

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

2146-C-13 N FES 500 (S/N 2552784) Component

Refrigeration Compressor

USPI 1009-68 SC (110 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 component. The amount and size of particulates present in the system is acceptable.

Fluid Condition

The TAN level is acceptable for this fluid. The condition of the oil is suitable for further service. Viscosity confirmed.

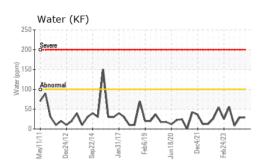


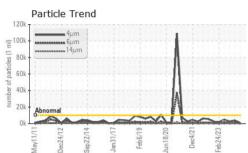


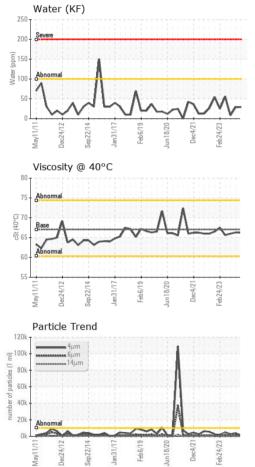
Sample Number Client Info USP0006143 USP0005000 USP0002044 Sample Date Client Info 13 Mar 2024 09 Dec 2023 06 Sep 2023 Machine Age hrs Client Info 0 7814 6687 Oil Age hrs Client Info N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A WEAR METALS method Im/Mosion NorMAL NORMAL NORMAL NORMAL Inn ppm ASTM 05155m -2 0 -1 -1 Nickel ppm ASTM 05155m -2 0 0 -1 Silver ppm ASTM 05155m -2 0 0 -1 Lead ppm ASTM 05155m -2 0 0 -1 Vanadium ppm ASTM 05155m -2 0 0 -1 Vanadium ppm ASTM 05155m -2 0 0 -1	SAMPLE INFORM	ΛΑΤΙΟΝ	method				history2
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Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m		0	0	0
Marganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 0 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 0 0 0 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 4 0 15 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 50 4 0 1 Sodium ppm ASTM D5185m >15 0 0 <1 Potassium ppm ASTM D5185m >20 0 <1 2 Water % ASTM D504 >0.01 0.003 0.003 0.001 ppm Water ppm ASTM D7647 >1000 798 3820 2704 Particles >4µm ASTM D7647 >200 10 38 15 Particles >1µm ASTM D7647 20 10 38 1	Manganese	ppm	ASTM D5185m		<1	0	<1
Phosphorus ppm ASTM D5185m 0 0 0 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 4 0 15 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 0 <1	Magnesium	ppm	ASTM D5185m		0	0	<1
Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 4 0 15 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 0 1 Sodium ppm ASTM D5185m >15 0 0 1 Potassium ppm ASTM D5185m >20 0 <1 2 Water % ASTM D6304 >0.01 0.003 0.001 0.001 ppm Water ppm ASTM D6304 >100 29 29 8.3 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 798 3820 2704 Particles >6µm ASTM D7647 >2500 229 1208 525 Particles >1µm ASTM D7647 20 10 0	Calcium	ppm	ASTM D5185m		0	0	0
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Sodium ppm ASTM D5185m 0 0 1 Potassium ppm ASTM D5185m >20 0 <1 2 Water % ASTM D6304 >0.01 0.003 0.003 0.001 ppm Water ppm ASTM D6304 >100 29 29 8.3 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 798 3820 2704 Particles >6µm ASTM D7647 >2500 229 1208 525 Particles >6µm ASTM D7647 >320 10 38 15 Particles >21µm ASTM D7647 >80 2 5 3 Particles >38µm ASTM D7647 >20 1 0 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 17/15/10 19/17/12 19/16/11	CONTAMINANTS	;	method	limit/base	current	history1	history2
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Water % ASTM D6304 >0.01 0.003 0.003 0.001 ppm Water ppm ASTM D6304 >100 29 29 8.3 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 798 3820 2704 Particles >6µm ASTM D7647 >2500 229 1208 525 Particles >6µm ASTM D7647 >320 10 38 15 Particles >21µm ASTM D7647 >80 2 5 3 Particles >38µm ASTM D7647 >20 1 0 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 17/15/10 19/17/12 19/16/11 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		0	0	1
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Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 17/15/10 19/17/12 19/16/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>320	10	38	15
Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 17/15/10 19/17/12 19/16/11 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>80	2		3
Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 17/15/10 19/17/12 19/16/11 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>20	1	0	0
Oil Cleanliness ISO 4406 (c) >20/18/15 17/15/10 19/17/12 19/16/11 FLUID DEGRADATION method limit/base current history1 history2				>4	0	0	0
						19/17/12	19/16/11
	FLUID DEGRADA		method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g					0.013



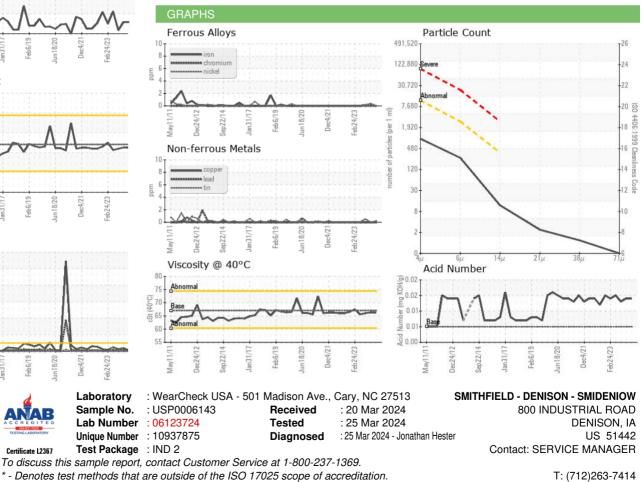
OIL ANALYSIS REPORT







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	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	66.2	66.3	66.0
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color					Z FASSAGE	
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) F: (712)263-7314

Certificate L2367

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Contact/Location: SERVICE MANAGER - FARDEN