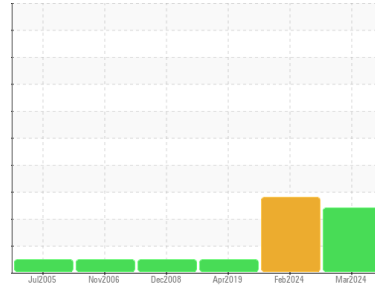




Area
[GTT224-345]
 Machine Id
TRANE N04A00393
 Component
Chiller
 Fluid
TRANE 0022 (--- GAL)



DIAGNOSIS

▲ Recommendation
 The acid number (AN) indicates that your fluid has reached the end of its useful life, please proceed with a complete oil change. Check for indications of excessive refrigerant charge such as bubbles present in the sight glass. We recommend an early resample to monitor this condition.

▲ Wear
 Iron ppm levels are abnormal. The iron level indicates possible wear on the outboard motor bearing. The zinc reading shows corrosion damage occurring on the zinc galvanized spray eliminator screen which is located above the evaporator tube bundle. The high metal levels indicate corrosion in the system.

Contamination
 There is visible rust/corrosion particles present in the oil sample.

▲ Fluid Condition
 Acid Number (AN) is abnormally high. Zinc ppm levels are abnormally high. The AN level is above the recommended limit. The oil is no longer serviceable.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GTT0002183	GTT0001913	GTT57556
Sample Date	Client Info	25 Mar 2024	15 Feb 2024	23 Apr 2019
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	▲ 7	▲ 7	<1
Chromium	ppm ASTM D5185(m) >2	0	0	<1
Nickel	ppm ASTM D5185(m)	0	0	---
Titanium	ppm ASTM D5185(m)	0	0	---
Silver	ppm ASTM D5185(m) >2	0	0	---
Aluminum	ppm ASTM D5185(m) >3	0	<1	<1
Lead	ppm ASTM D5185(m) >2	0	<1	<1
Copper	ppm ASTM D5185(m) >8	2	3	2
Tin	ppm ASTM D5185(m) >4	<1	1	<1
Antimony	ppm ASTM D5185(m)	0	0	---
Vanadium	ppm ASTM D5185(m)	0	0	---
Beryllium	ppm ASTM D5185(m)	0	0	---
Cadmium	ppm ASTM D5185(m)	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	<1	0	---
Barium	ppm ASTM D5185(m) 0	0	0	---
Molybdenum	ppm ASTM D5185(m) 0	0	0	---
Manganese	ppm ASTM D5185(m) 0	0	0	---
Magnesium	ppm ASTM D5185(m) 0	<1	<1	---
Calcium	ppm ASTM D5185(m) 0	0	<1	---
Phosphorus	ppm ASTM D5185(m) 35	0	0	---
Zinc	ppm ASTM D5185(m) 0	▲ 58	▲ 62	17
Sulfur	ppm ASTM D5185(m) 30	19	16	---
Lithium	ppm ASTM D5185(m)	<1	<1	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >15	0	2	---
Sodium	ppm ASTM D5185(m)	<1	<1	---
Potassium	ppm ASTM D5185(m) >20	<1	<1	---
ppm Water	ppm ASTM D6304* >50	5	22	99





FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974* 0.05	▲ 0.13	▲ 0.14	0.040

OIL ANALYSIS REPORT

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE ---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE ---
Precipitate	scalar	Visual*	NONE	NONE	NONE ---
Silt	scalar	Visual*	NONE	NONE	NONE ---
Debris	scalar	Visual*	NONE	NONE	● MODER ---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE ---
Appearance	scalar	Visual*	NORML	NORML	NORML ---
Odor	scalar	Visual*	NORML	NORML	NORML ---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47	55.8	58.7 ---

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

GRAPHS



Sample No. : GTT0002183
Lab Number : 02625905
Unique Number : 5759037
Test Package : IND 2 (Additional Tests: KV40)

Received : 01 Apr 2024
Tested : 04 Apr 2024
Diagnosed : 04 Apr 2024 - Bill Quesnel

Black & McDonald - Scar
 75 Commerce Valley Drive East
 Markham, ON
 CA L3T 7N9
 Contact: Service Manager

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.

T:
 F: