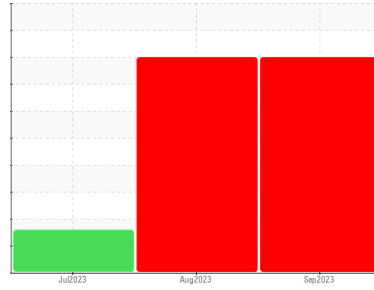




PROBLEM SUMMARY

Sample Rating Trend

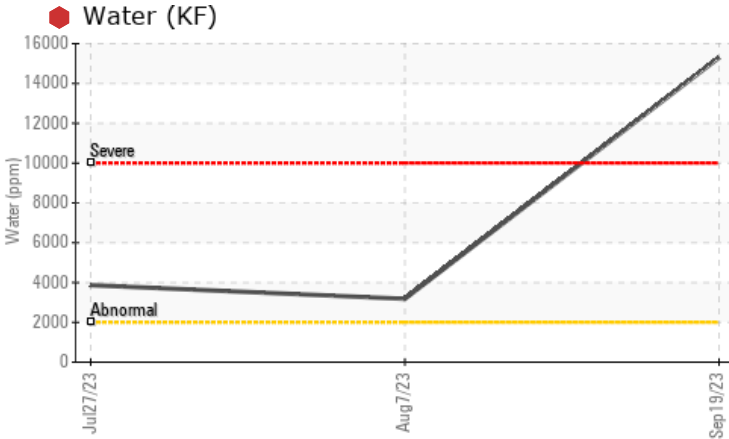


WATER



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	ABNORMAL
Water	%	ASTM D6304	>0.2	🔴 1.53	🟡 0.318	🟡 0.387
ppm Water	ppm	ASTM D6304	>2000	🔴 15300	🟡 3180	🟡 3870
Emulsified Water	scalar	*Visual	>0.2	🔴 0.2%	0.2%	🟡 0.2%
Free Water	scalar	*Visual		🔴 >10%	🔴 >10%	NEG

Customer Id: VICNEWIN
 Sample No.: WC0824886
 Lab Number: 05959170
 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
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

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](#)



27 Jul 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. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

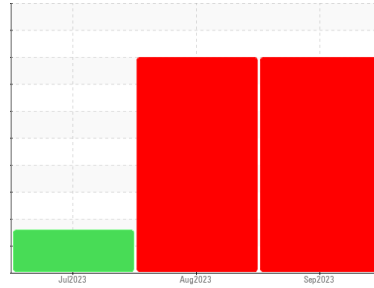
[view report](#)





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. Excessive free water present.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0824886	WC0824816	WC0824807
Sample Date	Client Info		19 Sep 2023	07 Aug 2023	27 Jul 2023
Machine Age	hrs	Client Info	24559	15844	23711
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	50	26	20
Chromium	ppm	ASTM D5185m >10	<1	<1	0
Nickel	ppm	ASTM D5185m >10	<1	0	0
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	<1	<1
Lead	ppm	ASTM D5185m >50	0	0	0
Copper	ppm	ASTM D5185m >200	<1	2	<1
Tin	ppm	ASTM D5185m >10	0	<1	0
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	1	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	<1	<1	0
Magnesium	ppm	ASTM D5185m	1	3	5
Calcium	ppm	ASTM D5185m	15	6	30
Phosphorus	ppm	ASTM D5185m	216	228	249
Zinc	ppm	ASTM D5185m	12	5	29
Sulfur	ppm	ASTM D5185m	8785	10611	11231

