

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id MS-2 (S/N 09302-004-1-01-07) 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.

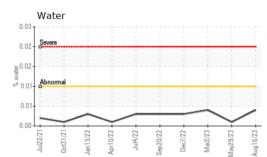
Fluid Condition

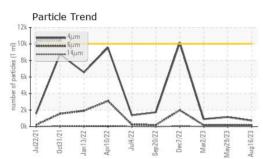
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

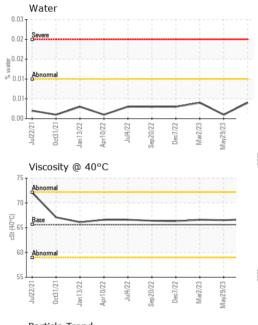
SAMPLE INFORMATIONmethodlimit/basecurrenthistory1Sample NumberClient InfoUSP244627USP245850Sample DateClient Info16 Aug 202329 May 2023Machine AgehrsClient Info00Oil AgehrsClient Info00Oil ChangedClient InfoN/AN/ASample Status-Imit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1NickelppmASTM D5185m>20<1NickelppmASTM D5185m>20<1SilverppmASTM D5185m>20<1CopperppmASTM D5185m>20<1CopperppmASTM D5185m>20<1TinppmASTM D5185m>20<1CopperppmASTM D5185m>20<1CadmiumppmASTM D5185m000CadmiumppmASTM D5185m000BoronppmASTM D5185m000ManganeseppmASTM D5185m000MagnesiumppmASTM D5185m000ManganeseppmASTM D5185m000ManganeseppmASTM D5185m000Mangensiumppm <th>history2 USP247489 02 Mar 2023 0 0</th>	history2 USP247489 02 Mar 2023 0 0
Sample DateIf Client InfoIf Aug 202329 May 2023Machine AgehrsClient Info00Oil AgehrsClient InfoN/AN/ASample StatusIINORMALNORMALSample StatusIImit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1NickelppmASTM D5185m>20<1NickelppmASTM D5185m>20<1SilverppmASTM D5185m>20<1CopperppmASTM D5185m>20<1TinppmASTM D5185m>300CadmiumppmASTM D5185m>20<1PpmASTM D5185m>20<1CopperppmASTM D5185m>20<1CadmiumppmASTM D5185m>400CadmiumppmASTM D5185m00<1BoronppmASTM D5185m000BariumppmASTM D5185m000ManganeseppmASTM D5185m000ManganeseppmASTM D5185m000ManganesiumppmASTM D5185m000ManganesiumppmASTM D5185m000Manganesiumppm <th>02 Mar 2023 0</th>	02 Mar 2023 0
Sample DateClient Info16 Aug 202329 May 2023Machine AgehrsClient Info00Oil AgehrsClient InfoN/AN/ASample StatusIImit/basecurrenthistory1WEAR METALSmethodlimit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1	0
Machine AgehrsClient Info00Oil AgehrsClient Info00Oil ChangedClient InfoN/AN/ASample StatusIIImit/basecurrenthistory1WEAR METALSmethodlimit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1	
Oil Changed Sample StatusClient InfoN/AN/ASample StatusClient InfoN/ANORMALNORMALWEAR METALSmethodlimit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1	0
Sample StatusNORMALNORMALWEAR METALSmethodlimit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1	
Sample StatusNORMALNORMALWEAR METALSmethodlimit/basecurrenthistory1IronppmASTM D5185m>800ChromiumppmASTM D5185m>20<1	N/A
Iron ppm ASTM D5185m >8 0 0 Chromium ppm ASTM D5185m >2 0 <1	NORMAL
Pr ASTM D5185m >2 0 <1 Nickel ppm ASTM D5185m 0 <1	history2
Nickel ppm ASTM D5185m 0 <1 Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >2 0 0 Aluminum ppm ASTM D5185m >2 0 0 Aluminum ppm ASTM D5185m >3 0 0 Lead ppm ASTM D5185m >2 0 <1	0
Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >2 0 0 Aluminum ppm ASTM D5185m >3 0 0 Lead ppm ASTM D5185m >2 0 <1	0
Silver ppm ASTM D5185m >2 0 0 Aluminum ppm ASTM D5185m >3 0 0 Lead ppm ASTM D5185m >2 0 <1	0
Aluminum ppm ASTM D5185m >3 0 0 Lead ppm ASTM D5185m >2 0 <1	<1
Lead ppm ASTM D5185m >2 0 <1 Copper ppm ASTM D5185m >8 0 0 Tin ppm ASTM D5185m >4 0 0 Vanadium ppm ASTM D5185m >4 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0	0
Copper ppm ASTM D5185m >8 0 0 Fin ppm ASTM D5185m >4 0 0 Vanadium ppm ASTM D5185m >4 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 <11	<1
Copper ppm ASTM D5185m >8 0 0 Tin ppm ASTM D5185m >4 0 0 Vanadium ppm ASTM D5185m >4 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 <11	0
Fin ppm ASTM D5185m >4 O O Vanadium ppm ASTM D5185m O O O Cadmium ppm ASTM D5185m O O O ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m O O Barium ppm ASTM D5185m O O Barium ppm ASTM D5185m O O Maganese ppm ASTM D5185m O O Magnesium ppm ASTM D5185m O O	0
VanadiumppmASTM D5185m00CadmiumppmASTM D5185m00ADDITIVESmethodlimit/basecurrenthistory1BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m00ManganeseppmASTM D5185m0<1	0
CadmiumppmASTM D5185m00ADDITIVESmethodlimit/basecurrenthistory1BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m00ManganeseppmASTM D5185m0<1	0
Boron ppm ASTM D5185m O O Barium ppm ASTM D5185m O O Molybdenum ppm ASTM D5185m O O Manganese ppm ASTM D5185m O <1	0
Barium ppm ASTM D5185m O O Molybdenum ppm ASTM D5185m O O Manganese ppm ASTM D5185m O <1	history2
Molybdenum ppm ASTM D5185m O O Manganese ppm ASTM D5185m O <1 Magnesium ppm ASTM D5185m O <1	0
Manganese ppm ASTM D5185m O <1 Magnesium ppm ASTM D5185m O 0	0
Agnesium ppm ASTM D5185m 0 0	0
	<1
Calcium ppm ASTM D5185m 0 0	0
	0
Phosphorus ppm ASTM D5185m 0 1	0
Zinc ppm ASTM D5185m 0 0	1
Sulfur ppm ASTM D5185m 50 0 0	0
CONTAMINANTS method limit/base current history1	history2
Silicon ppm ASTM D5185m >15 2 <1	1
Sodium ppm ASTM D5185m <1 <1	0
Potassium ppm ASTM D5185m >20 <1 1	0
Nater % ASTM D6304 >0.01 0.004 0.001	0.004
opm Water ppm ASTM D6304 >100 48.1 8.9	42.6
FLUID CLEANLINESS method limit/base current history1	history2
Particles >4μm ASTM D7647 >10000 709 1145	907
Particles >6μm ASTM D7647 >2500 154 201	165
Particles >14μm ASTM D7647 >320 16 17	12
Particles >21μm ASTM D7647 >80 4 4	4
Particles >38μm ASTM D7647 >20 0 1	0
Particles >71μm ASTM D7647 >4 0 0	0
Dil Cleanliness ISO 4406 (c) >20/18/15 17/14/11 17/15/11	17/15/11
FLUID DEGRADATION method limit/base current history1	history2
Acid Number (AN) mg KOH/g ASTM D974 0.005 0.015 0.015	

