



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
SILVER SEAS YACHTS [BRANDON]

Machine Id
VOLVO PENTA A884724

Component
Starboard Diesel Engine

Fluid
VOLVO PENTA SAE 15W40 (6 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA052340	VPA049540	VPA022879
Sample Date		Client Info		16 Apr 2024	29 Aug 2023	16 Aug 2021
Machine Age	hrs	Client Info		166	157	112
Oil Age	hrs	Client Info		0	157	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	3	5	6
Chromium	ppm	ASTM D5185m	>6	0	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	1	0
Lead	ppm	ASTM D5185m	>95	0	0	0
Copper	ppm	ASTM D5185m	>85	2	<1	1
Tin	ppm	ASTM D5185m	>9	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

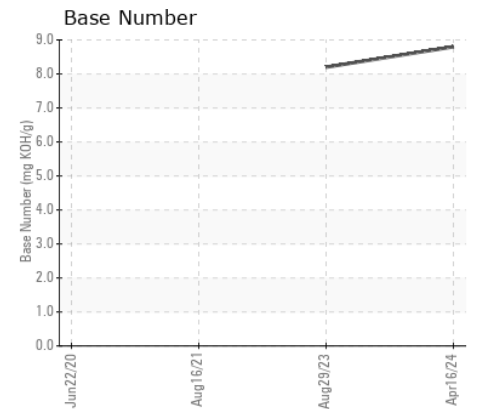
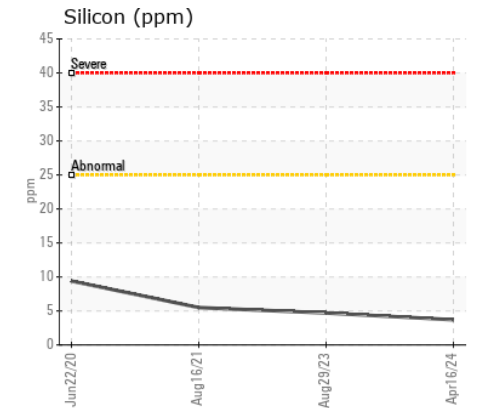
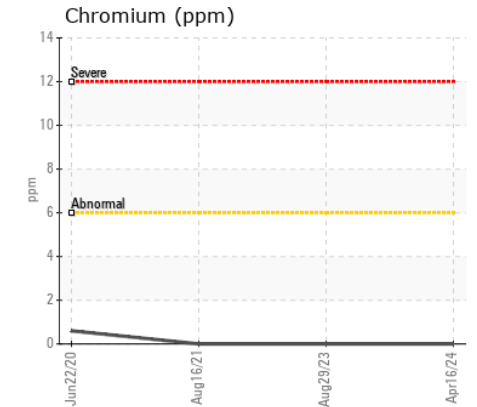
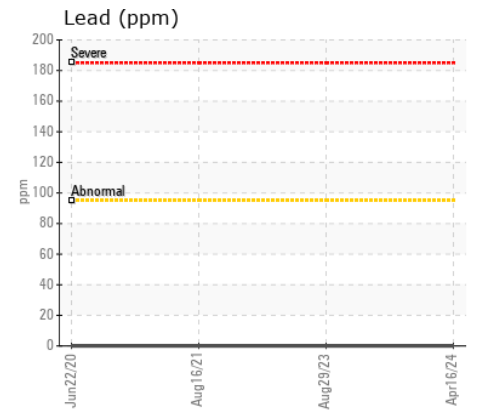
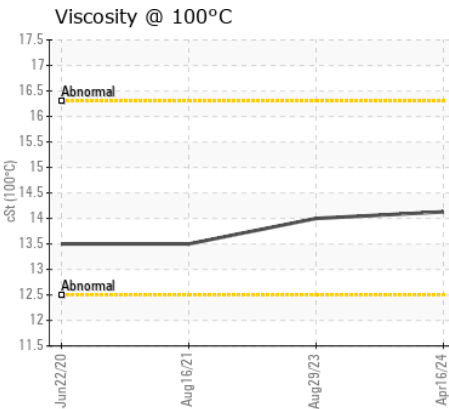
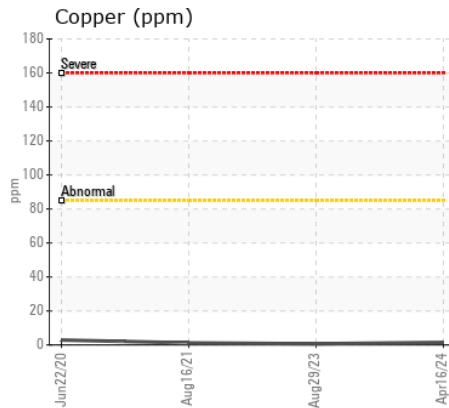
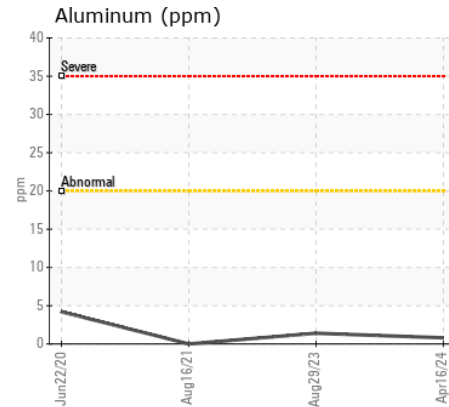
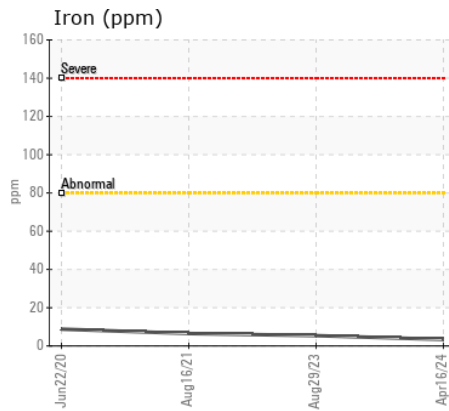
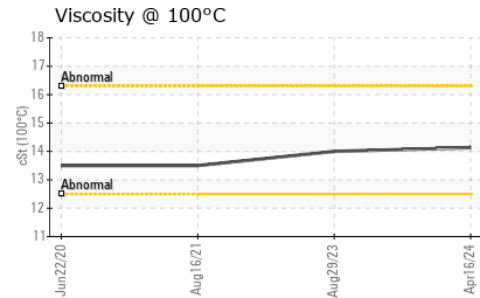
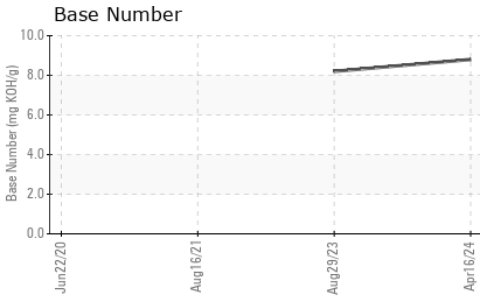
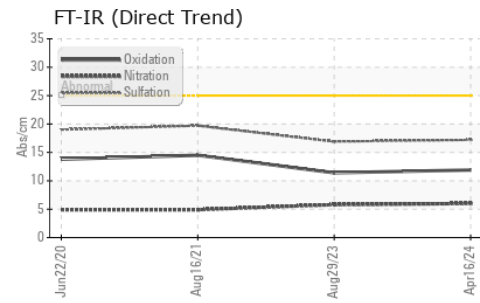
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	5	6
Potassium	ppm	ASTM D5185m	>20	3	<1	<1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.0	5.8	4.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.2	16.9	19.7
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		2	2	3
Boron	ppm	ASTM D5185m		73	93	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		15	10	59
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		824	764	927
Calcium	ppm	ASTM D5185m		1301	1308	986
Phosphorus	ppm	ASTM D5185m		735	741	973
Zinc	ppm	ASTM D5185m		944	846	1108
Sulfur	ppm	ASTM D5185m		3898	3466	2747
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.9	11.4	14.5
Base Number (BN)	mg KOH/g	ASTM D2896		8.8	8.2	---
Visc @ 100°C	cSt	ASTM D445		14.13	14.0	13.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA052340 **Received** : 22 Apr 2024
Lab Number : 06156580 **Tested** : 22 Apr 2024
Unique Number : 10992003 **Diagnosed** : 22 Apr 2024 - Doug Bogart
Test Package : MOB 1 (Additional Tests: TBN)

Helmuts Marine Service
 619 Canal Street
 SAN RAFAEL, CA
 US 94901-3545

Contact: NADINE URUIOLI
 SERVICE@HELMUTSMARINE.COM

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: x:
 F: x: