

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

## NORMAL

# CFCC NB CHILLER 2 CIRCUIT 1 (S/N 4104F63030)

**Refrigeration Compressor** 

Fluid {not provided} (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

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

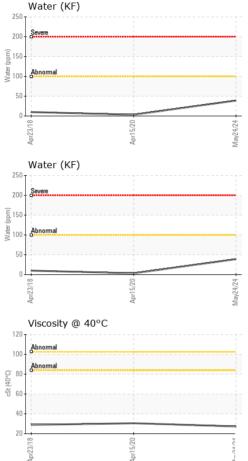
#### Fluid Condition

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

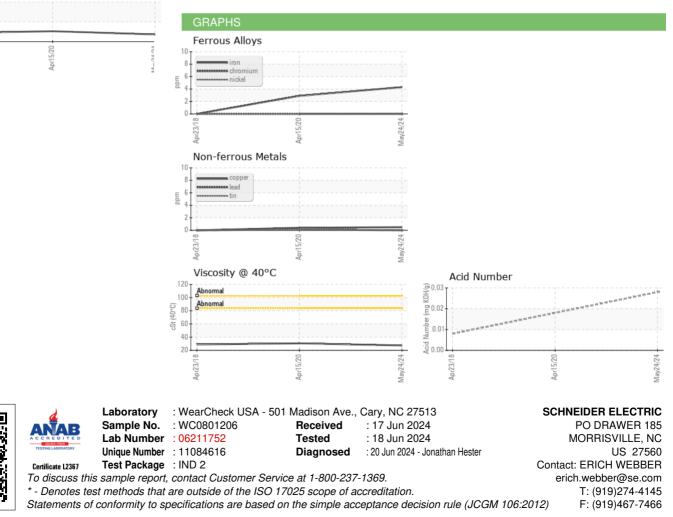
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0801206	WC0459422	WCI2310806
Sample Date		Client Info		24 May 2024	15 Apr 2020	23 Apr 2018
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	4	3	0
Chromium	ppm	ASTM D5185m	>2	0	0	0
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>3	0	<1	0
Lead	ppm	ASTM D5185m	>2	0	<1	0
Copper	ppm	ASTM D5185m	>8	<1	<1	0
Tin	ppm	ASTM D5185m	>4	0	0	0
Antimony	ppm	ASTM D5185m			0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	le le			•	Ū	
ADDITIVES	- February	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	-	-	<1
		method	limit/base	current	history1	
Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 7 0 0	<1 0 0
Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 0 0 0 <1	history1 7 0 0 0	<1 0 0 0
Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 <1 0	history1 7 0 0 0 0 0	<1 0 0 0 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 0 <1 0 0 0	history1 7 0 0 0 0 0 0 0	<1 0 0 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 0 <1 0 0 0 202	history1 7 0 0 0 0 0 0 213	<1 0 0 0 0 0 300
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 0 <1 0 0 0 202 0	history1 7 0 0 0 0 0 0 213 <1	<1 0 0 0 0 0 300 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 0 <1 0 0 0 202	history1 7 0 0 0 0 0 0 213	<1 0 0 0 0 0 300
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 0 <1 0 0 0 202 0	history1 7 0 0 0 0 0 0 213 <1	<1 0 0 0 0 0 300 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		Current 0 0 0 202 0 168	history1 7 0 0 0 0 0 213 <1 130	<1 0 0 0 0 0 300 0 119
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 0 <1 0 202 0 168 Current	history1 7 0 0 0 0 0 213 <1 130 history1	<1 0 0 0 0 0 300 0 119 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	limit/base	current           0           0           0           0           202           0           168           current           10	history1           7           0           0           0           0           0           0           0           0           130           history1           4	<1 0 0 0 0 0 300 0 119 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base	Current 0 0 0 -1 0 0 202 0 168 Current 10 2	history1           7           0           0           0           0           0           0           0           0           0           0           0           0           0           130           history1           4           0	<1 0 0 0 0 0 300 0 119 history2 6 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >15 >20	current         0         0         0         0         <1         0         202         0         168         current         10         2         0	history1           7           0           0           0           0           0           0           0           0           13           <1           130           history1           4           0           0           0	<1 0 0 0 0 0 300 0 119 history2 6 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	limit/base >15 >20 >0.01	Current  Cur	history1           7           0           0           0           0           0           0           0           0           0           0           0           0           130           history1           4           0           0           0           0.001	<1 0 0 0 0 0 300 0 119 history2 6 0 0 0 0 0 0 0



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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		27.3	30.53	28.84
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color				•		
Bottom					(8)	



Contact/Location: ERICH WEBBER - APPMOR