



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
1013921234

Component
Starboard Main Engine

Fluid
SHELL ROTELLA T4 15W40 (52 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0754205	WC0641497	WC0641480
Sample Date		Client Info		10 Aug 2023	13 Dec 2022	05 Jul 2022
Machine Age	hrs	Client Info		2187	1886	1648
Oil Age	hrs	Client Info		300	519	281
Filter Age	hrs	Client Info		300	519	281
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	4	6	5
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>5	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	1	1	<1
Lead	ppm	ASTM D5185(m)	>40	0	<1	<1
Copper	ppm	ASTM D5185(m)	>300	<1	2	2
Tin	ppm	ASTM D5185(m)	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

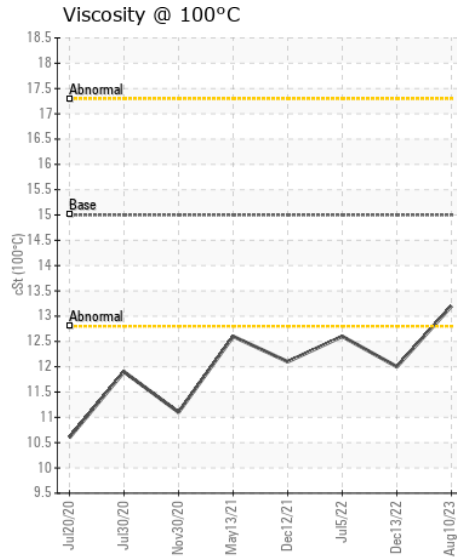
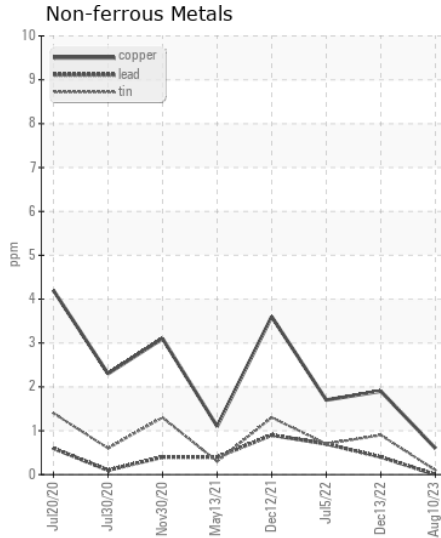
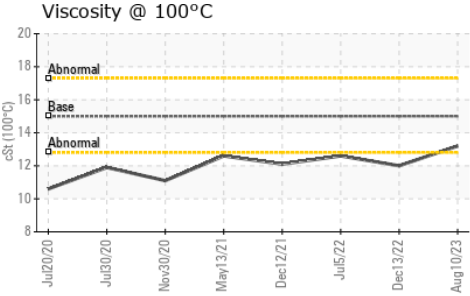
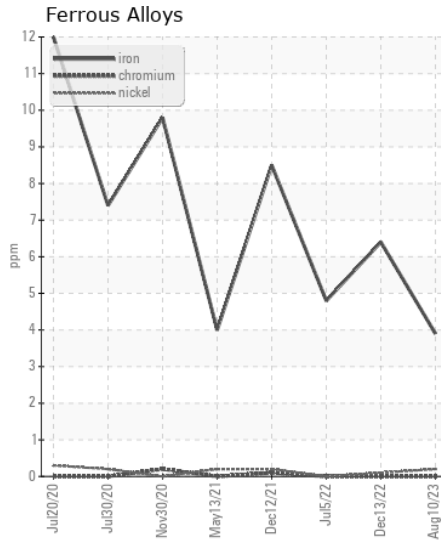
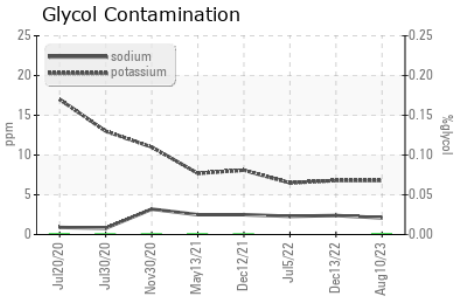
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	3	5	4
Potassium	ppm	ASTM D5185(m)	>20	7	7	6
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	NEG	NEG
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	6.5	8.2	7.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.3	23.4	23.0
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

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

Sodium	ppm	ASTM D5185(m)		2	2	2
Boron	ppm	ASTM D5185(m)		139	107	128
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		<1	<1	<1
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		14	14	15
Calcium	ppm	ASTM D5185(m)		2088	2167	2162
Phosphorus	ppm	ASTM D5185(m)		996	945	903
Zinc	ppm	ASTM D5185(m)		1115	1074	1085
Sulfur	ppm	ASTM D5185(m)		2874	2785	2869
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.9	20.5	17.1
Visc @ 100°C	cSt	ASTM D7279(m)	15	13.2	12.0	12.6



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0754205 **Received** : 19 Sep 2023
Lab Number : 02583407 **Tested** : 19 Sep 2023
Unique Number : 5644472 **Diagnosed** : 19 Sep 2023 - Wes Davis
Test Package : MAR 1 (Additional Tests: Glycol)

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.