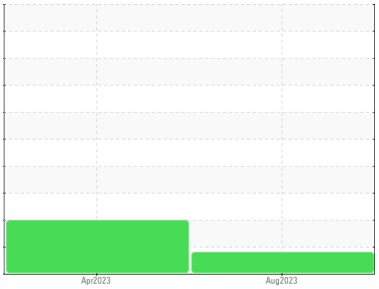
PROBLEM SUMMARY

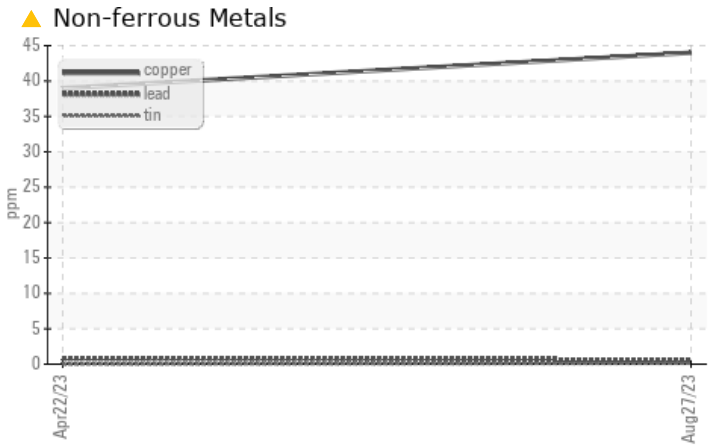
Area
SEAWARD EXPLORER
Machine Id
Explorer - Voith
Component
Starboard Fluid Coupling
Fluid
SHELL TELLUS T46 (--- GAL)

Sample Rating Trend



WEAR

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**MARGINAL**	ABNORMAL	---
Copper	ppm	ASTM D5185m	>20	▲ **44**	▲ 39	---

Customer Id: SEANEW
Sample No.: WC0818094
Lab Number: 05936273
Test Package: MAR 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

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

22 Apr 2023 Diag: Don Baldridge

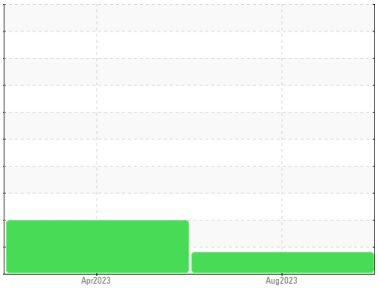
WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. All other component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
SEAWARD EXPLORER
Machine Id
Explorer - Voith
Component
Starboard Fluid Coupling
Fluid
SHELL TELLUS T46 (--- GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. All other component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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		**WC0818094**	WC0754337	---
Sample Date		Client Info		**27 Aug 2023**	22 Apr 2023	---
Machine Age	hrs	Client Info		**14910**	13928	---
Oil Age	hrs	Client Info		**0**	804	---
Oil Changed		Client Info		**N/A**	Not Changd	---
Sample Status				**MARGINAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**2**	2	---
Chromium	ppm	ASTM D5185m	>20	**0**	0	---
Nickel	ppm	ASTM D5185m	>20	**0**	0	---
Titanium	ppm	ASTM D5185m		**<1**	0	---
Silver	ppm	ASTM D5185m		**0**	0	---
Aluminum	ppm	ASTM D5185m	>20	**0**	0	---
Lead	ppm	ASTM D5185m	>20	**<1**	<1	---
Copper	ppm	ASTM D5185m	>20	▲ **44**	▲ 39	---
Tin	ppm	ASTM D5185m	>20	**<1**	0	---
Vanadium	ppm	ASTM D5185m		**<1**	0	---
Cadmium	ppm	ASTM D5185m		**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	**<1**	<1	---
Manganese	ppm	ASTM D5185m		**<1**	0	---
Magnesium	ppm	ASTM D5185m	0	**2**	<1	---
Calcium	ppm	ASTM D5185m	48	**102**	77	---
Phosphorus	ppm	ASTM D5185m	337	**428**	374	---
Zinc	ppm	ASTM D5185m	426	**507**	494	---
Sulfur	ppm	ASTM D5185m	2280	**1697**	1397	---

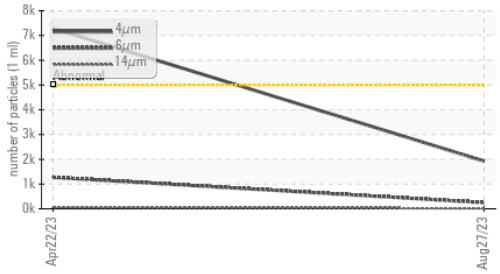
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	<1	---
Sodium	ppm	ASTM D5185m		**5**	2	---
Potassium	ppm	ASTM D5185m	>20	**0**	<1	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**1929**	▲ 7287	---
Particles >6µm		ASTM D7647	>1300	**249**	1272	---
Particles >14µm		ASTM D7647	>160	**15**	59	---
Particles >21µm		ASTM D7647	>40	**4**	13	---
Particles >38µm		ASTM D7647	>10	**0**	0	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**18/15/11**	▲ 20/17/13	---

