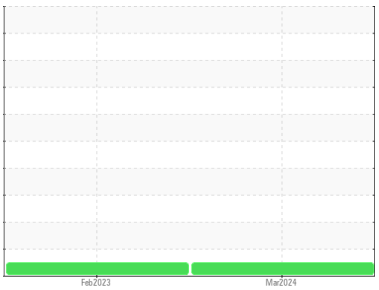
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
512 100 807
Component
Starboard Diesel Engine
Fluid
SHELL ROTELLA T4 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
Metal levels are typical for a new component breaking in.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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		**WA0019142**	WA0019140	---
Sample Date		Client Info		**09 Mar 2024**	16 Feb 2023	---
Machine Age	hrs	Client Info		**668**	410	---
Oil Age	hrs	Client Info		**99**	210	---
Oil Changed		Client Info		**Not Changd**	Not Changd	---
Sample Status				**NORMAL**	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	---
Water		WC Method	>0.2	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**6**	13	---
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	---
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	---
Titanium	ppm	ASTM D5185(m)		**2**	14	---
Silver	ppm	ASTM D5185(m)	>3	**0**	0	---
Aluminum	ppm	ASTM D5185(m)	>20	**2**	3	---
Lead	ppm	ASTM D5185(m)	>40	**<1**	1	---
Copper	ppm	ASTM D5185(m)	>330	**5**	17	---
Tin	ppm	ASTM D5185(m)	>15	**<1**	1	---
Antimony	ppm	ASTM D5185(m)		**0**	<1	---
Vanadium	ppm	ASTM D5185(m)		**0**	<1	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

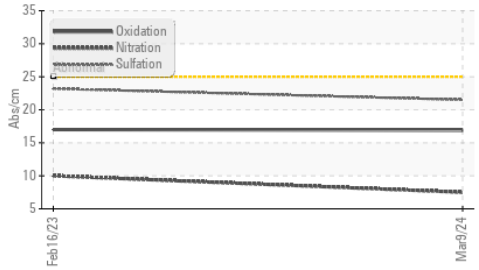
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**143**	98	---
Barium	ppm	ASTM D5185(m)		**0**	<1	---
Molybdenum	ppm	ASTM D5185(m)		**12**	43	---
Manganese	ppm	ASTM D5185(m)		**0**	<1	---
Magnesium	ppm	ASTM D5185(m)		**167**	676	---
Calcium	ppm	ASTM D5185(m)		**2164**	1901	---
Phosphorus	ppm	ASTM D5185(m)		**955**	812	---
Zinc	ppm	ASTM D5185(m)		**1079**	874	---
Sulfur	ppm	ASTM D5185(m)		**3098**	2822	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	6	---
Sodium	ppm	ASTM D5185(m)		**2**	4	---
Potassium	ppm	ASTM D5185(m)	>20	**7**	4	---

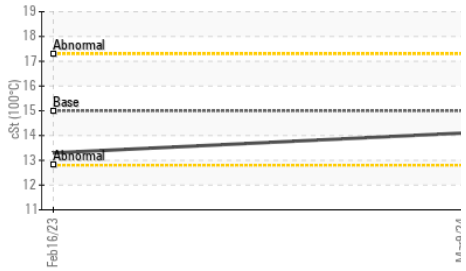
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.1**	0.2	---
Nitration	Abs/cm	ASTM D7624*	>20	**7.5**	10.0	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.5**	23.2	---

OIL ANALYSIS REPORT

FT-IR (Direct Trend)



Viscosity @ 100°C



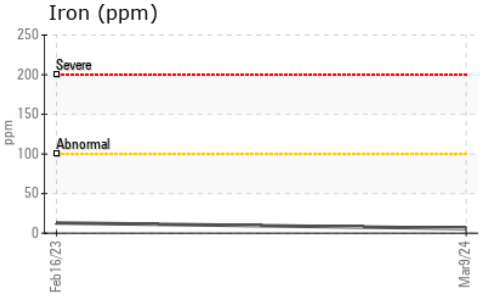
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**16.9**	17.0	---

