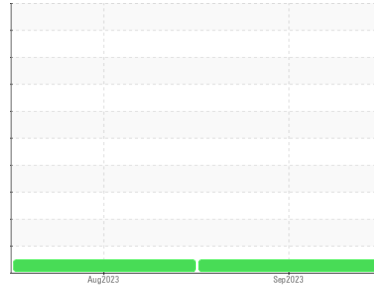




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
OCEAN NAVIGATOR
 Machine Id
[OCEAN NAVIGATOR] OCEAN NAVIGATOR - D6
 Component
Starboard Genset
 Fluid
FUCHS 15W40 (60 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0824574	WC0824507	---
Sample Date	Client Info			24 Sep 2023	09 Aug 2023	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Oil Changed	Client Info			N/A	N/A	---
Sample Status				NORMAL	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	---
Water	WC Method	>0.2		NEG	NEG	---
Glycol	WC Method			NEG	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	23	26	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>4	0	<1	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	2	2	---
Lead	ppm	ASTM D5185m	>40	8	10	---
Copper	ppm	ASTM D5185m	>330	17	29	---
Tin	ppm	ASTM D5185m	>15	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		14	24	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		4	9	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		18	19	---
Calcium	ppm	ASTM D5185m		2899	2972	---
Phosphorus	ppm	ASTM D5185m		951	926	---
Zinc	ppm	ASTM D5185m		1222	1127	---
Sulfur	ppm	ASTM D5185m		3773	3635	---

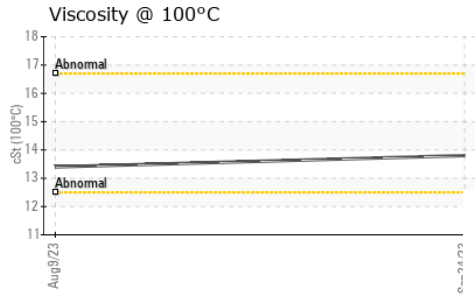
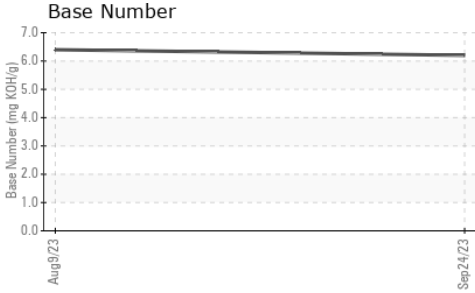
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	6	---
Sodium	ppm	ASTM D5185m		23	47	---
Potassium	ppm	ASTM D5185m	>20	<1	3	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.2	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	9.8	10.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	23.4	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3	18.3	---
Base Number (BN)	mg KOH/g	ASTM D2896		6.2	6.4	---



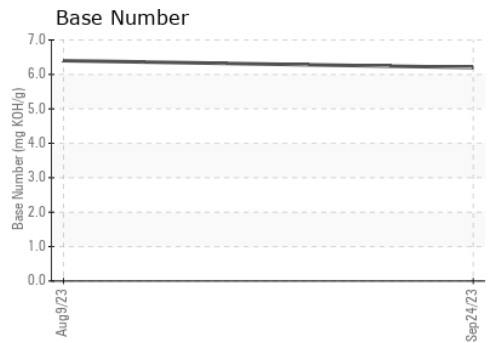
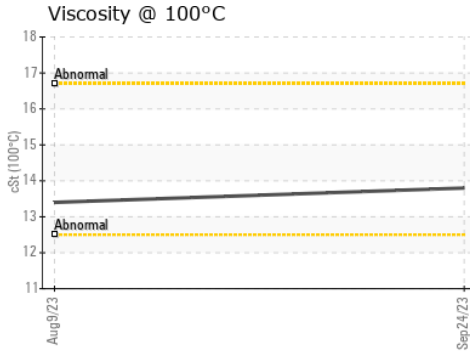
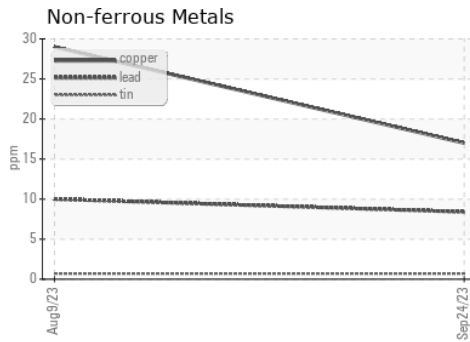
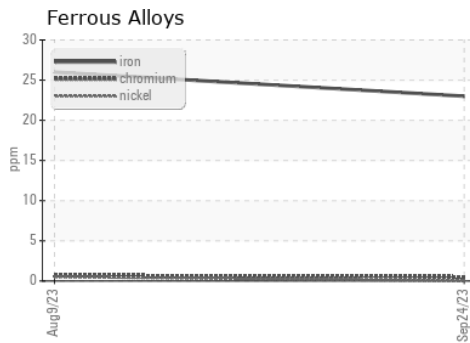
OIL ANALYSIS REPORT



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	LIGHT	LIGHT	---
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	NEG	NEG	---
Free Water	scalar	*Visual		NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.8	13.4	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0824574
Lab Number : **05967399**
Unique Number : 10673950
Test Package : MAR 2

Received : 03 Oct 2023
Tested : 04 Oct 2023
Diagnosed : 04 Oct 2023 - Wes Davis

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)