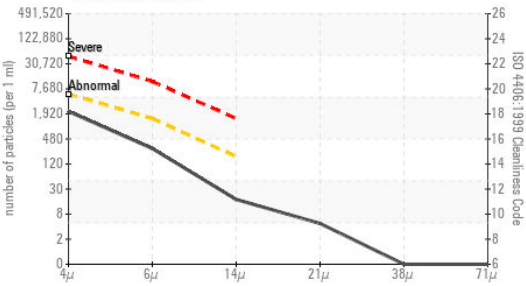
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	.6	**0.37**	0.37	---

OIL ANALYSIS REPORT

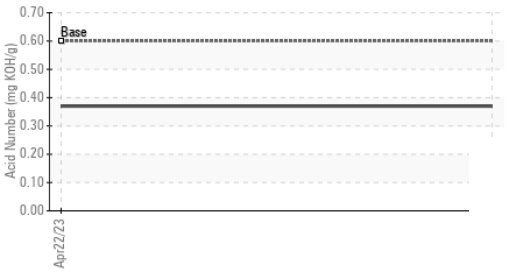
Particle Trend



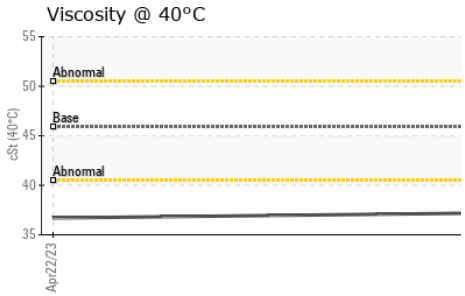
Particle Count



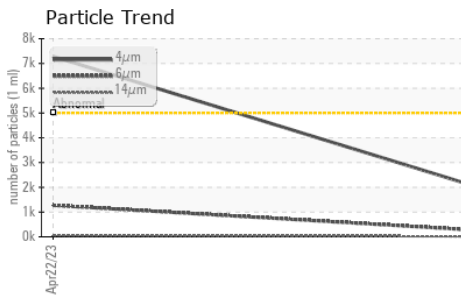
Acid Number



Viscosity @ 40°C

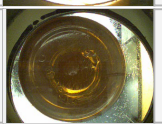


Particle Trend



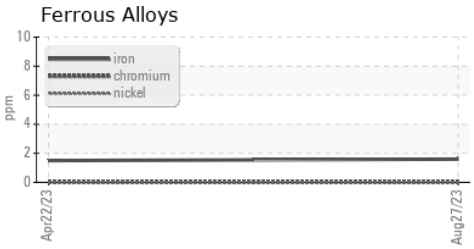
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.05	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45.9	**37.2**	▲ 36.7	---

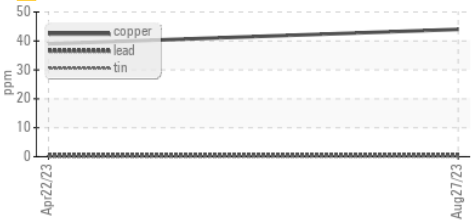
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			no image		no image
Bottom			no image		no image

GRAPHS

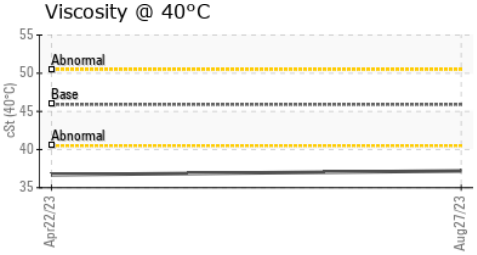
Ferrous Alloys



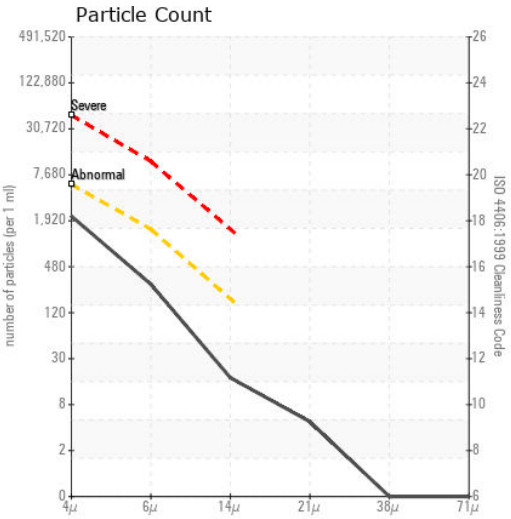
▲ Non-ferrous Metals



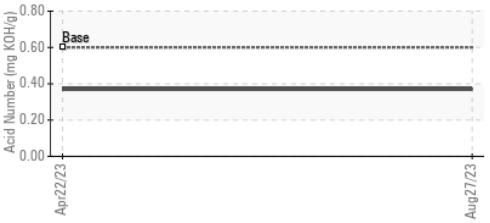
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0818094 **Received** : 28 Aug 2023
Lab Number : 05936273 **Diagnosed** : 05 Sep 2023
Unique Number : 10621544 **Diagnostician** : Doug Bogart
Test Package : MAR 2 (Additional Tests: PrtCount)

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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