



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

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0065729	MW0068798	MW0068851
Sample Date		Client Info		01 Jun 2024	03 May 2024	06 Apr 2024
Machine Age	hrs	Client Info		25021	24726	24328
Oil Age	hrs	Client Info		382	87	475
Filter Age	hrs	Client Info		382	87	475
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

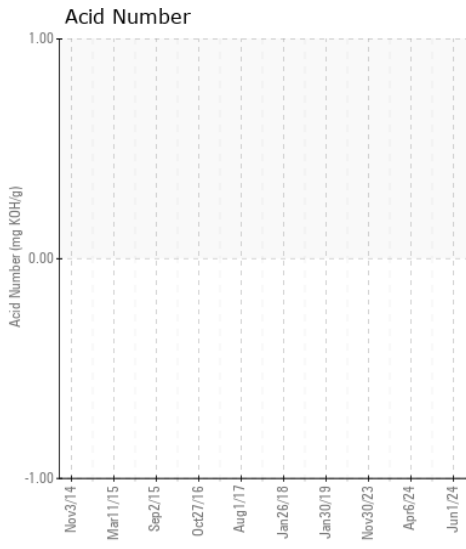
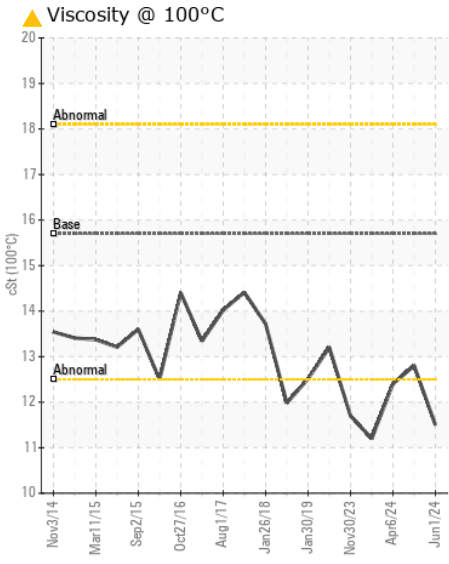
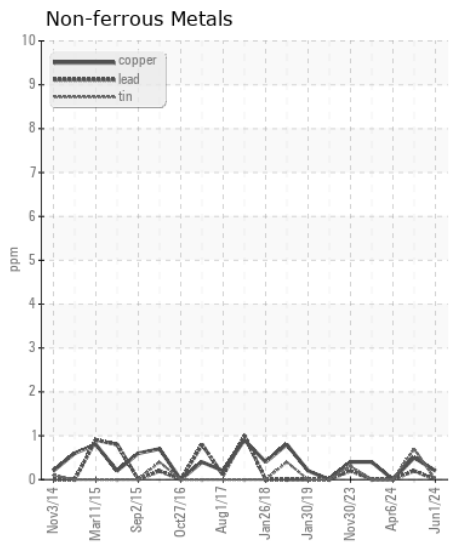
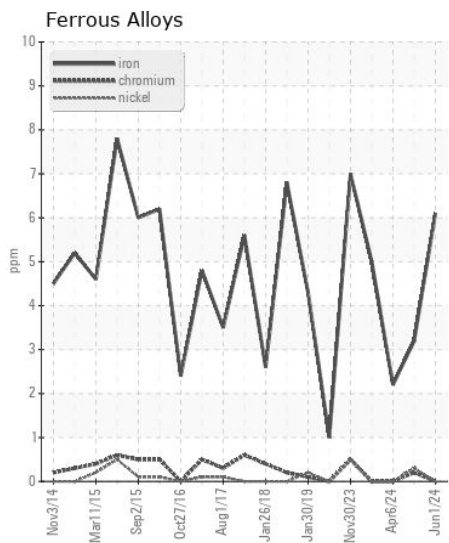
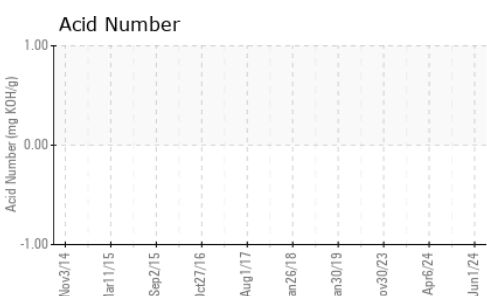
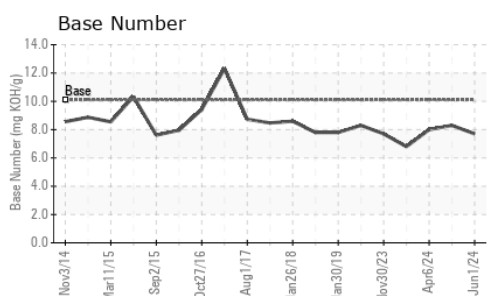
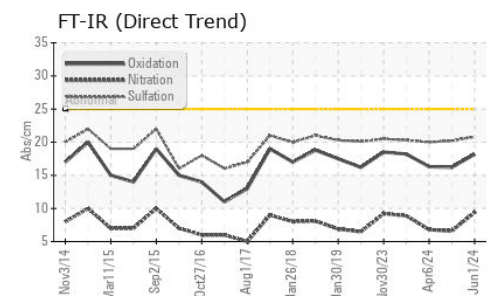
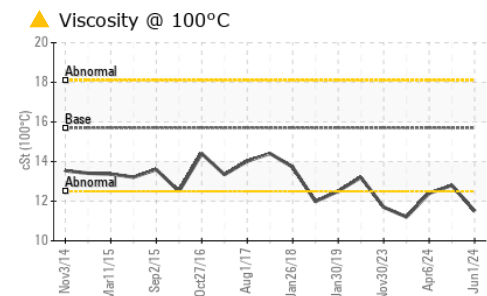
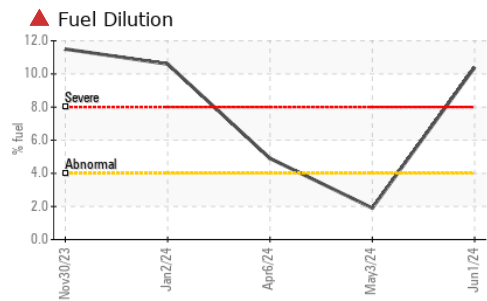
There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	8	5	13
Potassium	ppm	ASTM D5185m	>20	5	9	5
Fuel	%	ASTM D3524	>4.0	▲ 10.4	1.9	▲ 4.9
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.4	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.4	6.6	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	20.2	20.0
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

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		1	0	0
Boron	ppm	ASTM D5185m	316	116	228	203
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	13	16	9
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m	24	87	69	52
Calcium	ppm	ASTM D5185m	2292	2157	1995	2286
Phosphorus	ppm	ASTM D5185m	1064	932	936	1009
Zinc	ppm	ASTM D5185m	1160	1143	1084	1219
Sulfur	ppm	ASTM D5185m	4996	3698	3807	4060
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	16.2	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.7	8.3	8.0
Visc @ 100°C	cSt	ASTM D445	15.7	▲ 11.5	12.8	▲ 12.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0065729 **Received** : 24 Jun 2024
Lab Number : 06219188 **Tested** : 27 Jun 2024
Unique Number : 11097385 **Diagnosed** : 27 Jun 2024 - Don Baldrige
Test Package : MAR 2 (Additional Tests: FuelDilution, PercentFuel, TAN Man)

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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)