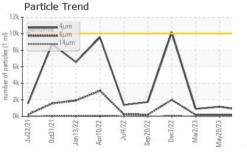


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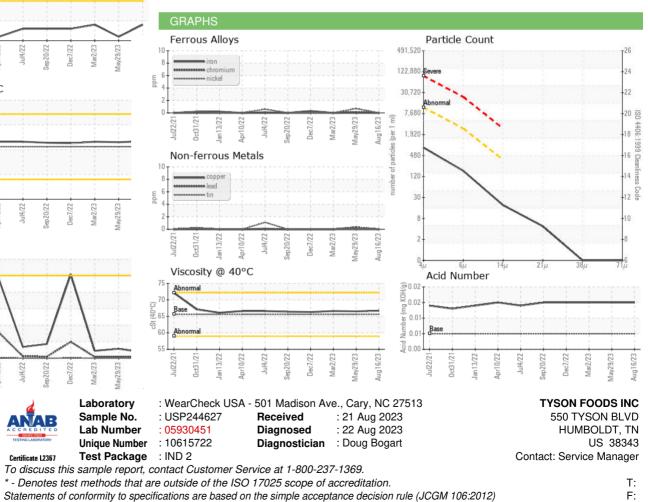






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	65.6	66.7	66.5	66.6
SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Color						
Pottom						

Bottom



Contact/Location: Service Manager - TYSHUM