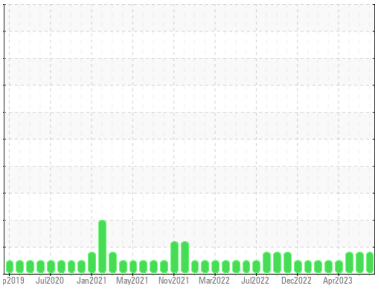
PROBLEM SUMMARY

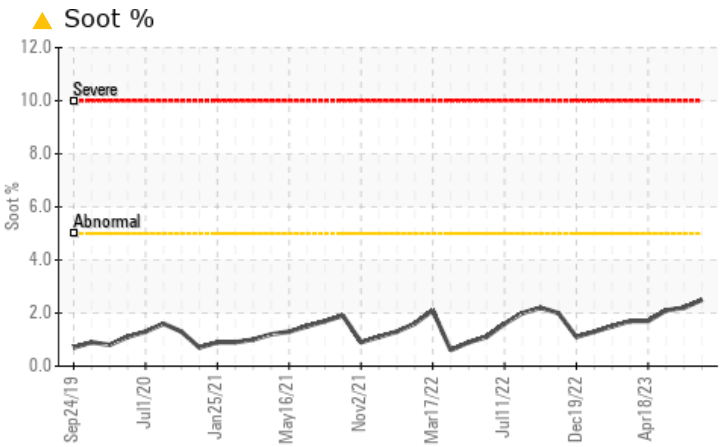
Sample Rating Trend



SOOT

Area
Nashville
Machine Id
[Nashville] Oil - Port Main Engine
Component
Port Main Engine
Fluid
MOBIL 15W40 (150 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Dparnell only filters change)

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Soot %	%	*ASTM D7844		▲ **2.5**	▲ 2.2	▲ 2.1

Customer Id: MARCAT
Sample No.: WC0769190
Lab Number: 05900023
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

13 Jun 2023 Diag: Doug Bogart

SOOT

We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

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16 May 2023 Diag: Don Baldridge

SOOT

The oil is near the end of it`s useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

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18 Apr 2023 Diag: Wes Davis

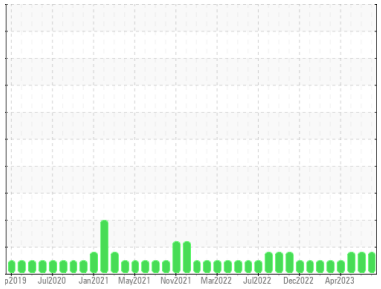
NORMAL

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Area
Nashville
Machine Id
[Nashville] Oil - Port Main Engine
Component
Port Main Engine
Fluid
MOBIL 15W40 (150 GAL)

DIAGNOSIS

Recommendation
The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Dparnell only filters change)

Wear
All component wear rates are normal.

Contamination
There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0769190**	WC0683334	WC0719599
Sample Date		Client Info		**10 Jul 2023**	13 Jun 2023	16 May 2023
Machine Age	hrs	Client Info		**54813**	54411	53963
Oil Age	hrs	Client Info		**4334**	3932	3843
Oil Changed		Client Info		**Filtered**	Not Changd	Filtered
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**13**	11	12
Chromium	ppm	ASTM D5185m	>8	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m	>3	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>15	**1**	<1	2
Lead	ppm	ASTM D5185m	>18	**0**	0	1
Copper	ppm	ASTM D5185m	>80	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>14	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**54**	64	55
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**44**	45	46
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**1000**	1009	1004
Calcium	ppm	ASTM D5185m		**1874**	1894	1705
Phosphorus	ppm	ASTM D5185m		**1093**	1078	1031
Zinc	ppm	ASTM D5185m		**1401**	1391	1299
Sulfur	ppm	ASTM D5185m		**4273**	4226	3616

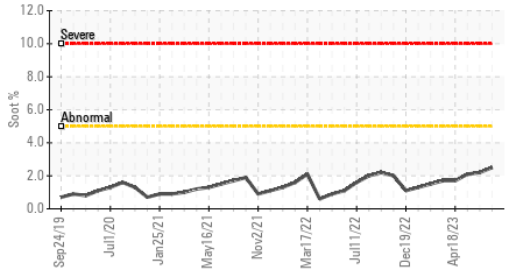
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**2**	2	3
Sodium	ppm	ASTM D5185m	>118	**<1**	1	2
Potassium	ppm	ASTM D5185m	>20	**4**	3	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		▲ **2.5**	▲ 2.2	▲ 2.1
Nitration	Abs/cm	*ASTM D7624	>20	**10.0**	9.4	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.6**	24.3	24.3

