

OIL ANALYSIS REPORT

Sample Rating Trend



C-1702B EAST (S/N MK6A-493)

Refrigeration Compressor

FES 4 (210 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.

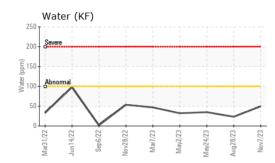
Fluid Condition

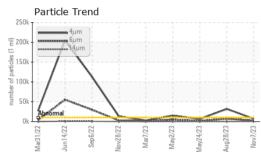
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

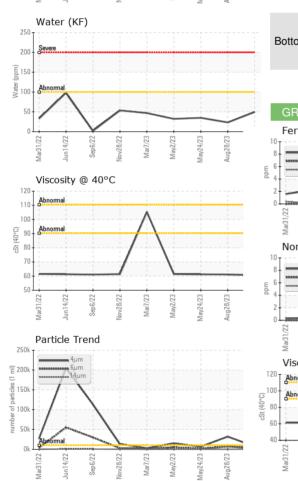
Sample Date Client Info 07 Nov 2023 28 Aug 2023 24 May 2023 Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Age Client Info N/A N/A N/A N/A Sample Status Imb Imb NORMAL ABNORMAL NORMAL NORMAL NORMAL WEAR METALS method Imb/biss Current History1 History2 Iron ppm ASTM 05/85m S2 0 0 0 Nickel ppm ASTM 05/85m S2 0 0 0 Aluminum ppm ASTM 05/85m S2 0 0 0 Capper ppm ASTM 05/85m S2 0 0 0 Cadmium ppm ASTM 05/85m S2 0 0 0 Cadmium ppm ASTM 05/85m S2 0 0 0 <t< th=""><th>SAMPLE INFORM</th><th>MATION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status method Imit/base current history1 history2 Iron ppm ASTM D5185m >8 0 <1 0 Nickel ppm ASTM D5185m >2 0 0 0 Tranium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Lead ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >4 0 0 0 Cadmium ppm ASTM D5185m <1 <1 0 0 Manganese ppm ASTM D5185m 0 0 0 0 <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>USP0003723</th> <th>USP248448</th> <th>USP248446</th>	Sample Number		Client Info		USP0003723	USP248448	USP248446
Oil Age Ins Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >8 0 <1 0 Chromium ppm ASTM D5185m >2 0 0 0 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aduminum ppm ASTM D5185m >2 0 0 0 Aduminum ppm ASTM D5185m >2 0 0 0 Cadmium ppm ASTM D5185m >4 0 0 0 Adminum ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0	Sample Date		Client Info		07 Nov 2023	28 Aug 2023	24 May 2023
Oil Changed Sample Status N/A N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A N/A N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >2 0 0 0 Chromium ppm ASTM D5185m >2 0 0 0 Mickel ppm ASTM D5185m >2 0 0 0 Auminum ppm ASTM D5185m >2 0 0 0 Auminum ppm ASTM D5185m >2 0 0 0 Auminum ppm ASTM D5185m >3 0 <1	Machine Age	hrs	Client Info		0	0	0
Sample Status NORMAL ABNORMAL NORMAL NORMAL NORMAL WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >8 0 <1 0 Nickel ppm ASTM D5185m 0 0 0 0 Nickel ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Lead ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >2 0 0 0 Cadmium ppm ASTM D5185m >4 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 </th <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5165m >8 0 <1 0 Ornomium ppm ASTM D5165m 0 0 0 0 Nickel ppm ASTM D5165m 0 0 0 0 Silver ppm ASTM D5165m >2 0 0 0 Auminum ppm ASTM D5165m >2 0 0 0 Lead ppm ASTM D5165m >2 0 0 0 Vanadium ppm ASTM D5165m >4 0 0 0 Vanadium ppm ASTM D5165m 1 0 0 Cadmium ppm ASTM D5165m 0 0 0 Barium ppm ASTM D5165m 0 0 0 0 Maganese ppm ASTM D5165m 0 0 0 0 <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>N/A</th> <th>N/A</th> <th>N/A</th>	Oil Changed		Client Info		N/A	N/A	N/A
Iron ppm ASTM D5185m >8 0 <1	Sample Status				NORMAL	ABNORMAL	NORMAL
Chromium ppm ASTM D5185m >2 0 0 0 Nickel ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aduminum ppm ASTM D5185m >2 0 0 0 Lead ppm ASTM D5185m >2 0 0 0 Vanadium ppm ASTM D5185m >4 0 0 0 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0	WEAR METALS		method	limit/base	current	history1	history2
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Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >3 0 <1 0 Lead ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >8 <1 <1 1 Tin ppm ASTM D5185m <4 0 0 0 Vanadium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 0 0 0 0	Nickel	ppm	ASTM D5185m		0	0	0
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Lead ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >8 <1 <1 <1 Tin ppm ASTM D5185m >4 0 0 0 Vanadium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 0 Calcium ppm ASTM D5185m 0	Silver	ppm	ASTM D5185m	>2	0	0	0
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Copper ppm ASTM D5185m >8 <1	Lead	ppm	ASTM D5185m	>2	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 0 Barium ppm ASTM D5185m 0 0 0 0 Maganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 1 2 2 2 Sodium ppm ASTM D5185m <1 0 0 0 Potassium	Copper		ASTM D5185m	>8	<1	<1	<1
Vanadium ppm ASTM D5185m <1			ASTM D5185m	>4	0	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 7 0 0 0 Solicon ppm ASTM D5185m >15 1 2 2 Solicon ppm ASTM D5185m >20 <1	Vanadium		ASTM D5185m			0	0
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Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Maganese ppm ASTM D5185m <1 <1 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 <1 0 0 Phosphorus ppm ASTM D5185m 0 <1 0 0 Sulfur ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 7 0 0 0 Potassium ppm ASTM D5185m <1 0 <1 0 Vater % ASTM D6304 >0.01 0.004 0.002 0.003 pm Water ppm ASTM D647 >1000 7201 A 31988 6473	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 0 -<1 0 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 7 0 0 0 Sulfur ppm ASTM D5185m 1 2 2 2 Sodium ppm ASTM D5185m <1 0 0 0 0 0 0	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTW D5185m 0 0 0 Calcium ppm ASTW D5185m 0 0 0 Phosphorus ppm ASTM D5185m 0 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 0 <1 0 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 7 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m >15 1 0 0 Potassium ppm ASTM D5185m >20 <1 0 0 Vater % ASTM D5304 >0.01 0.004 0.002 0.003 ppm Water ppm ASTM D6304 >100 49.7 23.3 34.9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm	Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus ppm ASTM D5185m 0 <1	Magnesium	ppm	ASTM D5185m		0	0	0
Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 7 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m		0	0	0
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Sulfur ppm ASTM D5185m 7 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m >20 <1 0 0 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >0.01 0.004 0.002 0.003 ppm Water ppm ASTM D6304 >100 49.7 23.3 34.9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 7201 31988 6473 Particles >6µm ASTM D7647 >2500 2391 7188 1618 Particles >14µm ASTM D7647 >320 141 159	Zinc		ASTM D5185m		0	0	0
Silicon ppm ASTM D5185m >15 1 2 2 Sodium ppm ASTM D5185m <1	Sulfur		ASTM D5185m		7	0	0
Sodium ppm ASTM D5185m <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1	Silicon	ppm		>15			
Water % ASTM D6304 >0.01 0.004 0.002 0.003 ppm Water ppm ASTM D6304 >100 49.7 23.3 34.9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 7201 ▲ 31988 6473 Particles >6µm ASTM D7647 >2500 2391 ▲ 7188 1618 Particles >6µm ASTM D7647 >320 141 159 45 Particles >14µm ASTM D7647 >80 27 20 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 20/18/14 22/20/14 20/18/13	Sodium	ppm	ASTM D5185m		<1		
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FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 7201 ▲ 31988 6473 Particles >6µm ASTM D7647 >2500 2391 ▲ 7188 1618 Particles >6µm ASTM D7647 >320 141 159 45 Particles >14µm ASTM D7647 >80 27 20 6 Particles >21µm ASTM D7647 >20 0 0 0 Particles >38µm ASTM D7647 >20 0 0 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/18/14 22/20/14 20/18/13 FLUID DEGRADATION method limit/base current history1 history2		%			0.004		
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Particles >6µm ASTM D7647 >2500 2391 ▲ 7188 1618 Particles >14µm ASTM D7647 >320 141 159 45 Particles >21µm ASTM D7647 >80 27 20 6 Particles >38µm ASTM D7647 >20 0 0 0 Particles >38µm ASTM D7647 >20 0 0 0 Particles >38µm ASTM D7647 >4 0 0 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/18/14 22/20/14 20/18/13	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
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Particles >21μm ASTM D7647 >80 27 20 6 Particles >38μm ASTM D7647 >20 0 0 0 Particles >38μm ASTM D7647 >20 0 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/18/14 ≥2/20/14 20/18/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500	2391	▲ 7188	1618
Particles >38μm ASTM D7647 >20 0 0 0 Particles >71μm ASTM D7647 >4 0 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/18/14 ≥2/20/14 20/18/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>320	141	159	45
Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/18/14 ▲ 22/20/14 20/18/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>80	27	20	6
Oil Cleanliness ISO 4406 (c) >20/18/15 20/18/14 ▲ 22/20/14 20/18/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>20		0	0
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647		0	0	0
	Oil Cleanliness		ISO 4406 (c)	>20/18/15	20/18/14	▲ 22/20/14	20/18/13
Acid Number (AN) mg KOH/g ASTM D974 0.014 0.014 0.015	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974		0.014	0.014	0.015



