



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**3**  
 Component  
**Starboard Genset**  
 Fluid  
**KIRKLAND 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0764173</b>	WC0764162	WC0764169
Sample Date		Client Info		<b>18 May 2024</b>	18 Apr 2024	27 Mar 2024
Machine Age	hrs	Client Info		<b>2710</b>	2434	2199
Oil Age	hrs	Client Info		<b>270</b>	235	242
Filter Age	hrs	Client Info		<b>270</b>	235	242
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>6</b>	5	2
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>5	<b>1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	3	1
Lead	ppm	ASTM D5185m	>17	<b>&lt;1</b>	2	0
Copper	ppm	ASTM D5185m	>70	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

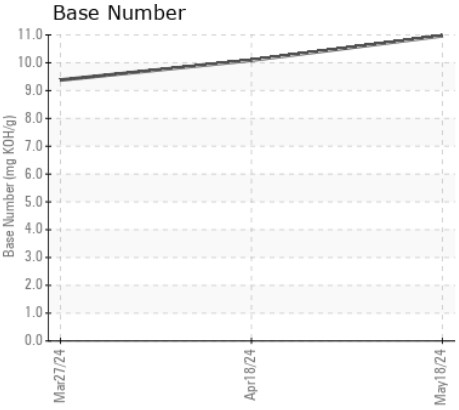
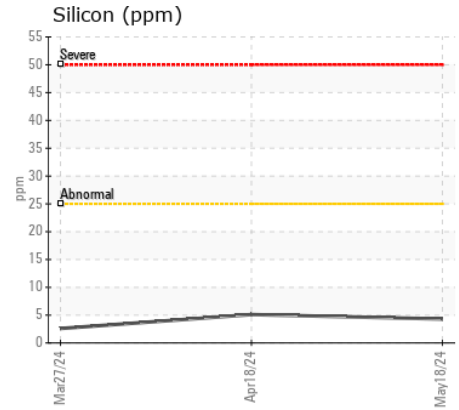
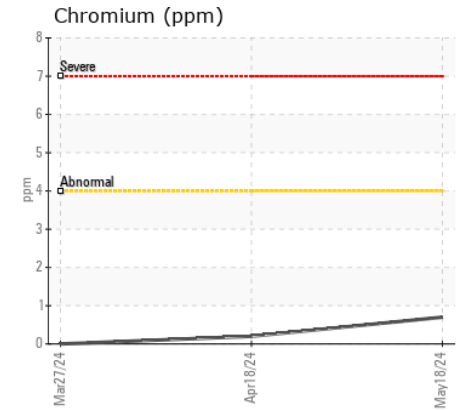
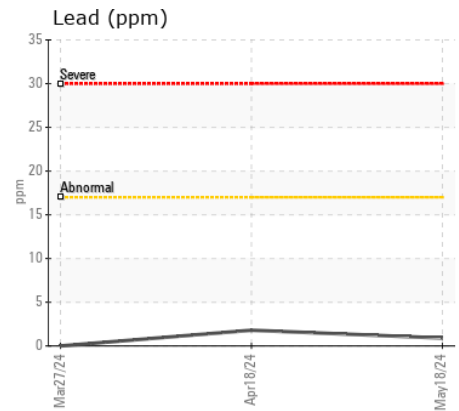
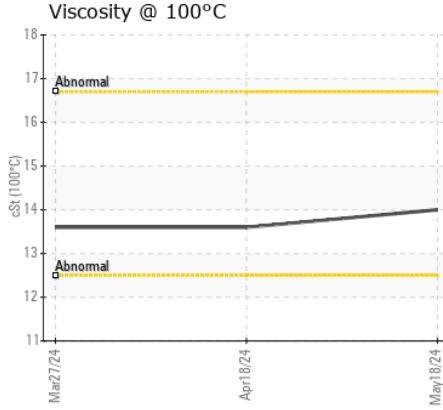
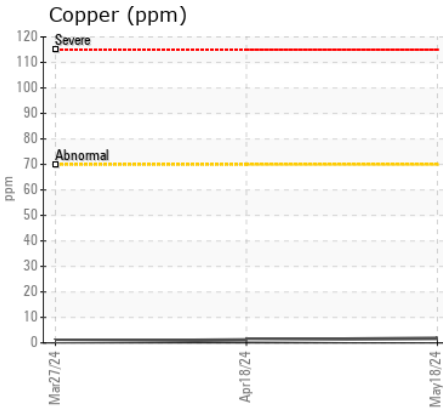
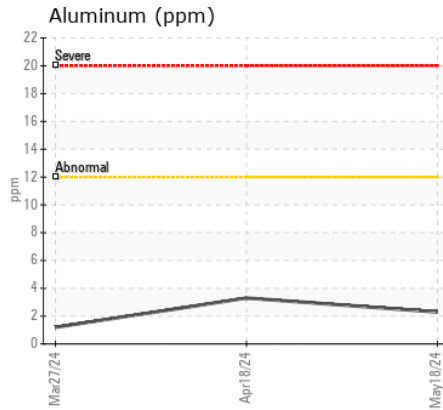
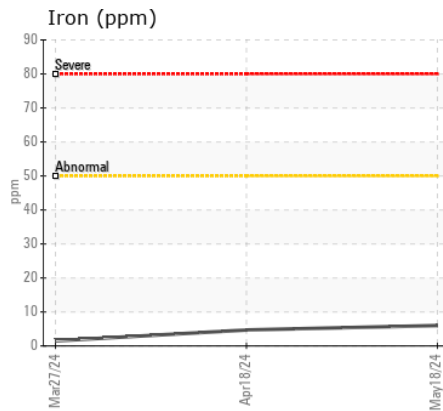
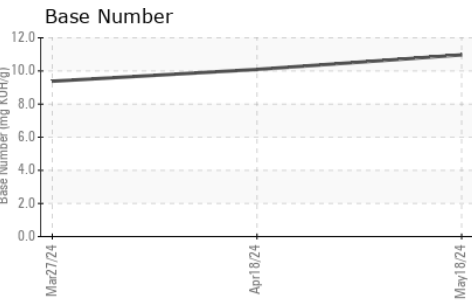
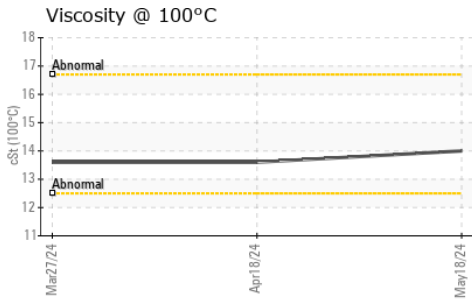
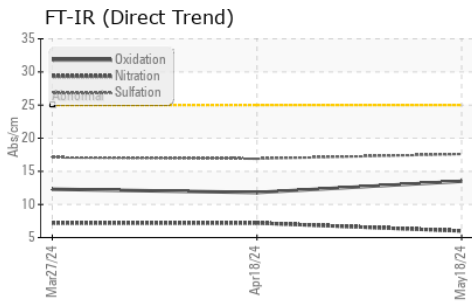
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	5	3
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	5	1
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>6.0</b>	7.2	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.6</b>	16.9	17.1
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>2</b>	2	2
Boron	ppm	ASTM D5185m		<b>16</b>	93	72
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>54</b>	4	9
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>1037</b>	754	767
Calcium	ppm	ASTM D5185m		<b>1210</b>	1320	1290
Phosphorus	ppm	ASTM D5185m		<b>1035</b>	778	737
Zinc	ppm	ASTM D5185m		<b>1273</b>	853	868
Sulfur	ppm	ASTM D5185m		<b>3563</b>	3138	2923
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.5</b>	11.8	12.3
Base Number (BN)	mg KOH/g	ASTM D2896		<b>10.97</b>	10.09	9.38
Visc @ 100°C	cSt	ASTM D445		<b>14.0</b>	13.6	13.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0764173  
**Lab Number** : 06191231  
**Unique Number** : 11047983  
**Test Package** : MOB 2

**Received** : 24 May 2024  
**Tested** : 29 May 2024  
**Diagnosed** : 29 May 2024 - 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)