

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

VILTER VSS-751 SCMP-1 (S/N 6801)

Component Refrigeration Compressor

Fluid WMI-717-ARO (--- GAL)

DIAGNOSIS

A Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

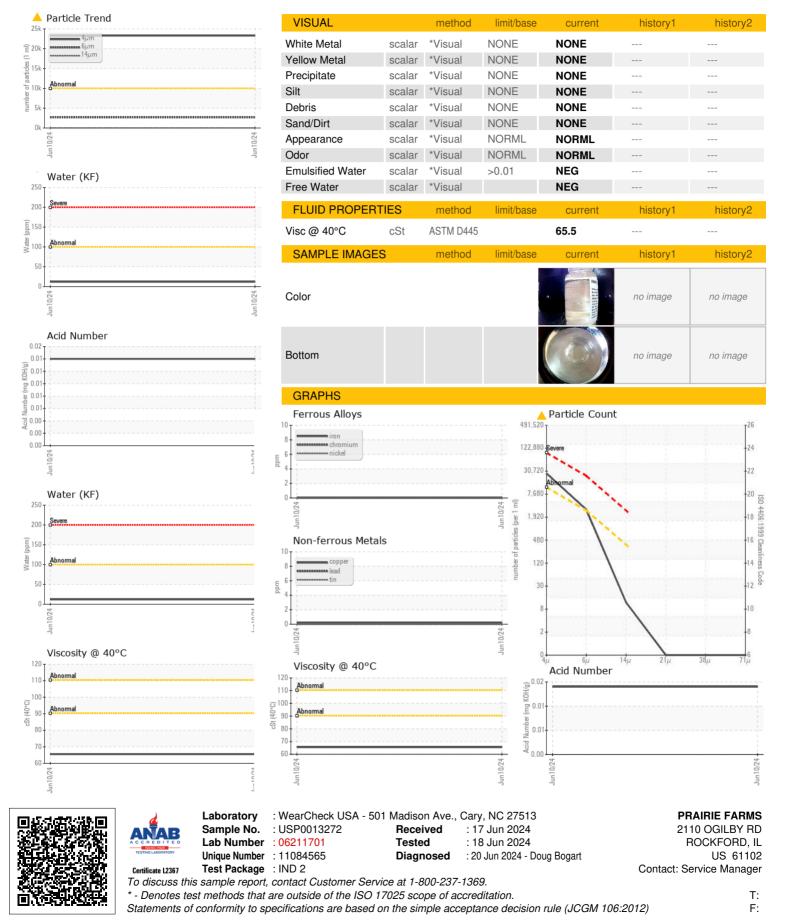
Fluid Condition

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

Sample NumberClient InfoUSP0013272Sample DateClient Info10 Jun 2024Machine AgehrsClient Info0Oil AgehrsClient InfoN/AOil AngedToClient InfoN/ASample StatusClient InfoN/AWEAR METALSmethodImtoreABNORMALWEAR METALSmethodSitubNickelppmASTM05155-0NickelppmASTM05155-0NickelppmASTM05155-20SilverppmASTM05155-20AluminumppmASTM05155-20CopperppmASTM05155-20YanadiumppmASTM05155-40MagneseppmASTM05155-40MagneseppmASTM05155-0MagneseppmASTM05155-0MagneseppmASTM05155-0MagneseppmASTM05155-0MagneseppmASTM05155-0	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 48229 Oil Age hrs Client Info N/A Sample Status I Imit/base current Nistory1 WEAR METALS method Imit/base current Nistory1 WEAR METALS method Imit/base current Nistory1 Nickel ppm ASTM D5185m >2 0 Nickel ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >2 0 Auminum ppm ASTM D5185m >2 0 Cadmium ppm ASTM D5185m >4 0 Molybdenum ppm ASTM D5185m 0 M	Sample Number		Client Info		USP0013272		
Oil Age hrs Client Info 0 Sample Status I Image Current ABNORMAL WEAR METALS method Imil/base current history1 history2 Iron ppm ASTM 05185m >8 0 Nickel ppm ASTM 05185m >2 0 Nickel ppm ASTM 05185m >2 0 Aluminum ppm ASTM 05185m >2 0 Copper ppm ASTM 05185m >2 0 Adminum ppm ASTM 05185m >2 0 Admadum ppm ASTM 05185m >2 0 Cadmium ppm ASTM 05185m >4 0 Barium ppm ASTM 05185m 0 </td <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>10 Jun 2024</td> <td></td> <td></td>	Sample Date		Client Info		10 Jun 2024		
Oil Changed Sample Status Client Info N/A	Machine Age	hrs	Client Info		48229		
Sample Status Imath of the status Method Math of the status Method ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >8 0	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >2 0 Nickel ppm ASTM D5185m >2 0 Nickel ppm ASTM D5185m >2 0 Nickel ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >3 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >2 0 Vanadium ppm ASTM D5185m 1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Magnessium ppm ASTM D5185m 0 M	Oil Changed		Client Info		N/A		
Iron ppm ASTM D5185m >8 0 Nickel ppm ASTM D5185m >2 0 Nickel ppm ASTM D5185m >2 0 Titanium ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >2 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >2 0 Vanadium ppm ASTM D5185m <0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Magnessum ppm ASTM D5185m 0 Magnessum ppm ASTM D5185m 0 <tr< th=""><th>Sample Status</th><th></th><th></th><th></th><th>ABNORMAL</th><th></th><th></th></tr<>	Sample Status				ABNORMAL		
Chromium ppm ASTM D5185m >2 0 Nickel ppm ASTM D5185m 0 Silver ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >2 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >4 0 Vanadium ppm ASTM D5185m < 1 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m 0 Titanium ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >2 0 Vanadium ppm ASTM D5185m >4 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Maganese ppm ASTM D5185m 0 Magnasium ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur	Iron	ppm	ASTM D5185m	>8	0		