CONTAMINANTS

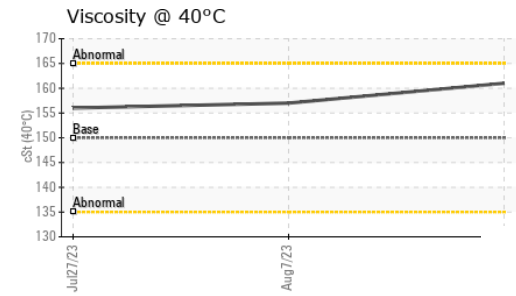
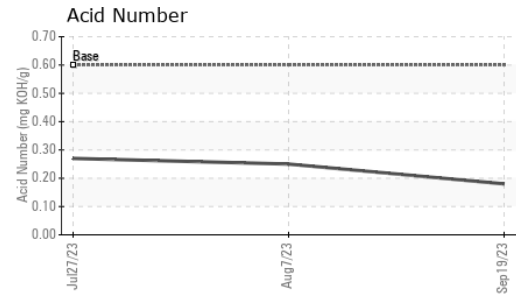
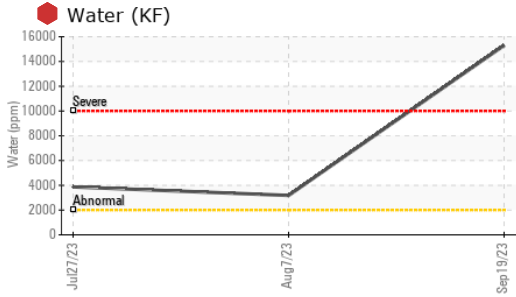
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	1	<1	<1
Sodium	ppm	ASTM D5185m	<1	1	<1
Potassium	ppm	ASTM D5185m >20	0	<1	0
Water	%	ASTM D6304 >0.2	1.53	0.318	0.387
ppm Water	ppm	ASTM D6304 >2000	15300	3180	3870

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.6	0.18	0.25	0.27



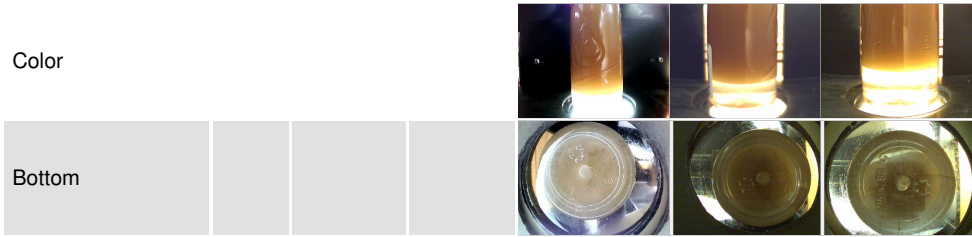
OIL ANALYSIS REPORT



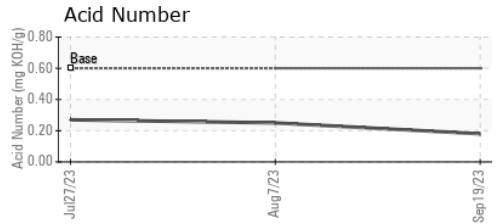
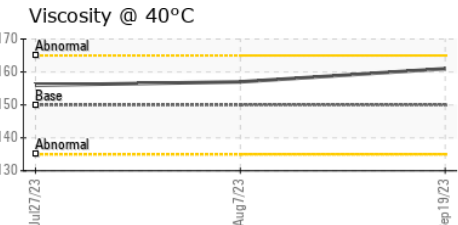
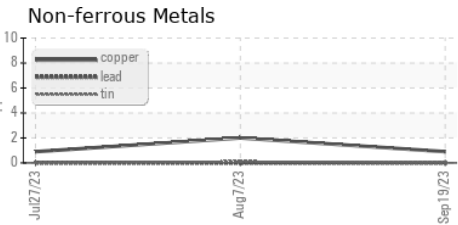
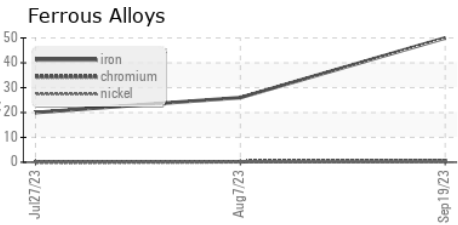
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	▲ HEAVY	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 150	161	157	156

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0824886 **Received** : 22 Sep 2023
Lab Number : 05959170 **Diagnosed** : 25 Sep 2023
Unique Number : 10660383 **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)