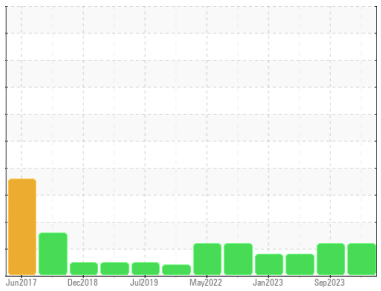
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
HOWDEN TYSDAR 20B
Component
Refrigeration Compressor
Fluid
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 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 INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0007690**	USP0000137	USP243453
Sample Date		Client Info		**20 Feb 2024**	01 Sep 2023	18 May 2023
Machine Age	hrs	Client Info		**10775**	10775	10738
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ATTENTION

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	**8**	5	5
Chromium	ppm	ASTM D5185m	>2	**0**	0	0
Nickel	ppm	ASTM D5185m		**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	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
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
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**0**	0	0
Calcium	ppm	ASTM D5185m		**0**	0	0
Phosphorus	ppm	ASTM D5185m		**<1**	<1	1
Zinc	ppm	ASTM D5185m		**0**	0	0
Sulfur	ppm	ASTM D5185m	50	**11**	12	23

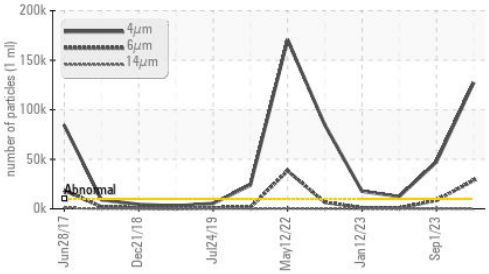
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**1**	<1	0
Sodium	ppm	ASTM D5185m		**<1**	1	<1
Potassium	ppm	ASTM D5185m	>20	**<1**	1	0
Water	%	ASTM D6304	>0.01	**0.005**	0.003	0.009
ppm Water	ppm	ASTM D6304	>100	**59**	28.1	92.6

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **127345**	▲ 47289	▲ 12351
Particles >6µm		ASTM D7647	>2500	▲ **28547**	▲ 8631	807
Particles >14µm		ASTM D7647	>320	**124**	104	9
Particles >21µm		ASTM D7647	>80	**5**	15	2
Particles >38µm		ASTM D7647	>20	**0**	0	0
Particles >71µm		ASTM D7647	>4	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **24/22/14**	▲ 23/20/14	▲ 21/17/10

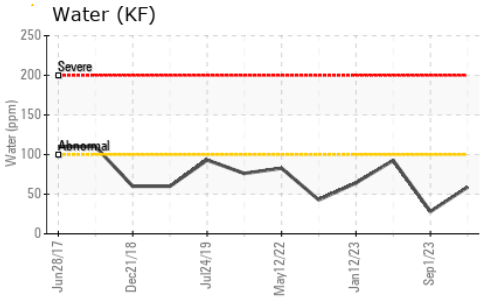
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	**0.028**	0.01	0.015

OIL ANALYSIS REPORT

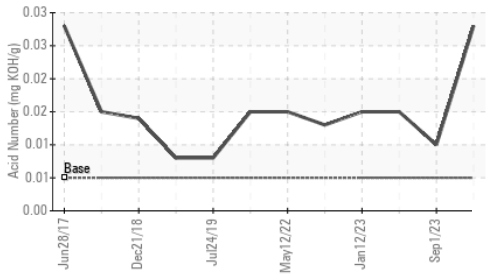
Particle Trend



Water (KF)



Acid Number



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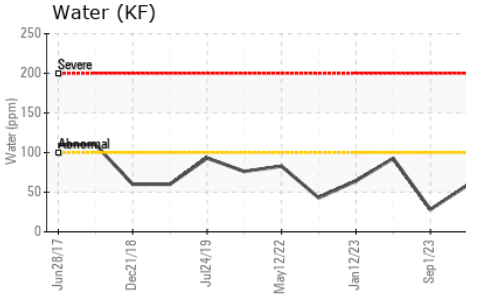
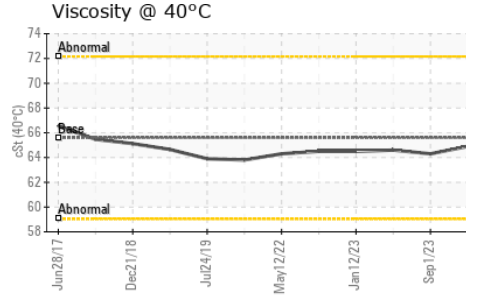


Viscosity @ 40°C



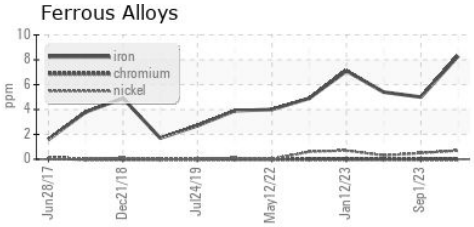
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Sand/Dirt	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	65.6	**64.9**	64.3	64.6

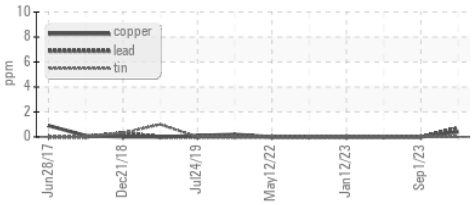
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

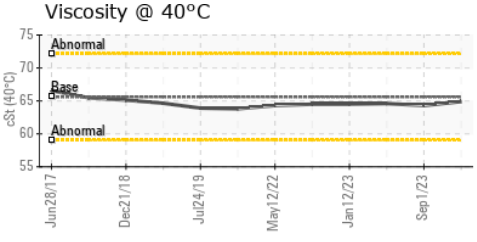
Ferrous Alloys



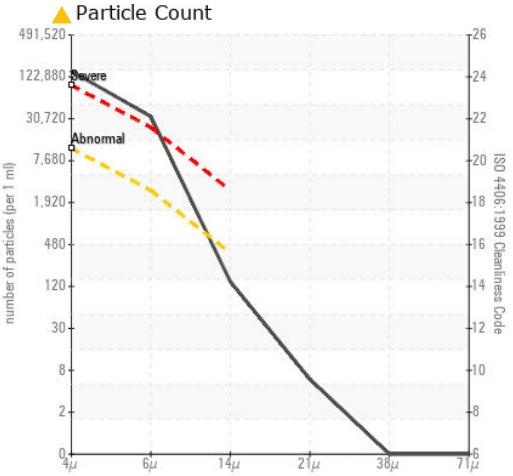
Non-ferrous Metals



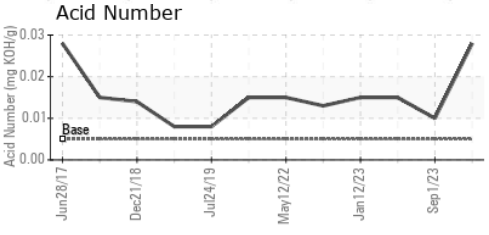
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0007690
Lab Number : 06099204
Unique Number : 10897434
Test Package : IND 2

Received : 23 Feb 2024
Tested : 26 Feb 2024
Diagnosed : 26 Feb 2024 - Doug Bogart

TYSON-DARDANELLE-USP
DARDANELLE, AR
US
Contact: SERVICE MANAGER
T:
F:

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)