WEAR CONTAMINATION **FLUID CONDITION**

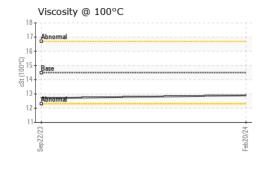
NORMAL NORMAL NORMAL

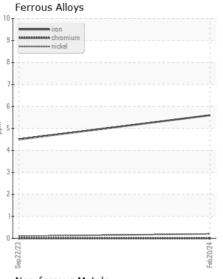
Machine Id

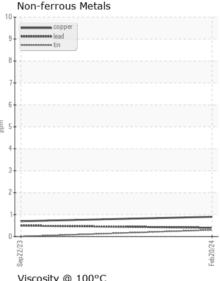
MAIN ENGINE

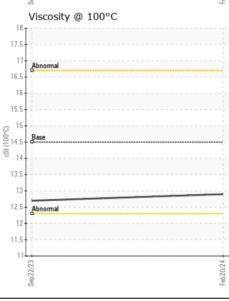
Component Starboard Main Engine

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0754192	WC0754186	
	Sample Date		Client Info		20 Feb 2024	22 Sep 2023	
	Machine Age	hrs	Client Info		2538	0	
	Oil Age	hrs	Client Info		278	0	
	Filter Age	hrs	Client Info		278	0	
	Oil Changed		Client Info		Not Changd	Not Changd	
	Filter Changed		Client Info		Not Changd	Not Changd	
	Sample Status				NORMAL	NORMAL	
A/CAD			AOTM DE40E()	75	•	4	
WEAR	Iron	ppm	ASTM D5185(m)		6	4	
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)		0	0	
	Nickel	ppm	ASTM D5185(m)		<1	<1	
	Titanium	ppm	ASTM D5185(m)		0	0	
	Silver	ppm	ASTM D5185(m)		0	<1	
	Aluminum	ppm	ASTM D5185(m)		1	1	
	Lead	ppm	ASTM D5185(m)	>18	<1	<1	
	Copper	ppm	(/	>80	<1	<1	
	Tin	ppm	ASTM D5185(m)	>14	<1	0	
	Vanadium	ppm	ASTM D5185(m)	NONE	0	0	
	White Metal	scalar	Visual*	NONE	NONE	NONE	
	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>20	3	3	
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185(m)	>20	7	3	
	Fuel		WC Method	>4.0	<1.0	<1.0	
	Water		WC Method	>0.1	NEG	NEG	
	Glycol		WC Method		NEG	NEG	
	Soot %	%	ASTM D7844*		0	0	
	Nitration	Abs/cm	ASTM D7624*	>20	7.4	6.8	
	Sulfation	Abs/.1mm	ASTM D7415*	>30	21.6	20.8	
	Silt	scalar	Visual*	NONE	NONE	NONE	
	Debris	scalar	Visual*	NONE	NONE	NONE	
	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
	Appearance	scalar	Visual*	NORML	NORML	NORML	
	Odor	scalar		NORML	NORML	NORML	
	Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)	> 57	2	2	
	Boron	ppm	ASTM D5185(m)	701	114	135	
The condition of the oil is acceptable for the time in service.	Barium	ppm	ASTM D5185(m)		0	<1	
	Molybdenum	ppm	ASTM D5185(m)		0	0	
	Manganese	ppm	ASTM D5185(m)		0	0	
	Magnesium	ppm	ASTM D5185(m)		14	12	
	Calcium	ppm	ASTM D5185(m)		2079	2164	
	Phosphorus	ppm	ASTM D5185(m)		911	968	
		ppm	ASTM D5185(m)		1077	1127	
	ZINC					– /	
	Zinc Sulfur		ASTM D5185(m)		2924	2867	
	Sulfur Oxidation	ppm Abs/.1mm	ASTM D5185(m) ASTM D7414*	>25	2924 18.8	2867 17.3	











CALA ISO 17025:2017 Accredited Laboratory

Report Id: CARIBOUIS [WCAMIS] 02618886 (Generated: 02/29/2024 14:58:46) Rev: 1

Laboratory Sample No.

Lab Number : 02618886 Unique Number : 5735996

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0754192

Test Package : MAR 1 To discuss this sample report, contact Customer Service at 1-800-268-2131.

Received : 29 Feb 2024 **Tested** Diagnosed

: 29 Feb 2024 : 29 Feb 2024 - Wes Davis

CCGS CARIBOUS ISLE, 867 Lakeshore Rd Burlington, ON CA L7S 1A1

Contact: Chief Engineer CariboulsleCE@ccgs-ngcc.gc.ca T:

CANADIAN COAST GUARD

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. F: (705)942-5739

Contact/Location: Chief Engineer - CARIBOUIS