



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
STEPHEN P VENABLE
Machine Id
[STEPHEN P VENABLE] 003 590046-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0063013	MW0063007	MW0067994
Sample Date		Client Info		01 Jul 2024	01 Jun 2024	22 May 2024
Machine Age	hrs	Client Info		7581	6887	6669
Oil Age	hrs	Client Info		264	550	332
Filter Age	hrs	Client Info		264	550	332
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	4	3	3
Chromium	ppm	ASTM D5185m	>8	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	1
Aluminum	ppm	ASTM D5185m	>15	3	2	4
Lead	ppm	ASTM D5185m	>18	0	0	<1
Copper	ppm	ASTM D5185m	>80	5	8	10
Tin	ppm	ASTM D5185m	>14	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

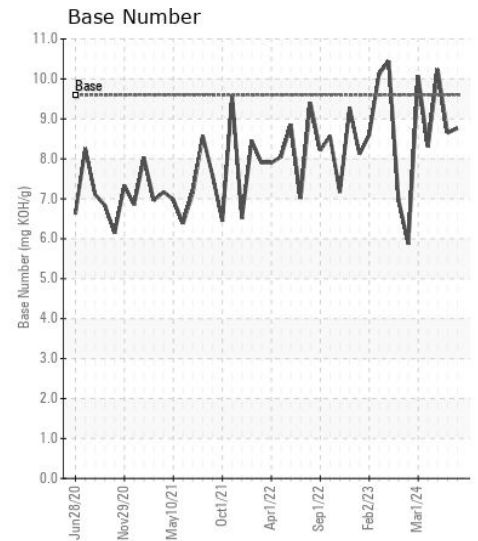
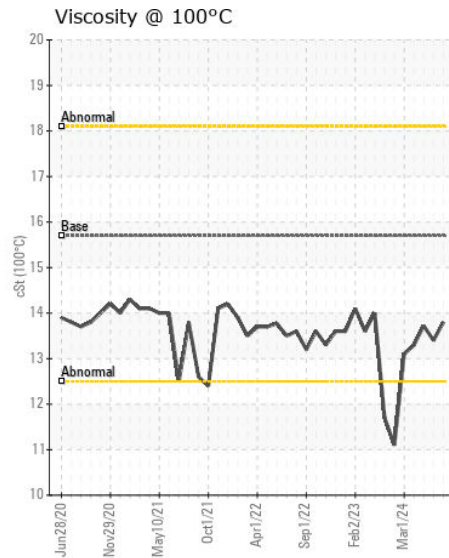
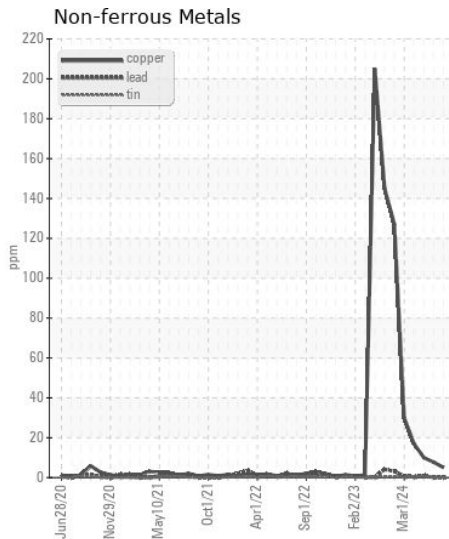
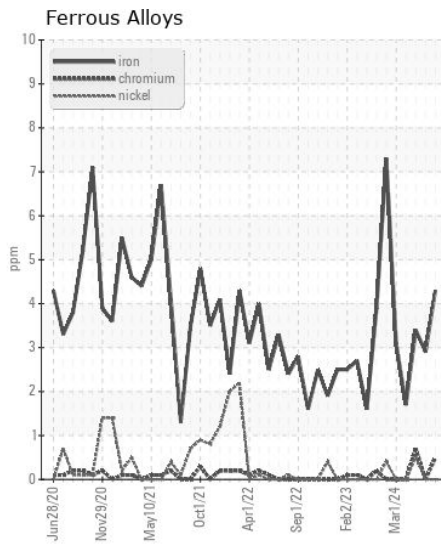
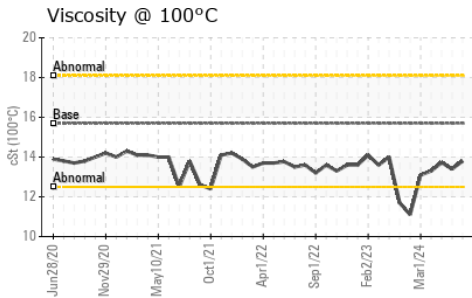
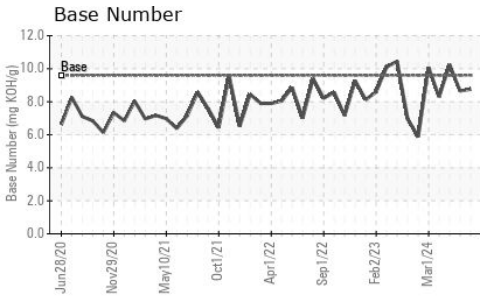
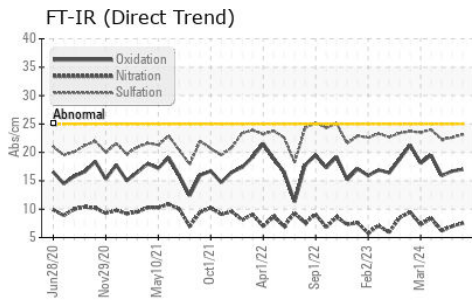
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	8	4	5
Potassium	ppm	ASTM D5185m	>20	1	<1	2
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	7.5	7.0	6.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	22.6	22.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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	>75	<1	<1	2
Boron	ppm	ASTM D5185m		377	325	369
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		110	121	111
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		543	632	541
Calcium	ppm	ASTM D5185m		1450	1786	1363
Phosphorus	ppm	ASTM D5185m	1200	825	815	670
Zinc	ppm	ASTM D5185m	1300	1018	1004	789
Sulfur	ppm	ASTM D5185m	3200	2758	3332	2579
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	16.7	15.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	8.76	8.65	10.24
Visc @ 100°C	cSt	ASTM D445	15.7	13.8	13.4	13.72



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0063013

Lab Number : 06237078

Unique Number : 11125912

Test Package : MAR 2

Received : 15 Jul 2024

Tested : 17 Jul 2024

Diagnosed : 17 Jul 2024 - Wes Davis

INGRAM BARGE

900 S 3RD ST

PADUCAH, KY

US 42003

Contact: JOHNNY HINES

johnny.hines@ingrambarge.com

T: (270)415-4467

F: (615)695-3697

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)