

## **OIL ANALYSIS REPORT**

Sample Rating Trend

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### NORMAL

## Machine Id DUMHAM BUSH TYSNEWP2 3H3B (S/N 4722/7083)

Refrigeration Compressor

USPI ALT-68 SC (--- 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

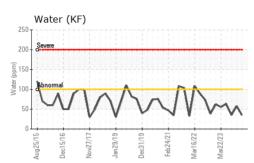
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

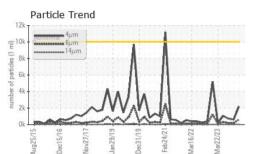
Sample Date Client Info 02 Jun 2024 14 Dec 2023 22 Sep 202   Machine Age hrs Client Info 169929 18652 167278   Oil Age hrs Client Info 94934 93657 92287   Oil Changed Client Info NA NA NA   Sample Status Client Info NA NA NA   VEAR METALS method imit/base current history1 history1   Iron ppm ASTM D5185m >2 <1 0 0   Nickel ppm ASTM D5185m >2 0 0 0   Silver ppm ASTM D5185m >2 0 0 0   Cadmium ppm ASTM D5185m >2 1 0 0   Cadmium ppm ASTM D5185m >2 1 0 0   Cadmium ppm ASTM D5185m <1 0 0 0   Cadenium ppm ASTM D	SAMPLE INFORM	<b>/</b> ATION	method	limit/base	current	history1	history2
Sample Date Client Info 02 Jun 2024 14 Dec 2023 22 Sep 202   Machine Age hrs Client Info 169929 188652 167278   Oil Age hrs Client Info 94934 93657 92287   Oil Changed Client Info NA N/A NA   Sample Status Imit/base current history1 history1   Iron ppm ASTM D5185m >2 <1 0 0   Nickel ppm ASTM D5185m >2 <1 0 0   Tatanium ppm ASTM D5185m >2 0 0 0   Silver ppm ASTM D5185m >2 1 0 0 0   Tian ppm ASTM D5185m >2 1 0 <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>USP0012686</th> <th>USP0004703</th> <th>USP0001797</th>	Sample Number		Client Info		USP0012686	USP0004703	USP0001797
Machine Age hrs. Client Info 169929 168652 167278   Oil Age hrs. Client Info 94934 93657 92287   Oil Changed Client Info N/A N/A N/A N/A   Sample Status Imit/base current history1 history1   Iron ppm ASTM D5185m >8 <1 0 0   Chromium ppm ASTM D5185m <1 0 0 0   Silver ppm ASTM D5185m <1 0 0 0   Silver ppm ASTM D5185m <1 0 0 0   Copper ppm ASTM D5185m <1 0 0 0   Cadmium </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>22 Sep 2023</th>							22 Sep 2023
Oil Age hrs. Client Info 94934 93657 92287   Oil Changed Client Info N/A N/A N/A N/A   Sample Status method limit/base current history! history!   Iron ppm ASTM D5185m >8 <1 0 0   Chromium ppm ASTM D5185m >2 <1 0 0   Iron ppm ASTM D5185m >2 <1 0 0   Nickel ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >2 0 0 0   Auminum ppm ASTM D5185m >4 <1 0 0   Vanadium ppm ASTM D5185m <4 <1 0 0   Vanadium ppm ASTM D5185m <1 0 0 0   Cademium ppm ASTM D5185m <1 0 0 0	•	hrs					
Oil Changed Sample Status Client Info N/A N/A N/A N/A N/A   WEAR METALS method limit/base current history1 history1   Iron ppm ASTM 05185m >8 <1 0 0   Chromium ppm ASTM 05185m >2 <1 0 0   Nickel ppm ASTM 05185m <1 0 0 0   Silver ppm ASTM 05185m <2 0 0 0   Auminum ppm ASTM 05185m >2 0 0 0   Copper ppm ASTM 05185m >3 1 0 0   Cadmium ppm ASTM 05185m <4 1 0 0   Cadmium ppm ASTM 05185m <4 1 0 0   Cadmium ppm ASTM 05185m <1 0 0 0   Boron ppm ASTM 05185m <1 0 0<	0	hrs			94934	93657	
Sample Status Include NORMAL NORMAL NORMAL NORMAL   WEAR METALS method limit/base current history1 history1   Iron ppm ASTM D5185m >8 <1 0 0   Nickel ppm ASTM D5185m <1 0 0   Nickel ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >2 0 0 0   Auminum ppm ASTM D5185m >2 1 0 0 0   Copper ppm ASTM D5185m >3 1 0 0 0   Tin ppm ASTM D5185m >8 <1 0 0 0   Cadmium ppm ASTM D5185m  1 0 0 0   Barium ppm ASTM D5185m 0 0 0 0 0   Molybdenum ppm ASTM D5185m	0						
Iron ppm ASTM D5185m >8 <1	•				NORMAL	NORMAL	NORMAL
Iron ppm ASTM D5185m >8 <1	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >2 <1		maa			<1		
