



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area  
**CPT OA FRANKS**  
Machine Id  
**[CPT OA FRANKS] 003 586734-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (41 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		<b>MW06063805</b>	MW06063803	MW06032898
Sample Date		Client Info		<b>28 Dec 2023</b>	01 Dec 2023	30 Oct 2023
Machine Age	hrs	Client Info		<b>22565</b>	21436	21164
Oil Age	hrs	Client Info		<b>0</b>	0	1406
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	SEVERE

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>4</b>	4	4
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>2</b>	2	4
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>18	<b>22</b>	16	▲ 40
Copper	ppm	ASTM D5185m	>80	<b>2</b>	2	4
Tin	ppm	ASTM D5185m	>14	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

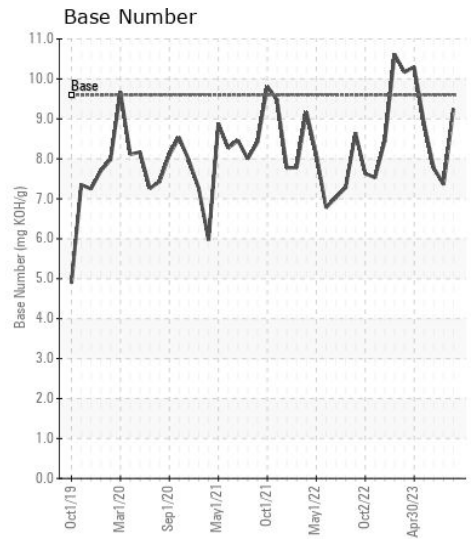
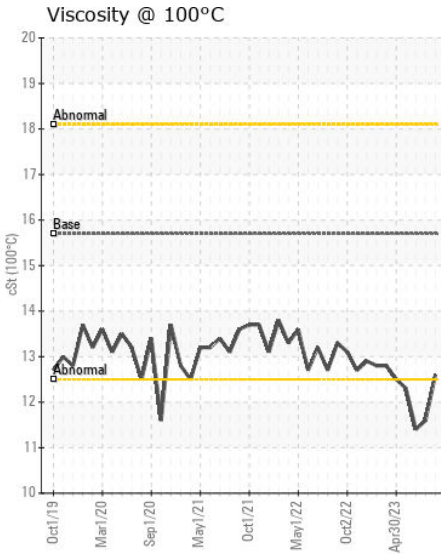
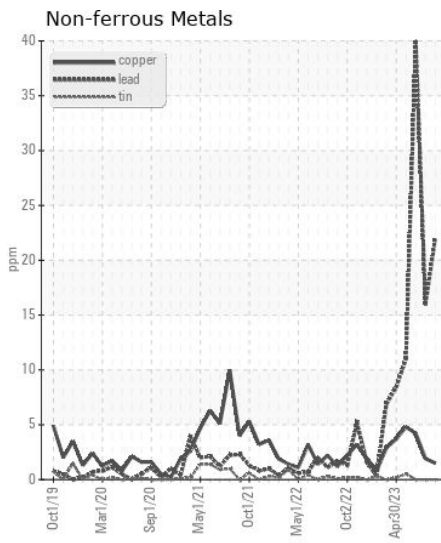
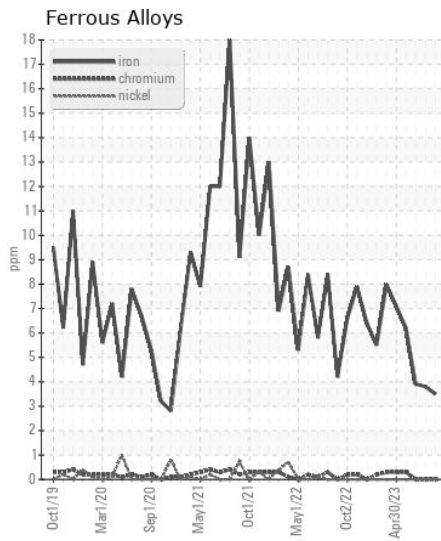
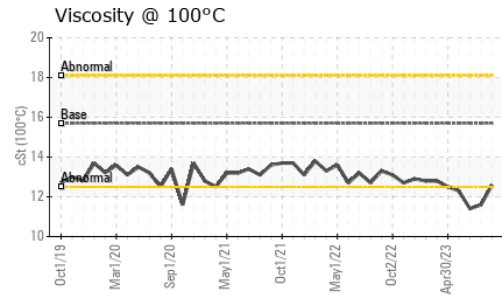
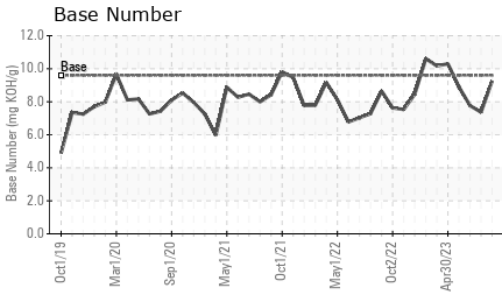
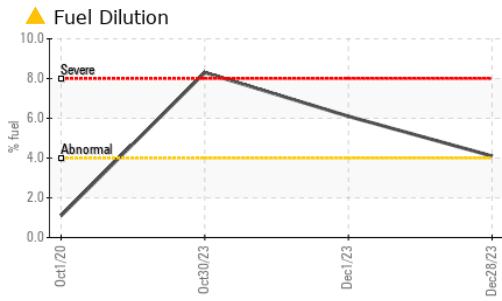
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>7</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	<1
Fuel	%	ASTM D3524	>4.0	▲ <b>4.1</b>	▲ 6.1	■ 8.3
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.2</b>	8.0	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.6</b>	21.9	21.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

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

Sodium	ppm	ASTM D5185m	>75	<b>&lt;1</b>	<1	3
Boron	ppm	ASTM D5185m		<b>243</b>	238	238
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>89</b>	88	81
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>615</b>	598	595
Calcium	ppm	ASTM D5185m		<b>1468</b>	1471	1445
Phosphorus	ppm	ASTM D5185m	1200	<b>693</b>	686	688
Zinc	ppm	ASTM D5185m	1300	<b>799</b>	780	803
Sulfur	ppm	ASTM D5185m	3200	<b>2778</b>	2735	2654
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.4</b>	16.9	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>9.25</b>	7.36	7.77
Visc @ 100°C	cSt	ASTM D445	15.7	<b>12.6</b>	▲ 11.6	▲ 11.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW06063805 **Received** : 17 Jan 2024  
**Lab Number** : 06063805 **Diagnosed** : 20 Jan 2024  
**Unique Number** : 10835187 **Diagnostician** : Don Baldrige  
**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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