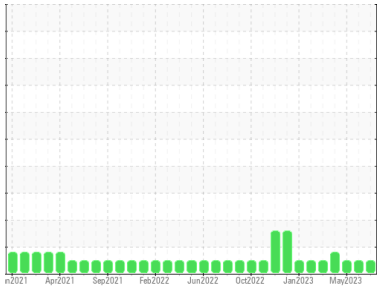
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
Detroit
Machine Id
[Detroit] Oil - Starboard Reduction Gear
Component
Starboard Reduction Gear
Fluid
SAE 30W (35 GAL)

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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0769390**	WC0735794	WC0731962
Sample Date		Client Info		**17 Jul 2023**	19 Jun 2023	22 May 2023
Machine Age	hrs	Client Info		**23846**	23377	0
Oil Age	hrs	Client Info		**4044**	3569	0
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

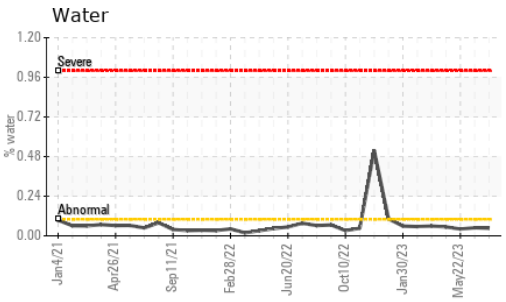
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**31**	31	30
Chromium	ppm	ASTM D5185m	>10	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**<1**	<1	0
Lead	ppm	ASTM D5185m	>100	**0**	<1	<1
Copper	ppm	ASTM D5185m	>50	**53**	50	48
Tin	ppm	ASTM D5185m	>10	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

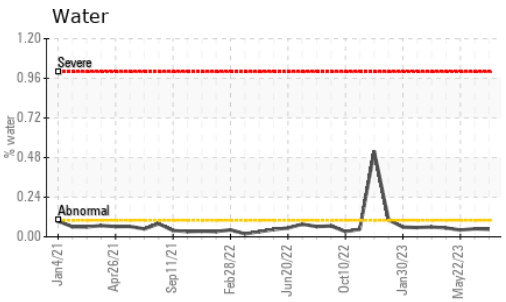
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**35**	32	29
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**14**	14	14
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**233**	223	225
Calcium	ppm	ASTM D5185m		**3248**	3133	3105
Phosphorus	ppm	ASTM D5185m		**980**	951	946
Zinc	ppm	ASTM D5185m		**1091**	1086	1084
Sulfur	ppm	ASTM D5185m		**8559**	7570	7779

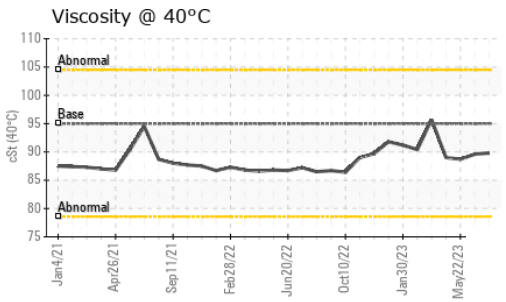
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**4**	5	3
Sodium	ppm	ASTM D5185m		**3**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**0**	1	1
Water	%	ASTM D6304	>0.1	**0.046**	0.049	0.041
ppm Water	ppm	ASTM D6304	>1000	**468.3**	494.4	412.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.01**	1.08	0.89

OIL ANALYSIS REPORT

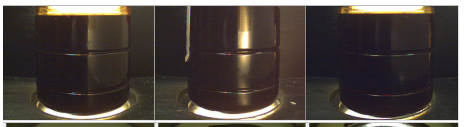
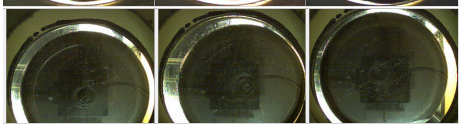




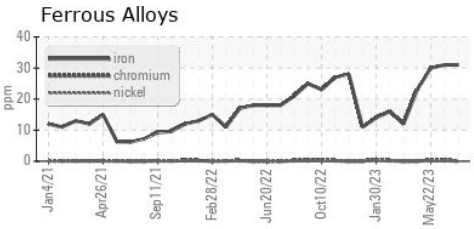


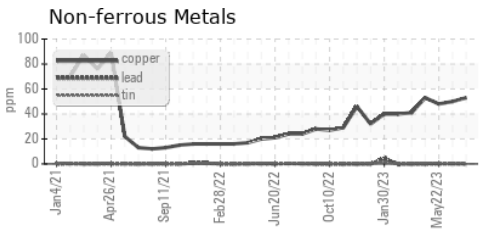
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

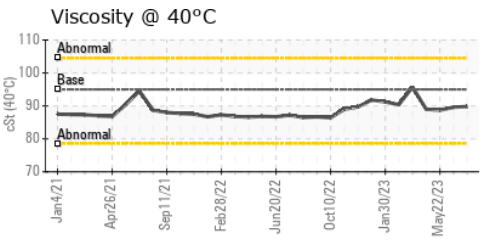
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	95.0	**89.8**	89.6	88.7

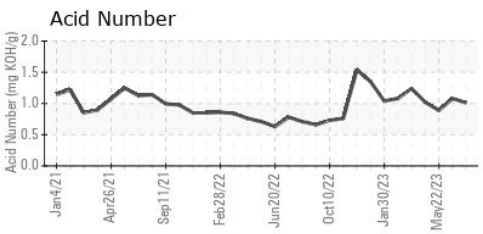
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0769390 **Received** : 21 Jul 2023
Lab Number : 05904406 **Diagnosed** : 25 Jul 2023
Unique Number : 10565762 **Diagnostician** : Angela Borella
Test Package : IND 2 (Additional Tests: KF)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Report Id: MARCAT [WUSCAR] 05904406 (Generated: 07/25/2023 08:33:05) Rev: 1

Submitted By: M/V DETROIT