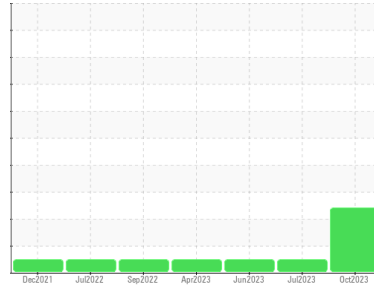




# PROBLEM SUMMARY

Area  
**OCEAN VOYAGER**  
 Machine Id  
**[OCEAN VOYAGER] OCEAN VOYAGER**  
 Component  
**Bow Thruster**  
 Fluid  
**NOT GIVEN (--- LTR)**

Sample Rating Trend

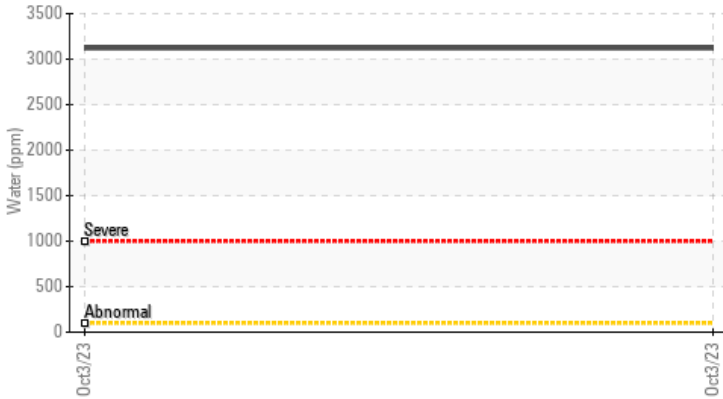


**WATER**



## COMPONENT CONDITION SUMMARY

▲ Water (KF)



## RECOMMENDATION

We advise that you check for the source of water entry. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL
Water	%	ASTM D6304	>0.2	▲ <b>0.312</b>	---	---
ppm Water	ppm	ASTM D6304		▲ <b>3120</b>	---	---
Appearance	scalar	*Visual	NORML	▲ <b>MILKY</b>	NORML	NORML

Customer Id: VICNEWIN  
 Sample No.: WC0824580  
 Lab Number: 05968896  
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Jonathan Hester +1 919-379-4092 x4092  
[jhester@wearcheckusa.com](mailto:jhester@wearcheckusa.com)

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

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Check Water Access	---	---	?	We advise that you check for the source of water entry.

## HISTORICAL DIAGNOSIS

### 08 Jul 2023 Diag: Don Baldrige

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

[view report](#)



### 30 Jun 2023 Diag: Don Baldrige

NORMAL



The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. Confirm oil type. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



### 14 Apr 2023 Diag: Angela Borella

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

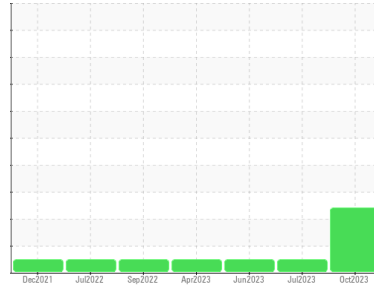
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



**WATER**



Area  
**OCEAN VOYAGER**  
 Machine Id  
**[OCEAN VOYAGER] OCEAN VOYAGER**  
 Component  
**Bow Thruster**  
 Fluid  
**NOT GIVEN (--- LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of water entry. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Appearance is milky. There is a light concentration of water 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	<b>WC0824580</b>	WC0824822	WC0824827
Sample Date	Client Info	<b>03 Oct 2023</b>	08 Jul 2023	30 Jun 2023
Machine Age	hrs	Client Info	420	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	NORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >90	<b>22</b>	5	4
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >10	<b>3</b>	<1	<1
Lead	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m >20	<b>4</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	<b>&lt;1</b>	2	2
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	<b>2</b>	3	3
Calcium	ppm	ASTM D5185m	<b>22</b>	11	9
Phosphorus	ppm	ASTM D5185m	<b>301</b>	311	307
Zinc	ppm	ASTM D5185m	<b>47</b>	10	2
Sulfur	ppm	ASTM D5185m	<b>8978</b>	11201	11148

