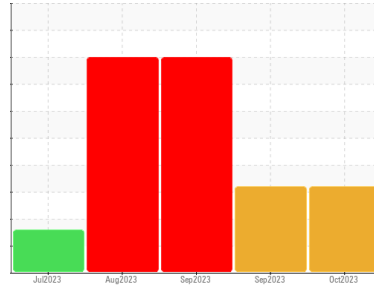




# PROBLEM SUMMARY

Sample Rating Trend

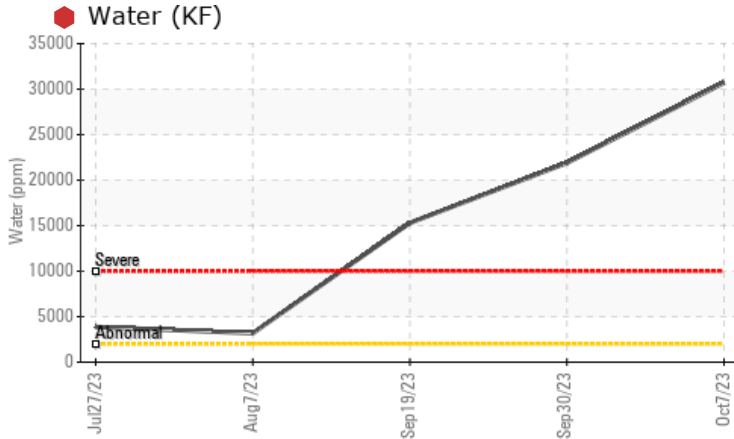


WATER



Area  
**OCEAN VOYAGER**  
 Machine Id  
**[OCEAN VOYAGER] OCEAN VOYAGER - Z-DRIVE**  
 Component  
**Port Gearbox**  
 Fluid  
**FUCHS RENOLIN UNISYN CLP 150 (1600 LTR)**

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Water	%	ASTM D6304	>0.2	<b>3.07</b>	2.19	1.53
ppm Water	ppm	ASTM D6304	>2000	<b>30700</b>	21900	15300
Emulsified Water	scalar	*Visual	>0.2	<b>0.2%</b>	0.2%	0.2%

Customer Id: VICNEWIN  
 Sample No.: WC0824884  
 Lab Number: 05977762  
 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](mailto:don.b505@comcast.net)

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
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

## HISTORICAL DIAGNOSIS

### 30 Sep 2023 Diag: Doug Bogart

#### WATER



We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid.

view report



### 19 Sep 2023 Diag: Don Baldrige

#### WATER



We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high concentration of water present in the oil. Excessive free water present. The AN level is acceptable for this fluid.

view report



### 07 Aug 2023 Diag: Jonathan Hester

#### WATER



We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Appearance is hazy. Excessive free water present. There is a moderate concentration of water present in the oil. There is a high amount of visible silt present in the sample. The AN level is acceptable for this fluid.

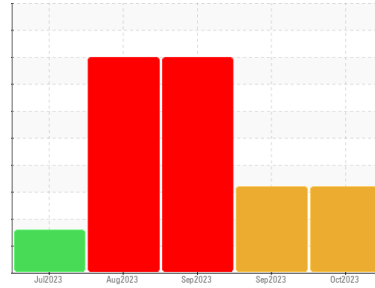
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area  
**OCEAN VOYAGER**  
Machine Id  
**[OCEAN VOYAGER] OCEAN VOYAGER - Z-DRIVE**  
Component  
**Port Gearbox**  
Fluid  
**FUCHS RENOLIN UNISYN CLP 150 (1600 LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

There is a high concentration of water present in the oil.

### Fluid Condition

The AN level is acceptable for this fluid.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0824884</b>	WC0824885	WC0824886
Sample Date	Client Info		<b>07 Oct 2023</b>	30 Sep 2023	19 Sep 2023
Machine Age	hrs	Client Info	<b>24858</b>	24718	24559
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	SEVERE	SEVERE

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	<b>46</b>	4	50
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>4</b>	3	0
Lead	ppm	ASTM D5185m >50	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >200	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>4</b>	0	0
Barium	ppm	ASTM D5185m	<b>0</b>	0	1
Molybdenum	ppm	ASTM D5185m	<b>0</b>	<1	0
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>1</b>	<1	1
Calcium	ppm	ASTM D5185m	<b>13</b>	3	15
Phosphorus	ppm	ASTM D5185m	<b>193</b>	11	216
Zinc	ppm	ASTM D5185m	<b>4</b>	0	12
Sulfur	ppm	ASTM D5185m	<b>9198</b>	739	8785