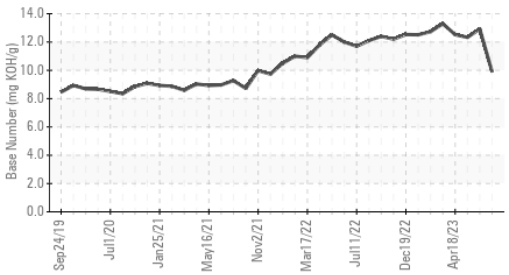
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.9**	17.9	17.8
Base Number (BN)	mg KOH/g	ASTM D2896		**9.9**	12.92	12.33

OIL ANALYSIS REPORT

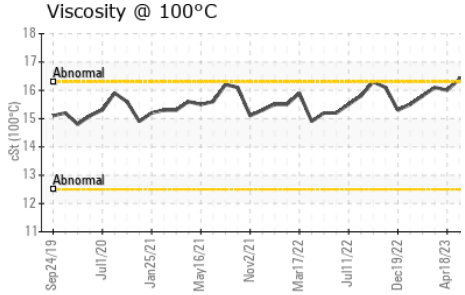
Soot %



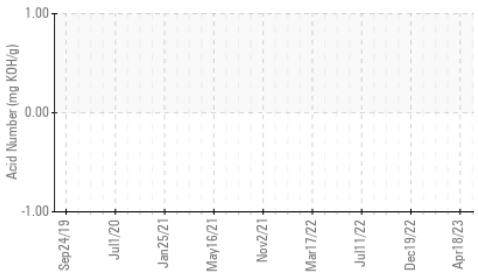
Base Number



Viscosity @ 100°C



Acid Number

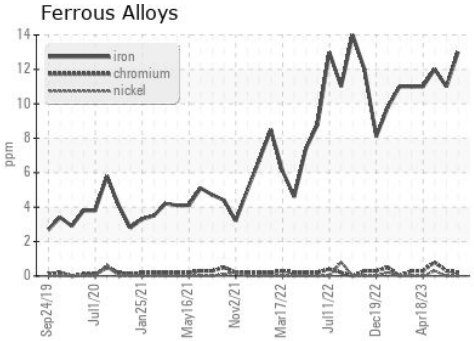


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

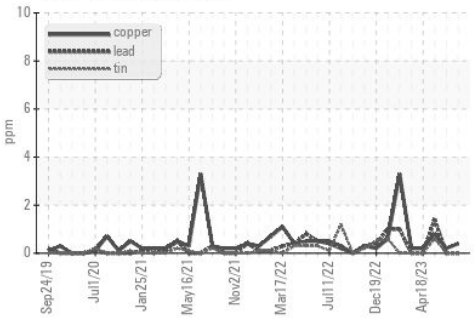
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**16.7**	16.5	16.4

GRAPHS

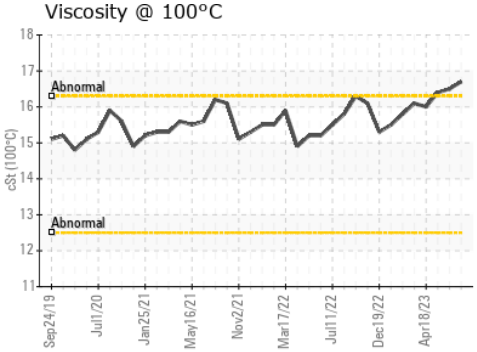
Ferrous Alloys



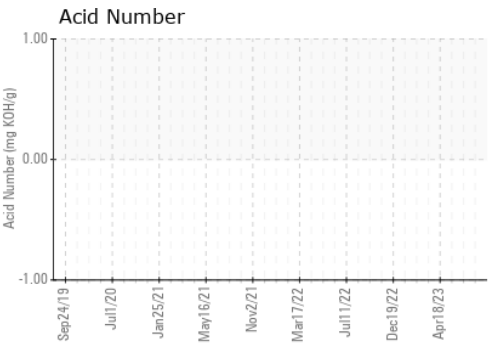
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0769190
Lab Number : 05900023
Unique Number : 10561379
Test Package : IND 2

Received : 17 Jul 2023
Diagnosed : 21 Jul 2023
Diagnostician : Jonathan Hester

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] 05900023 (Generated: 07/21/2023 11:12:57) Rev: 1

Submitted By: M/V NASHVILLE