Nickel ppm ASTM D5185m <1	Chromium		ASTM D5185m	>2	<1	0	0
Titanium ppm ASTM D5185m <1	Nickel		ASTM D5185m		<1		0
Silver ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >3 1 0 1   Lead ppm ASTM D5185m >2 <1 0 0   Copper ppm ASTM D5185m >8 <1 0 0   Vanadium ppm ASTM D5185m >4 <1 0 0   Vanadium ppm ASTM D5185m < <1 0 0   Cadmium ppm ASTM D5185m <1 0 0 0   ADDITIVES method limit/base current history1 history1   Boron ppm ASTM D5185m 0 0 0 0   Magnesium ppm ASTM D5185m <1 0 0 0   Calcium ppm ASTM D5185m 0 0 0 0 0   Slifon ppm ASTM D5185m 0 0 1							
Aluminum ppm ASTM D5185m >3 1 0 1   Lead ppm ASTM D5185m >2 <1 0 0   Copper ppm ASTM D5185m >8 <1 0 0   Tin ppm ASTM D5185m >4 <1 0 0   Cadmium ppm ASTM D5185m <1 0 0 0   Cadmium ppm ASTM D5185m <1 0 0 0   Boron ppm ASTM D5185m 0 0 0 0   Barium ppm ASTM D5185m 0 0 0 0   Magnese 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 1				>2			
Lead ppm ASTM D5185m >2 <1	Aluminum		ASTM D5185m	>3	-	0	1
Copper ppm ASTM D5185m >8 <1	Lead				<1		0
Tin ppm ASTM D5185m >4 <1							
Vanadium ppm ASTM D5185m <1							
Cadmium ppm ASTM D5185m <1							
Boron ppm ASTM D5185m 0 0 0 0   Barium ppm ASTM D5185m 0 0 0 0   Molybdenum ppm ASTM D5185m <1 0 0 0   Manganese ppm ASTM D5185m 0 0 <1 0 0   Magnesium ppm ASTM D5185m 0 0 0 1 0 0   Phosphorus ppm ASTM D5185m 0 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Barium ppm ASTM D5185m 0 0 0 0   Molybdenum ppm ASTM D5185m <1 0 0 <1   Magnesium ppm ASTM D5185m <1 0 0 <1   Magnesium ppm ASTM D5185m <1 0 0 0   Calcium ppm ASTM D5185m 0 0 0 0   Zinc ppm ASTM D5185m 0 0 0 0   Sulfur ppm ASTM D5185m 50 0 2 16   CONTAMINANTS method limit/base current history1 history1   Silicon ppm ASTM D5185m >15 1 0 <1   Sodium ppm ASTM D5185m >20 1 0 1   Water % ASTM D6304 >0.01 0.003 0.005 0.003   ppm Water ppm ASTM D7647 >100 35 58	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m <1	Molybdenum	ppm	ASTM D5185m		<1	0	0
Calcium ppm ASTM D5185m 0 0 1   Phosphorus ppm ASTM D5185m 0 0 0   Zinc ppm ASTM D5185m 0 0 0 0   Sulfur ppm ASTM D5185m 50 0 2 16   CONTAMINANTS method limit/base current history1 history2   Silicon ppm ASTM D5185m >15 1 0 <1   Sodium ppm ASTM D5185m >15 1 0 <1   Potassium ppm ASTM D5185m >20 1 0 1   Water % ASTM D6304 >0.01 0.003 0.005 0.003   ppm Water ppm ASTM D7647 >1000 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus ppm ASTM D5185m 0 0 0 0   Zinc ppm ASTM D5185m 0 0 0 0 0   Sulfur ppm ASTM D5185m 50 0 2 16   CONTAMINANTS method limit/base current history1 history1   Silicon ppm ASTM D5185m >15 1 0 <1	Magnesium	ppm	ASTM D5185m		<1	0	0
Zinc ppm ASTM D5185m 0 0 0 0   Sulfur ppm ASTM D5185m 50 0 2 16   CONTAMINANTS method limit/base current history1 history1   Silicon ppm ASTM D5185m >15 1 0 <1   Sodium ppm ASTM D5185m >15 1 0 <1   Potassium ppm ASTM D5185m >20 1 0 1   Water % ASTM D50304 >0.01 0.003 0.005 0.003   ppm Water ppm ASTM D6304 >100 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >14µm ASTM D7647 320 32 19	Calcium	ppm	ASTM D5185m		0	0	1
Sulfur ppm ASTM D5185m 50 0 2 16   CONTAMINANTS method limit/base current history1 history2   Silicon ppm ASTM D5185m >15 1 0 <1   Sodium ppm ASTM D5185m >15 1 0 <1   Potassium ppm ASTM D5185m >20 1 0 1   Water % ASTM D6304 >0.01 0.003 0.005 0.003   ppm Water ppm ASTM D6304 >100 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >6µm ASTM D7647 >20 32 19 12   Particles >21µm ASTM D7647 >20 0 0	Phosphorus	ppm	ASTM D5185m		0	0	0
