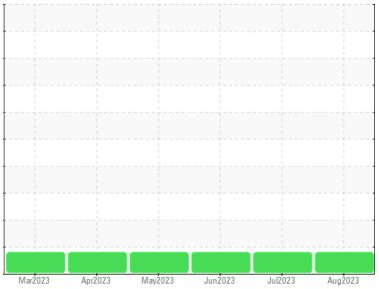
PROBLEM SUMMARY

Sample Rating Trend

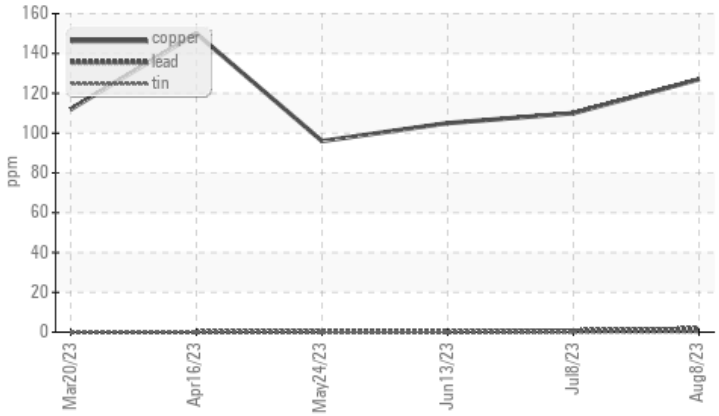


WEAR

Area
Huntington
Machine Id
[Huntington] Oil - Starboard Reduction Gear
Component
Starboard Reduction Gear
Fluid
SAE 40W (24 GAL)

COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Copper	ppm	ASTM D5185m	>50	▲ **127**	▲ 110	▲ 105

Customer Id: MARCAT
Sample No.: WC0769351
Lab Number: 05927316
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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

08 Jul 2023 Diag: Don Baldridge

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. All other 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

13 Jun 2023 Diag: Don Baldridge

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. All other 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

24 May 2023 Diag: Jonathan Hester

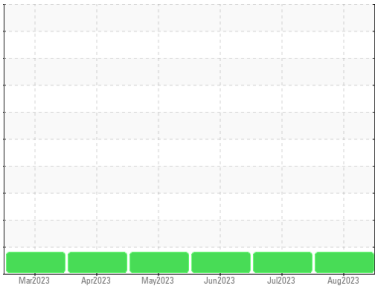
WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level has decreased, but is still abnormal. 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
Huntington
Machine Id
[Huntington] Oil - Starboard Reduction Gear
Component
Starboard Reduction Gear
Fluid
SAE 40W (24 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 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		**WC0769351**	WC0769146	WC0769223
Sample Date		Client Info		**08 Aug 2023**	08 Jul 2023	13 Jun 2023
Machine Age	hrs	Client Info		**16442**	16442	14790
Oil Age	hrs	Client Info		**16442**	0	14790
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

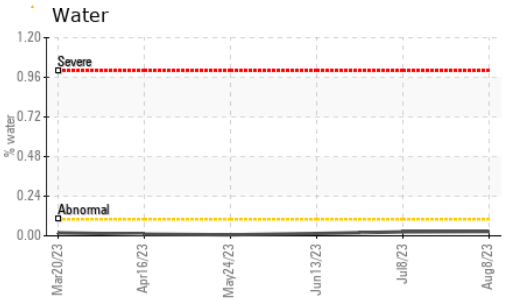
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**3**	3	3
Chromium	ppm	ASTM D5185m	>10	**<1**	0	0
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**<1**	<1	0
Lead	ppm	ASTM D5185m	>100	**2**	<1	0
Copper	ppm	ASTM D5185m	>50	▲ **127**	▲ 110	▲ 105
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

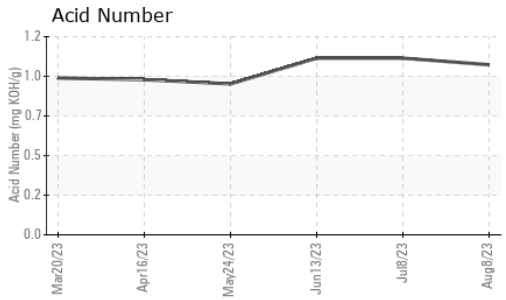
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**4**	3	4
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**95**	95	97
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**198**	201	180
Calcium	ppm	ASTM D5185m		**2226**	2229	2140
Phosphorus	ppm	ASTM D5185m		**855**	857	843
Zinc	ppm	ASTM D5185m		**953**	983	948
Sulfur	ppm	ASTM D5185m		**3230**	3320	3107