## CONTAMINANTS

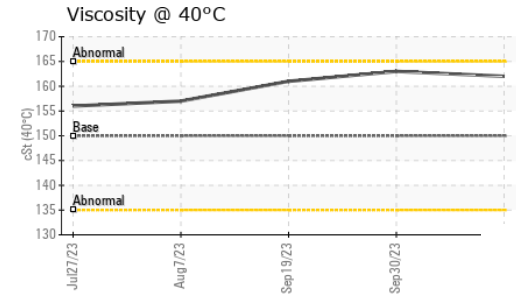
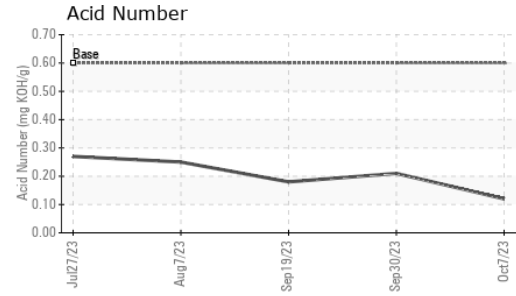
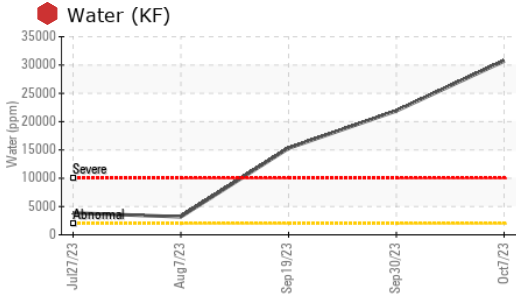
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>2</b>	2	1
Sodium	ppm	ASTM D5185m	<b>0</b>	37	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	6	0
Water	%	ASTM D6304 >0.2	<b>3.07</b>	2.19	1.53
ppm Water	ppm	ASTM D6304 >2000	<b>30700</b>	21900	15300

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.6	<b>0.12</b>	0.21	0.18



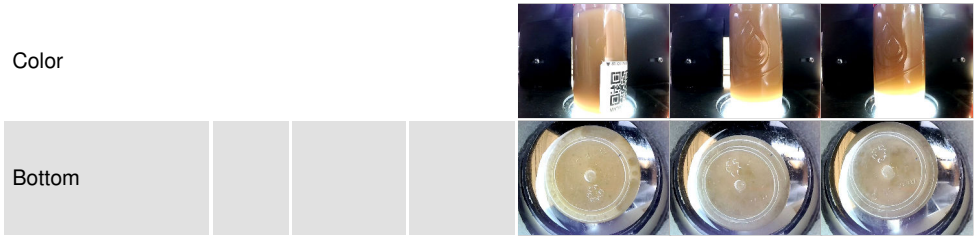
# OIL ANALYSIS REPORT



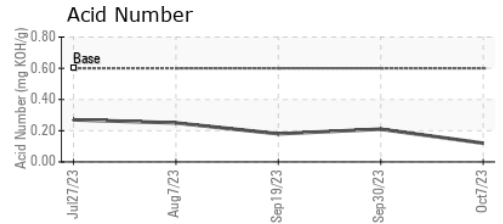
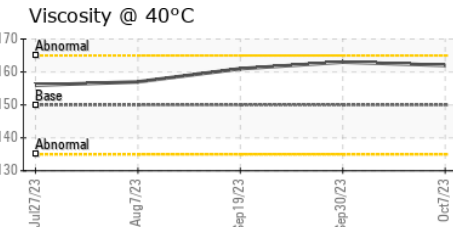
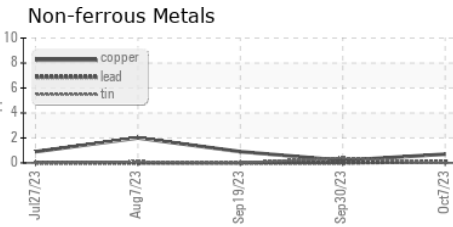
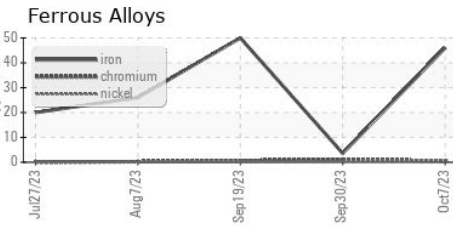
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	0.2%	0.2%
Free Water	scalar	*Visual		NEG	>10%

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	150	162	163

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0824884      **Received** : 12 Oct 2023  
**Lab Number** : 05977762      **Diagnosed** : 16 Oct 2023  
**Unique Number** : 10695057      **Diagnostician** : Don Baldrige  
**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)