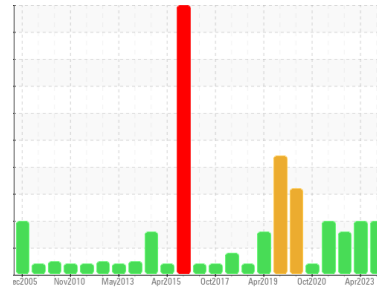




# OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id  
**YORK 500 TON CHILLER 530002-10 (S/N YFTM171133)**  
 Component  
**Refrigeration Compressor**  
 Fluid  
**YORK TYPE C (10 GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

### Wear

All component wear rates are normal.

### Contamination

High concentration of visible dirt/debris present in the oil. 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0882526</b>	WC0765999	WC0741636
Sample Date	Client Info		<b>09 Apr 2024</b>	11 Apr 2023	11 Oct 2022
Machine Age	hrs	Client Info	<b>77898</b>	71954	67865
Oil Age	hrs	Client Info	<b>0</b>	2000	2000
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	MARGINAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >8	<b>10</b>	7	5
Chromium	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >3	<b>0</b>	0	0
Lead	ppm	ASTM D5185m >2	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >8	<b>1</b>	1	2
Tin	ppm	ASTM D5185m >4	<b>&lt;1</b>	1	<1
Antimony	ppm	ASTM D5185m	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m 0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m 0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	0
Calcium	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	0
Phosphorus	ppm	ASTM D5185m 0	<b>0</b>	0	0
Zinc	ppm	ASTM D5185m 0	<b>0</b>	<1	0
Sulfur	ppm	ASTM D5185m 200	<b>216</b>	209	250

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<b>0</b>	0	<1
Sodium	ppm	ASTM D5185m	<b>0</b>	0	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	1	0
Water	%	ASTM D6304 >0.005	<b>▲ 0.067</b>	▲ 0.062	▲ 0.035
ppm Water	ppm	ASTM D6304 >50	<b>▲ 670</b>	▲ 620	▲ 350

## FLUID CLEANLINESS

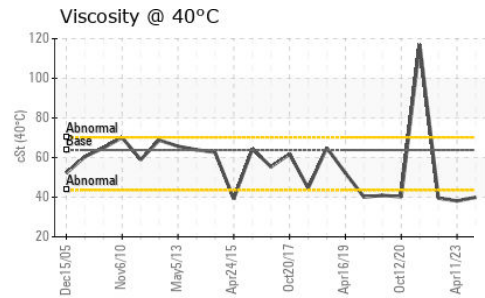
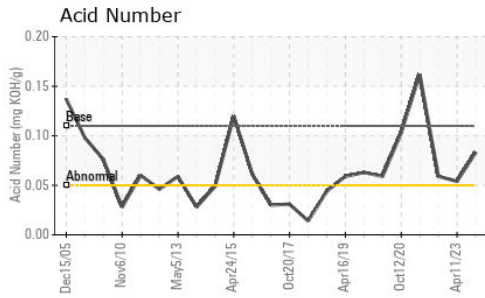
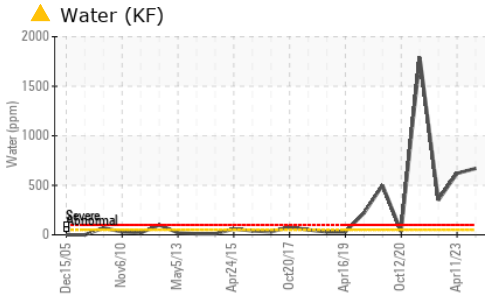
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>---</b>	---	7403
Particles >6µm	ASTM D7647	>2500	<b>---</b>	---	451
Particles >14µm	ASTM D7647	>320	<b>---</b>	---	9
Particles >21µm	ASTM D7647	>80	<b>---</b>	---	2
Particles >38µm	ASTM D7647	>20	<b>---</b>	---	0
Particles >71µm	ASTM D7647	>4	<b>---</b>	---	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	<b>---</b>	---	20/16/10

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974 0.11	<b>0.083</b>	0.054	0.059



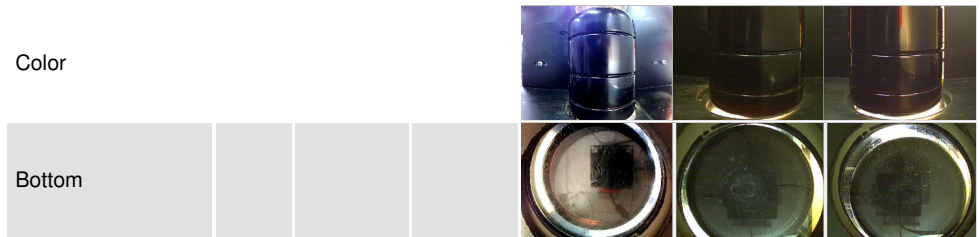
# OIL ANALYSIS REPORT



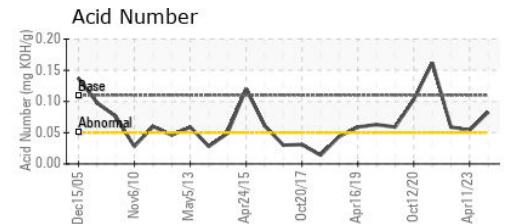
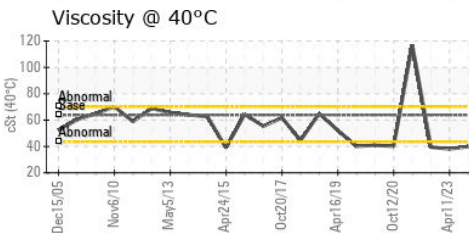
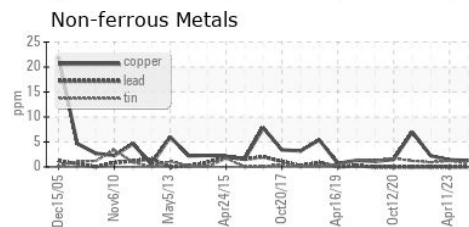
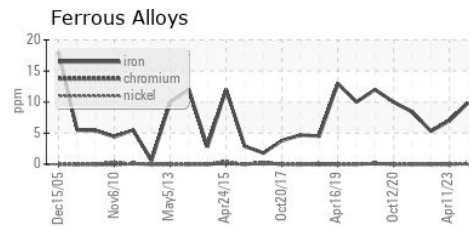
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	▲ HEAVY	▲ MODER	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.005	▲ 0.2%	▲ 0.2%
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	63.8	39.9	38.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : WC0882526

**Lab Number** : 06148657

**Unique Number** : 10978735

**Test Package** : IND 2 ( Additional Tests: PrtCount )

**Received** : 15 Apr 2024

**Tested** : 17 Apr 2024

**Diagnosed** : 17 Apr 2024 - Don Baldrige

**3M COMPANY**

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US 65802

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T: (417)869-3501

F: (417)862-0147

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)