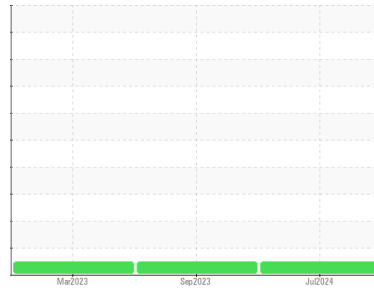


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
512 100 805
Component
Starboard Main Engine
Fluid
SHELL ROTELLA T4 15W40 (67 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WA0017765	WC0730366	WC0730359
Sample Date	Client Info			10 Jul 2024	26 Sep 2023	19 Mar 2023
Machine Age	hrs	Client Info		560	436	323
Oil Age	hrs	Client Info		124	436	323
Oil Changed	Client Info			Not Changed	Not Changd	Not Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>4.0		<1.0	<1.0	<1.0
Water	WC Method	>0.1		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

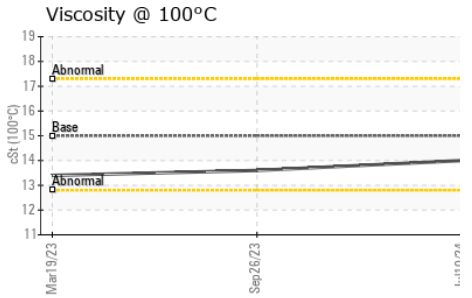
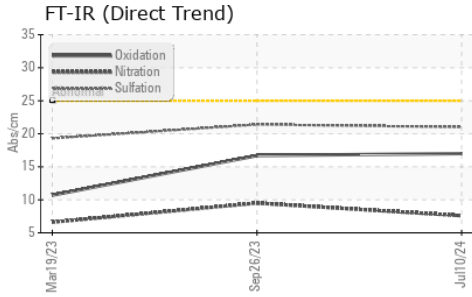
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	4	12	10
Chromium	ppm	ASTM D5185(m)	>8	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>3	2	10	13
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	1	2	2
Lead	ppm	ASTM D5185(m)	>18	0	1	1
Copper	ppm	ASTM D5185(m)	>80	4	13	14
Tin	ppm	ASTM D5185(m)	>14	0	<1	1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	<1
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		147	89	110
Barium	ppm	ASTM D5185(m)		<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)		3	22	26
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		77	449	521
Calcium	ppm	ASTM D5185(m)		2137	2015	1954
Phosphorus	ppm	ASTM D5185(m)		1007	801	862
Zinc	ppm	ASTM D5185(m)		1129	988	909
Sulfur	ppm	ASTM D5185(m)		2961	2829	2922
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	2	4	4
Sodium	ppm	ASTM D5185(m)	>75	2	4	4
Potassium	ppm	ASTM D5185(m)	>20	7	5	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	7.6	9.5	6.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.0	21.4	19.3

OIL ANALYSIS REPORT

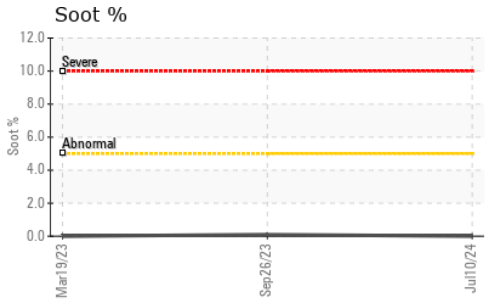
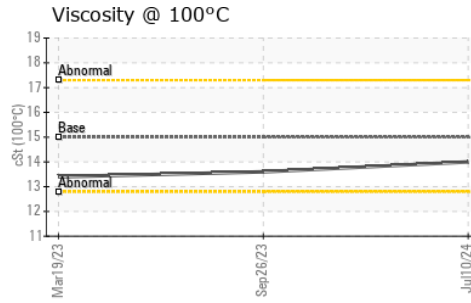
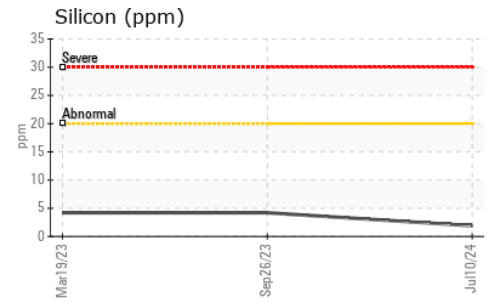
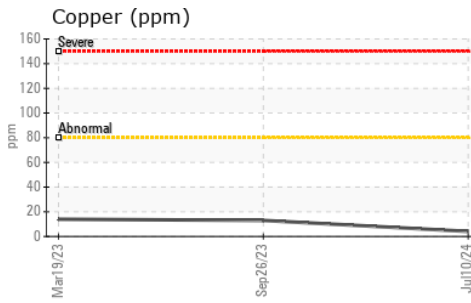
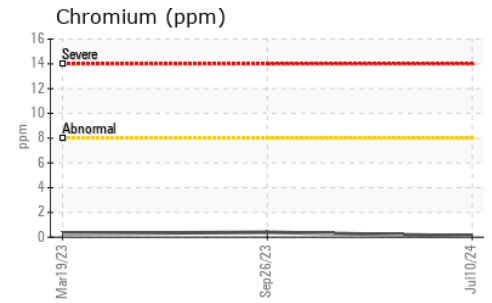
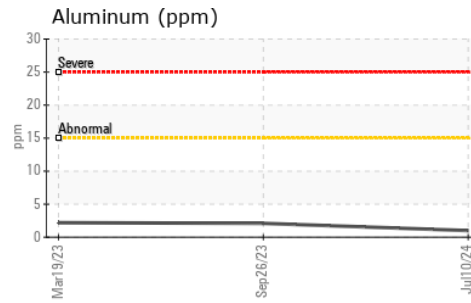
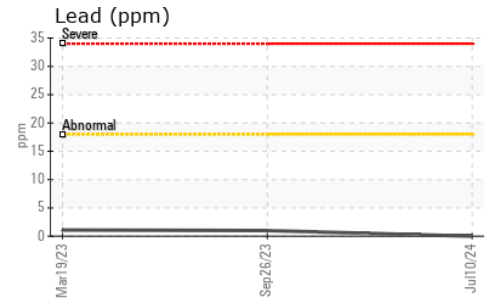
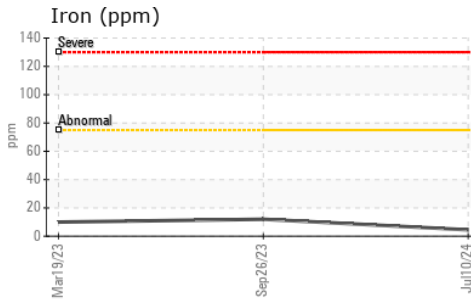


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	17.0	16.7	10.7

VISUAL	method	limit/base	current	history1	history2	
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D7279(m)	15	14.0	13.6	13.4

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WA0017765
Lab Number : 02648650
Unique Number : 5814202
Test Package : MOB 1
Received : 18 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 18 Jul 2024 - Wes Davis

CANADIAN COAST GUARD
 CCGS CHIGNECTO BAY, 82 BICKERTON EAST
 PORT BICKERTON, NS
 CA B0J 1A0
 Contact: ENGINEER BICKERTON
 bickertoneng.ccgcs@dfo-mpo.gc.ca
 T: (902)364-2555
 F:

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.