

# **OIL ANALYSIS REPORT**

### **VIS DEBRIS**

## RSC-3 (S/N SO8240FMPTHAA09) Component

**Refrigeration Compressor** USPI 1009-68 SC (--- GAL)

#### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

#### Wear

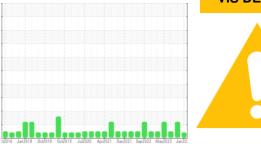
All component wear rates are normal.

#### Contamination

Moderate concentration of visible dirt/debris present in the oil.

#### Fluid Condition

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



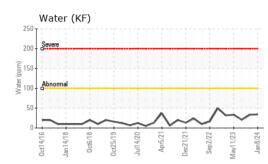


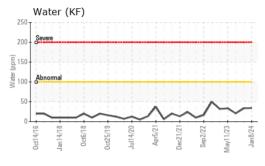
Sample Rating Trend

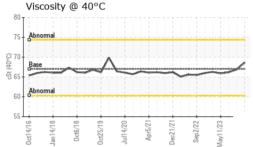
Sample Date     Client Info     08 Jan 2024     20 Oct 2023     04 Au       Machine Age     hrs     Client Info     4324     4282     4281       Oil Age     hrs     Client Info     0     0     0     0       Oil Age     hrs     Client Info     0     0     0     0       Oil Changed     Client Info     N/A     N/A     N/A     N/A     N/A       Sample Status     Image     Client Info     N/A     N/A     N/A     N/A       WEAR METALS     method     limit/base     current     history1     hr       Iron     ppm     ASTM D5185m     >8     <1     0     0       Chromium     ppm     ASTM D5185m     >2     0     <1     0     0       Nickel     ppm     ASTM D5185m     >2     0     <1     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0     0       Lead     ppm     ASTM D5185m     >2	000706 g 2023 //AL istory2
Machine Age Oil AgehrsClient Info432442824281Oil AgehrsClient Info0000Oil ChangedClient InfoN/AN/AN/ASample StatusImathin Client InfoABNORMALATTENTIONNORIWEAR METALSmethodlimit/basecurrenthistory1rIronppmASTM D5185m>8<100ChromiumppmASTM D5185m>20<10NickelppmASTM D5185m0<100SilverppmASTM D5185m>2000SilverppmASTM D5185m>2000LeadppmASTM D5185m>2000CopperppmASTM D5185m>2000VanadiumppmASTM D5185m>40<10VanadiumppmASTM D5185m>4000ADDITIVESmethodlimit/basecurrenthistory1nBoronppmASTM D5185m0000ManganeseppmASTM D5185m0000ManganeseppmASTM D5185m0000ManganeseppmASTM D5185m0000ManganeseppmASTM D5185m0000ManganeseppmASTM D5185m	ЛАL
Machine AgehrsClient Info432442824281Oil AgehrsClient Info0000Oil ChangedClient InfoN/AN/AN/AN/ASample StatusImageImageABNORMALATTENTIONNORIWEAR METALSmethodlimit/basecurrenthistory1MIronppmASTM D5185m>8<100ChromiumppmASTM D5185m>20<10NickelppmASTM D5185m0<100SilverppmASTM D5185m>2000SilverppmASTM D5185m>2000LeadppmASTM D5185m>2000CopperppmASTM D5185m>2000TinppmASTM D5185m>40<10VanadiumppmASTM D5185m>4000CadmiumppmASTM D5185m0000ADDITIVESmethodlimit/basecurrenthistory1mBoronppmASTM D5185m0000MaganeseppmASTM D5185m0000MaganeseppmASTM D5185m0000MaganesiumppmASTM D5185m0000MaganesiumppmASTM D5185m0<	ЛАL
Oil Age     hrs     Client Info     0     0     0       Oil Changed     Client Info     N/A     N/A     N/A     N/A       Sample Status     Image     Client Info     N/A     ABNORMAL     ATTENTION     NORI       WEAR METALS     method     limit/base     current     history1     r     r       Iron     ppm     ASTM D5185m     >8     <1     0     0       Chromium     ppm     ASTM D5185m     >2     0     <1     0       Nickel     ppm     ASTM D5185m     >2     0     <1     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >2     0     0     0       Lead     ppm     ASTM D5185m     >2     0     0     0       Vanadium     ppm     ASTM D5185m     >4     0     <1     0       ADDITIVES     method     limit/base     current     history1 <t< th=""><th></th></t<>	
Oil ChangedClient InfoN/AN/AN/AN/ASample StatusImage StatusImage StatusABNORMALATTENTIONNORIWEAR METALSmethodlimit/basecurrenthistory1Image StatusIronppmASTM D5185m>8<1	
Sample Status     Image: Status     Method     Imit/base     Current     history1     NOR iteration       Iron     ppm     ASTM D5185m     >8     <1     0     0       Chromium     ppm     ASTM D5185m     >2     0     <1     0       Nickel     ppm     ASTM D5185m     >2     0     <1     0       Titanium     ppm     ASTM D5185m     0     <1     0     0       Silver     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       Vanadium     ppm     ASTM D5185m     >4     0     <1     0       Cadmium     ppm     ASTM D5185m     >4     0     <1     0       Boron     ppm     ASTM D5185m     0     0	
WEAR METALS     method     limit/base     current     history1     h       Iron     ppm     ASTM D5185m     >8     <1	
Iron     ppm     ASTM D5185m     >8     <1	Story2
Chromium     ppm     ASTM D5185m     >2     0     <1	
Nickel     ppm     ASTM D5185m     0     <1     0       Titanium     ppm     ASTM D5185m     0     <1	
Titanium     ppm     ASTM D5185m     0     <1     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >3     1     1     0       Lead     ppm     ASTM D5185m     >3     1     1     0       Lead     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >8     <1	
Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >3     1     1     0       Lead     ppm     ASTM D5185m     >2     0     0     0     0       Copper     ppm     ASTM D5185m     >2     0     0     0     0       Copper     ppm     ASTM D5185m     >2     0     0     0     0       Vanadium     ppm     ASTM D5185m     >4     0     <1     0       Vanadium     ppm     ASTM D5185m     >4     0     <1     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       Boron     ppm     ASTM D5185m     0     0     0     0       Barium     ppm     ASTM D5185m     0     0     0     0       Manganese     ppm     ASTM D5185m     0     <	
Aluminum     ppm     ASTM D5185m     >3     1     1     0       Lead     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >2     0     0     0       Tin     ppm     ASTM D5185m     >8     <1	
Lead     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >8     <1     <1     0       Tin     ppm     ASTM D5185m     >4     0     <1     0       Vanadium     ppm     ASTM D5185m     >4     0     <1     0       Vanadium     ppm     ASTM D5185m     0     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     <1     0       ADDITIVES     method     limit/base     current     history1     h       Boron     ppm     ASTM D5185m     0     0     0     0       Barium     ppm     ASTM D5185m     0     0     0     0       Malganese     ppm     ASTM D5185m     0     0     0     0       Malganesium     ppm     ASTM D5185m     0     0     0     0       Malganesium     ppm     ASTM D5185m     0     0     0     0	
Copper     ppm     ASTM D5185m     >8     <1     <1     0       Tin     ppm     ASTM D5185m     >4     0     <1	
Tin     ppm     ASTM D5185m     >4     0     <1     0       Vanadium     ppm     ASTM D5185m     >4     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     <1     0     0       Cadmium     ppm     ASTM D5185m     0     <1     0       ADDITIVES     method     limit/base     current     history1     h       Boron     ppm     ASTM D5185m     0     0     0     0       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1     0       Manganese     ppm     ASTM D5185m     0     0     0     0       Magnesium     ppm     ASTM D5185m     0     0     0     0     0       Phosphorus     ppm     ASTM D5185m     0     0     0     0     0       Item     ASTM D5185m     0     0     0     0 <th< td=""><td></td></th<>	
Vanadium     ppm     ASTM D5185m     0     0     0       Cadmium     ppm     ASTM D5185m     0     <1	
Cadmium     ppm     ASTM D5185m     0     <1     0       ADDITIVES     method     limit/base     current     history1     h       Boron     ppm     ASTM D5185m     0     0     0     0     0       Barium     ppm     ASTM D5185m     0 <t< td=""><td></td></t<>	
ADDITIVES     method     limit/base     current     history1     h       Boron     ppm     ASTM D5185m     0     0     0     0       Barium     ppm     ASTM D5185m     0     0     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1	
Boron     ppm     ASTM D5185m     0     0     0       Barium     ppm     ASTM D5185m     0     0     0       Barium     ppm     ASTM D5185m     0     <1     0       Molybdenum     ppm     ASTM D5185m     0     <1     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       Phosphorus     ppm     ASTM D5185m     0     0     0     0       Zinc     ppm     ASTM D5185m     0     0     0     0	
Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1     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     0     0       Zinc     ppm     ASTM D5185m     0     0     0	istory2
Molybdenum     ppm     ASTM D5185m     O     <1     O       Manganese     ppm     ASTM D5185m     O <td></td>	
Manganese     ppm     ASTM D5185m     0     0     0       Magnesium     ppm     ASTM D5185m     0     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	
Magnesium     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	
Magnesium     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	
Phosphorus     ppm     ASTM D5185m     0     0     0       Zinc     ppm     ASTM D5185m     0     0     0     0	
Phosphorus     ppm     ASTM D5185m     0     0     0       Zinc     ppm     ASTM D5185m     0     0     0     0	
<b>Zinc</b> ppm ASTM D5185m <b>0</b> 0 0	
CONTAMINANTS method limit/base current history1 h	istory2
Silicon ppm ASTM D5185m >15 1 <1 <1	
Sodium ppm ASTM D5185m <1 0 0	
Potassium ppm ASTM D5185m >20 <1 2 0	
Water % ASTM D6304 >0.01 0.003 0.003 0.0	02
ppm Water ppm ASTM D6304 >100 34 33.3 20	6
FLUID CLEANLINESS method limit/base current history1 h	
Particles >4μm     ASTM D7647     >10000      ▲ 12747     30	istory2
Particles >6μm ASTM D7647 >2500 Δ 3011 57	
Particles >14μm     ASTM D7647     >320      60     4	19
Particles >21µm ASTM D7647 >80 9 1	19
Particles >38µm ASTM D7647 >20 1 0	19
Particles >71µm ASTM D7647 >4 0 0	19
	19
FLUID DEGRADATION method limit/base current history1 h	19
Acid Number (AN) mg KOH/g ASTM D974 0.005 0.014 0.014 0.0	19 1



