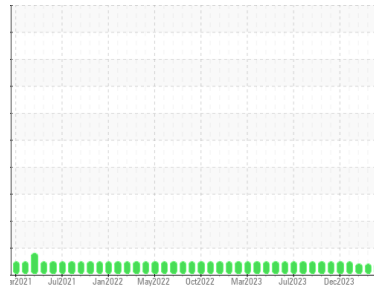




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Area

**Louisville**

Machine Id

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

Component

**Starboard Reduction Gear**

Fluid

**SAE 30W (35 GAL)**

### DIAGNOSIS

#### ● Recommendation

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

#### Wear

All component wear rates are normal.

#### Contamination

The water content is negligible. There is no indication of any contamination in the oil.

#### ● Fluid Condition

The oil viscosity is lower 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>WC0805405</b>	WC0898522	WC0874762
Sample Date	Client Info		<b>01 Jul 2024</b>	29 May 2024	28 Apr 2024
Machine Age	hrs	Client Info	<b>1788</b>	1355	950
Oil Age	hrs	Client Info	<b>1788</b>	355	950
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status			<b>ATTENTION</b>	ATTENTION	ATTENTION

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>4</b>	2	4
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m >10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	<1	1
Lead	ppm	ASTM D5185m >100	<b>0</b>	1	2
Copper	ppm	ASTM D5185m >50	<b>9</b>	6	11
Tin	ppm	ASTM D5185m >10	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>8</b>	5	9
Barium	ppm	ASTM D5185m	<b>0</b>	0	1
Molybdenum	ppm	ASTM D5185m	<b>45</b>	46	45
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>686</b>	711	681
Calcium	ppm	ASTM D5185m	<b>783</b>	816	785
Phosphorus	ppm	ASTM D5185m	<b>807</b>	839	801
Zinc	ppm	ASTM D5185m	<b>891</b>	918	894
Sulfur	ppm	ASTM D5185m	<b>2774</b>	2855	2728

### CONTAMINANTS

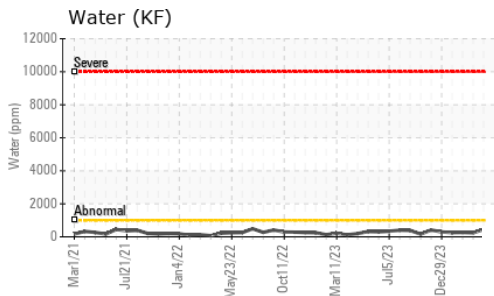
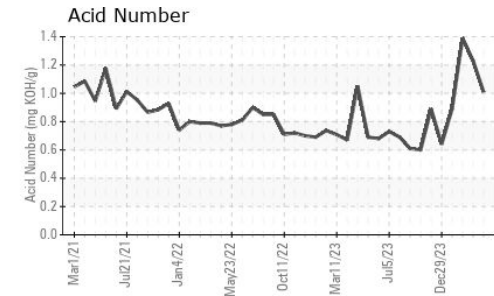
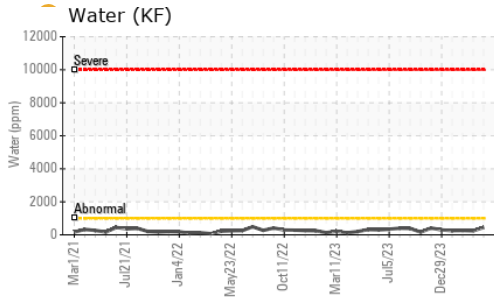
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>2</b>	2	5
Sodium	ppm	ASTM D5185m	<b>3</b>	3	2
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	2
Water	%	ASTM D6304 >0.1	<b>0.044</b>	0.024	0.026
ppm Water	ppm	ASTM D6304 >1000	<b>450</b>	240	263

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>1.01</b>	1.23	1.39



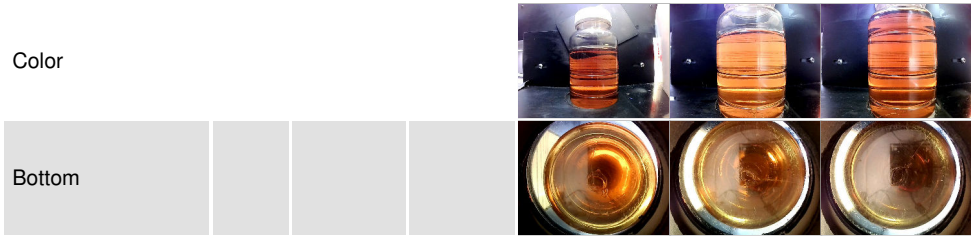
# OIL ANALYSIS REPORT



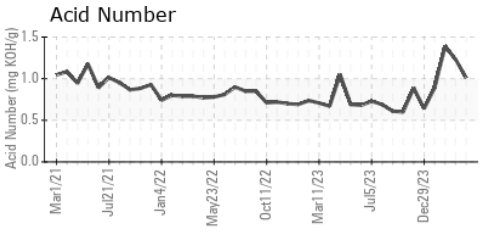
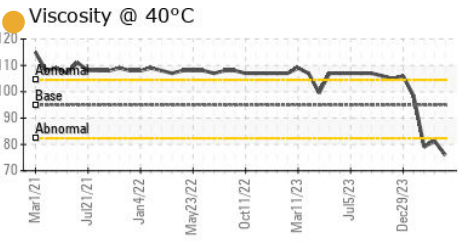
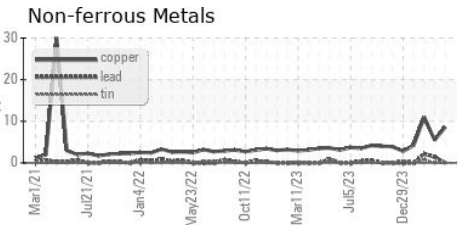
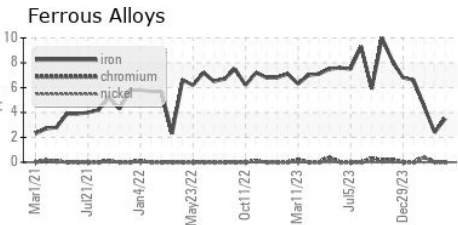
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	76.0	81.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0805405      **Received** : 15 Jul 2024  
**Lab Number** : 06236086      **Tested** : 16 Jul 2024  
**Unique Number** : 11124920      **Diagnosed** : 17 Jul 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF )

**MARATHON PETROLEUM CO.**  
 101 12TH ST  
 CATLETTSBURG, KY  
 US 41169  
 Contact: CORY GUMBERT  
 cagumbert@marathonpetroleum.com

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)