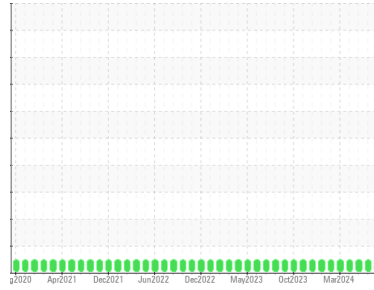




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Nashville**

Machine Id

**[Nashville] 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. Please specify the brand, type, and viscosity of the oil on your next sample.

### 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 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>WC0805260</b>	WC0769323	WC0769318
Sample Date	Client Info		<b>06 Jul 2024</b>	09 Jun 2024	13 May 2024
Machine Age	hrs	Client Info	<b>3160</b>	2822	2497
Oil Age	hrs	Client Info	<b>3160</b>	2822	2497
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Filtered
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>11</b>	12	12
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m >10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	<1	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>&lt;1</b>	2	1
Tin	ppm	ASTM D5185m >10	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 400	<b>261</b>	252	307
Barium	ppm	ASTM D5185m 200	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 12	<b>0</b>	<1	0
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 12	<b>0</b>	13	0
Calcium	ppm	ASTM D5185m 150	<b>0</b>	37	10
Phosphorus	ppm	ASTM D5185m 1650	<b>1048</b>	1042	1118
Zinc	ppm	ASTM D5185m 125	<b>0</b>	24	0
Sulfur	ppm	ASTM D5185m 22500	<b>19938</b>	19300	20918

## CONTAMINANTS

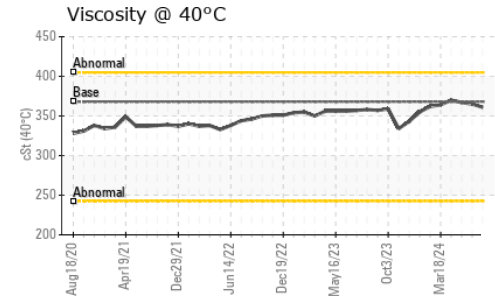
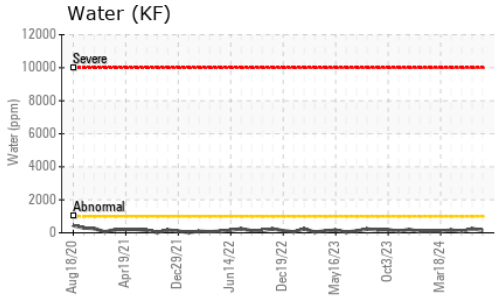
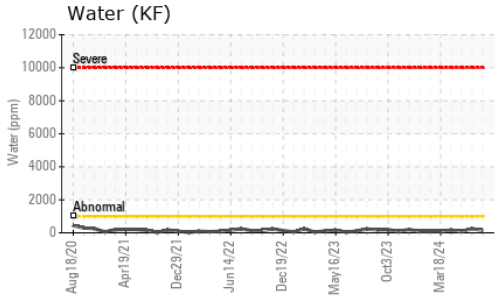
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>3</b>	3	0
Sodium	ppm	ASTM D5185m	<b>2</b>	2	<1
Potassium	ppm	ASTM D5185m >20	<b>1</b>	0	0
Water	%	ASTM D6304 >0.1	<b>0.014</b>	0.025	0.008
ppm Water	ppm	ASTM D6304 >1000	<b>145</b>	255	83

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	<b>1.77</b>	1.67	1.63



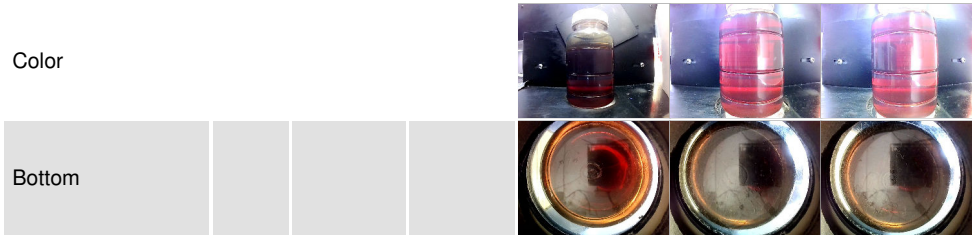
# OIL ANALYSIS REPORT



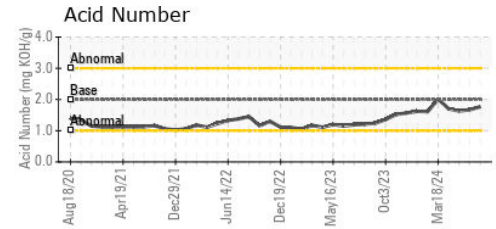
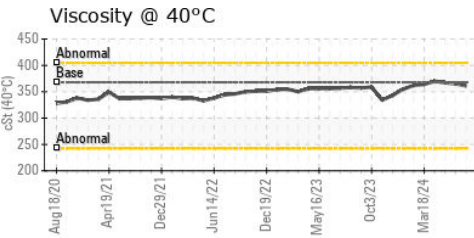
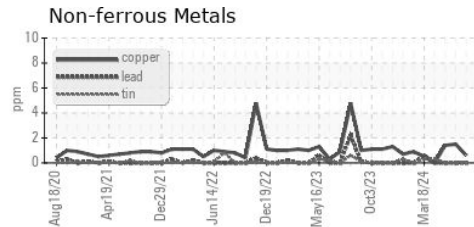
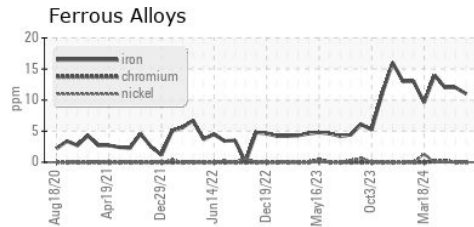
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE
Sand/Dirt	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	368	<b>361</b>	365

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.** : WC0805260      **Received** : 15 Jul 2024  
**Lab Number** : **06236078**      **Tested** : 16 Jul 2024  
**Unique Number** : 11124912      **Diagnosed** : 16 Jul 2024 - Wes Davis  
**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

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)

F: x: