

# **OIL ANALYSIS REPORT**

## TYSWILFS HS-19 (S/N 50015CFMFTHAB3) Component

**Refrigeration Compressor** USPI ALT-68 SC (--- GAL)

#### 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.





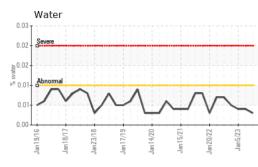
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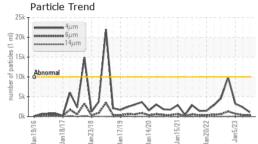
Sample Rating Trend

SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		USP0000554	USP248867	USP245711
Sample Date		Client Info		19 Aug 2023	17 Apr 2023	05 Jan 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	NORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	2	4	6
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	0	0
Copper	ppm	ASTM D5185m		0	0	0
Tin	ppm	ASTM D5185m	>4	0	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		0	0	0
Magnesium	ppm	ASTM D5185m		1	0	0
Calcium	ppm	ASTM D5185m		1	0	<1
Phosphorus	ppm	ASTM D5185m		<1	<1	0
Zinc	ppm	ASTM D5185m		2	0	0
Sulfur	ppm	ASTM D5185m	50	0	0	0
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	0	<1	2
Sodium	ppm	ASTM D5185m		0	0	0
Potassium	ppm	ASTM D5185m	>20	0	0	<1
Water	%	ASTM D6304	>0.01	0.003	0.004	0.004
ppm Water	ppm	ASTM D6304	>100	38.2	44.0	45.4
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	1109	2375	3243
Particles >6µm		ASTM D7647	>2500	315	392	707
Particles >14µm		ASTM D7647	>320	19	17	30
Particles >21µm		ASTM D7647	>80	4	3	6
Particles >38µm		ASTM D7647	>20	0	0	0
Particles >71µm		ASTM D7647	>4	0	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	17/15/11	18/16/11	19/17/12
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	0.016	0.015	0.015



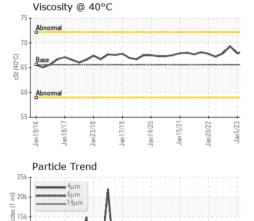
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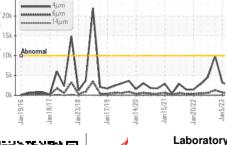






Water 0.03 0.02 <sub>声</sub>0.02 0.0 0.00 an5/23 an17/1 LE





to

GRAPHS Ferrous Alloys Particle Count 491 52 122,88 30.72 an5/23 an 15/7 Der 1,920 an1 an an1 Non-ferrous Metals 480 120 30 Jan 15/21 n5/23 an 14/20 l//1/ an Viscosity @ 40°C Acid Number 7! (B/HOX BW) 0.02 70 40°C) 0.0 ŝ 0.01 Abno

P 0.00



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\* - 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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Contact/Location: ? ? - TYSWILFOO Page 2 of 2