



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
SANDY B
Machine Id
[SANDY B] 008 562531-8
Component
Starboard Genset
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0068798	MW0068851	MW0061658
Sample Date		Client Info		03 May 2024	06 Apr 2024	02 Jan 2024
Machine Age	hrs	Client Info		24726	24328	23123
Oil Age	hrs	Client Info		87	475	265
Filter Age	hrs	Client Info		87	475	265
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

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

CONTAMINATION

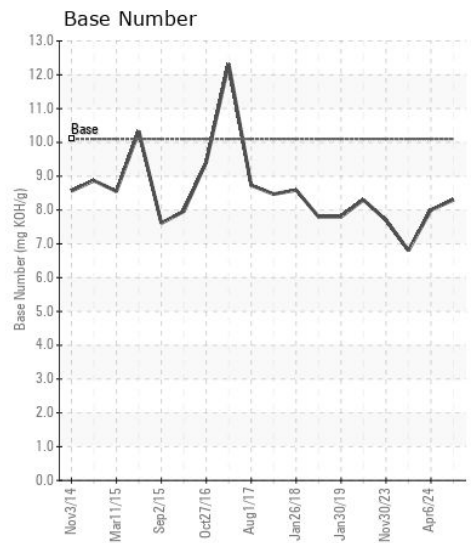
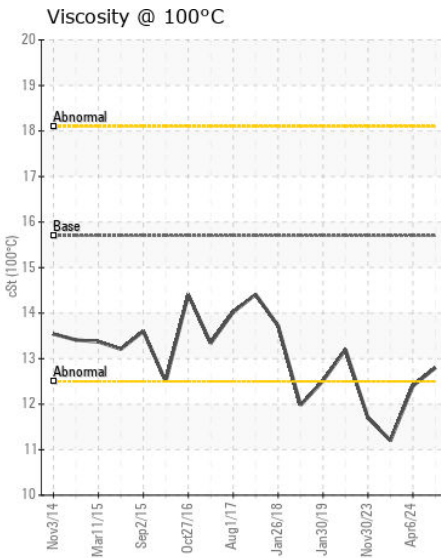
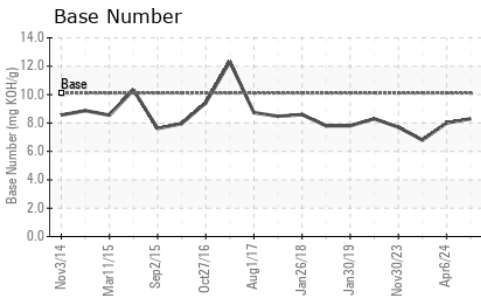
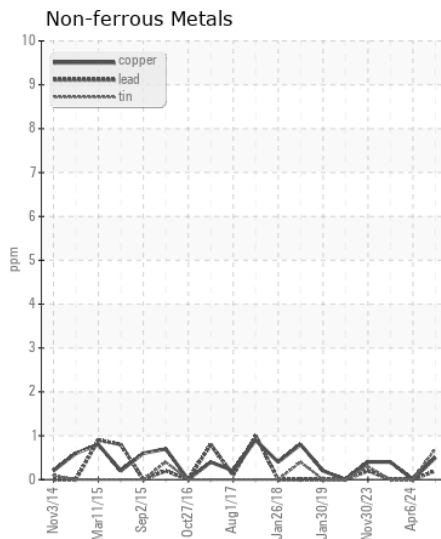
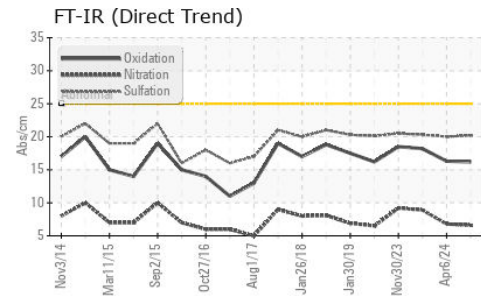
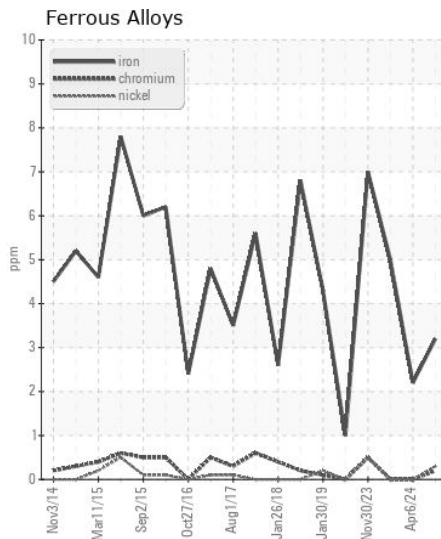
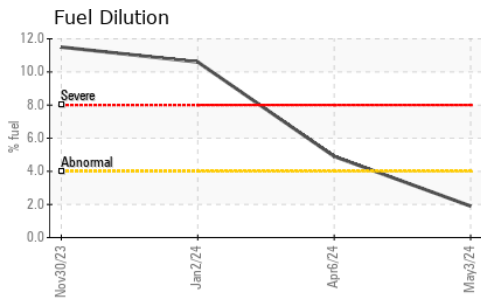
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>25	5	13	4
Potassium	ppm	ASTM D5185m	>20	9	5	6
Fuel	%	ASTM D3524	>4.0	1.9	▲ 4.9	▲ 10.6
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.6	6.8	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	20.0	20.3
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 condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	0	1
Boron	ppm	ASTM D5185m	316	228	203	151
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	16	9	10
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	24	69	52	60
Calcium	ppm	ASTM D5185m	2292	1995	2286	1988
Phosphorus	ppm	ASTM D5185m	1064	936	1009	867
Zinc	ppm	ASTM D5185m	1160	1084	1219	1055
Sulfur	ppm	ASTM D5185m	4996	3807	4060	3077
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	16.3	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.3	8.0	6.8
Visc @ 100°C	cSt	ASTM D445	15.7	12.8	▲ 12.4	▲ 11.2



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0068798 **Received** : 13 May 2024
Lab Number : 06178200 **Tested** : 16 May 2024
Unique Number : 11029526 **Diagnosed** : 16 May 2024 - Wes Davis
Test Package : MAR 2 (Additional Tests: PercentFuel)

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Certificate L2367
 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)