## CONTAMINANTS

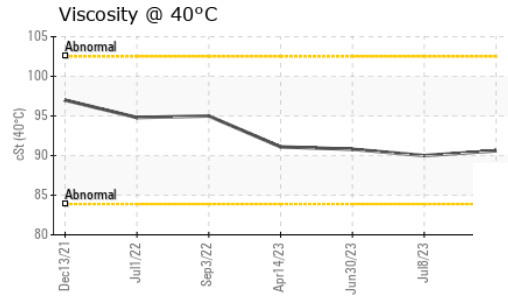
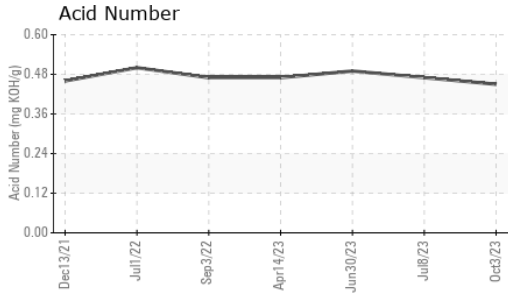
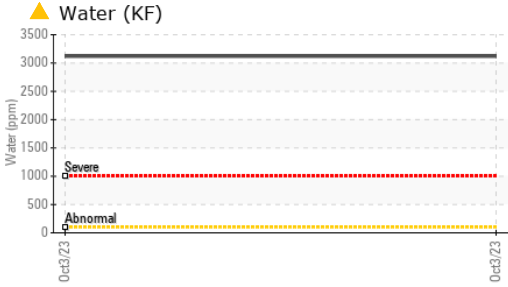
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >7	<b>4</b>	<1	<1
Sodium	ppm	ASTM D5185m	<b>2</b>	1	1
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	3	3
Water	%	ASTM D6304 >0.2	<b>▲ 0.312</b>	---	---
ppm Water	ppm	ASTM D6304	<b>▲ 3120</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.45</b>	0.47	0.49



# OIL ANALYSIS REPORT



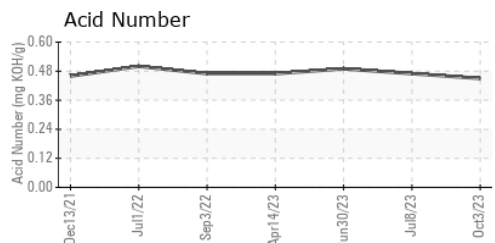
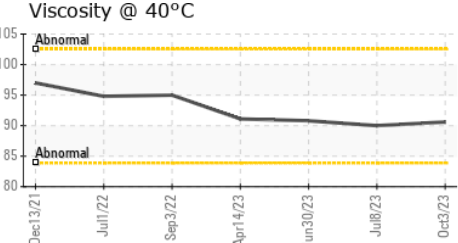
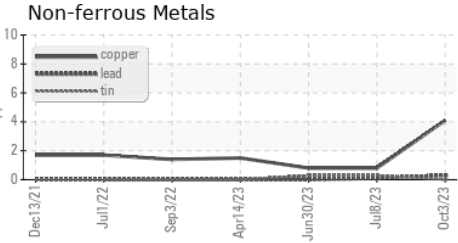
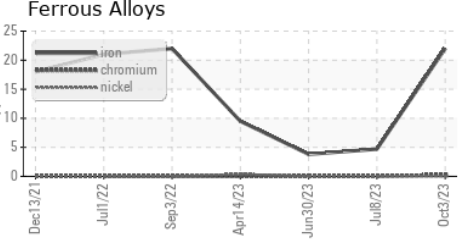
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	▲ MILKY	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	90.6	90.0	90.8

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.** : WC0824580 **Received** : 04 Oct 2023  
**Lab Number** : 05968896 **Diagnosed** : 10 Oct 2023  
**Unique Number** : 10675447 **Diagnostician** : Jonathan Hester  
**Test Package** : MAR 2 ( Additional Tests: KF )

**American Queen Voyages - Oceans**  
 1201 Bridgeport Drive  
 Jeffersonville, IN  
 US 47130  
 Contact: Dietrich Giles  
 DIETRICH.GILES@AQVOYAGES.COM  
 T: (228)591-6239  
 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)