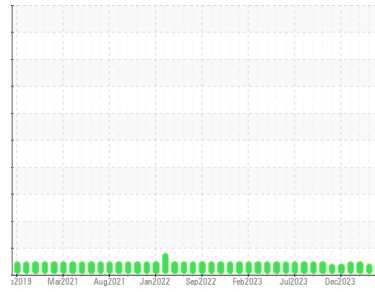




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Area

**Kentucky**

Machine Id

**[Kentucky] Oil - Starboard Reduction Gear**

Component

**Starboard Reduction Gear**

Fluid

**SAE 30W (26 GAL)**

### DIAGNOSIS

#### ● Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### ● Fluid Condition

The oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0845805</b>	WC0874822	WC0859783
Sample Date	Client Info		<b>25 Apr 2024</b>	16 Mar 2024	16 Feb 2024
Machine Age	hrs	Client Info	<b>14434</b>	13554	12937
Oil Age	hrs	Client Info	<b>1151</b>	271	1654
Oil Changed	Client Info		<b>Not Chngd</b>	Changed	N/A
Sample Status			<b>ATTENTION</b>	ATTENTION	NORMAL

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>7</b>	2	7
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>1</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>1</b>	1	0
Lead	ppm	ASTM D5185m >100	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>3</b>	4	3
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>56</b>	63	46
Barium	ppm	ASTM D5185m	<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>22</b>	24	24
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	<b>322</b>	333	371
Calcium	ppm	ASTM D5185m	<b>630</b>	688	747
Phosphorus	ppm	ASTM D5185m	<b>787</b>	849	809
Zinc	ppm	ASTM D5185m	<b>537</b>	565	616
Sulfur	ppm	ASTM D5185m	<b>9181</b>	10225	7685

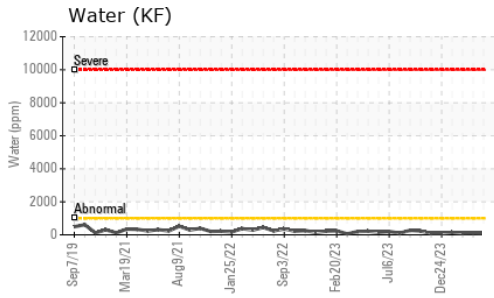
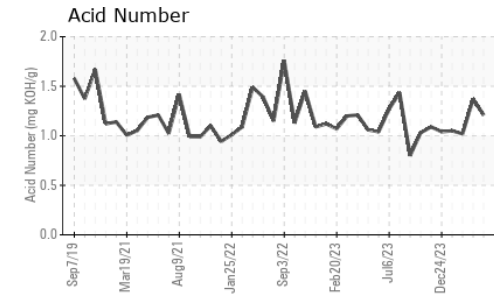
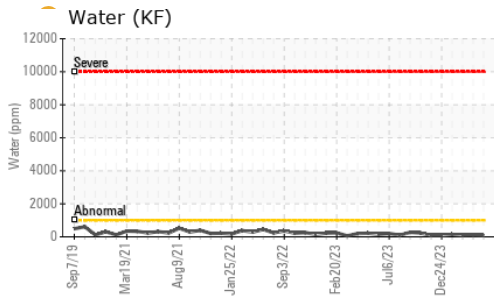
### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>4</b>	1	1
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	1
Potassium	ppm	ASTM D5185m >20	<b>2</b>	1	0
Water	%	ASTM D6304 >0.1	<b>0.007</b>	0.010	0.009
ppm Water	ppm	ASTM D6304 >1000	<b>74</b>	108	95

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>1.21</b>	1.37	1.02

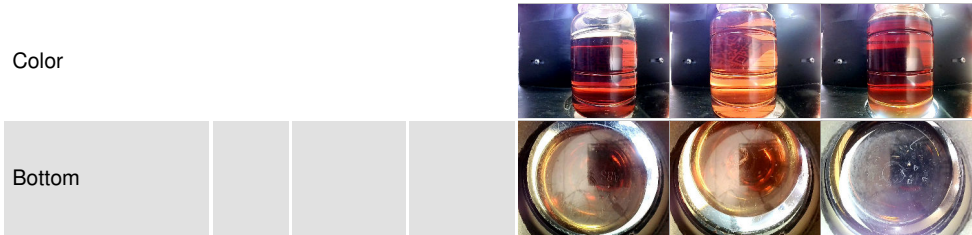
# OIL ANALYSIS REPORT



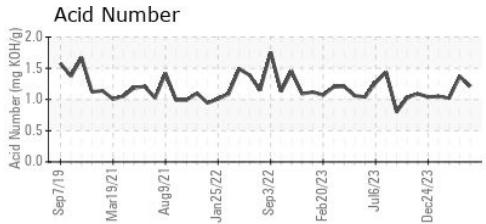
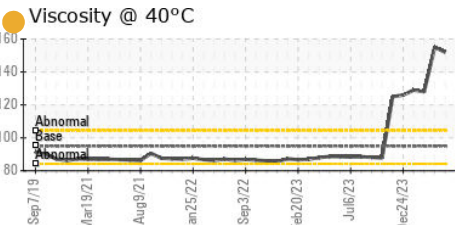
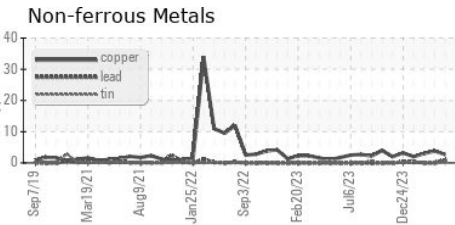
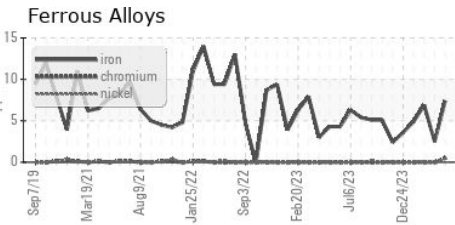
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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 @ 40°C	cSt	ASTM D445	95.0 ● 152	● 155	128

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0845805      **Received** : 16 May 2024  
**Lab Number** : 06181441      **Tested** : 17 May 2024  
**Unique Number** : 11032767      **Diagnosed** : 20 May 2024 - Angela Borella  
**Test Package** : IND 2 ( Additional Tests: KF )

**MARATHON PETROLEUM CO.**  
 101 12TH ST  
 CATLETTSBURG, KY  
 US 41169  
 Contact: CORY GUMBERT  
 cagumbert@marathonpetroleum.com  
 T: (606)585-3950  
 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)