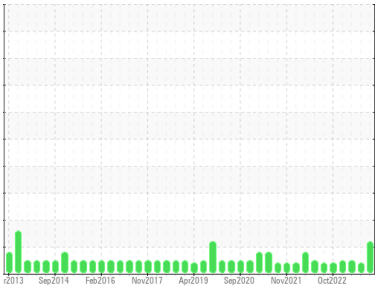
PROBLEM SUMMARY

Sample Rating Trend

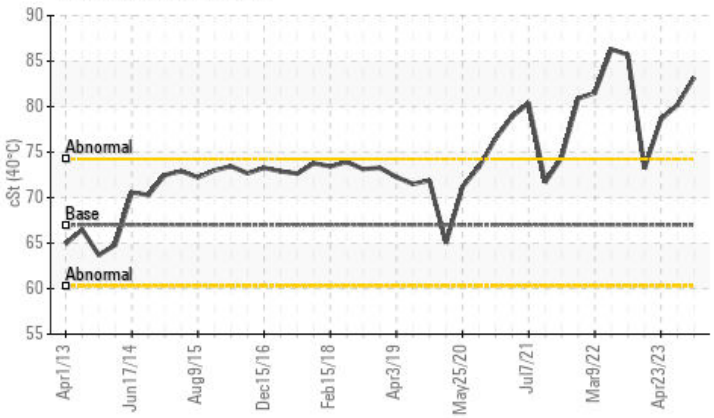


VISCOSITY

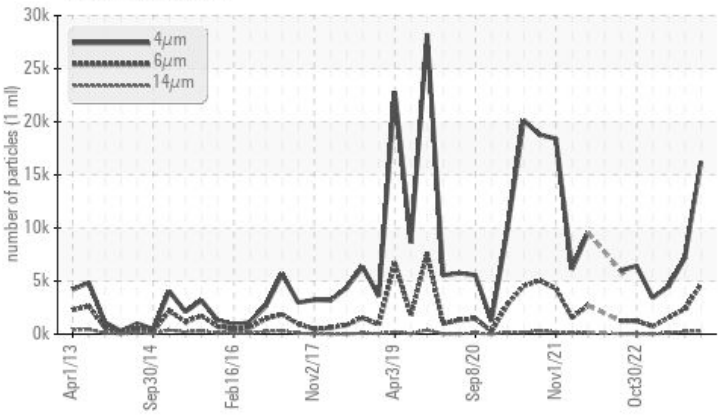
Machine Id
#4 NH3 TYSDCP 4 SUL (S/N 007-00001323)
Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Viscosity @ 40°C



▲ Particle Trend



RECOMMENDATION

The oil is near the end of it`s useful service life and we recommend schedule an oil change. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	MARGINAL	NORMAL
Particles >6µm		ASTM D7647	>2500	▲ **4708**	2367	1565
Oil Cleanliness		ISO 4406 (c)	>--/18/15	▲ **21/19/15**	20/18/15	19/18/14
Visc @ 40°C	cSt	ASTM D445	67	▲ **83.2**	▲ 80.2	78.6

Customer Id: IBPDAK01
Sample No.: USP0000408
Lab Number: 05937287
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Service/change Fluid	---	---	?	The oil is near the end of it's useful service life, recommend schedule an oil change.

HISTORICAL DIAGNOSIS

21 May 2023 Diag: Doug Bogart

VISCOSITY

The oil is near the end of it`s useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid.

view report

23 Apr 2023 Diag: Doug Bogart

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. An increase in the viscosity is noted. Confirmed. The AN level is acceptable for this fluid.

view report

05 Dec 2022 Diag: Doug Bogart

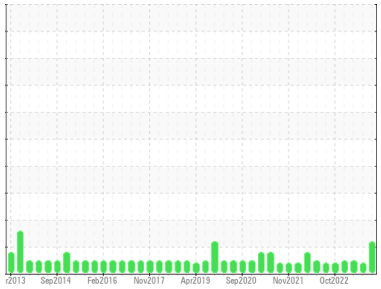
NORMAL

Resample at the next service interval to monitor. REPLACED OIL 11/10/22 THIS IS A 500 HR SAMPLEAll component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
#4 NH3 TYSDCP 4 SUL (S/N 007-00001323)
Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (--- GAL)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life and we recommend schedule an oil change. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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

Fluid Condition
The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0000408**	USP243670	USP248063
Sample Date		Client Info		**28 Aug 2023**	21 May 2023	23 Apr 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	MARGINAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	**<1**	1	3
Chromium	ppm	ASTM D5185m	>2	**<1**	0	0
Nickel	ppm	ASTM D5185m		**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>3	**0**	0	0
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		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	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**	0	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	0
Calcium	ppm	ASTM D5185m		**0**	0	0
Phosphorus	ppm	ASTM D5185m		**1**	<1	0
Zinc	ppm	ASTM D5185m		**2**	0	0
Sulfur	ppm	ASTM D5185m	50	**0**	8	0