OIL ANALYSIS REPORT

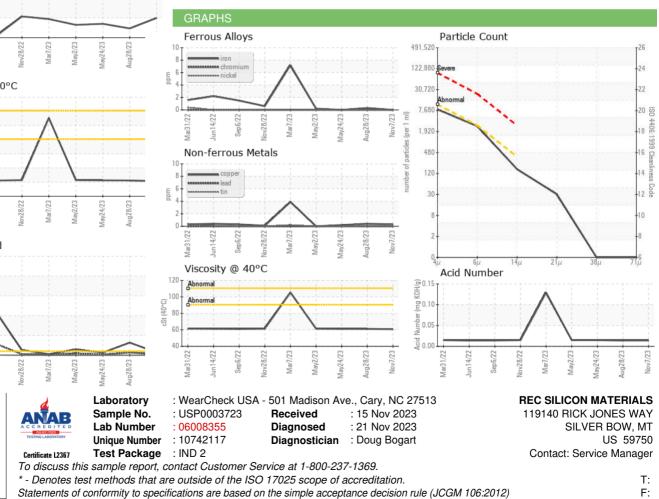






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	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 PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		60.68	61.1	61.2
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color				1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
Dettern				(())	(a)	

Bottom



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Contact/Location: Service Manager - RECSIL_USP