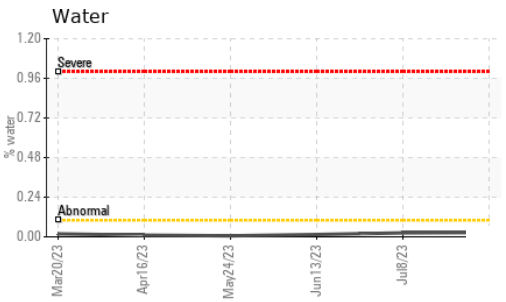
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**2**	2	2
Sodium	ppm	ASTM D5185m		**5**	3	0
Potassium	ppm	ASTM D5185m	>20	**<1**	0	2
Water	%	ASTM D6304	>0.1	**0.026**	0.024	0.014
ppm Water	ppm	ASTM D6304	>1000	**262.4**	244.3	149.5

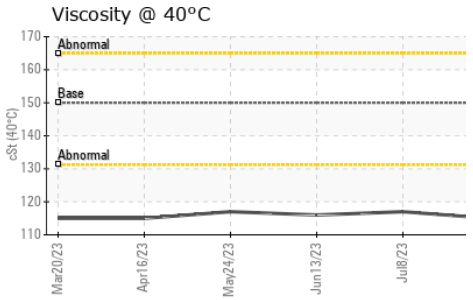
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.03**	1.07	1.07

OIL ANALYSIS REPORT





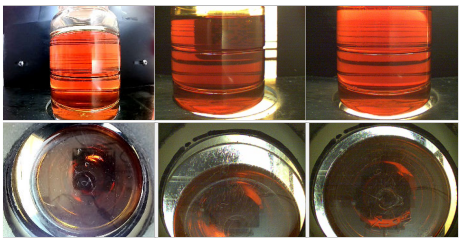




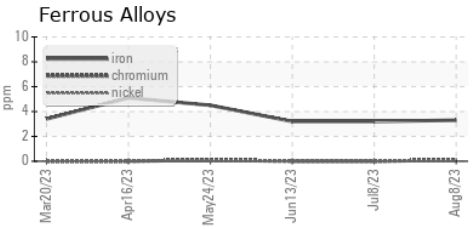
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

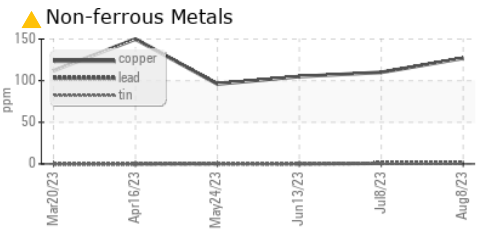
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	150	**115**	117	116

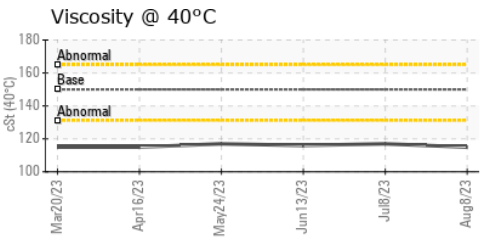
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

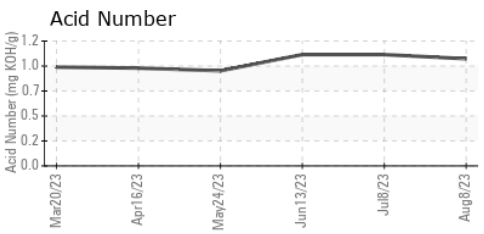


GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0769351 **Received** : 17 Aug 2023
Lab Number : 05927316 **Diagnosed** : 18 Aug 2023
Unique Number : 10607263 **Diagnostician** : Doug Bogart
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] 05927316 (Generated: 08/18/2023 12:08:49) Rev: 1

Submitted By: M/V ROBINSON