

# **OIL ANALYSIS RE**

## Area FREEZER FES TYSAMAF 5 FES (S/N MK3E-

**Refrigeration Compressor** 

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.

SIS REPO	RT				N	ORMAL			
MK3E-111)									
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		USP0013267	USP0006067	USP0003981			
Sample Date		Client Info		16 Jun 2024	17 Mar 2024	03 Dec 2023			
Machine Age	hrs	Client Info		0	0	0			
Oil Age	hrs	Client Info		0	0	0			
Oil Changed		Client Info		N/A	N/A	N/A			
Sample Status				NORMAL	NORMAL	ABNORMAL			
WEAR METALS		method	limit/base	current	history1	history2			
Iron	ppm	ASTM D5185m	>50	0	0	0			
Chromium	ppm	ASTM D5185m	>10	0	<1	0			
Nickel	ppm	ASTM D5185m		0	0	0			
Titanium	ppm	ASTM D5185m		<1	0	<1			
Silver	ppm	ASTM D5185m		0	0	0			
Aluminum	ppm	ASTM D5185m	>25	0	0	1			
Lead	ppm	ASTM D5185m	>25	0	0	0			
Copper	ppm	ASTM D5185m	>50	<1	0	0			
Tin	ppm	ASTM D5185m	>15	0	0	0			
Vanadium	ppm	ASTM D5185m		<1	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	<1	0			
Magnesium	ppm	ASTM D5185m		0	0	0			
Calcium	ppm	ASTM D5185m		0	0	0			
Phosphorus	ppm	ASTM D5185m		<1	0	0			
Zinc	ppm	ASTM D5185m		<1	0	0			
Sulfur	ppm	ASTM D5185m	50	6	15	0			
CONTAMINANTS		method	limit/base	current	history1	history2			
Silicon	ppm	ASTM D5185m	>25	<1	0	0			
Sodium	ppm	ASTM D5185m		1	1	0			

Sample Rating Trend

CONTAMINANT	3	methoa	limit/base		nistory i	nistory∠
Silicon	ppm	ASTM D5185m	>25	<1	0	0
Sodium	ppm	ASTM D5185m		1	1	0
Potassium	ppm	ASTM D5185m	>20	0	0	2
Water	%	ASTM D6304	>0.1	0.001	0.001	0.001
ppm Water	ppm	ASTM D6304	>1000	14	4	6
FLUID CLEANLI	NESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	6181	6152	🔺 23092
Particles >4µm Particles >6µm		ASTM D7647 ASTM D7647	>10000 >2500	6181 1712	6152 1455	<ul><li>▲ 23092</li><li>▲ 5742</li></ul>
Particles >6µm		ASTM D7647	>2500 >320	1712	1455	▲ 5742
Particles >6μm Particles >14μm		ASTM D7647 ASTM D7647	>2500 >320	1712 39	1455 48	▲ 5742 279
Particles >6µm Particles >14µm Particles >21µm		ASTM D7647 ASTM D7647 ASTM D7647	>2500 >320 >80 >20	1712 39 3	1455 48 8	<ul> <li>▲ 5742</li> <li>279</li> <li>61</li> </ul>

0.014

Acid Number (AN)

FLUID DEGRADATION

mg KOH/g ASTM D8045 0.005

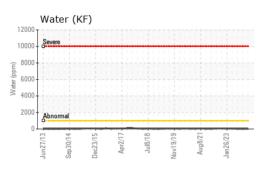
Contact/Location: RANDY INGRAM - TYSAMA Page 1 of 2

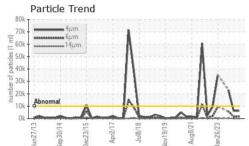
0.014

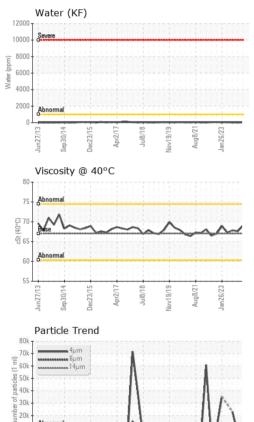
0.016



# **OIL ANALYSIS REPORT**





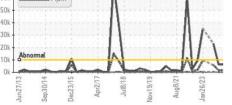


Sep30/14	Dec23/15	Apr2/17	Jul8/18	Nov19/19	Aug8/21	Jan26/23	E		iro ch	nomium	
sity	@ 40	°C					mqq	4-	٨	Λ.	
nal									ער	N	-
1				~				Jun27/1	Sep30/1	Dec23/15	Anr2/1
				~		~~~	: 	Nor	n-ferr	ous M	leta
nal								8	co	opper	
Sep30/14 -	Dec23/15	Apr2/17	Jul8/18 -	Nov19/19	Aug8/21-	Jan 26/23 .	d	C	tir		~
cle T	rend							Jun27/13	Sep30/14.	Dec23/15	Apr2/17.
4μι 6μι			1						cosity	@ 40	)°C
<b></b> 14j.	/m		A					80 75 Abn	ormal	1611	

Laboratory

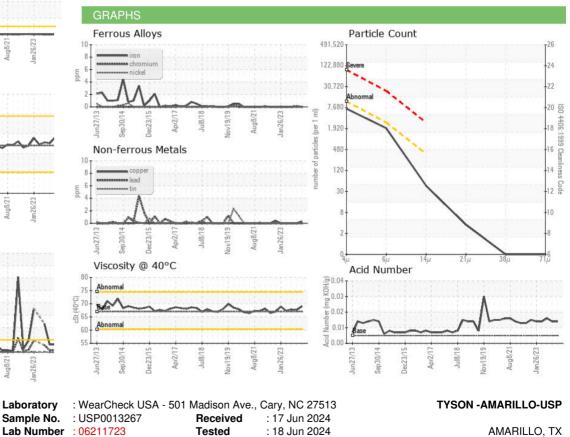
Unique Number : 11084587

Test Package : IND 2

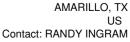


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	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	67	69.0	67.6	67.8
SAMPLE IMAGES	S	method	limit/base	current	history1	history2
Color					• En esta	

Bottom



: 20 Jun 2024 - Doug Bogart



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)

Diagnosed

T: (806)355-7732 F: (806)352-6946

Report Id: TYSAMA [WUSCAR] 06211723 (Generated: 06/23/2024 02:42:34) Rev: 1

Certificate 12367

Contact/Location: RANDY INGRAM - TYSAMA