM D5185(m) 5	0	---	---
Manganese ppm	ASTM D5185(m)	0	---	---
Magnesium ppm	ASTM D5185(m) 5	<1	---	---
Calcium ppm	ASTM D5185(m) 5	0	---	---
Phosphorus ppm	ASTM D5185(m) 400	55	---	---
Zinc ppm	ASTM D5185(m) 5	4	<1	1
Sulfur ppm	ASTM D5185(m) 100	5	---	---
Lithium ppm	ASTM D5185(m)	<1	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm	ASTM D5185(m) >15	10	---	---
Sodium ppm	ASTM D5185(m)	1	---	---
Potassium ppm	ASTM D5185(m) >20	<1	---	---
ppm Water	ASTM D6304* >100	1	94	155



FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D974* 0.40	0.04	0.019	0.016

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 PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	220	210	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS



Sample No. : GTT0002294
Lab Number : 02625920
Unique Number : 5759052
Test Package : IND 2 (Additional Tests: KV40)
Received : 01 Apr 2024
Tested : 04 Apr 2024
Diagnosed : 04 Apr 2024 - 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.*

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 Contact: Service Manager

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