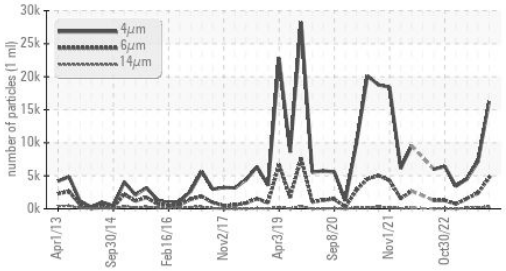
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**2**	2	<1
Sodium	ppm	ASTM D5185m		**<1**	0	<1
Potassium	ppm	ASTM D5185m	>20	**2**	<1	1
Water	%	ASTM D6304	>0.01	**0.003**	0.004	0.001
ppm Water	ppm	ASTM D6304	>100	**29.9**	41.4	14.0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**16226**	7167	4530
Particles >6µm		ASTM D7647	>2500	▲ **4708**	2367	1565
Particles >14µm		ASTM D7647	>320	**281**	240	114
Particles >21µm		ASTM D7647	>80	**43**	61	29
Particles >38µm		ASTM D7647	>20	**2**	15	0
Particles >71µm		ASTM D7647	>4	**0**	4	0
Oil Cleanliness		ISO 4406 (c)	>--/18/15	▲ **21/19/15**	20/18/15	19/18/14

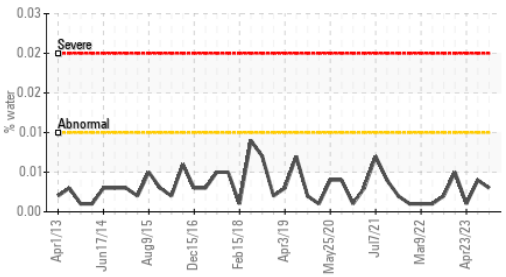
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	**0.043**	0.015	0.013

OIL ANALYSIS REPORT

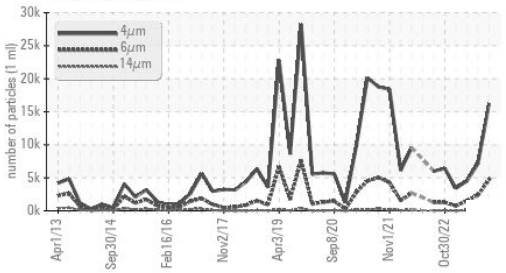
Particle Trend



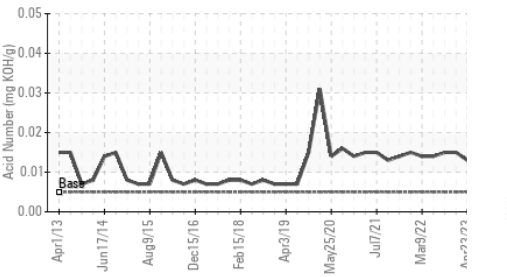
Water



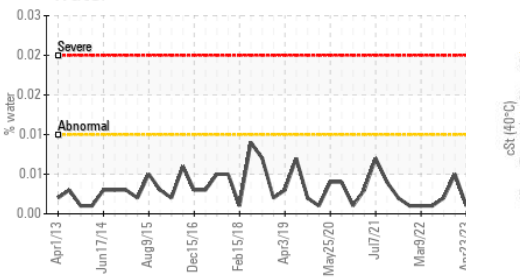
Particle Trend



Acid Number



Water



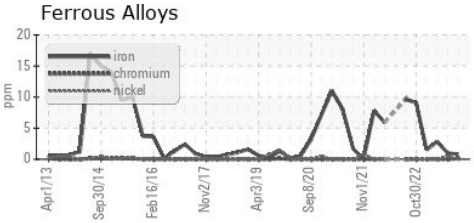
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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 PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	▲ **83.2**	▲ 80.2	78.6

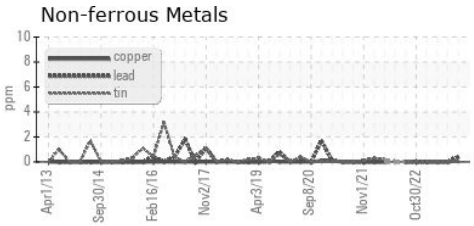
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

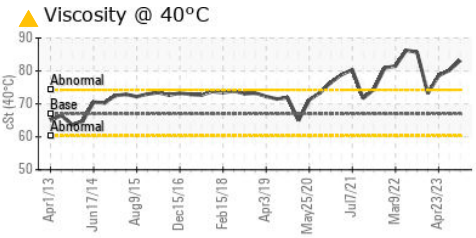
Ferrous Alloys



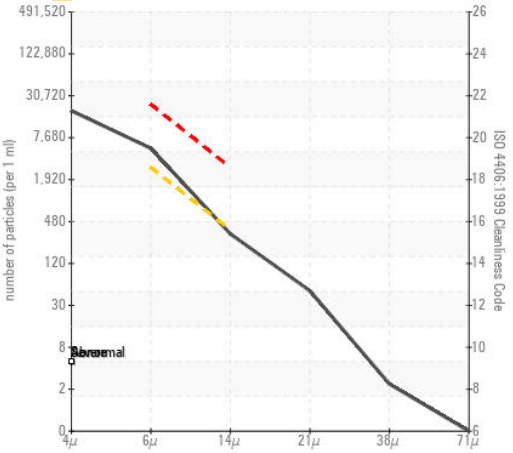
Non-ferrous Metals



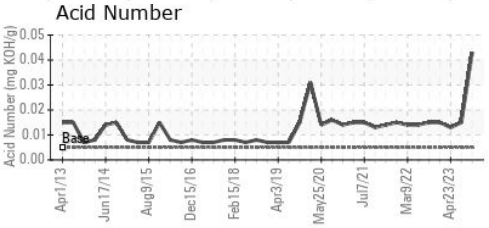
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0000408
Lab Number : 05937287
Unique Number : 10622558
Test Package : IND 2

Received : 29 Aug 2023
Diagnosed : 30 Aug 2023
Diagnostician : Doug Bogart

Certificate L2367

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)

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