CONTAMINANTS method limit/base current history1 history1   Silicon ppm ASTM D5185m >15 1 0 <1   Sodium ppm ASTM D5185m >15 1 0 <1   Potassium ppm ASTM D5185m >20 1 0 1   Water % ASTM D6304 >0.01 0.003 0.005 0.003   ppm Water ppm ASTM D6304 >100 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >6µm ASTM D7647 >20 32 19 12   Particles >21µm ASTM D7647 >20 0 0 0   Particles >38µm ASTM D7647 >20 0 0 0	Zinc	ppm	ASTM D5185m		0	0	0
Silicon ppm ASTM D5185m >15 1 0 <1	Sulfur	ppm	ASTM D5185m	50	0	2	16
Sodium ppm ASTM D5185m <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 0 1   Water % ASTM D6304 >0.01 0.003 0.005 0.003   ppm ASTM D6304 >100 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >6µm ASTM D7647 >320 32 19 12   Particles >14µm ASTM D7647 >80 7 6 5   Particles >21µm ASTM D7647 >20 0 0 0   Particles >38µm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Silicon	ppm	ASTM D5185m	>15	1	0	<1
Water % ASTM D6304 >0.01 0.003 0.005 0.003   ppm Water ppm ASTM D6304 >100 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >6µm ASTM D7647 >320 32 19 12   Particles >21µm ASTM D7647 >80 7 6 5   Particles >38µm ASTM D7647 >20 0 0 0   Particles >71µm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Sodium	ppm	ASTM D5185m		<1	0	<1
ppm Water ppm ASTM D6304 >100 35 58 35.0   FLUID CLEANLINESS method limit/base current history1 history1   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >14µm ASTM D7647 >320 32 19 12   Particles >21µm ASTM D7647 >80 7 6 5   Particles >38µm ASTM D7647 >20 0 0 0   Particles >71µm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Potassium	ppm	ASTM D5185m	>20	1	0	1
FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 >10000 2191 599 709   Particles >6µm ASTM D7647 >2500 622 159 171   Particles >14µm ASTM D7647 >320 32 19 12   Particles >21µm ASTM D7647 >80 7 6 5   Particles >38µm ASTM D7647 >20 0 0 0   Particles >71µm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Water	%	ASTM D6304	>0.01	0.003	0.005	0.003
Particles >4μm ASTM D7647 >10000 2191 599 709   Particles >6μm ASTM D7647 >2500 622 159 171   Particles >14μm ASTM D7647 >320 32 19 12   Particles >21μm ASTM D7647 >80 7 6 5   Particles >38μm ASTM D7647 >20 0 0 0   Particles >71μm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	ppm Water	ppm	ASTM D6304	>100	35	58	35.0
Particles >6μm ASTM D7647 >2500 622 159 171   Particles >14μm ASTM D7647 >320 32 19 12   Particles >21μm ASTM D7647 >80 7 6 5   Particles >38μm ASTM D7647 >20 0 0 0   Particles >71μm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >320 32 19 12   Particles >21μm ASTM D7647 >80 7 6 5   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 18/16/12 16/14/11 17/15/11	Particles >4µm		ASTM D7647	>10000	2191	599	709
Particles >21μm ASTM D7647 >80 7 6 5   Particles >38μm ASTM D7647 >20 0 0 0   Particles >37μm ASTM D7647 >20 0 0 0   Particles >71μm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Particles >6µm		ASTM D7647	>2500	622	159	171
Particles >38μm ASTM D7647 >20 0 0 0   Particles >71μm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Particles >14µm		ASTM D7647	>320	32	19	
Particles >71μm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Particles >21µm		ASTM D7647	>80	7	6	5
Oil Cleanliness ISO 4406 (c) >20/18/15 18/16/12 16/14/11 17/15/11	Particles >38µm		ASTM D7647	>20	0	0	0
	Particles >71µm		ASTM D7647	>4	0	0	0
FLUID DEGRADATION method limit/base current history1 history	Oil Cleanliness		ISO 4406 (c)	>20/18/15	18/16/12	16/14/11	17/15/11
Teop Pear Monteen monteen managed carron motory motory	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D974 0.005 0.014 0.013 0.014	Acid Number (AN)	mg KOH/g	ASTM D974	0.005	0.014	0.013	0.014

