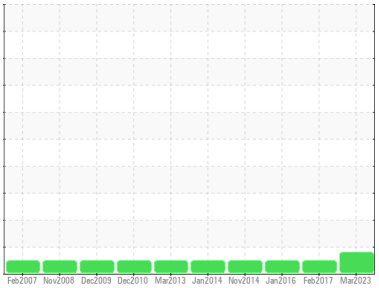
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Area
[SV2210141181]
Machine Id
MCQUAY BWI EAST EQUIPMENT ROOM CHILLER 3 (S/N STNU051000143)
Component
Refrigeration Compressor
Fluid
EMKARATE RL 32H (11 GAL)

DIAGNOSIS

▲ Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

▲ Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0384578**	WCI2217993	WCI2261840
Sample Date		Client Info		**01 Mar 2023**	21 Feb 2017	07 Jan 2016
Machine Age	hrs	Client Info		**86950**	55490	49740
Oil Age	hrs	Client Info		**0**	55490	49740
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ATTENTION**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**0**	13	12
Chromium	ppm	ASTM D5185m	>10	**0**	0	0
Nickel	ppm	ASTM D5185m		**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>50	**<1**	<1	1
Lead	ppm	ASTM D5185m	>10	**0**	1	1
Copper	ppm	ASTM D5185m	>100	**6**	5	8
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Antimony	ppm	ASTM D5185m		**---**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	3	2
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**6**	0	<1
Calcium	ppm	ASTM D5185m	0	**8**	0	<1
Phosphorus	ppm	ASTM D5185m	5	▲ **1378**	4	7
Zinc	ppm	ASTM D5185m	10	**15**	10	11
Sulfur	ppm	ASTM D5185m	50	**0**	74	31

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**<1**	8	8
Sodium	ppm	ASTM D5185m		**2**	2	2
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Water	%	ASTM D6304	>0.02	**0.002**	0.009	0.006
ppm Water	ppm	ASTM D6304	>250	**23.6**	90	60

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	.05	**0.044**	0.100	0.055

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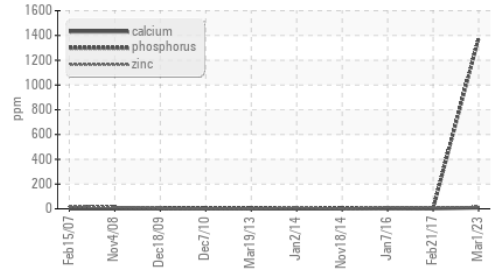
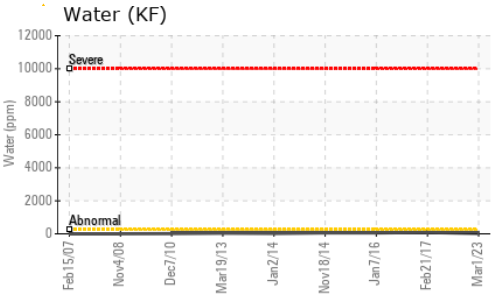
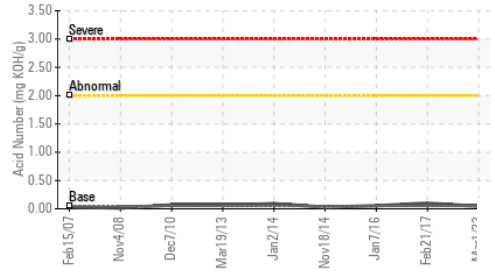
Additives



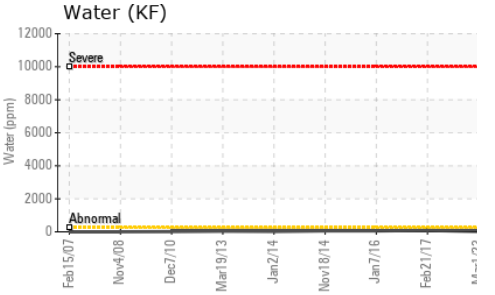
Water (KF)



Acid Number



Water (KF)



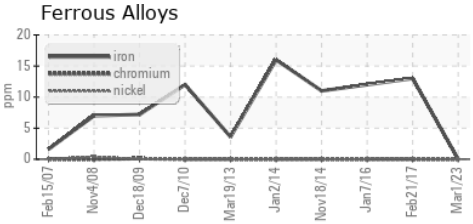
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.02	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	31.5	▲ **41.3**	33.26	33.04

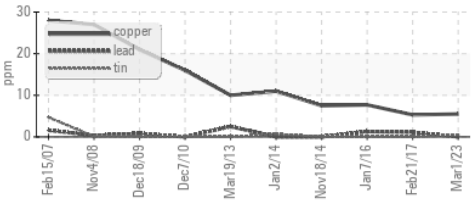
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

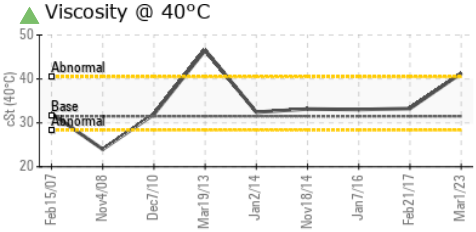
Ferrous Alloys



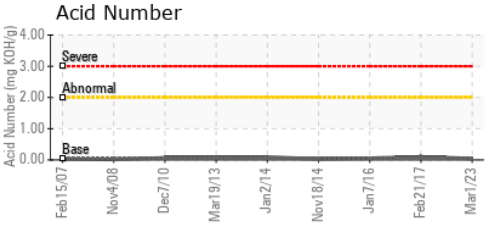
Non-ferrous Metals



▲ Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0384578
Lab Number : 05780174
Unique Number : 10359844
Test Package : IND 2

Received : 01 Mar 2023
Tested : 06 Mar 2023
Diagnosed : 06 Mar 2023 - Jonathan Hester

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)

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