

## **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Area SAMBRO Machine Id STBD MAIN ENG

Starboard Main Engine Fluid SAE 15W40 (--- GAL)

#### DIAGNOSIS

#### Recommendation

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.

#### 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 INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0522179		
Sample Date		Client Info		09 Jul 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0		
Water		WC Method	>0.1	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	24		
Chromium	ppm	ASTM D5185(m)	>8	<1		
Nickel	ppm	ASTM D5185(m)	>2	<1		
Titanium	ppm	ASTM D5185(m)	>3	0		
Silver	ppm	ASTM D5185(m)	>2	0		
Aluminum	ppm	ASTM D5185(m)	>15	2		
Lead	ppm	ASTM D5185(m)	>18	3		
Copper	ppm	ASTM D5185(m)	>80	11		
Tin	ppm	ASTM D5185(m)	>14	<1		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		46		
Barium	ppm	ASTM D5185(m)		0		
Molybdenum	ppm	ASTM D5185(m)		52		
Manganese	ppm	ASTM D5185(m)		<1		
Magnesium	ppm	ASTM D5185(m)		443		
Calcium	ppm	ASTM D5185(m)		1890		
Phosphorus	ppm	ASTM D5185(m)		905		
Zinc	ppm	ASTM D5185(m)		1098		
Sulfur	ppm	ASTM D5185(m)		2381		
Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	4		
Sodium	ppm	ASTM D5185(m)	>57	4		
Potassium	ppm	ASTM D5185(m)	>20	<1		
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0.3		
Nitration	Abs/cm	ASTM D7624*	>20	11.0		
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.5		



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FT-IR (Direct Trend)

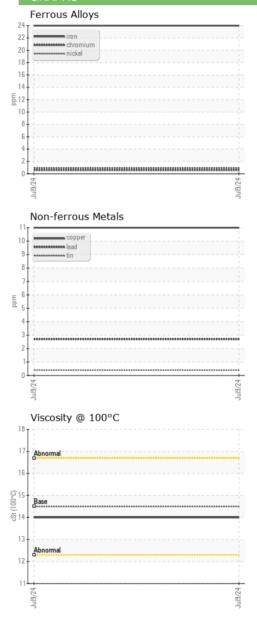


### Viscosity @ 100°C



FLUID DEGRADATION		method				history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	25.1		
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.0		

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Canadian Coast Guard** CALA Sample No. : WC0522179 Received : 10 Jul 2024 CCGS Florencia Bay, 1 Challenger Drive Lab Number : 02646959 Tested : 10 Jul 2024 Dartmouth, NS ISO 17025:2017 Accredited Laboratory CA B2Y 4A2 Unique Number : 5812511 Diagnosed : 10 Jul 2024 - Kevin Marson Test Package : MAR 5 ( Additional Tests: FT-IR, ICP, KV100, Spat ) Contact: Service Manager 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. T: F: Validity of results and interpretation are based on the sample and information as supplied.

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Contact/Location: Service Manager - CANCCGDAR Page 2 of 2