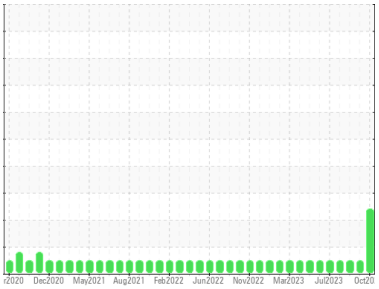
PROBLEM SUMMARY

Sample Rating Trend

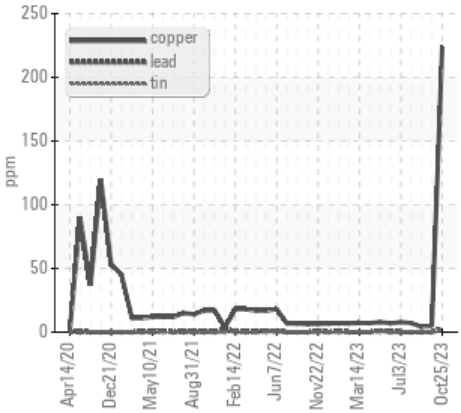


WEAR

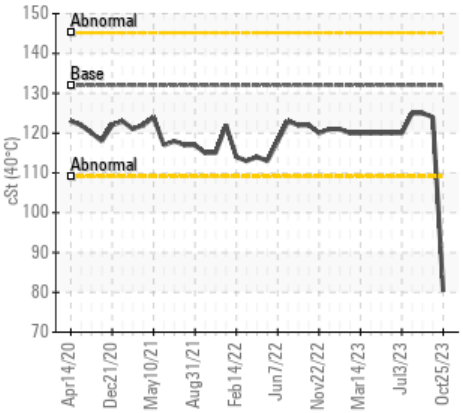
Area
Tampa
Machine Id
[Tampa] Oil - Port Reduction Gear
Component
Starboard Reduction Gear
Fluid
MOBIL DELVAC 1640 (35 GAL)

COMPONENT CONDITION SUMMARY

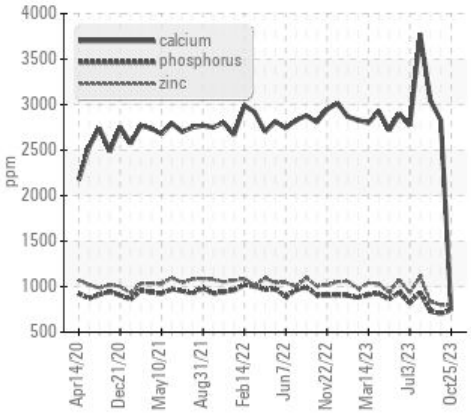
▲ Non-ferrous Metals



▲ Viscosity @ 40°C



▲ Additives



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	NORMAL
Copper	ppm	ASTM D5185m	>50	▲ **224**	5	4
Magnesium	ppm	ASTM D5185m		▲ **647**	205	211
Calcium	ppm	ASTM D5185m		▲ **741**	2829	3042
Sulfur	ppm	ASTM D5185m		▲ **2060**	6428	8069
Visc @ 40°C	cSt	ASTM D445	132	▲ **80.3**	124	125

Customer Id: MARCAT
Sample No.: WC0805342
Lab Number: 05995684
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

27 Sep 2023 Diag: Jonathan Hester

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The water content is negligible. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

30 Aug 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

02 Aug 2023 Diag: Don Baldridge

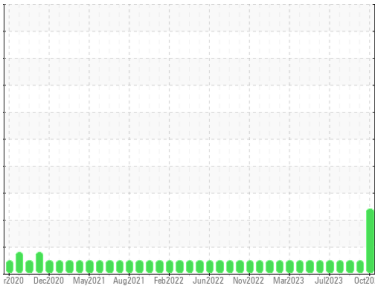
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
Tampa
Machine Id
[Tampa] Oil - Port Reduction Gear
Component
Starboard Reduction Gear
Fluid
MOBIL DELVAC 1640 (35 GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
The copper level is abnormal. All other component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil viscosity is lower than normal. Additive levels indicate the addition of a different brand, or type of oil. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0805342**	WC0769427	WC0769432
Sample Date		Client Info		**25 Oct 2023**	27 Sep 2023	30 Aug 2023
Machine Age	hrs	Client Info		**19532**	18864	18292
Oil Age	hrs	Client Info		**2202**	1568	962
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**5**	8	9
Chromium	ppm	ASTM D5185m	>10	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**1**	2	2
Lead	ppm	ASTM D5185m	>100	**3**	0	0
Copper	ppm	ASTM D5185m	>50	▲ **224**	5	4
Tin	ppm	ASTM D5185m	>10	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