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

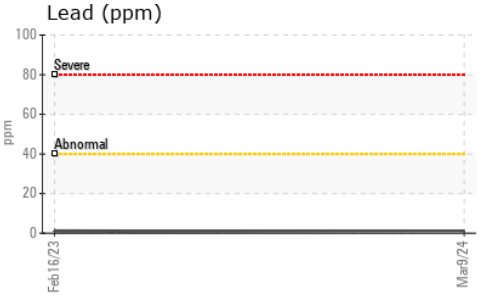
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15	**14.1**	13.3	---

GRAPHS

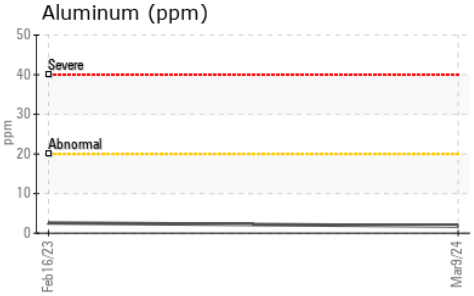
Iron (ppm)



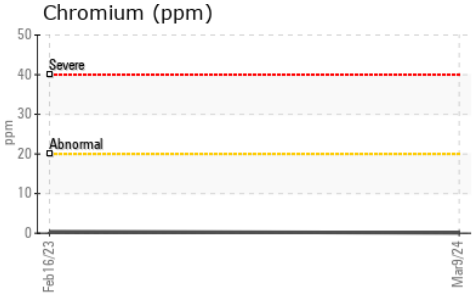
Lead (ppm)



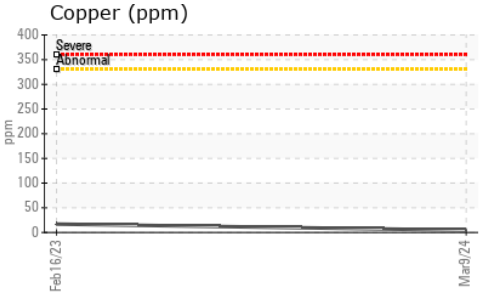
Aluminum (ppm)



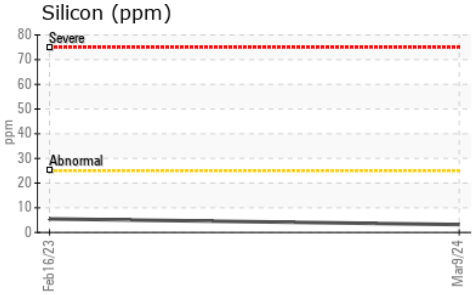
Chromium (ppm)



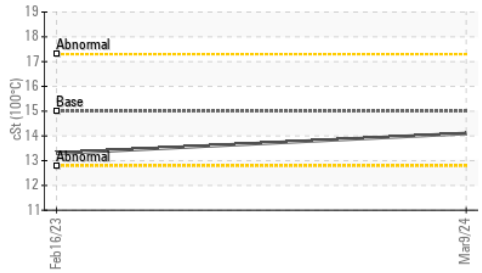
Copper (ppm)



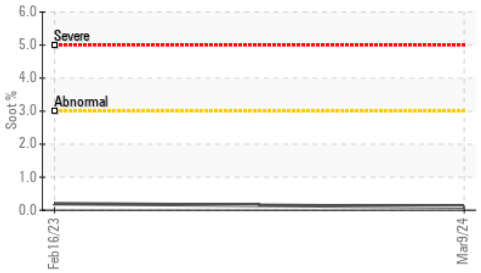
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WA0019142
Lab Number : 02622977
Unique Number : 5748096
Test Package : MOB 1

Received : 19 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 19 Mar 2024 - Wes Davis

CANADIAN COAST GUARD (SHEDIAC BAY)
4 NAVY WAY
SAINT JOHN, NB
CA E2K 0H8
Contact: Service Manager
T:
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.