

# TRANE WSU MANOOGIAN HALL TRANE 2 (S/N L02E08748)

## **Refrigeration Compressor**

## **TRANE 0022 (9 GAL)**

## 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

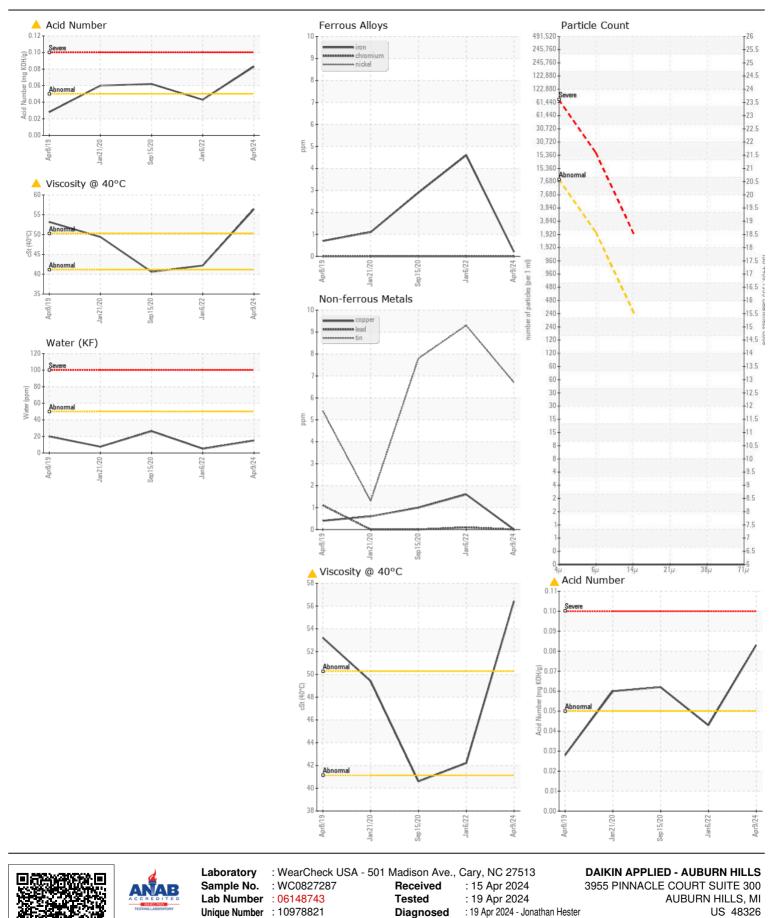
There is no indication of any contamination in the oil.

# FLUID CONDITION

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

Test	UOM	Method	Limit/Abn	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
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				MARGINAL	NORMAL	NORMAL
Iron		ASTM D5185m	>8	.4	5	3
Chromium	ppm	ASTM D5185m	>0	<1 0	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>2	0	0	0
Lead	ppm	ASTM D5185m	>3	0	<1	0
Copper	ppm	ASTM D5185m	>8	0	2	1
Tin	ppm	ASTM D5185m	>0 >4	7	9	8
Vanadium	ppm	ASTM D5185m	>4	0	0	0
White Metal	ppm scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		v isuai				NONL
Silicon	ppm	ASTM D5185m	>15	5	6	6
	ppin	AGTIM DJTOJII	210	5	0	0
Potassium	ppm	ASTM D5185m	>20	0	0	0
Potassium Water				-		
	ppm	ASTM D5185m	>20	0	0	0
Water	ppm %	ASTM D5185m ASTM D6304	>20 >0.005	0 0.001	0	0
Water ppm Water	ppm % ppm	ASTM D5185m ASTM D6304 ASTM D6304	>20 >0.005 >50	0 0.001 15	0 0.001 5.1	0 0.003 26.3
Water ppm Water Silt	ppm % ppm scalar	ASTM D5185m ASTM D6304 ASTM D6304 *Visual	>20 >0.005 >50 NONE	0 0.001 15 NONE	0 0.001 5.1 NONE	0 0.003 26.3 NONE
Water ppm Water Silt Debris	ppm % ppm scalar scalar	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual	>20 >0.005 >50 NONE NONE	0 0.001 15 NONE NONE	0 0.001 5.1 NONE NONE	0 0.003 26.3 NONE NONE
Water ppm Water Silt Debris Sand/Dirt	ppm % ppm scalar scalar scalar	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual	>20 >0.005 >50 NONE NONE NONE	0 0.001 15 NONE NONE NONE	0 0.001 5.1 NONE NONE	0 0.003 26.3 NONE NONE
Water ppm Water Silt Debris Sand/Dirt Appearance	ppm % ppm scalar scalar scalar scalar	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual	>20 >0.005 >50 NONE NONE NONE	0 0.001 15 NONE NONE NONE NORML	0 0.001 5.1 NONE NONE NORE	0 0.003 26.3 NONE NONE NONE NORML
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm % ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NONE NORML NORML NEG	0 0.001 5.1 NONE NONE NONE NORML NORML NEG	0 0.003 26.3 NONE NONE NORM NORML NORML NEG
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm % ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG	0 0.001 5.1 NONE NONE NORML NORML NEG 0	0 0.003 26.3 NONE NONE NORML NORML NEG <1
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm % ppm scalar scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG <1 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm % ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG <1 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0 0
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm % ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NORML NEG <1 0 0 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 0	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0 0 0
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm % ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG <1 0 0 0 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0 0 0 0 <1
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm % ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NORML NEG <1 0 0 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 0 <1 0 0	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0 0 0
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Malybdenum Manganese Magnesium	ppm % ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG <1 0 0 0 0 <1 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 0 <1 0 0 <1 0 0 <1	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0 0 0 0 <1 <1
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm % scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG <1 0 0 0 <1 0 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 0 <1 0 0	0 0.003 26.3 NONE NONE NORML NORML NORML NEG <1 0 0 0 <1 <1 3
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm % ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NORML 0 <1 0 0 <1 0 0 0 <1 0 0 0 0 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 <1 0 <1 0 <1 0 3	0 0.003 26.3 NONE NONE NORML NORML NORML NEG <1 0 0 0 <1 <1 3 10
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm % scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NORML 0 c1 0 c1 0 0 c1 0 0 c1 0 0 c1 0 0 c1 0 0 c1 0 0 c1 0 0 c1 0 0 c1 0 c1 c1 c1 c1 c1 c1 c1 c1 c1 c1 c1 c1 c1	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 <1 0 <1 0 0 <1 3 7	0 0.003 26.3 NONE NONE NORML NORML NORML NEG <1 0 0 0 <1 <1 <1 3 10 29
Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm % scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.005 >50 NONE NONE NONE NORML	0 0.001 15 NONE NONE NORML NORML NEG <1 0 0 0 ( 1 0 0 0 ( 1 0 0 0 0 24 0 0	0 0.001 5.1 NONE NONE NORML NORML NEG 0 <1 0 0 <1 0 0 <1 0 0 <1 3 7 357	0 0.003 26.3 NONE NONE NORML NORML NEG <1 0 0 0 0 <1 <1 <1 3 10 29 12

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Test Package : PLANT Contact: MICHELLE MANN Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. michelle.mann@daikinapplied.com \* - 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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