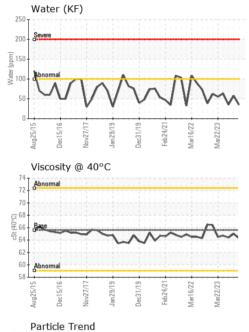
Contact/Location: RICK DUVALL - TYSNHOLP2 Page 1 of 2

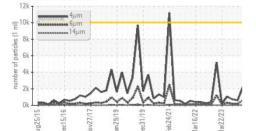


# **OIL ANALYSIS REPORT**



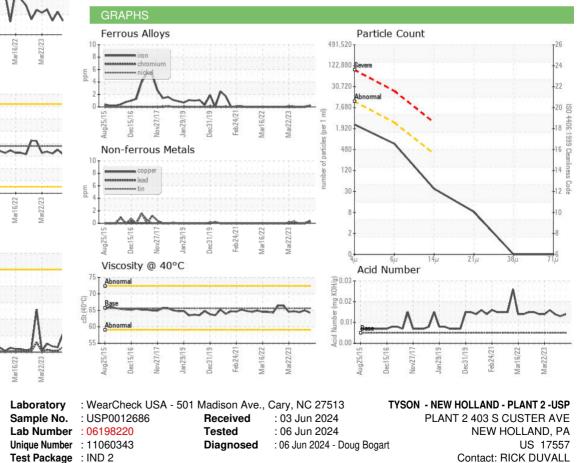






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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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 PROPERT	IES	method				history2
FLUID PROPERT Visc @ 40°C	IES cSt	method ASTM D445	limit/base 65.6	current 64.3	history1 65.0	history2 64.4
	cSt					
Visc @ 40°C	cSt	ASTM D445	65.6	64.3	65.0	64.4



To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)

T: (800)755-4572 F: (402)423-6661

Report Id: TYSNHOLP2 [WUSCAR] 06198220 (Generated: 06/07/2024 08:07:26) Rev: 1

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Contact/Location: RICK DUVALL - TYSNHOLP2