



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. We recommend that you change the oil at the next available stoppage or outage. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW05823796	MW05749259	MW05663134
Sample Date		Client Info		18 Apr 2023	24 Jan 2023	10 Oct 2022
Machine Age	hrs	Client Info		34700	33089	32713
Oil Age	hrs	Client Info		745	376	377
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				SEVERE	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	15	6	6
Chromium	ppm	ASTM D5185m	>8	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>3	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	0	3	1
Lead	ppm	ASTM D5185m	>18	6	1	0
Copper	ppm	ASTM D5185m	>80	<1	<1	0
Tin	ppm	ASTM D5185m	>14	<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

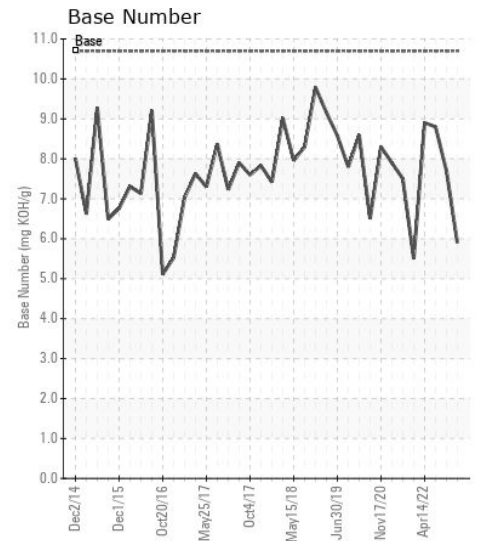
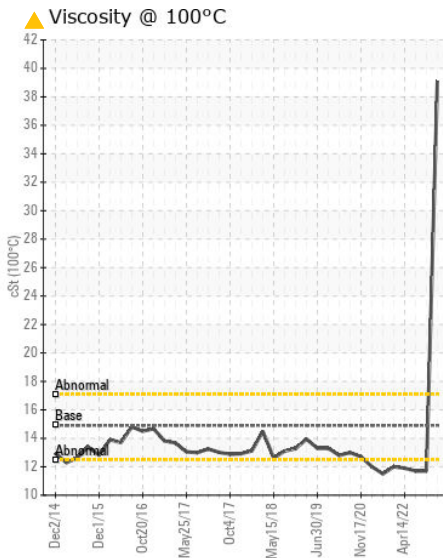
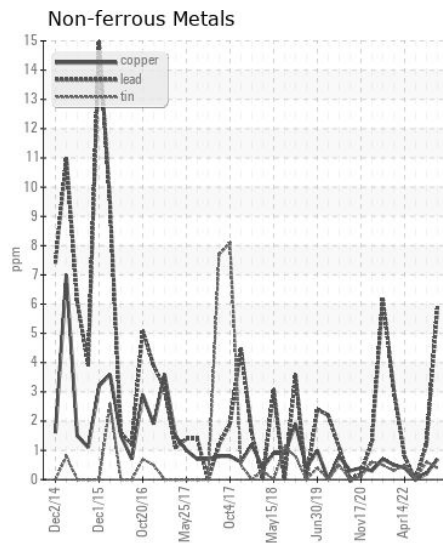
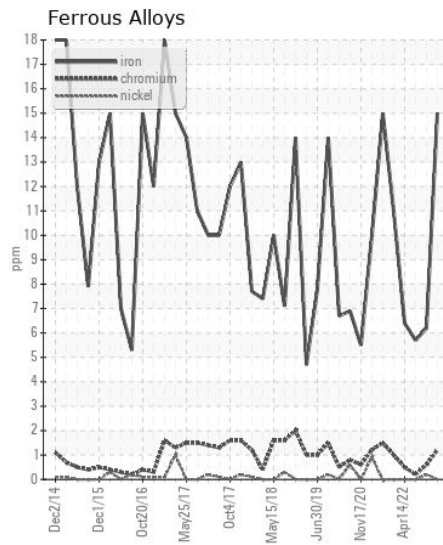
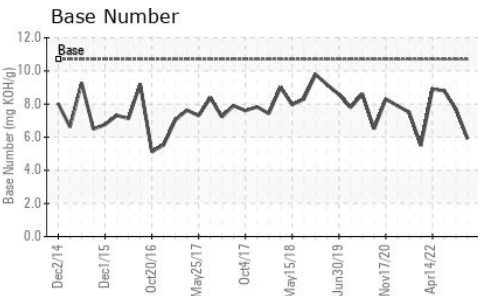
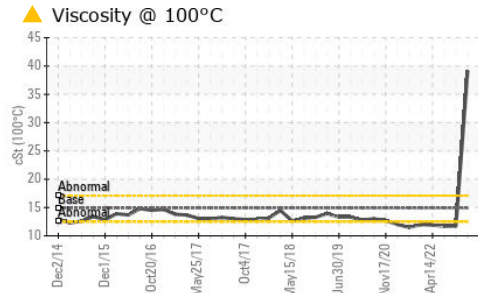
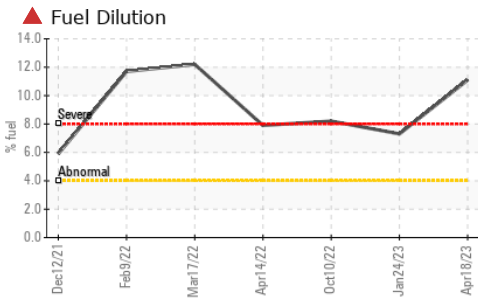
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>20	6	5	2
Potassium	ppm	ASTM D5185m	>20	1	<1	0
Fuel	%	ASTM D3524	>4.0	▲ 11.1	▲ 7.3	▲ 8.2
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		2.2	1	1.2
Nitration	Abs/cm	*ASTM D7624	>20	8.3	6.7	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.3	23.1	23.9
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 oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m	>75	3	0	1
Boron	ppm	ASTM D5185m		329	286	78
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		107	89	69
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		514	469	421
Calcium	ppm	ASTM D5185m		1435	1256	1468
Phosphorus	ppm	ASTM D5185m	760	855	754	799
Zinc	ppm	ASTM D5185m	830	1024	906	972
Sulfur	ppm	ASTM D5185m	2770	2800	2892	2838
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.7	17.1	18.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	5.9	7.7	8.8
Visc @ 100°C	cSt	ASTM D445	14.9	▲ 39.1	▲ 11.7	▲ 11.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW05823796 **Received** : 19 Apr 2023
Lab Number : 05823796 **Tested** : 20 Apr 2023
Unique Number : 10431879 **Diagnosed** : 20 Apr 2023 - Wes Davis
Test Package : MAR 2 (Additional Tests: PercentFuel)

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)

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