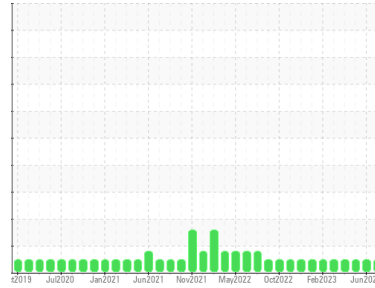




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**Nashville**  
 Machine Id  
**[Nashville] Oil - Starboard Genset**  
 Component  
**Starboard Genset**  
 Fluid  
**MOBIL 15W40 (35 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Dparnell )

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination 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		<b>WC0683336</b>	WC0683265	WC0683257
Sample Date	Client Info		<b>10 Jul 2023</b>	13 Jun 2023	16 May 2023
Machine Age	hrs	Client Info	<b>16667</b>	16252	15860
Oil Age	hrs	Client Info	<b>48</b>	750	358
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Filtered
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >25	<b>5</b>	17	12
Chromium	ppm	ASTM D5185m >5	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >5	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	2
Lead	ppm	ASTM D5185m >10	<b>0</b>	<1	1
Copper	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	1
Tin	ppm	ASTM D5185m >5	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>169</b>	135	142
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>14</b>	15	17
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>133</b>	146	133
Calcium	ppm	ASTM D5185m	<b>2269</b>	2275	2175
Phosphorus	ppm	ASTM D5185m	<b>941</b>	961	843
Zinc	ppm	ASTM D5185m	<b>1178</b>	1233	1047
Sulfur	ppm	ASTM D5185m	<b>4252</b>	4189	3433

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>2</b>	3	3
Sodium	ppm	ASTM D5185m >118	<b>&lt;1</b>	2	2
Potassium	ppm	ASTM D5185m >20	<b>6</b>	7	6

## INFRA-RED

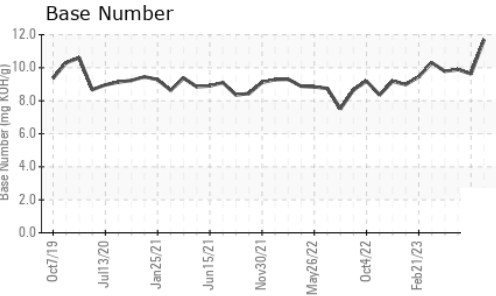
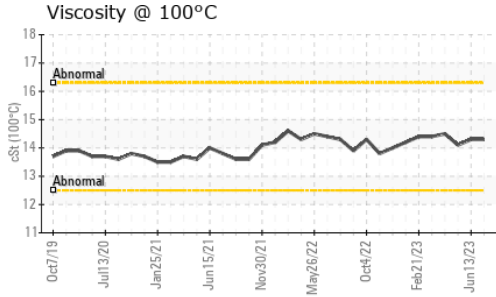
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.2</b>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.9</b>	8.0	7.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.9</b>	21.7	21.1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>17.3</b>	19.0	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	<b>11.70</b>	9.62	9.89



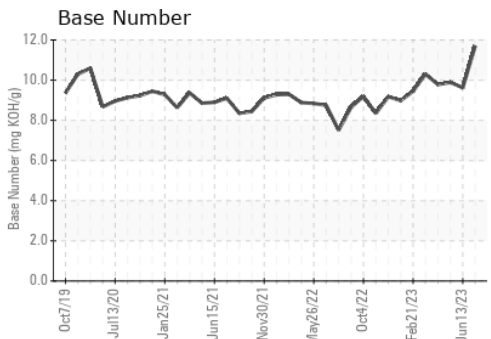
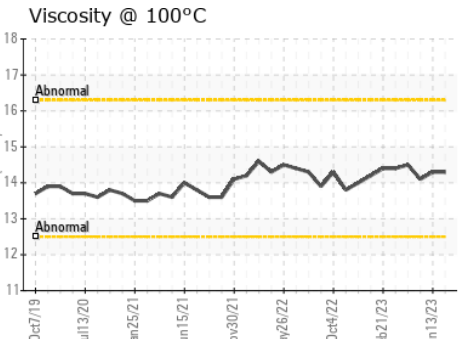
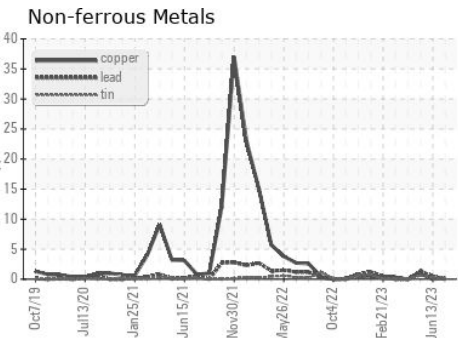
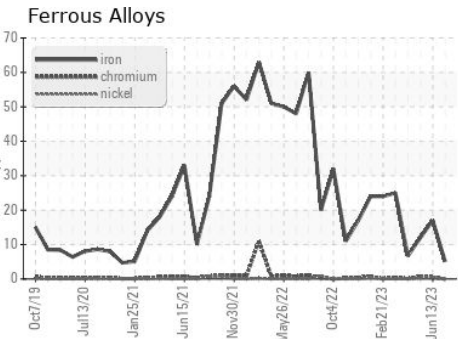
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	<b>14.3</b>	14.3	14.1

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : WC0683336 Received : 17 Jul 2023  
 Lab Number : **05900188** Diagnosed : 19 Jul 2023  
 Unique Number : 10561544 Diagnostician : Angela Borella  
 Test Package : IND 2

**MARATHON PETROLEUM CO.**  
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 US 41169  
 Contact: CORY GUMBERT  
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 F: x:

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)