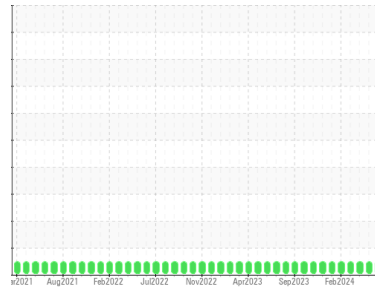




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Ohio Valley**

Machine Id

**[Ohio Valley] 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>WC0846012</b>	WC0719221	WC0845992
Sample Date	Client Info		<b>06 Jun 2024</b>	11 May 2024	11 Apr 2024
Machine Age	hrs	Client Info	<b>26245</b>	25973	25685
Oil Age	hrs	Client Info	<b>26245</b>	25973	25685
Oil Changed	Client Info		<b>Not Changed</b>	N/A	Not Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>55</b>	54	52
Chromium	ppm	ASTM D5185m >10	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>9</b>	7	8
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>6</b>	8	2
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</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>19</b>	18	16
Barium	ppm	ASTM D5185m 200	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 12	<b>2</b>	1	<1
Manganese	ppm	ASTM D5185m	<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m 12	<b>0</b>	16	10
Calcium	ppm	ASTM D5185m 150	<b>69</b>	65	80
Phosphorus	ppm	ASTM D5185m 1650	<b>1013</b>	965	884
Zinc	ppm	ASTM D5185m 125	<b>43</b>	40	44
Sulfur	ppm	ASTM D5185m 22500	<b>19100</b>	17639	16977

## CONTAMINANTS

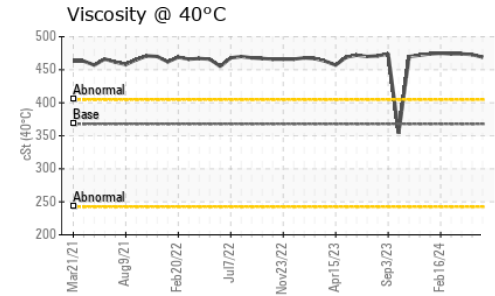
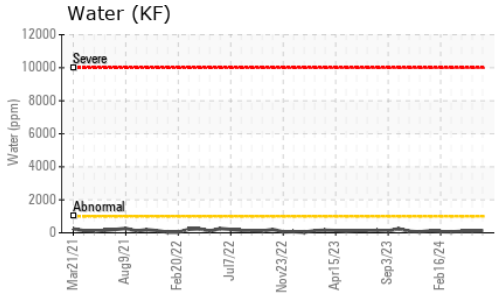
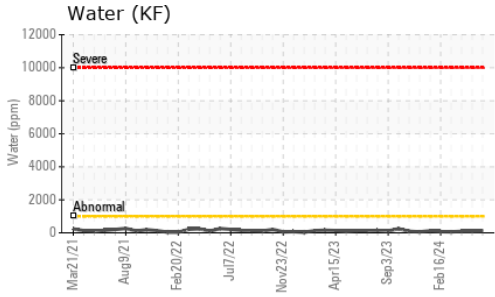
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>10</b>	0	8
Sodium	ppm	ASTM D5185m	<b>3</b>	2	3
Potassium	ppm	ASTM D5185m >20	<b>38</b>	35	34
Water	%	ASTM D6304 >0.1	<b>0.010</b>	0.008	0.008
ppm Water	ppm	ASTM D6304 >1000	<b>105</b>	87	89

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	<b>2.09</b>	2.03	2.19



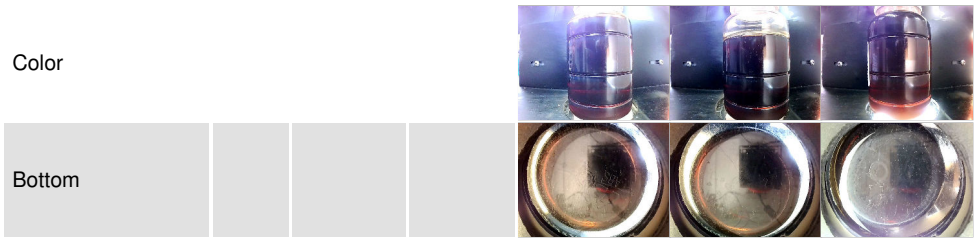
# OIL ANALYSIS REPORT



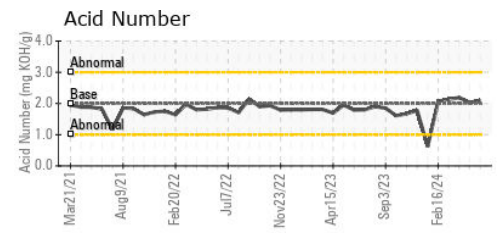
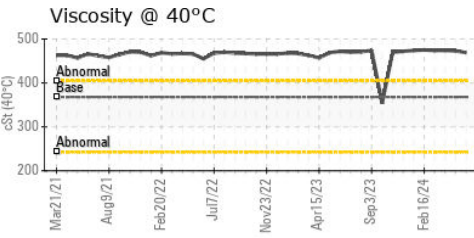
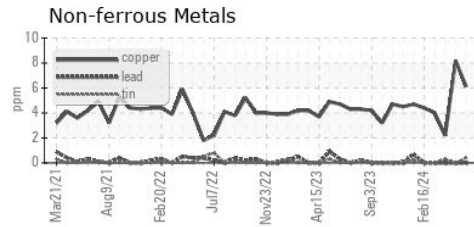
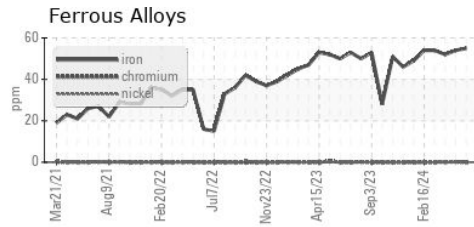
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	368	<b>469</b>	473	474

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0846012      **Received** : 14 Jun 2024  
**Lab Number** : **06210215**      **Tested** : 18 Jun 2024  
**Unique Number** : 11083079      **Diagnosed** : 18 Jun 2024 - Sean Felton  
**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)