# **OIL ANALYSIS REPORT**





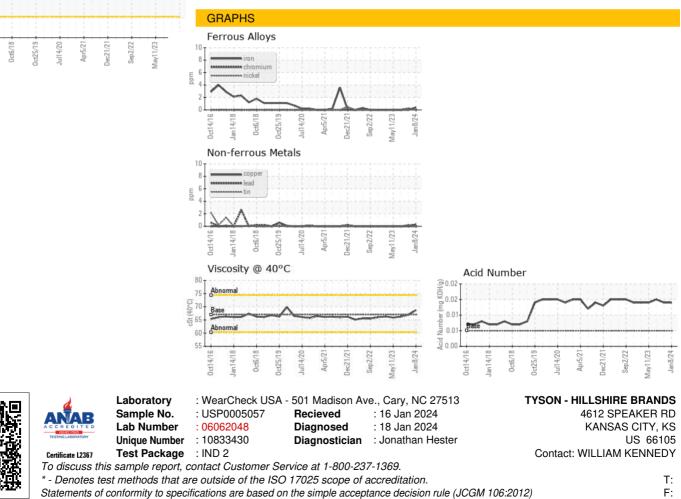


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	🔺 MODER	NONE	NONE
Sand/Dirt	scalar	*Visual	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	68.7	66.9	66.2
SAMPLE IMAGES	S	method	limit/base	current	history1	history2

Color



Bottom





Contact/Location: WILLIAM KENNEDY - TYSKAN