



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
BROACHE [NICK/23582]
Machine Id
CRUSADER 630898
Component
Starboard Gasoline Engine
Fluid
MERCURY 25W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA060729	VPA042641	---
Sample Date		Client Info		27 Jun 2024	13 Sep 2022	---
Machine Age	hrs	Client Info		661	652	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				ABNORMAL	SEVERE	---

WEAR

Cylinder, crank, or cam shaft wear is indicated. Valve wear is indicated.

Iron	ppm	ASTM D5185m	>150	▲ 341	▲ 332	---
Chromium	ppm	ASTM D5185m	>20	3	2	---
Nickel	ppm	ASTM D5185m	>5	▲ 7	▲ 6	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>40	33	27	---
Lead	ppm	ASTM D5185m	>50	1	<1	---
Copper	ppm	ASTM D5185m	>155	31	20	---
Tin	ppm	ASTM D5185m	>10	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Sodium and/or potassium levels remain high.

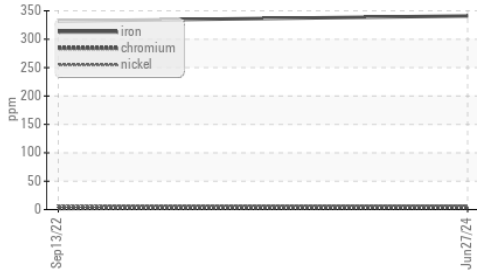
Silicon	ppm	ASTM D5185m	>30	10	6	---
Potassium	ppm	ASTM D5185m	>20	▲ 32	▲ 46	---
Fuel		WC Method	>4.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		NEG	NEG	---
Soot %	%	*ASTM D7844		0.1	0.5	---
Nitration	Abs/cm	*ASTM D7624	>20	4.9	9.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.8	19.7	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	● MILKY	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	▲ 0.2%	---

FLUID CONDITION

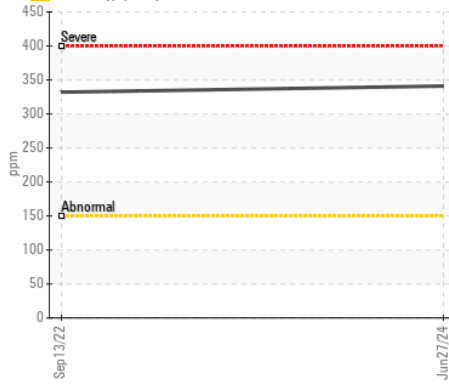
The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>400	▲ 713	▲ 1047	---
Boron	ppm	ASTM D5185m		230	94	---
Barium	ppm	ASTM D5185m		<1	0	---
Molybdenum	ppm	ASTM D5185m		60	44	---
Manganese	ppm	ASTM D5185m		4	6	---
Magnesium	ppm	ASTM D5185m		56	83	---
Calcium	ppm	ASTM D5185m		2421	1557	---
Phosphorus	ppm	ASTM D5185m		794	679	---
Zinc	ppm	ASTM D5185m		931	785	---
Sulfur	ppm	ASTM D5185m		2517	2955	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.6	16.3	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.9	5.5	---
Visc @ 100°C	cSt	ASTM D445		13.4	12.7	---

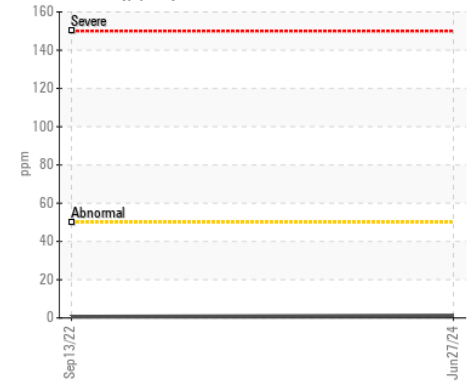
▲ Ferrous Alloys



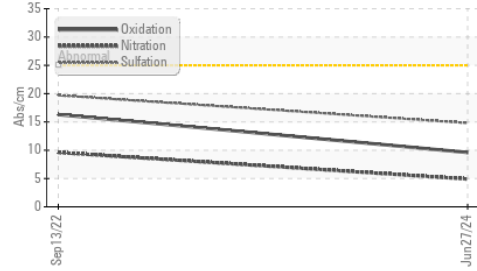
▲ Iron (ppm)



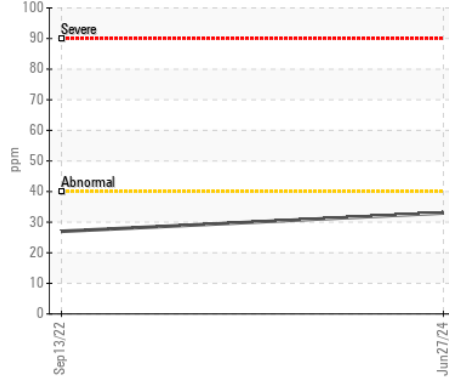
Lead (ppm)



