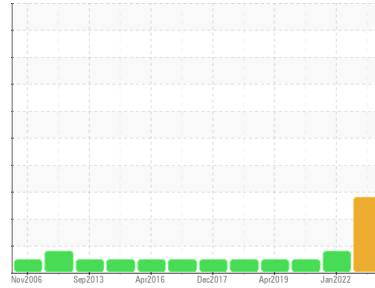




Area
[18901]
 Machine Id
YORK GMHM118992
 Component
Chiller
 Fluid
YORK TYPE C (--- GAL)



DIAGNOSIS

▲ Recommendation
 We recommend an early resample to monitor this condition.

▲ Wear
 Iron ppm levels are abnormal. Copper ppm levels are noted. The high metal levels indicate corrosion in the system. The abnormal iron reading in combination with the darkened condition of the oil and the increased acid number indicate possible oil pump wear. 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 above the recommended limit.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GTT0001833	GTT31420	GTT31421
Sample Date	Client Info		14 Feb 2024	31 Jan 2022	16 Mar 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			ABNORMAL	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >8	▲ 12	▲ 6	2
Chromium	ppm	ASTM D5185(m) >2	0	<1	<1
Nickel	ppm	ASTM D5185(m)	<1	---	---
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	0	<1	<1
Copper	ppm	ASTM D5185(m) >8	● 6	1	<1
Tin	ppm	ASTM D5185(m) >4	<1	<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) 0	0	---	---
Barium	ppm	ASTM D5185(m) 0	0	---	---
Molybdenum	ppm	ASTM D5185(m) 0	0	---	---
Manganese	ppm	ASTM D5185(m) 0	0	---	---
Magnesium	ppm	ASTM D5185(m) 0	<1	---	---
Calcium	ppm	ASTM D5185(m) 0	0	---	---
Phosphorus	ppm	ASTM D5185(m) 0	0	---	---
Zinc	ppm	ASTM D5185(m) 0	1	2	1
Sulfur	ppm	ASTM D5185(m) 200	110	---	---
Lithium	ppm	ASTM D5185(m)	<1	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	6	---	---
Sodium	ppm	ASTM D5185(m)	<1	---	---
Potassium	ppm	ASTM D5185(m) >20	1	---	---
ppm Water	ppm	ASTM D6304* >50	20	9	14



FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974* 0.11	▲ 0.08	0.084	0.054

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)	63.8	51.6	---	---

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

GRAPHS



Sample No. : GTT0001833
Lab Number : 02621001
Unique Number : 5746120
Test Package : IND 2 (Additional Tests: KV40)
Received : 08 Mar 2024
Tested : 11 Mar 2024
Diagnosed : 11 Mar 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.

Northern Air
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 Toronto, ON
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 Contact: Service Manager

T:
F: