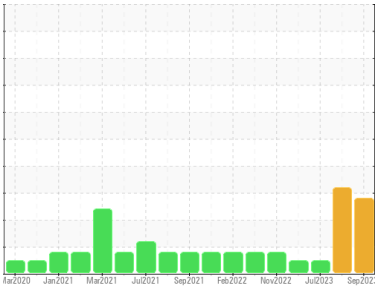
PROBLEM SUMMARY

Sample Rating Trend

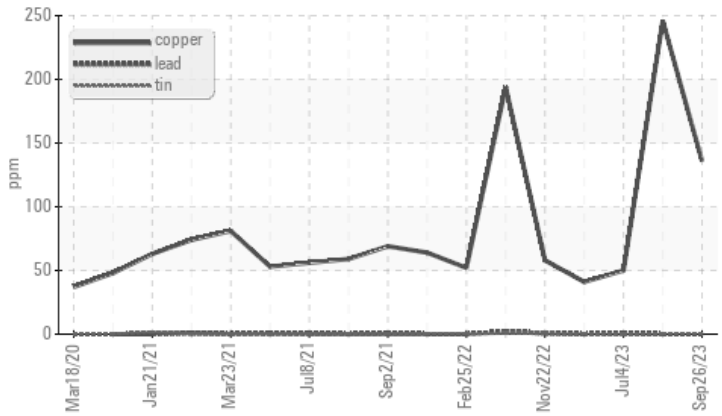


WEAR

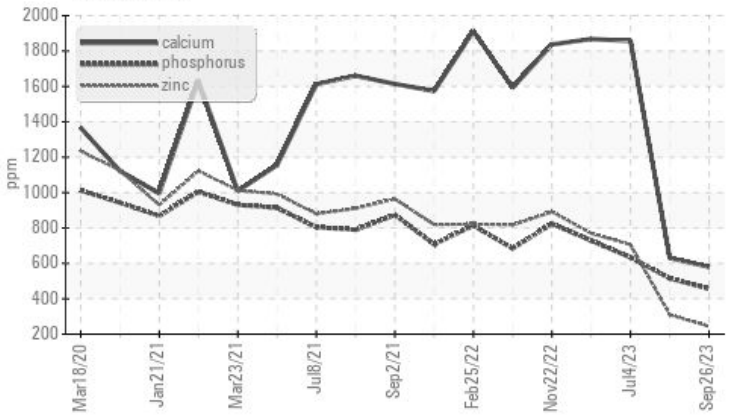
Area
Garyville
Machine Id
[Garyville] Oil - Starboard Reduction Gear
Component
Starboard Reduction Gear
Fluid
MOBIL DELVAC 1300 SUPER15W40 (17 GAL)

COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



▲ Additives



RECOMMENDATION

Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	NORMAL
Copper	ppm	ASTM D5185m	>50	▲ **136**	▲ 246	50
Magnesium	ppm	ASTM D5185m	0	▲ **126**	▲ 159	443
Calcium	ppm	ASTM D5185m		▲ **580**	▲ 630	1857
Phosphorus	ppm	ASTM D5185m		▲ **456**	▲ 515	634
Zinc	ppm	ASTM D5185m		▲ **244**	▲ 310	706
Sulfur	ppm	ASTM D5185m		▲ **11525**	▲ 14113	3569

Customer Id: MARCAT
Sample No.: WC0805372
Lab Number: 05967870
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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

29 Aug 2023 Diag: Don Baldridge

WEAR

view report

04 Jul 2023 Diag: Don Baldridge

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

19 Dec 2022 Diag: Angela Borella

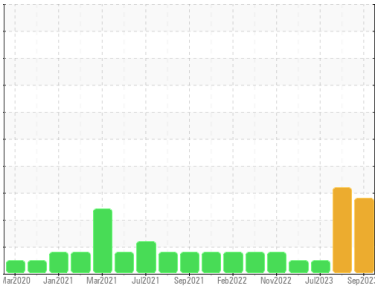
NORMAL

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

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
Garyville
Machine Id
[Garyville] Oil - Starboard Reduction Gear
Component
Starboard Reduction Gear
Fluid
MOBIL DELVAC 1300 SUPER15W40 (17 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

The copper level has decreased, but is still abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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		**WC0805372**	WC0805384	WC0683217
Sample Date		Client Info		**26 Sep 2023**	29 Aug 2023	04 Jul 2023
Machine Age	hrs	Client Info		**714**	20801	20801
Oil Age	hrs	Client Info		**122**	4222	4222
Oil Changed		Client Info		**Filtered**	Filtered	Filtered
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**5**	15	10
Chromium	ppm	ASTM D5185m	>10	**0**	0	0
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**0**	<1	2
Lead	ppm	ASTM D5185m	>100	**0**	0	<1
Copper	ppm	ASTM D5185m	>50	▲ **136**	▲ 246	50
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

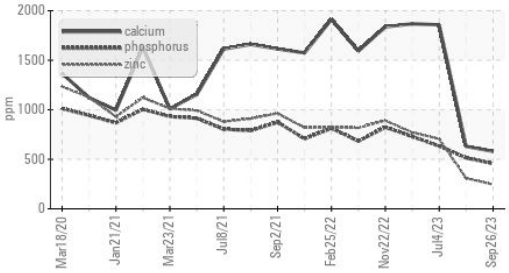
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**66**	▲ 90	104
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**13**	17	46
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	▲ **126**	▲ 159	443
Calcium	ppm	ASTM D5185m		▲ **580**	▲ 630	1857
Phosphorus	ppm	ASTM D5185m		▲ **456**	▲ 515	634
Zinc	ppm	ASTM D5185m		▲ **244**	▲ 310	706
Sulfur	ppm	ASTM D5185m		▲ **11525**	▲ 14113	3569

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**<1**	2	3
Sodium	ppm	ASTM D5185m		**2**	5	8
Potassium	ppm	ASTM D5185m	>20	**1**	2	0
Water	%	ASTM D6304	>0.1	**0.039**	0.008	0.030
ppm Water	ppm	ASTM D6304	>1000	**399.3**	81.4	304.5

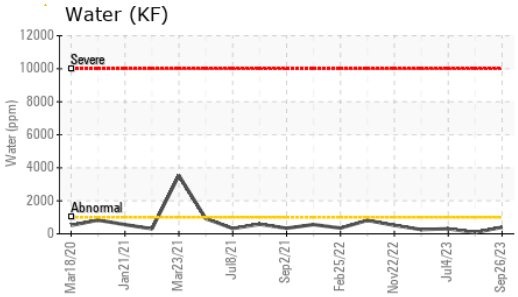
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.36**	0.41	0.76

OIL ANALYSIS REPORT

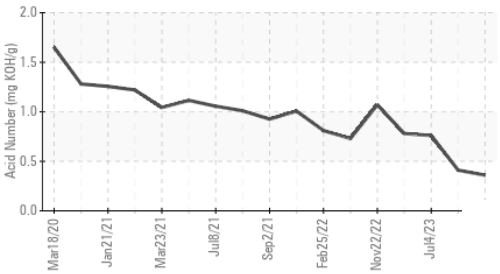
Additives



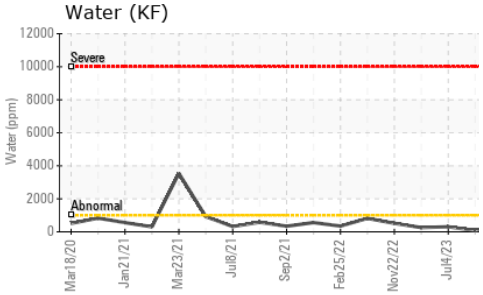
Water (KF)



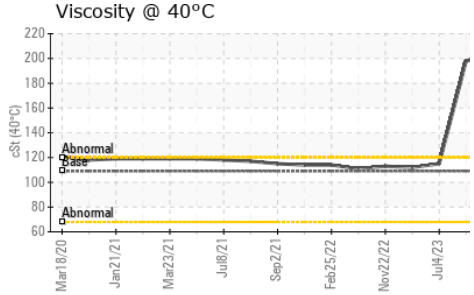
Acid Number



Water (KF)



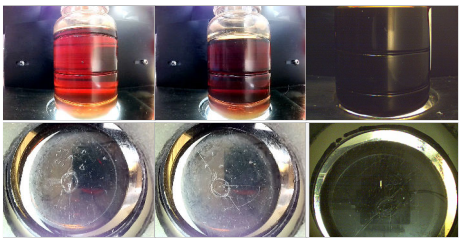
Viscosity @ 40°C



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	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

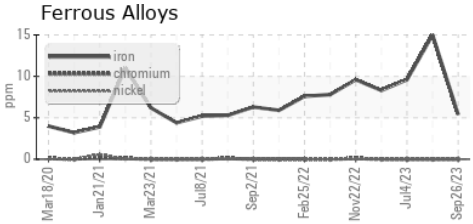
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	109	**204**	198	115

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

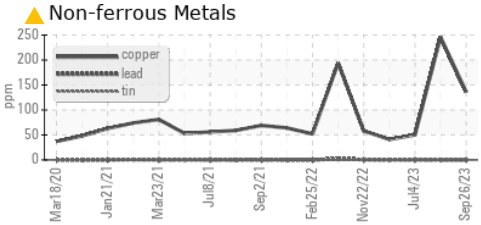


GRAPHS

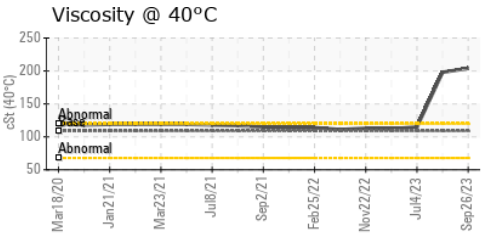
Ferrous Alloys



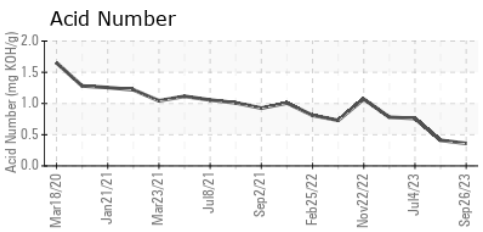
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0805372 **Received** : 03 Oct 2023
Lab Number : 05967870 **Diagnosed** : 05 Oct 2023
Unique Number : 10674421 **Diagnostician** : Don Baldridge
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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101 12TH ST
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US 41169
Contact: SHAWN MCCLASKEY
stmcclaskey@marathonpetroleum.com
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Report Id: MARCAT [WUSCAR] 05967870 (Generated: 10/05/2023 13:38:18) Rev: 1

Submitted By: M/V GARYVILLE