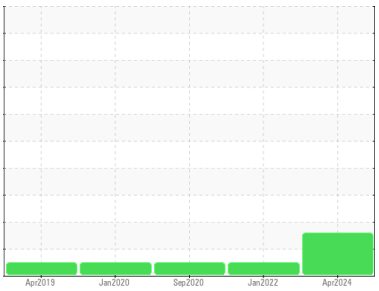
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
TRANE WSU MANOOGIAN HALL TRANE 2 (S/N L02E08748)
Component
Refrigeration Compressor
Fluid
TRANE 0022 (9 GAL)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition. (Customer Sample Comment: Annual test)

Wear
All component wear rates are normal.

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

Fluid Condition
The oil viscosity is higher than normal. The AN level is at the top-end of the recommended limit.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0827287**	WC0618948	WC0426223
Sample Date		Client Info		**09 Apr 2024**	06 Jan 2022	15 Sep 2020
Machine Age	hrs	Client Info		**24867**	23784	22235
Oil Age	hrs	Client Info		**24867**	23784	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**MARGINAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	**<1**	5	3
Chromium	ppm	ASTM D5185m	>2	**0**	0	0
Nickel	ppm	ASTM D5185m		**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>3	**0**	0	0
Lead	ppm	ASTM D5185m	>2	**0**	<1	0
Copper	ppm	ASTM D5185m	>8	**0**	2	1
Tin	ppm	ASTM D5185m	>4	**7**	9	8
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	<1	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**0**	0	<1
Calcium	ppm	ASTM D5185m		**0**	<1	3
Phosphorus	ppm	ASTM D5185m		**0**	3	10
Zinc	ppm	ASTM D5185m		**24**	7	29
Sulfur	ppm	ASTM D5185m		**0**	357	12

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**5**	6	6
Sodium	ppm	ASTM D5185m		**<1**	0	<1
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Water	%	ASTM D6304	>0.005	**0.001**	0.001	0.003
ppm Water	ppm	ASTM D6304	>50	**15**	5.1	26.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974		**0.083**	0.043	0.062

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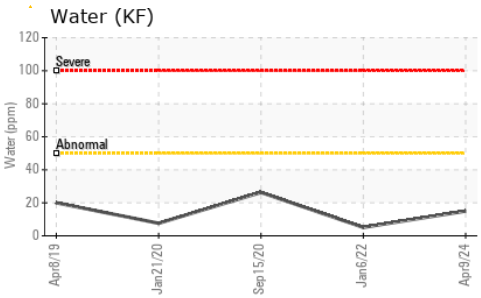
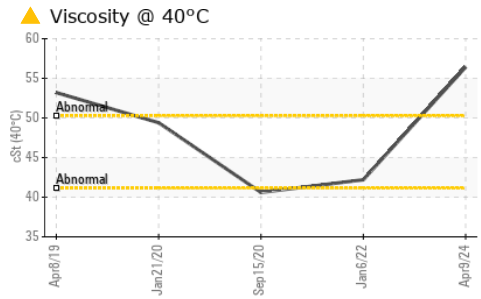
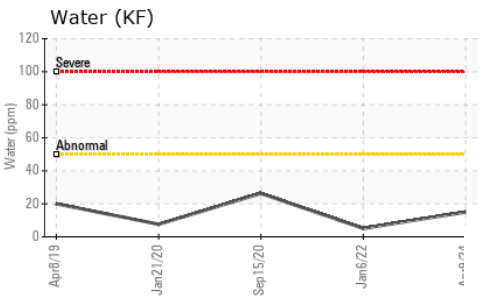




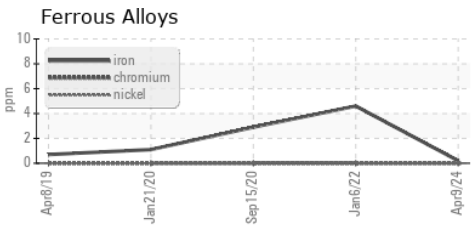


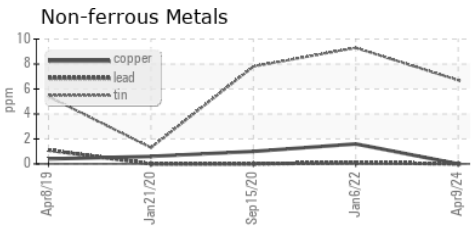
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

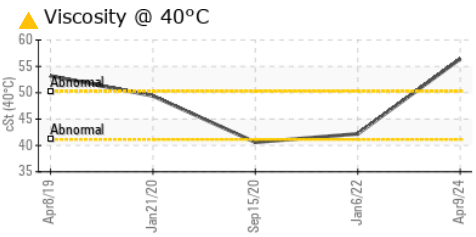
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		▲ **56.42**	42.2	40.6

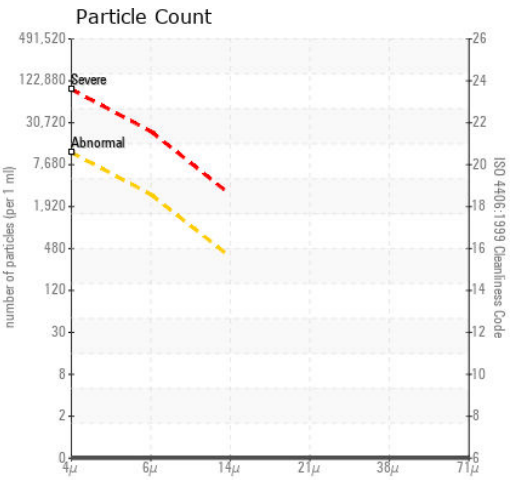
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

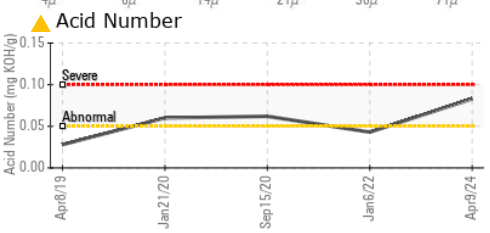
GRAPHS











Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0827287
Lab Number : 06148743
Unique Number : 10978821
Test Package : PLANT

Received : 15 Apr 2024
Tested : 19 Apr 2024
Diagnosed : 19 Apr 2024 - 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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