



PROBLEM SUMMARY

Sample Rating Trend

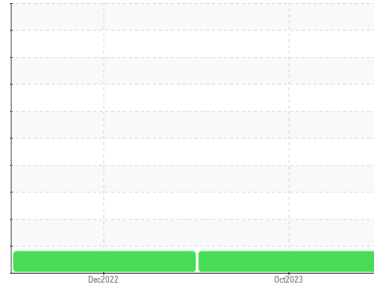
WEAR



Machine Id
ENDEAVOR - VOITH

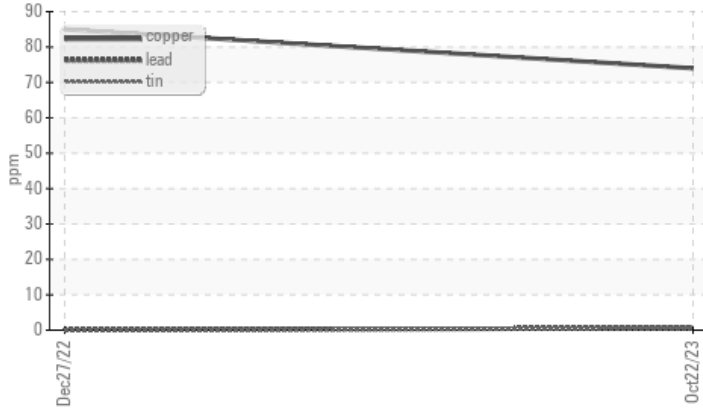
Component
Starboard Reduction Gear

Fluid
NOT GIVEN (--- QTS)



COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	---
Copper	ppm	ASTM D5185m	>50	▲ 74	▲ 85	---

Customer Id: CITSANUS
Sample No.: WC0847408
Lab Number: 06013234
Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldrige +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.

HISTORICAL DIAGNOSIS

27 Dec 2022 Diag: Jonathan Hester

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

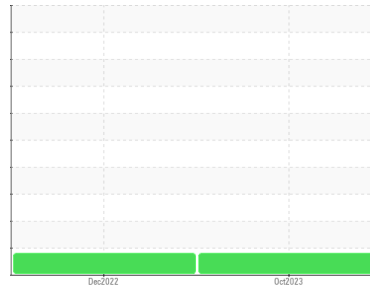
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
ENDEAVOR - VOITH

Component
Starboard Reduction Gear

Fluid
NOT GIVEN (--- QTS)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

▲ Wear

The copper level is abnormal. All other 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0847408	WC0754330	---
Sample Date	Client Info		22 Oct 2023	27 Dec 2022	---
Machine Age	hrs	Client Info	0	12980	---
Oil Age	hrs	Client Info	0	12012	---
Oil Changed	Client Info		Not Chngd	Not Chngd	---
Sample Status			ABNORMAL	ABNORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	0	0	---
Chromium	ppm	ASTM D5185m >10	0	0	---
Nickel	ppm	ASTM D5185m >10	<1	0	---
Titanium	ppm	ASTM D5185m	0	0	---
Silver	ppm	ASTM D5185m	0	0	---
Aluminum	ppm	ASTM D5185m >25	<1	0	---
Lead	ppm	ASTM D5185m >100	<1	0	---
Copper	ppm	ASTM D5185m >50	▲ 74	▲ 85	---
Tin	ppm	ASTM D5185m >10	<1	0	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	<1	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	---
Barium	ppm	ASTM D5185m	<1	0	---
Molybdenum	ppm	ASTM D5185m	0	0	---
Manganese	ppm	ASTM D5185m	<1	<1	---
Magnesium	ppm	ASTM D5185m	2	0	---
Calcium	ppm	ASTM D5185m	127	125	---
Phosphorus	ppm	ASTM D5185m	370	359	---
Zinc	ppm	ASTM D5185m	469	431	---
Sulfur	ppm	ASTM D5185m	1595	1784	---