Titanium ppm ASTM D5185m <1 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >2 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >2 0 Vanadium ppm ASTM D5185m >4 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Marganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Qalcium ppm ASTM D5185m 0 Sulfur ppm	Chromium	ppm	ASTM D5185m	>2	0		
Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >3 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >8 <1	Nickel	ppm	ASTM D5185m		0		
Aluminum ppm ASTM D5185m >3 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >8 <1	Titanium	ppm	ASTM D5185m		<1		
Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >8 <1	Silver	ppm	ASTM D5185m	>2	0		
Copper ppm ASTM D5185m >8 <1 Tin ppm ASTM D5185m >4 0 Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnese ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 1 Sulfur ppm ASTM D5185m 20	Aluminum	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >8 <1 Tin ppm ASTM D5185m >4 0 Vanadium ppm ASTM D5185m >4 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 1 Sulfur ppm ASTM D5185m >15	Lead	ppm	ASTM D5185m	>2	0		
Vanadium ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Maganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Solium ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 1 Sodium ppm ASTM D5185m 1 <t< td=""><td>Copper</td><td>ppm</td><td>ASTM D5185m</td><td>>8</td><td><1</td><td></td><td></td></t<>	Copper	ppm	ASTM D5185m	>8	<1		
Vanadium ppm ASTM D5185m </td <td></td> <td></td> <td>ASTM D5185m</td> <td>>4</td> <td>0</td> <td></td> <td></td>			ASTM D5185m	>4	0		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 1 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 1 Sulfur ppm ASTM D5185m 20 0 Sulfur ppm ASTM D5185m 20 0 Sulfur ppm ASTM D5185m 20 0	Vanadium		ASTM D5185m		<1		
Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Zinc ppm ASTM D5185m 1 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 1 Sodium ppm ASTM D5185m >15 <1	Cadmium		ASTM D5185m		0		
Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m >1 Sodium ppm ASTM D5185m >20 0 Vater % ASTM D6304 >0.01 0.001 pm Water pm ASTM D6304 >100 12 <	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 0 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sodium ppm ASTM D5185m >1 Sodium ppm ASTM D5185m >20 0 Vater % ASTM D6304 >100 12 ppm Water ppm ASTM D7647 >200 <td< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>0</td><td></td><td></td></td<>	Boron	ppm	ASTM D5185m		0		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 1 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Solium ppm ASTM D5185m >15 <1	Barium	ppm	ASTM D5185m		0		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 1 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Solium ppm ASTM D5185m >15 <1	Molybdenum	ppm	ASTM D5185m		0		
Calcium ppm ASTM D5185m 0 Phosphorus ppm ASTM D5185m 1 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1		ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 1 Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m >15 <1 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.01 0.001 PutlID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 23290 Particles >4µm ASTM D7647 >200 2653 Particles >1µm ASTM D7647 >20 0	Magnesium	ppm	ASTM D5185m		0		
Zinc ppm ASTM D5185m 0 Sulfur ppm ASTM D5185m 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Calcium	ppm	ASTM D5185m		0		
