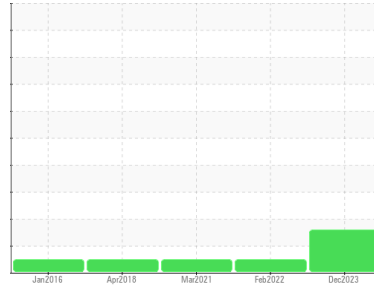




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
STBD STEER (S/N 108265)

Component
Starboard Steering

Fluid
MOBIL DTE 10 EXCEL 32 (40 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the fluid.

Fluid Condition

The AN level is acceptable for this fluid. The fluid is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0711975	WC0611593	WC0537918
Sample Date	Client Info		12 Dec 2023	15 Feb 2022	11 Mar 2021
Machine Age	yrs	Client Info	0	0	0
Oil Age	yrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >50	<1	0	<1
Chromium	ppm	ASTM D5185(m) >15	0	0	0
Nickel	ppm	ASTM D5185(m) >5	0	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	0	<1
Aluminum	ppm	ASTM D5185(m) >5	0	<1	<1
Lead	ppm	ASTM D5185(m) >10	<1	<1	<1
Copper	ppm	ASTM D5185(m) >50	<1	<1	1
Tin	ppm	ASTM D5185(m) >5	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

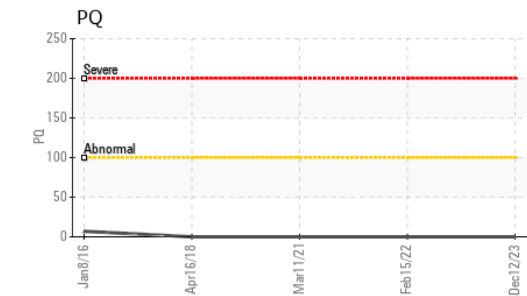
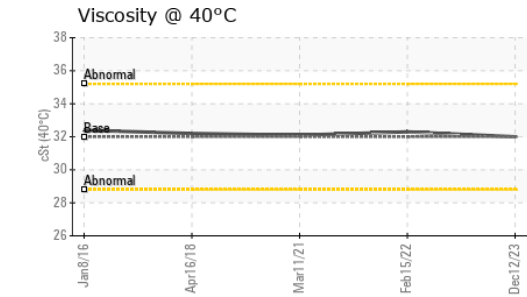
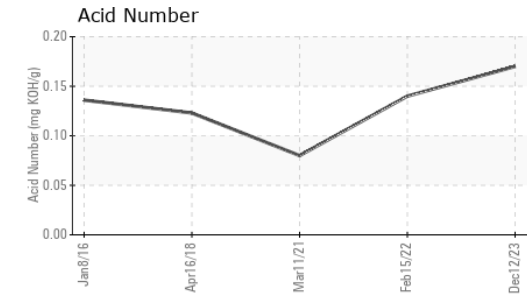
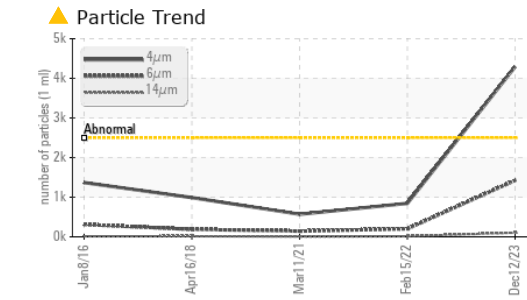
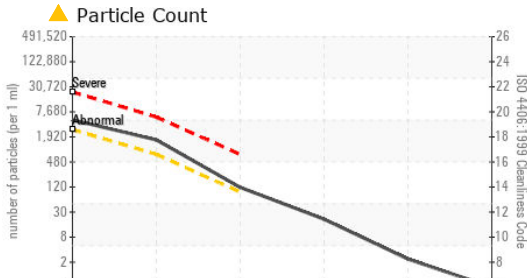
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<1	<1	<1
Barium	ppm	ASTM D5185(m)	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<1	<1
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 120	119	118	117
Phosphorus	ppm	ASTM D5185(m) 475	459	465	452
Zinc	ppm	ASTM D5185(m)	14	14	15
Sulfur	ppm	ASTM D5185(m) 1275	1411	1365	1394
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	<1	<1	<1
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	0	<1	8



OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 4293	844	570
Particles >6µm	ASTM D7647	>640	▲ 1425	202	143
Particles >14µm	ASTM D7647	>80	▲ 104	14	8
Particles >21µm	ASTM D7647	>20	18	3	1
Particles >38µm	ASTM D7647	>4	2	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 19/18/14	17/15/11	16/14/10

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*		0.17	0.14	0.08

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar Visual*	NONE	NONE	NONE	NONE
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*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	32	32.0	32.3	32.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------

Color



Bottom



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Canadian Coast Guard - CCGS Constable Carriere
Sample No. : WC0711975 **Received** : 18 Dec 2023
Lab Number : 02603810 **Diagnosed** : 19 Dec 2023
Unique Number : 5696895 **Diagnostician** : Wes Davis
Test Package : MAR 2 (Additional Tests: PQ, PrtCount, TAN Man)

867 Lakeshore Road
 Burlington, ON
 CA L7R 4A6
 Contact: Chief Engineer
 constablecarriereCE@ccgs-ngcc.gc.ca
 T: (705)542-2737
 F: x:

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.