



# OIL ANALYSIS REPORT

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

Machine Id  
**VOLVO D5A-AT STBDGEN (S/N 12320935)**

Component  
**Starboard Genset**

Fluid  
**SHELL ROTELLA T4 15W40 (13 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0754190</b>	WC0491588	WC0641490
Sample Date		Client Info		<b>22 Sep 2023</b>	13 Dec 2022	11 Sep 2022
Machine Age	hrs	Client Info		<b>4413</b>	3781	3575
Oil Age	hrs	Client Info		<b>0</b>	206	653
Filter Age	hrs	Client Info		<b>0</b>	206	653
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	<b>8</b>	4	4
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>12	<b>&lt;1</b>	1	<1
Lead	ppm	ASTM D5185(m)	>17	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185(m)	>70	<b>&lt;1</b>	1	1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	NONE

## CONTAMINATION

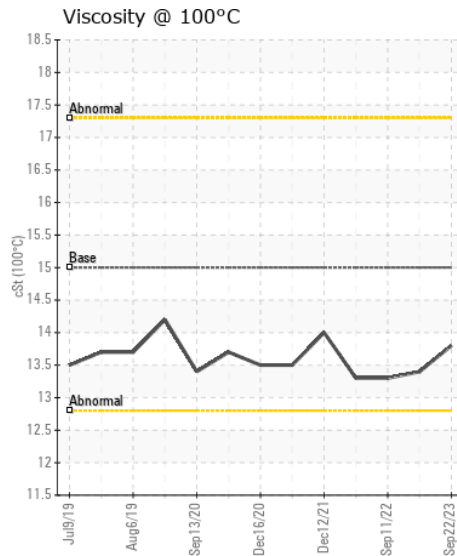
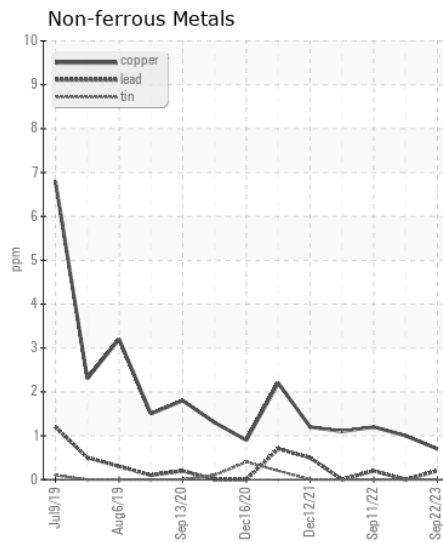
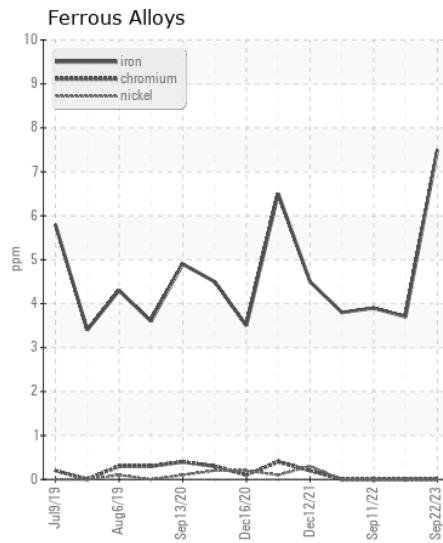
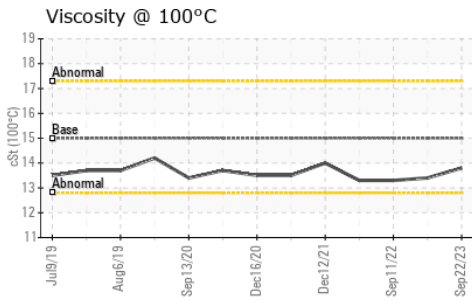
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>3</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	6	6
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	0.0
Soot %	%	ASTM D7844*		<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>6.8</b>	8.4	8.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.8</b>	23.3	22.6
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Boron	ppm	ASTM D5185(m)		<b>165</b>	143	115
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>13</b>	13	13
Calcium	ppm	ASTM D5185(m)		<b>2236</b>	2271	2174
Phosphorus	ppm	ASTM D5185(m)		<b>1015</b>	1023	969
Zinc	ppm	ASTM D5185(m)		<b>1167</b>	1141	1085
Sulfur	ppm	ASTM D5185(m)		<b>2991</b>	2975	2823
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>16.7</b>	20.8	19.5
Visc @ 100°C	cSt	ASTM D7279(m)	15	<b>13.8</b>	13.4	13.3



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0754190  
**Lab Number** : 02587723  
**Unique Number** : 5656789  
**Test Package** : MAR 1

**CANADIAN COAST GUARD**  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.