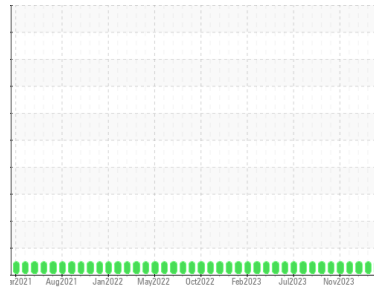




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Findlay**

Machine Id

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

Component

**Starboard Reduction Gear**

Fluid

**MARATHON 40W (80 GAL)**

## DIAGNOSIS

### Recommendation

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 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>WC0845866</b>	WC0859877	WC0845875
Sample Date	Client Info		<b>19 Mar 2024</b>	23 Feb 2024	24 Jan 2024
Machine Age	hrs	Client Info	<b>26648</b>	26079	25428
Oil Age	hrs	Client Info	<b>24429</b>	23859	23208
Oil Changed	Client Info		<b>Filtered</b>	Not Changd	Filtered
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>20</b>	20	20
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>1</b>	0	<1
Lead	ppm	ASTM D5185m >100	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>2</b>	2	5
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
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	<b>19</b>	16	18
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>47</b>	45	45
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	<b>697</b>	705	648
Calcium	ppm	ASTM D5185m	<b>828</b>	806	771
Phosphorus	ppm	ASTM D5185m	<b>822</b>	783	739
Zinc	ppm	ASTM D5185m	<b>931</b>	854	821
Sulfur	ppm	ASTM D5185m	<b>2904</b>	2646	2222

## CONTAMINANTS

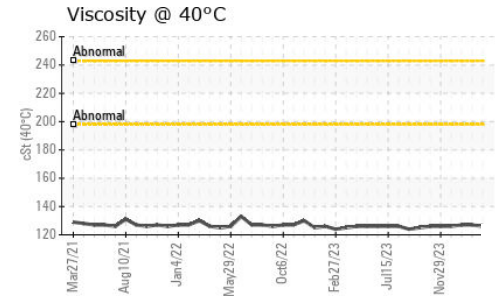
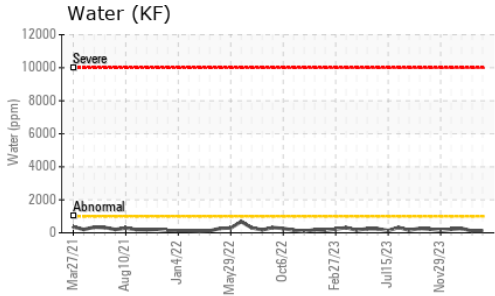
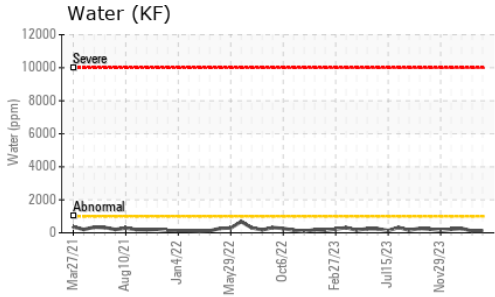
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>1</b>	2	3
Sodium	ppm	ASTM D5185m	<b>4</b>	3	4
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Water	%	ASTM D6304 >0.1	<b>0.010</b>	0.011	0.026
ppm Water	ppm	ASTM D6304 >1000	<b>100</b>	110	265

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.64</b>	0.66	0.63



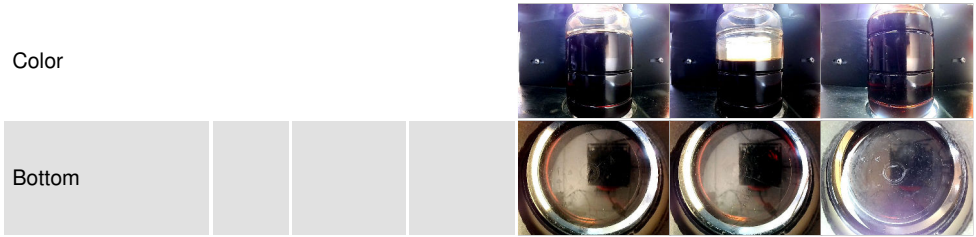
# OIL ANALYSIS REPORT



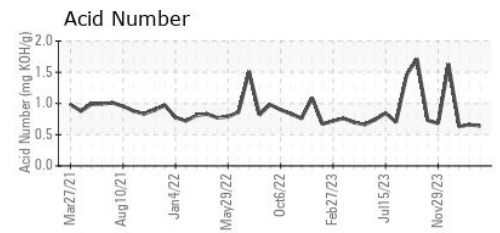
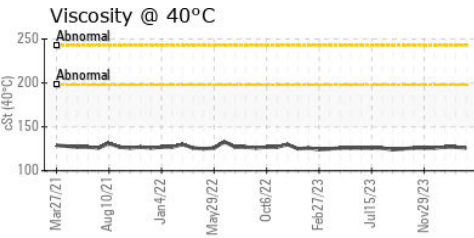
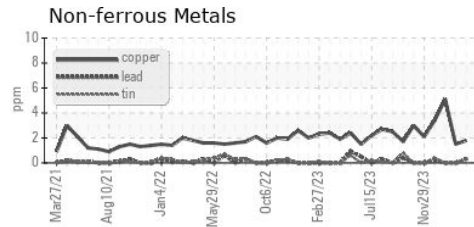
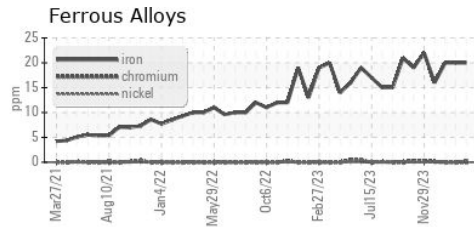
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	126	127	127

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0845866 **Received** : 05 Apr 2024  
**Lab Number** : 06139990 **Tested** : 08 Apr 2024  
**Unique Number** : 10964798 **Diagnosed** : 08 Apr 2024 - Wes Davis  
**Test Package** : IND 2 ( Additional Tests: KF )

**MARATHON PETROLEUM CO.**  
 101 12TH ST  
 CATLETTSBURG, KY  
 US 41169  
 Contact: SHAWN MCCLASKEY  
 stmcclasskey@marathonpetroleum.com  
 T: (606)739-2416  
 F: x:

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)