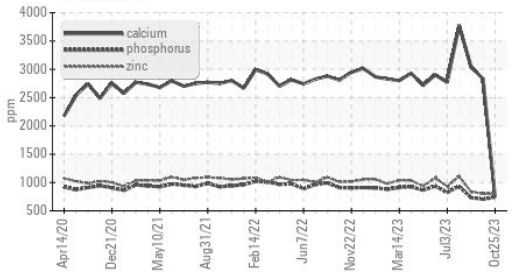
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**1**	10	13
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**42**	38	38
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		▲ **647**	205	211
Calcium	ppm	ASTM D5185m		▲ **741**	2829	3042
Phosphorus	ppm	ASTM D5185m		**742**	704	731
Zinc	ppm	ASTM D5185m		**799**	799	836
Sulfur	ppm	ASTM D5185m		▲ **2060**	6428	8069

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**2**	4	4
Sodium	ppm	ASTM D5185m		**2**	3	4
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	2
Water	%	ASTM D6304	>0.1	**0.022**	0.021	0.031
ppm Water	ppm	ASTM D6304	>1000	**222.1**	216.3	315.2

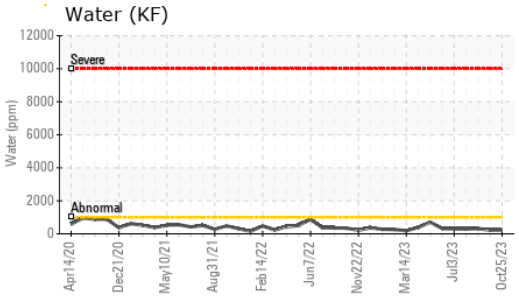
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.41**	1.42	1.62

OIL ANALYSIS REPORT

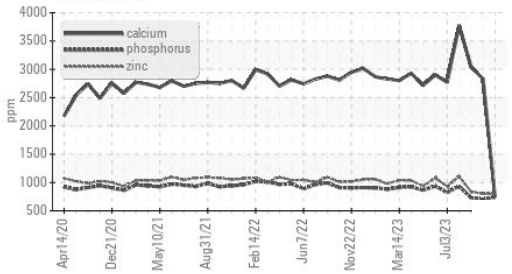
Additives



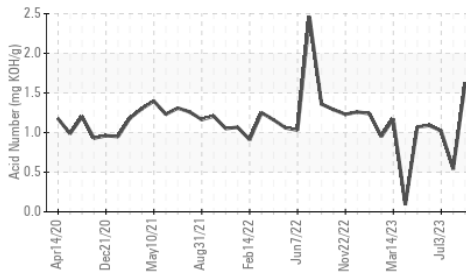
Water (KF)



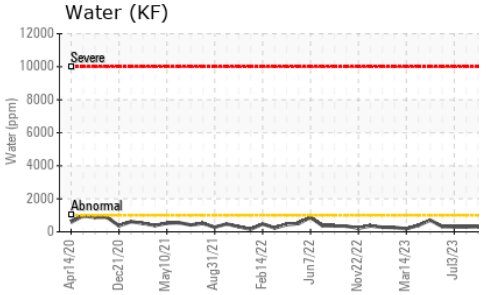
Additives



Acid Number



Water (KF)



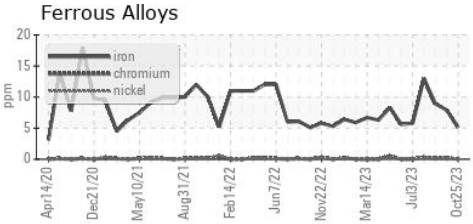
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	132	▲ **80.3**	124	125

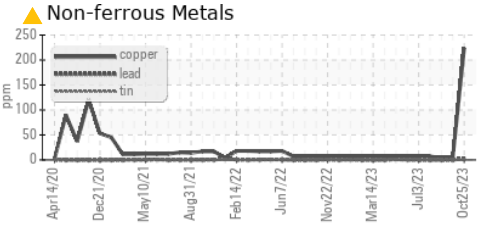
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

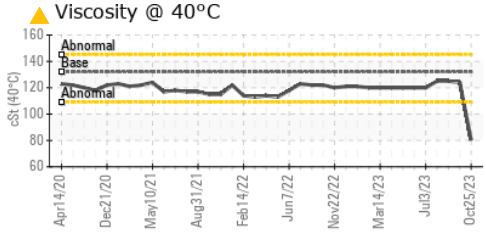
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Acid Number

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0805342 **Received** : 01 Nov 2023
Lab Number : 05995684 **Diagnosed** : 03 Nov 2023
Unique Number : 10724044 **Diagnostician** : Jonathan Hester
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] 05995684 (Generated: 11/03/2023 15:32:13) Rev: 2

Submitted By: M/V TAMPA