



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

Area

**WILLARD HAMMOND**

Machine Id

**[WILLARD HAMMOND] 008 587215-8**

Component

**Starboard Genset**

Fluid

**CHEVRON DELO 400 MULTIGRADE 15W40 (4 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0070932</b>	MW0068072	MW0068070
Sample Date		Client Info		<b>01 May 2024</b>	31 Mar 2024	14 Mar 2024
Machine Age	hrs	Client Info		<b>30789</b>	30369	30177
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	N/A
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>4</b>	0	3
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>12	<b>3</b>	3	2
Lead	ppm	ASTM D5185m	>17	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>70	<b>0</b>	0	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

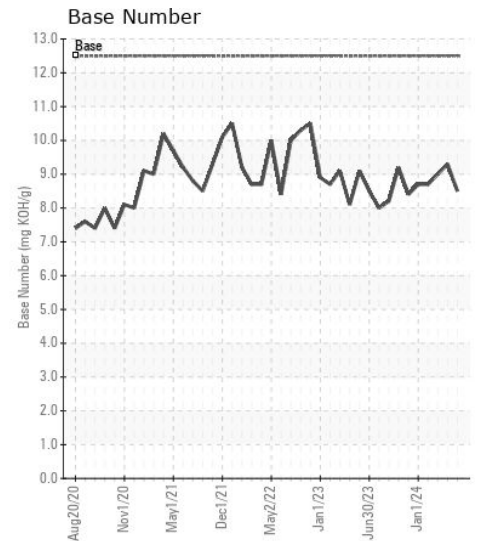
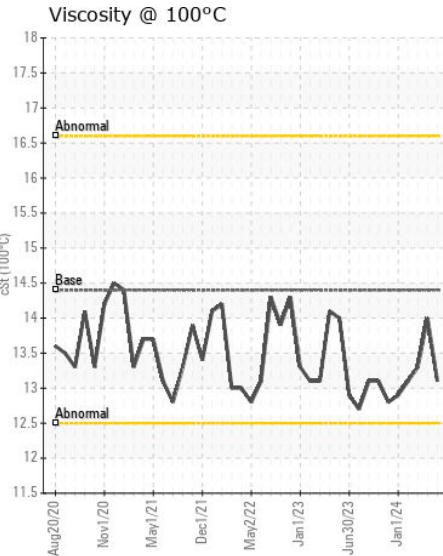
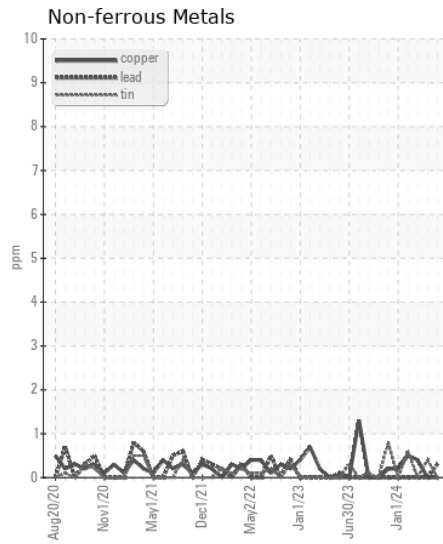
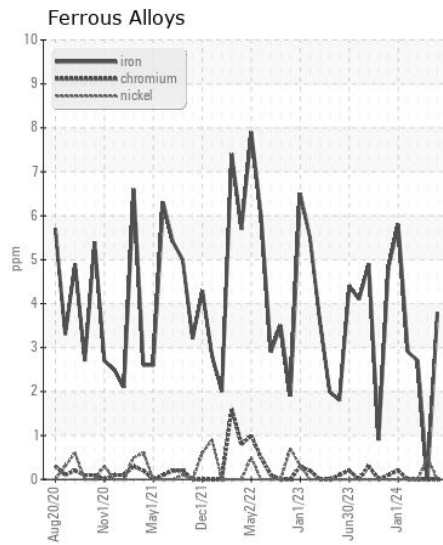
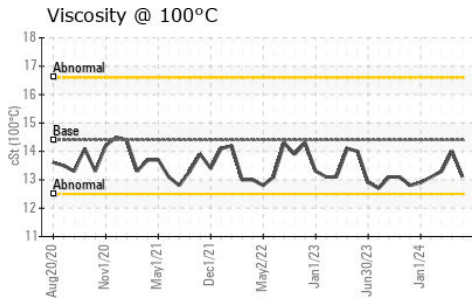
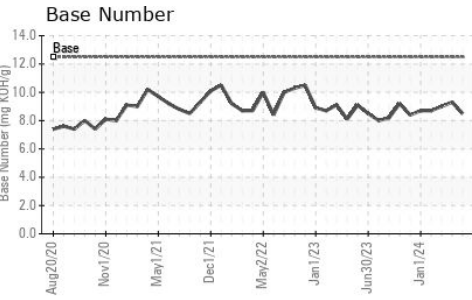
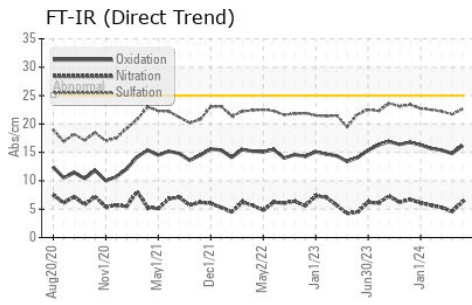
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	6	4
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	2
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
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>6.3</b>	4.6	5.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.6</b>	21.7	22.2
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>	1	2
Boron	ppm	ASTM D5185m	151	<b>369</b>	373	328
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	250	<b>129</b>	109	123
Manganese	ppm	ASTM D5185m		<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m	0	<b>692</b>	575	660
Calcium	ppm	ASTM D5185m	2046	<b>1932</b>	1488	1785
Phosphorus	ppm	ASTM D5185m	1043	<b>887</b>	733	733
Zinc	ppm	ASTM D5185m	943	<b>1075</b>	859	860
Sulfur	ppm	ASTM D5185m	5012	<b>3601</b>	3041	3133
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	14.8	15.4
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>8.5</b>	9.3	9.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.1</b>	14.0	13.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0070932  
**Lab Number** : 06193329  
**Unique Number** : 11050081  
**Test Package** : MAR 2  
**Received** : 28 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 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)