



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

Area

**A.A. BIRCH**

Machine Id

**[A.A. BIRCH] 008 616455-8**

Component

**Starboard Genset**

Fluid

**CHEVRON DELO 400 XLE 15W40 (300 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060243</b>	MW0060245	MW05942824
Sample Date		Client Info		<b>01 Dec 2023</b>	29 Oct 2023	09 Aug 2023
Machine Age	hrs	Client Info		<b>350</b>	4744	3700
Oil Age	hrs	Client Info		<b>350</b>	342	400
Filter Age	hrs	Client Info		<b>350</b>	342	0
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	MARGINAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>7</b>	6	6
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	2	<1
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	3	2
Lead	ppm	ASTM D5185m	>17	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>70	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</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**

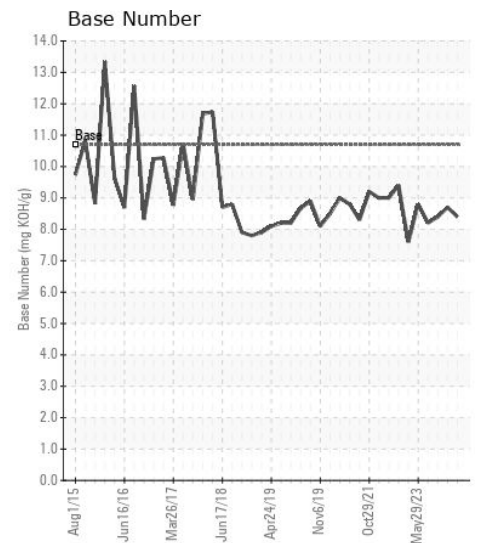
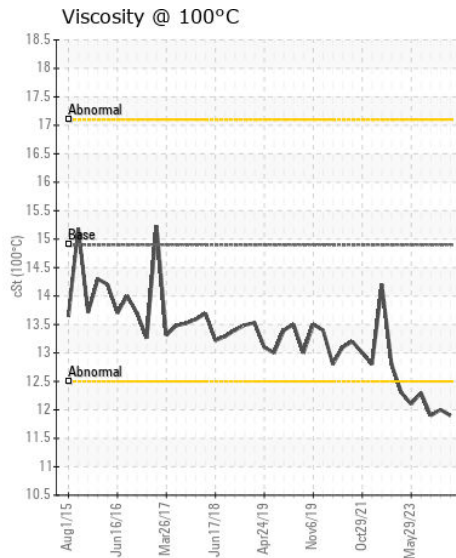
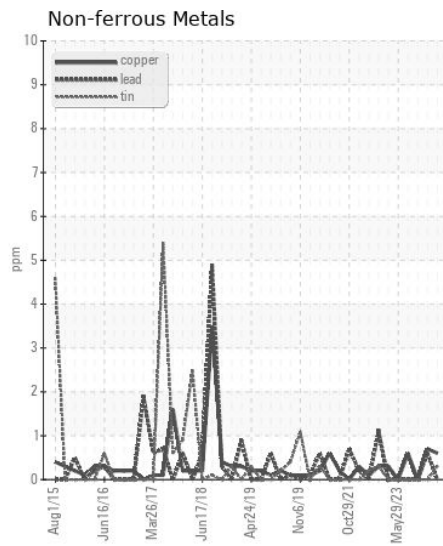
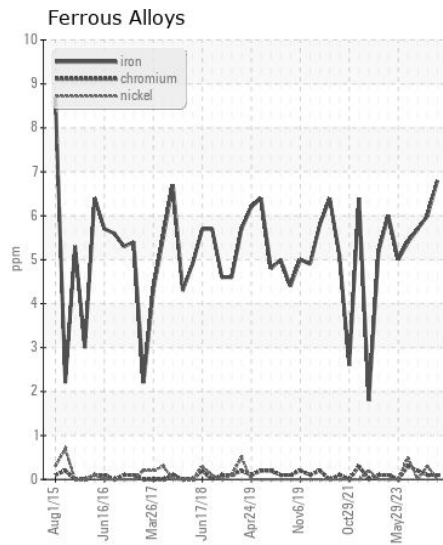
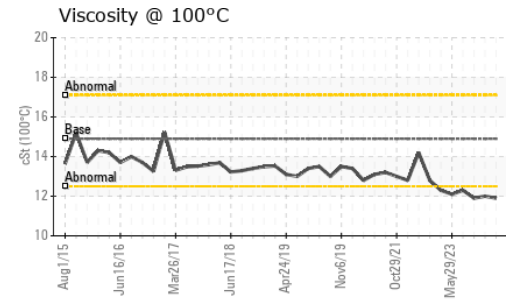
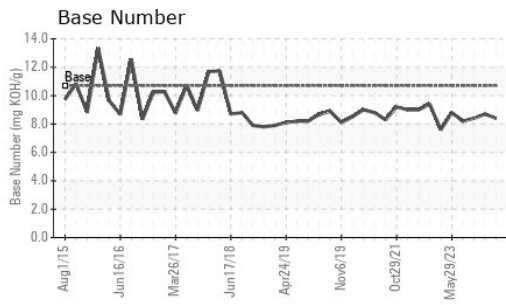
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	<1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	▲ 2.9
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	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.4</b>	7.1	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.6</b>	21.6	21.5
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. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	0	<1
Boron	ppm	ASTM D5185m		<b>328</b>	384	280
Barium	ppm	ASTM D5185m		<b>0</b>	9	<1
Molybdenum	ppm	ASTM D5185m		<b>117</b>	104	116
Manganese	ppm	ASTM D5185m		<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>615</b>	558	679
Calcium	ppm	ASTM D5185m		<b>1421</b>	1472	1524
Phosphorus	ppm	ASTM D5185m	760	<b>723</b>	719	671
Zinc	ppm	ASTM D5185m	830	<b>797</b>	823	815
Sulfur	ppm	ASTM D5185m	2770	<b>2562</b>	2917	2894
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.0</b>	16.2	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>8.4</b>	8.7	8.4
Visc @ 100°C	cSt	ASTM D445	14.9	<b>11.9</b>	12.0	11.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060243 **Recieved** : 11 Jan 2024  
**Lab Number** : 06058640 **Diagnosed** : 15 Jan 2024  
**Unique Number** : 10830022 **Diagnostician** : Jonathan Hester  
**Test Package** : MAR 2

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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