

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id FRICK 4 Component Refrigeration Compressor Fluid USPI 1009-68 SC (--- GAL)

DIAGNOSIS

Recommendation

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. The amount and size of particulates present in the system are acceptable.

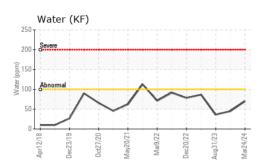
Fluid Condition

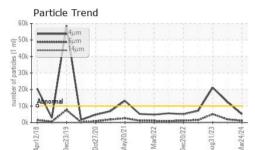
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

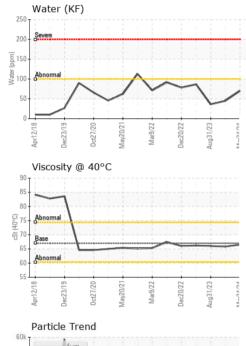
SAMPLE INFORM	1ATION	method	limit/base	current		history2
Sample Number		Client Info		USP0007977	USP0004393	USP0000160
Sample Date		Client Info		24 Mar 2024	13 Dec 2023	31 Aug 2023
Machine Age	hrs	Client Info		67070	65232	64789
Oil Age	hrs	Client Info		22264	20426	64791
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ATTENTION	ABNORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	13	16	15
Chromium	ppm	ASTM D5185m	>2	0	0	0
Nickel	ppm	ASTM D5185m		1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>3	<1	0	0
Lead	ppm	ASTM D5185m	>2	<1	0	0
Copper	ppm	ASTM D5185m	>8	0	0	<1
Tin	ppm	ASTM D5185m	>4	<1	0	0
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	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		0	0	0
Calcium	ppm	ASTM D5185m		3	0	0
		ACTM DE10Em		0	0	<1
Phosphorus	ppm	ASTM D5185m			0	
Phosphorus Zinc	ppm ppm	ASTM D5185m		0	0	0
			50	0 22		
Zinc	ppm	ASTM D5185m	50 limit/base	-	0	0
Zinc Sulfur	ppm	ASTM D5185m ASTM D5185m	limit/base	22	0 0	0 21
Zinc Sulfur CONTAMINANTS	ppm ppm	ASTM D5185m ASTM D5185m method	limit/base	22 current	0 0 history1	0 21 history2
Zinc Sulfur CONTAMINANTS Silicon	ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	22 current 0	0 0 history1 0	0 21 history2 <1
Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	limit/base >15 >20	22 current 0 1	0 0 history1 0 0	0 21 history2 <1 <1
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >15 >20 >0.01	22 current 0 1 2	0 0 history1 0 0 <1	0 21 history2 <1 <1 <1
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304	limit/base >15 >20 >0.01	22 current 0 1 2 0.006	0 0 history1 0 0 <1 0.004	0 21 history2 <1 <1 <1 <1 0.003
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304	limit/base >15 >20 >0.01 >100 limit/base >10000	22 current 0 1 2 0.006 70 current 5059	0 0 history1 0 0 <1 0.004 45 history1 0.283	0 21 history2 <1 <1 <1 <1 0.003 36.1 history2 ▲ 21195
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base	22 current 0 1 2 0.006 70 current 5059 1108	0 0 history1 0 0 <1 0.004 45 history1	0 21 history2 <1 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 5083
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base >10000 >2500 >320	22 current 0 1 2 0.006 70 current 5059 1108 16	0 0 history1 0 0 <1 0.004 45 history1 12583 1956 32	0 21 history2 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 5083 108
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base >10000 >2500 >320 >80	22 current 0 1 2 0.006 70 current 5059 1108	0 0 history1 0 0 <1 0.004 45 history1 12583 1956 32 7	0 21 history2 <1 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 5083
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base >10000 >2500 >320	22 current 0 1 2 0.006 70 current 5059 1108 16	0 0 history1 0 0 <1 0.004 45 history1 12583 1956 32	0 21 history2 <1 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 5083 108 12 0
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base >10000 >2500 >320 >80	22 current 0 1 2 0.006 70 current 5059 1108 16 2	0 0 1 1 0 0 0 <1 0.004 45 12583 1956 32 7 0 0 0 0	0 21 history2 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 5083 108 12 0 0 0
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm % ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base >10000 >2500 >320 >80 >20	22 current 0 1 2 0.006 70 current 5059 1108 16 2 0	0 0 history1 0 0 <1 0.004 45 history1 • 12583 1956 32 7 0	0 21 history2 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 5083 108 12 0
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm % ppm ESS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.01 >100 limit/base >10000 >2500 >320 >80 >20 >20 >4	22 current 0 1 2 0.006 70 current 5059 1108 16 2 0 0 0	0 0 1 1 0 0 0 <1 0.004 45 12583 1956 32 7 0 0 0 0	0 21 history2 <1 <1 <1 0.003 36.1 history2 ▲ 21195 ▲ 21195 ▲ 5083 108 12 0 0 0

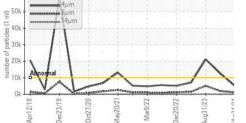


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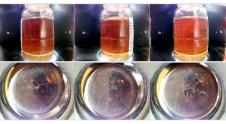




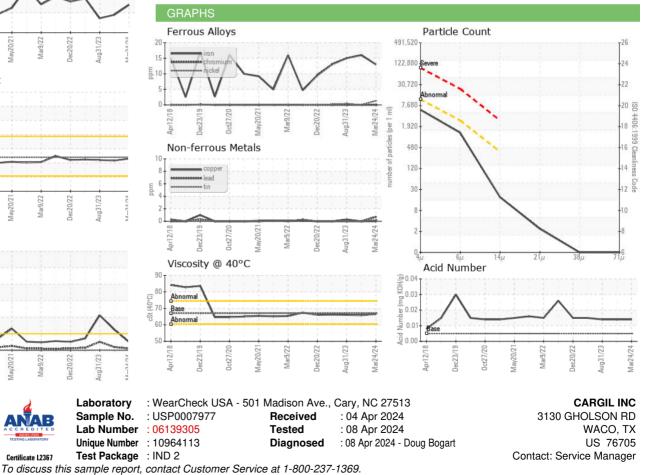


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	66.5	65.8	66.0
SAMPLE IMAGES m		method	limit/base	current	history1	history2
Orden						

Color



Bottom



* - 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)

T: F:

Certificate 12367

Contact/Location: Service Manager - CARWAC_USP