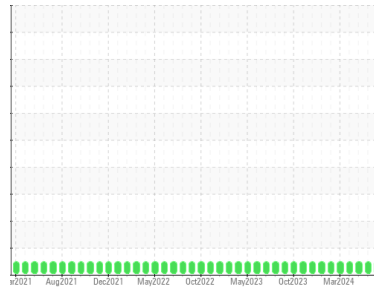




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Speedway**

Machine Id

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

Component

**Starboard Reduction Gear**

Fluid

**DIESEL ENGINE OIL SAE 30 (85 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Top Up Amount: 2 GAL )

### 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>WC0874683</b>	WC0845790	WC0845795
Sample Date	Client Info		<b>08 Jul 2024</b>	11 Jun 2024	15 May 2024
Machine Age	hrs	Client Info	<b>41423</b>	40960	40588
Oil Age	hrs	Client Info	<b>19162</b>	18709	18338
Oil Changed	Client Info		<b>Oil Added</b>	Filtered	Oil Added
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>17</b>	41	17
Chromium	ppm	ASTM D5185m >10	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >10	<b>0</b>	0	0
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>	0	<1
Copper	ppm	ASTM D5185m >50	<b>7</b>	13	7
Tin	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	<b>29</b>	37	23
Barium	ppm	ASTM D5185m 10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 100	<b>32</b>	22	34
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 450	<b>481</b>	315	530
Calcium	ppm	ASTM D5185m 3000	<b>1335</b>	2027	1442
Phosphorus	ppm	ASTM D5185m 1150	<b>789</b>	810	849
Zinc	ppm	ASTM D5185m 1350	<b>858</b>	866	911
Sulfur	ppm	ASTM D5185m 4250	<b>5144</b>	7346	5517

## CONTAMINANTS

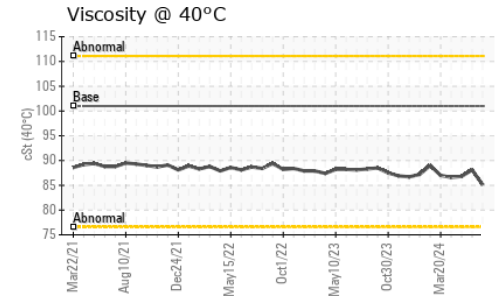
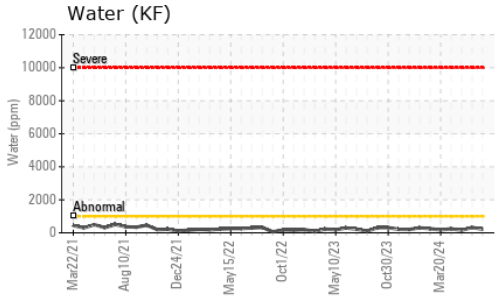
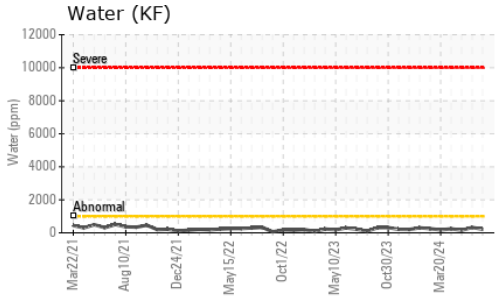
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>4</b>	5	3
Sodium	ppm	ASTM D5185m >75	<b>3</b>	4	2
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	1
Water	%	ASTM D6304 >0.1	<b>0.021</b>	0.032	0.015
ppm Water	ppm	ASTM D6304 >1000	<b>219</b>	324	158

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.95</b>	0.96	1.12



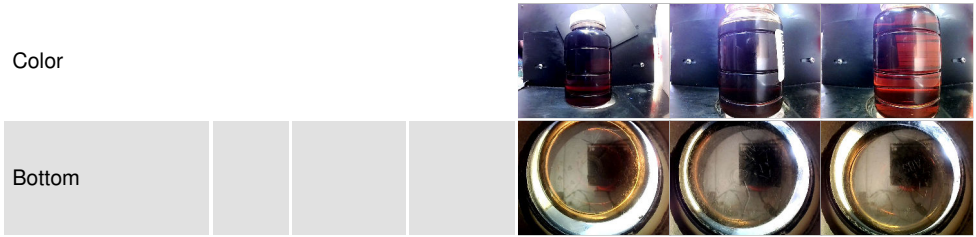
# OIL ANALYSIS REPORT



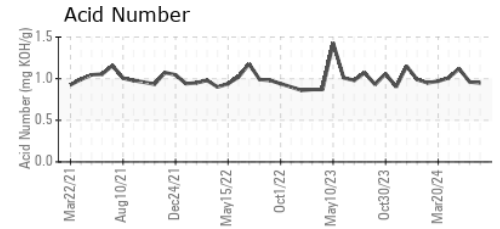
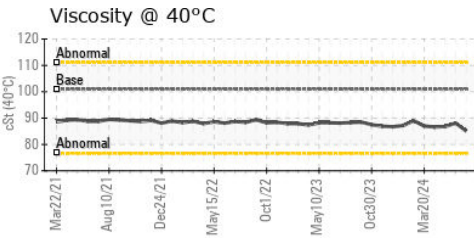
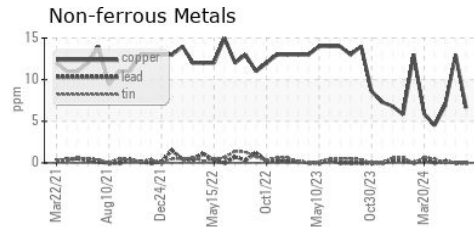
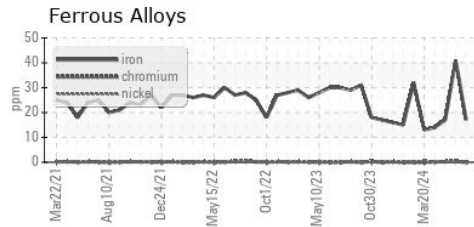
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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 101	<b>85.1</b>	88.1	86.8

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0874683      **Received** : 15 Jul 2024  
**Lab Number** : 06236081      **Tested** : 16 Jul 2024  
**Unique Number** : 11124915      **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)