



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
RICK HARNACK
Machine Id
[RICK HARNACK] 003 685578-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (220 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0068289	MW0068286	MW0068076
Sample Date		Client Info		01 Apr 2024	01 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		31803	31064	30370
Oil Age	hrs	Client Info		853	118	985
Filter Age	hrs	Client Info		38	118	202
Oil Changed		Client Info		Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

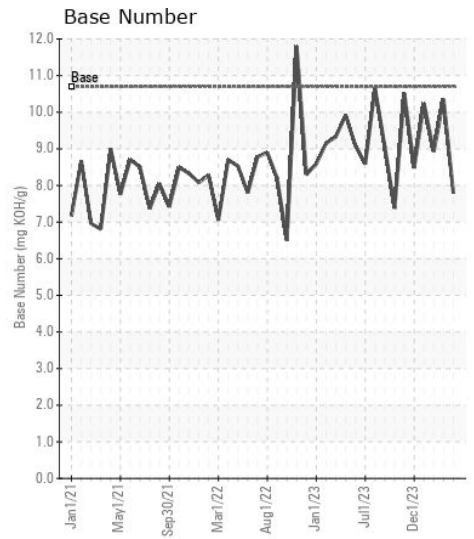
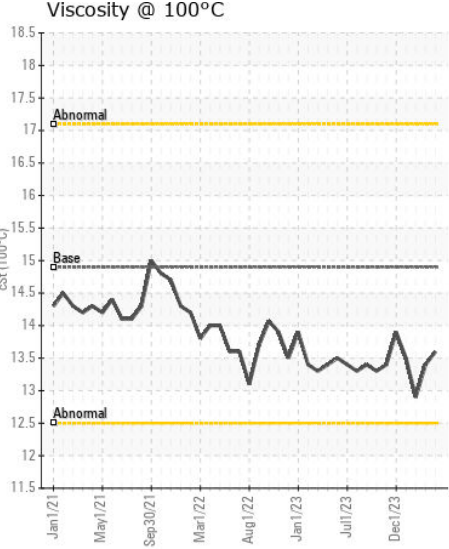
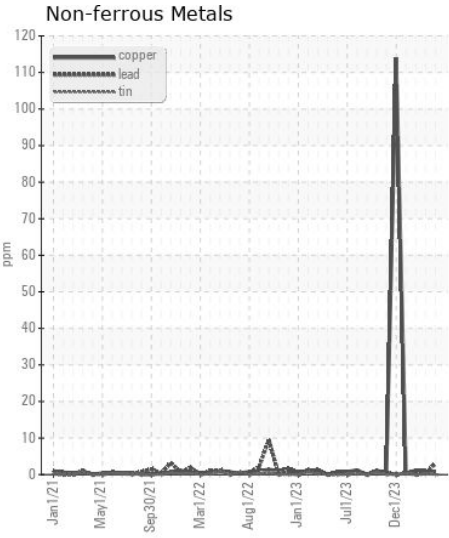
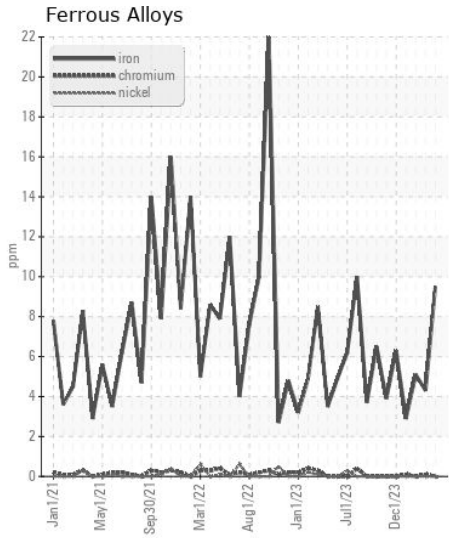
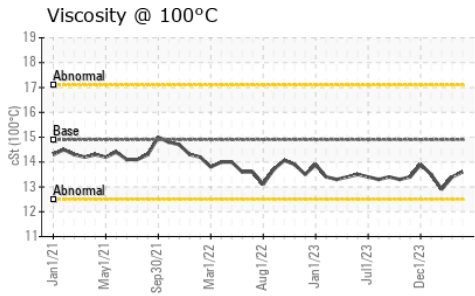
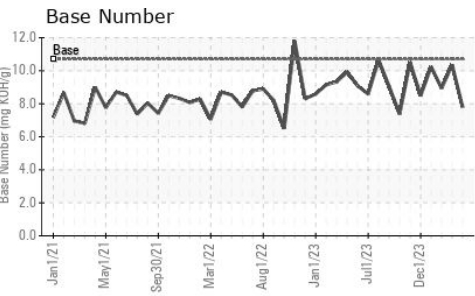
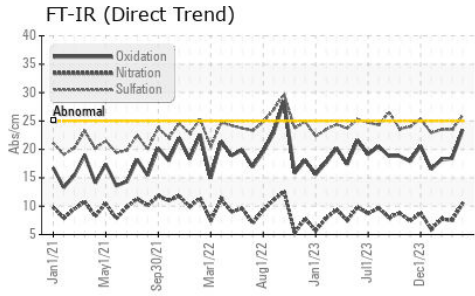
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	5	5
Potassium	ppm	ASTM D5185m	>20	0	<1	0
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		0.3	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.5	7.5	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.0	23.5	23.5
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	>75	0	<1	<1
Boron	ppm	ASTM D5185m		325	333	326
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		147	119	120
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		805	645	645
Calcium	ppm	ASTM D5185m		1967	1443	1482
Phosphorus	ppm	ASTM D5185m	760	870	639	684
Zinc	ppm	ASTM D5185m	830	1066	769	816
Sulfur	ppm	ASTM D5185m	2770	3524	2187	2423
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.4	18.4	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.79	10.35	8.93
Visc @ 100°C	cSt	ASTM D445	14.9	13.6	13.4	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0068289
Lab Number : 06146721
Unique Number : 10976799
Test Package : MAR 2
Received : 11 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Wes Davis

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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)