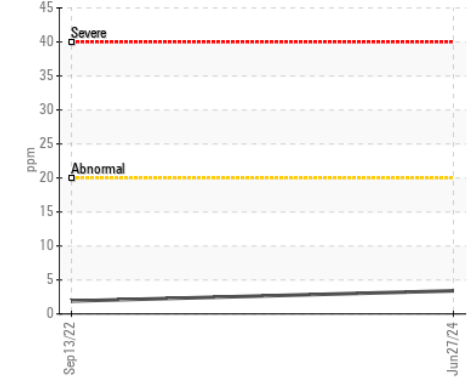
FT-IR (Direct Trend)



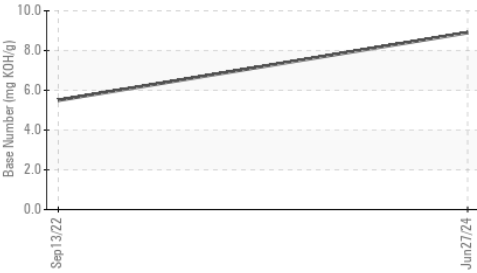
Aluminum (ppm)



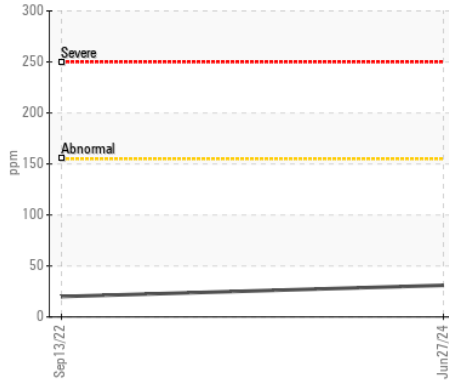
Chromium (ppm)



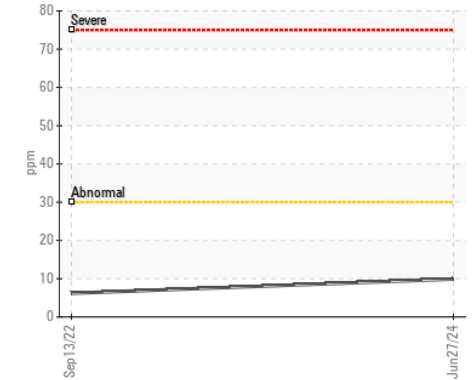
Base Number



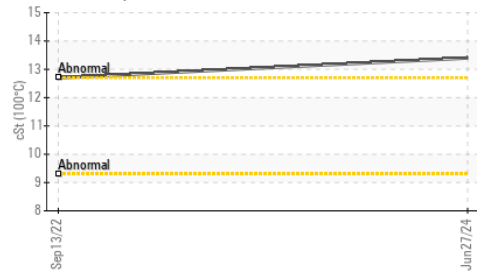
Copper (ppm)



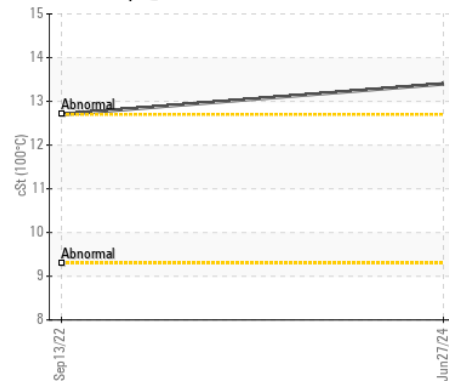
Silicon (ppm)



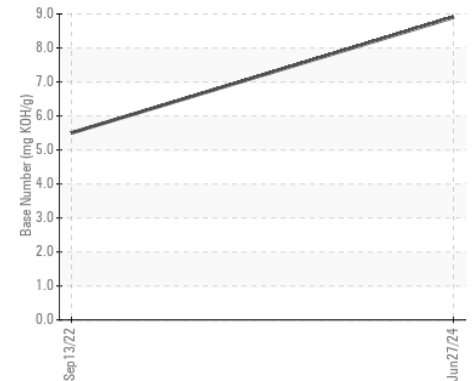
Viscosity @ 100°C



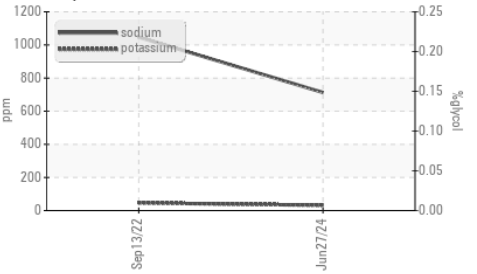
Viscosity @ 100°C



Base Number



Glycol Contamination



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA060729 **Received** : 02 Jul 2024
Lab Number : 06225752 **Tested** : 03 Jul 2024
Unique Number : 11103949 **Diagnosed** : 03 Jul 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

Seven Seas Yacht Services LLC
 1804 CRAB ALLEY DR
 CHESTER, MD
 US 21619
 Contact: Stephanie Wright
 stephanie@sevenseasys.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:
F: