



Machine Id
MWL
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (39 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW05749259	MW05663134	MW05520426
Sample Date		Client Info		24 Jan 2023	10 Oct 2022	14 Apr 2022
Machine Age	hrs	Client Info		33089	32713	32130
Oil Age	hrs	Client Info		376	377	405
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	6	6	6
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>3	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	1	3
Lead	ppm	ASTM D5185m	>18	1	0	<1
Copper	ppm	ASTM D5185m	>80	<1	0	<1
Tin	ppm	ASTM D5185m	>14	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

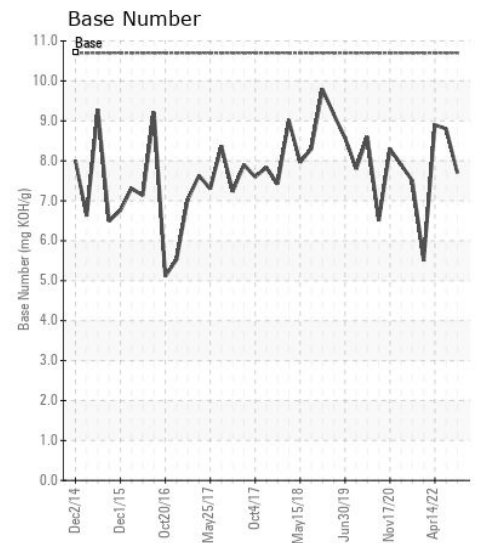
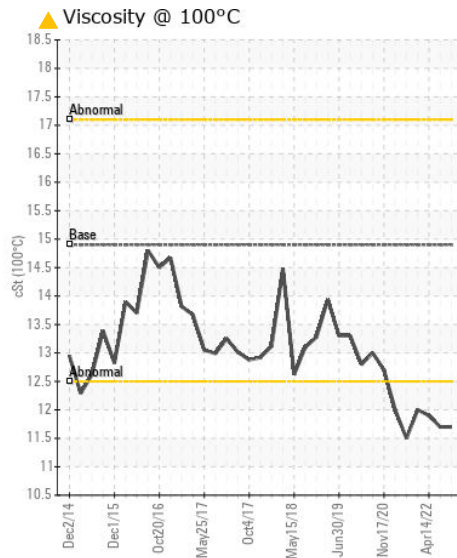
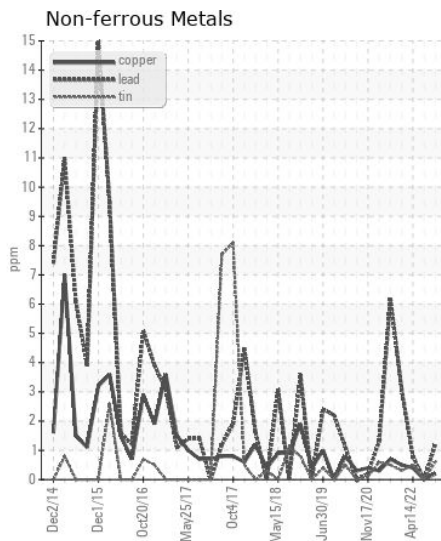
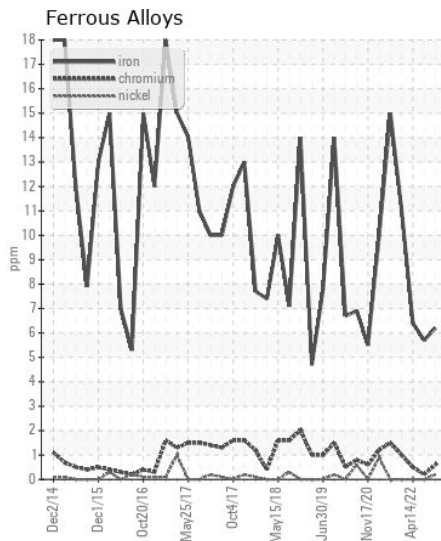
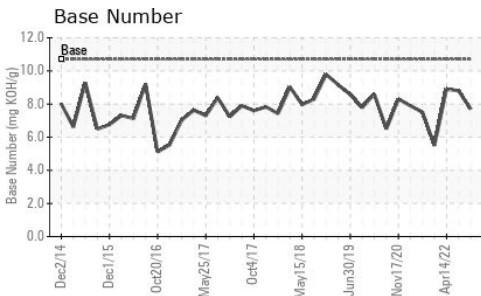
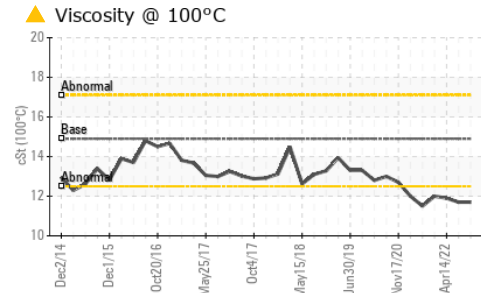
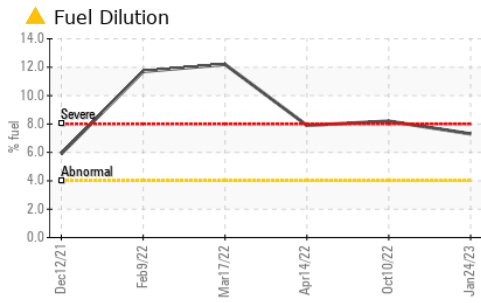
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>20	5	2	4
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Fuel	%	ASTM D3524	>4.0	▲ 7.3	▲ 8.2	▲ 7.9
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		1	1.2	1
Nitration	Abs/cm	*ASTM D7624	>20	6.7	8.0	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	23.9	23.7
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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>75	0	1	<1
Boron	ppm	ASTM D5185m		286	78	280
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		89	69	103
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		469	421	593
Calcium	ppm	ASTM D5185m		1256	1468	1668
Phosphorus	ppm	ASTM D5185m	760	754	799	718
Zinc	ppm	ASTM D5185m	830	906	972	787
Sulfur	ppm	ASTM D5185m	2770	2892	2838	2158
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.1	18.1	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.7	8.8	8.9
Visc @ 100°C	cSt	ASTM D445	14.9	▲ 11.7	▲ 11.7	▲ 11.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW05749259
Lab Number : 05749259
Unique Number : 10308863
Test Package : MAR 2 (Additional Tests: PercentFuel)

Received : 25 Jan 2023
Tested : 26 Jan 2023
Diagnosed : 26 Jan 2023 - Don Baldrige

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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)