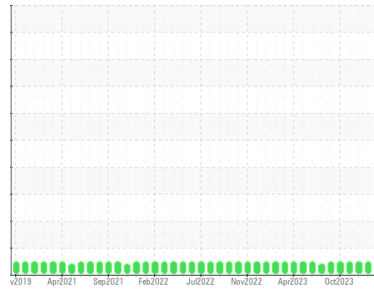




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Paul G. Blazer**

Machine Id

**[Paul G. Blazer] Oil - Starboard Reduction Gear**

Component

**Starboard Reduction Gear**

Fluid

**GEAR OIL SAE 85W140 (180 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0719533</b>	WC0845767	WC0621773
Sample Date	Client Info		<b>20 Mar 2024</b>	25 Jan 2024	21 Dec 2023
Machine Age	hrs	Client Info	<b>5681</b>	4464	3871
Oil Age	hrs	Client Info	<b>5681</b>	4464	3871
Oil Changed	Client Info		<b>N/A</b>	N/A	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>10</b>	10	9
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>2</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>3</b>	2	2
Lead	ppm	ASTM D5185m >100	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>1</b>	2	3
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 400	<b>54</b>	61	60
Barium	ppm	ASTM D5185m 200	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 12	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m 12	<b>2</b>	<1	4
Calcium	ppm	ASTM D5185m 150	<b>8</b>	6	12
Phosphorus	ppm	ASTM D5185m 1650	<b>954</b>	938	935
Zinc	ppm	ASTM D5185m 125	<b>4</b>	5	2
Sulfur	ppm	ASTM D5185m 22500	<b>21554</b>	17808	17325

## CONTAMINANTS

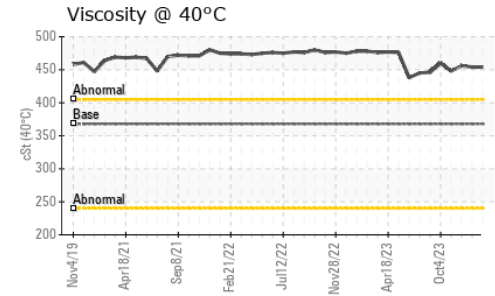
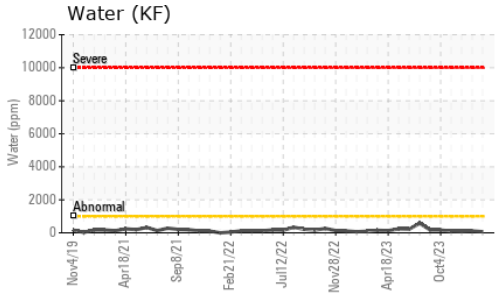
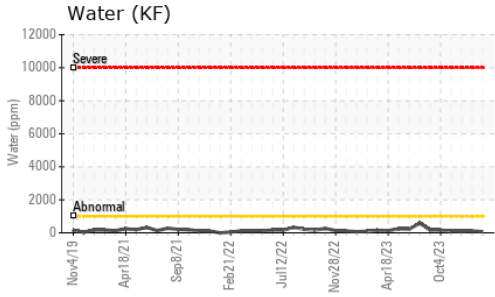
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>1</b>	2	2
Sodium	ppm	ASTM D5185m	<b>2</b>	<1	2
Potassium	ppm	ASTM D5185m >20	<b>10</b>	8	7
Water	%	ASTM D6304 >0.1	<b>0.006</b>	0.011	0.007
ppm Water	ppm	ASTM D6304 >1000	<b>65</b>	118	77

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	<b>2.41</b>	2.49	2.29



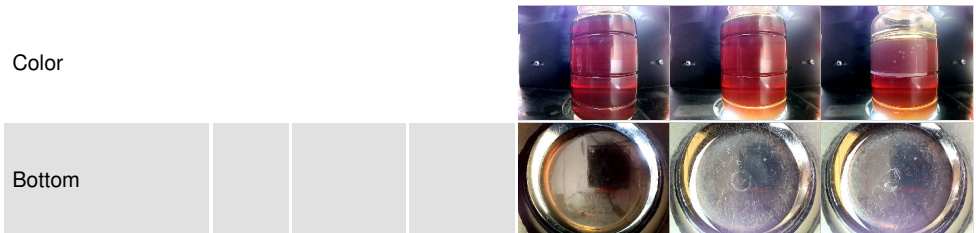
# OIL ANALYSIS REPORT



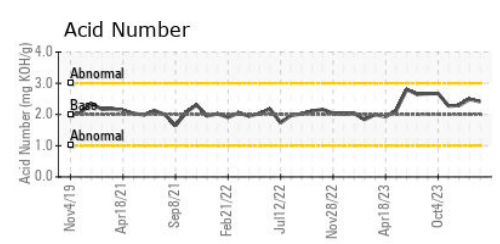
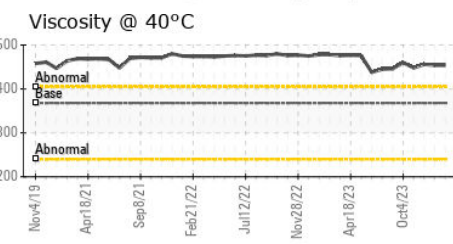
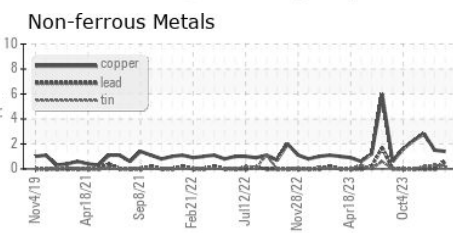
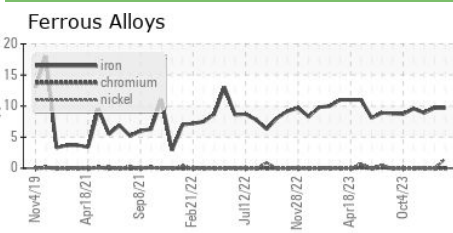
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	368	<b>454</b>	454	456

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0719533 **Received** : 05 Apr 2024  
**Lab Number** : **06139986** **Tested** : 08 Apr 2024  
**Unique Number** : 10964794 **Diagnosed** : 08 Apr 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)