SulfurppmASTM D5185m0CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>15<1	Phosphorus	ppm	ASTM D5185m		1		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>15<1			ASTM D5185m		0		
Silicon ppm ASTM D5185m >15 <1	Sulfur	ppm	ASTM D5185m		0		
Sodium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.01 0.001 ppm Water ppm ASTM D6304 >100 12 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1000 23290 Particles >6µm ASTM D7647 >2500 2653 Particles >14µm ASTM D7647 >320 10 Particles >21µm ASTM D7647 >80 0 Particles >38µm ASTM D7647 >20 0 Particles >71µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.01 0.001 ppm Water ppm ASTM D6304 >100 12 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 23290 Particles >6µm ASTM D7647 >2500 2653 Particles >14µm ASTM D7647 >320 10 Particles >14µm ASTM D7647 >320 0 Particles >21µm ASTM D7647 >20 0 Particles >38µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 histor	Silicon	ppm		>15	<1		
Water % ASTM D6304 >0.01 0.001 ppm Water ppm ASTM D6304 >100 12 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 23290 Particles >6µm ASTM D7647 >2500 2653 Particles >6µm ASTM D7647 >320 10 Particles >14µm ASTM D7647 >320 10 Particles >21µm ASTM D7647 >80 0 Particles >38µm ASTM D7647 >20 0 Particles >71µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		1		
ppm Water ppm ASTM D6304 >100 12 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 23290 Particles >6µm ASTM D7647 >2500 2653 Particles >6µm ASTM D7647 >320 10 Particles >14µm ASTM D7647 >320 0 Particles >21µm ASTM D7647 >20 0 Particles >38µm ASTM D7647 >20 0 Particles >71µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm			0		
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 23290 Particles >6µm ASTM D7647 >2500 2653 Particles >14µm ASTM D7647 >320 10 Particles >14µm ASTM D7647 >320 0 Particles >21µm ASTM D7647 >80 0 Particles >38µm ASTM D7647 >20 0 Particles >71µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>0.01	0.001		
Particles >4μm ASTM D7647 >10000 ▲ 23290 Particles >6μm ASTM D7647 >2500 ● 2653 Particles >14μm ASTM D7647 >320 10 Particles >21μm ASTM D7647 >80 0 Particles >21μm ASTM D7647 >80 0 Particles >38μm ASTM D7647 >20 0 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>100	12		
Particles >6µm ASTM D7647 >2500 2653 Particles >14µm ASTM D7647 >320 10 Particles >21µm ASTM D7647 >80 0 Particles >21µm ASTM D7647 >80 0 Particles >38µm ASTM D7647 >20 0 Particles >71µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >320 10 Particles >21μm ASTM D7647 >80 0 Particles >21μm ASTM D7647 >20 0 Particles >38μm ASTM D7647 >20 0 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>10000	<u> </u>		
Particles >21 μm ASTM D7647 >80 0 Particles >38μm ASTM D7647 >20 0 Particles >371μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500	<u> </u>		
Particles >38μm ASTM D7647 >20 0 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>320	10		
Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 ▲ 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>80	0		
Oil Cleanliness ISO 4406 (c) >20/18/15 22/19/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>20	0		
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>4	0		
	Oil Cleanliness		ISO 4406 (c)	>20/18/15	A 22/19/10		
Acid Number (AN) mg KOH/g ASTM D974 0.014	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974		0.014		



OIL ANALYSIS REPORT



Report Id: PRAROCUSP [WUSCAR] 06211701 (Generated: 06/23/2024 02:33:37) Rev: 1

Contact/Location: Service Manager - PRAROCUSP