CONTAMINANTS

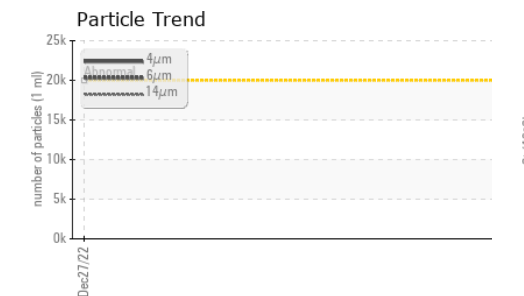
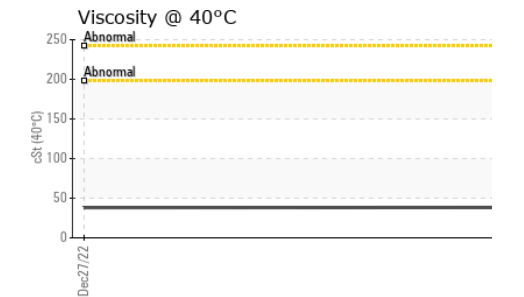
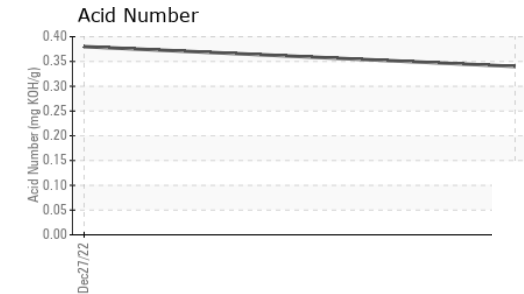
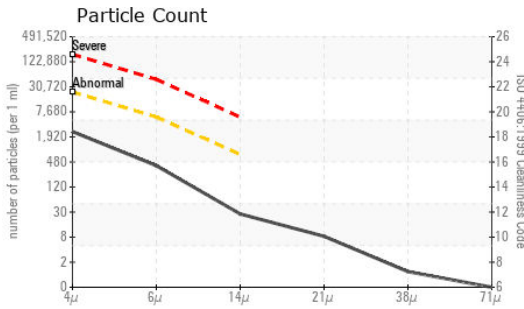
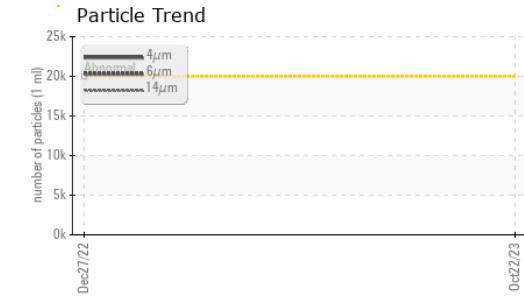
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<1	0	---
Sodium	ppm	ASTM D5185m	0	0	---
Potassium	ppm	ASTM D5185m >20	0	0	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	2258	---	---
Particles >6µm	ASTM D7647	>5000	344	---	---
Particles >14µm	ASTM D7647	>640	24	---	---
Particles >21µm	ASTM D7647	>160	7	---	---
Particles >38µm	ASTM D7647	>40	1	---	---
Particles >71µm	ASTM D7647	>10	0	---	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	18/16/12	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.34	0.38	---



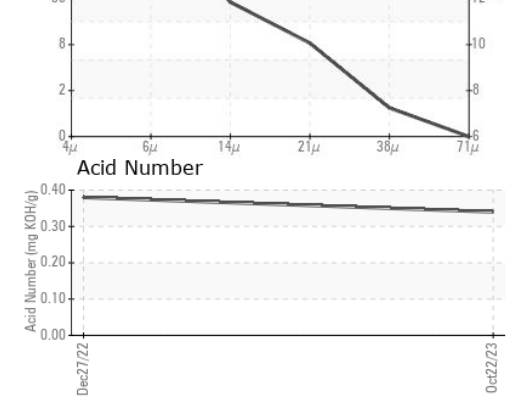
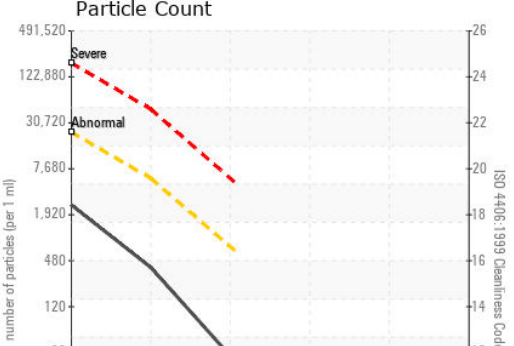
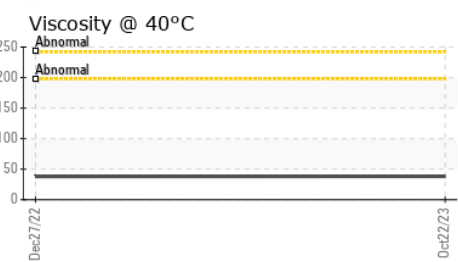
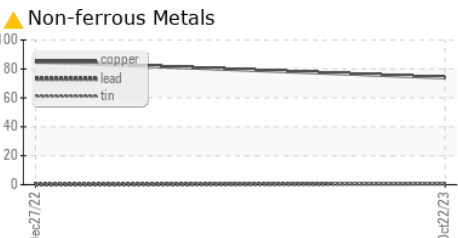
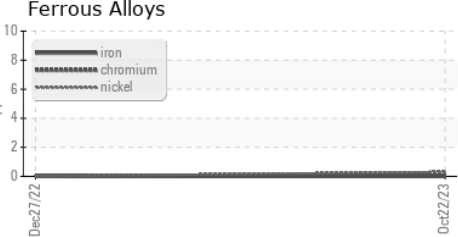
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	38.3	38.1	---

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

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0847408 **Received** : 20 Nov 2023
Lab Number : 06013234 **Diagnosed** : 22 Nov 2023
Unique Number : 10752378 **Diagnostician** : Don Baldrige
Test Package : MAR 2 (Additional Tests: PrtCount)

CITY EXPERIENCES - SEAWARD EXPLORER
 2825 5TH AVENUE
 SAN DIEGO, CA
 US 92103
 Contact: Service Manager

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:
F: