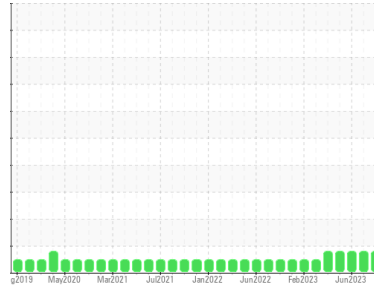




# PROBLEM SUMMARY

Sample Rating Trend



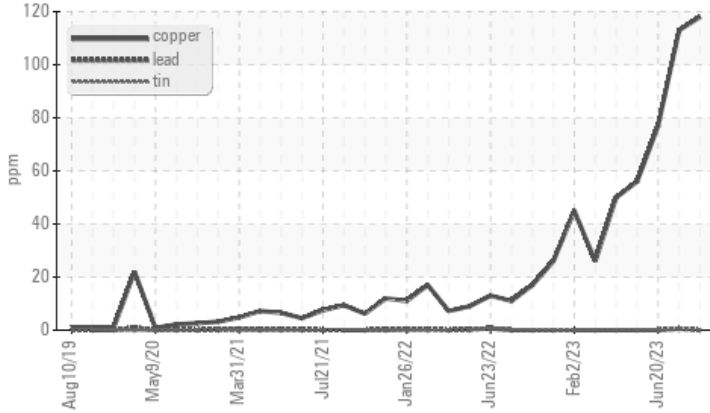
**WEAR**



Area  
**Galveston Bay**  
Machine Id  
**[Galveston Bay] Oil - Port Reduction Gear**  
Component  
**Port Reduction Gear**  
Fluid  
**SAE 40W (35 GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



## RECOMMENDATION

No corrective action is recommended at this time.  
Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
Copper	ppm	ASTM D5185m	>50	▲ <b>118</b>	▲ 113	▲ 77

Customer Id: MARCAT  
Sample No.: WC0735337  
Lab Number: 06008436  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 10 Oct 2023 Diag: Don Baldrige

#### WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 20 Jun 2023 Diag: Don Baldrige

#### WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 25 Apr 2023 Diag: Don Baldrige

#### WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

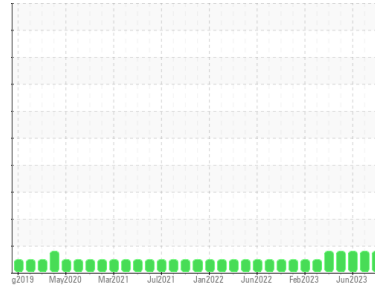
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Area  
**Galveston Bay**  
 Machine Id  
**[Galveston Bay] Oil - Port Reduction Gear**  
 Component  
**Port Reduction Gear**  
 Fluid  
**SAE 40W (35 GAL)**

## DIAGNOSIS

### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### ▲ Wear

The copper level is abnormal. All other 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>WC0735337</b>	WC0805196	WC0769419
Sample Date	Client Info		<b>08 Nov 2023</b>	10 Oct 2023	20 Jun 2023
Machine Age	hrs	Client Info	<b>21261</b>	20906	19148
Oil Age	hrs	Client Info	<b>10539</b>	10185	8426
Oil Changed	Client Info		<b>N/A</b>	N/A	Filtered
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>10</b>	10	11
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	1	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >50	<b>▲ 118</b>	▲ 113	▲ 77
Tin	ppm	ASTM D5185m >10	<b>0</b>	<1	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>17</b>	19	17
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>42</b>	46	47
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	<b>643</b>	693	639
Calcium	ppm	ASTM D5185m	<b>1004</b>	1092	1123
Phosphorus	ppm	ASTM D5185m	<b>784</b>	884	828
Zinc	ppm	ASTM D5185m	<b>909</b>	999	974
Sulfur	ppm	ASTM D5185m	<b>2432</b>	2651	3015

## CONTAMINANTS

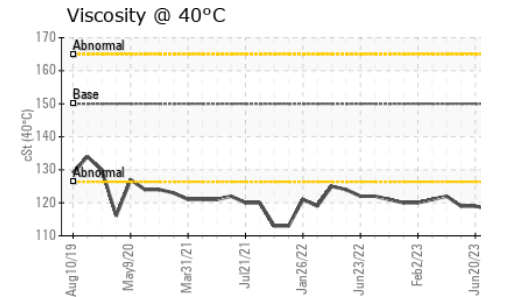
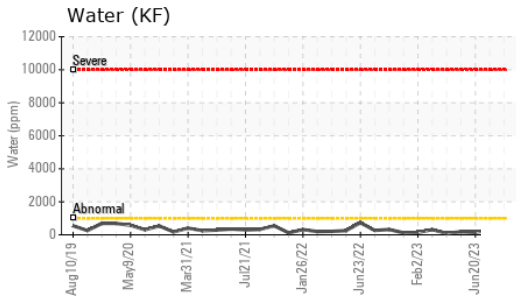
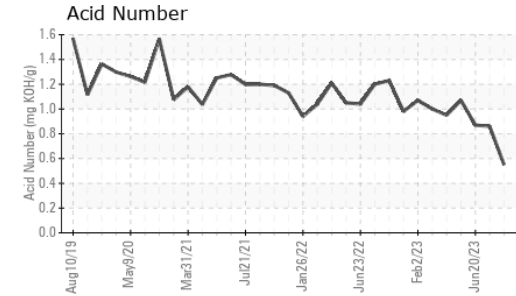
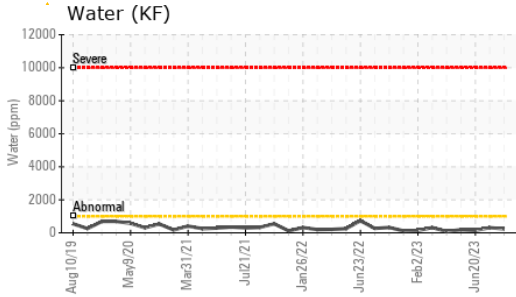
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>2</b>	3	2
Sodium	ppm	ASTM D5185m	<b>8</b>	8	3
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	2
Water	%	ASTM D6304 >0.1	<b>0.023</b>	0.031	0.014
ppm Water	ppm	ASTM D6304 >1000	<b>236.7</b>	311.4	146.0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.55</b>	0.86	0.87



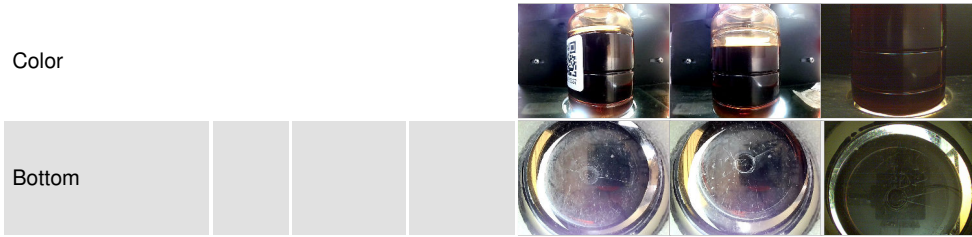
# OIL ANALYSIS REPORT



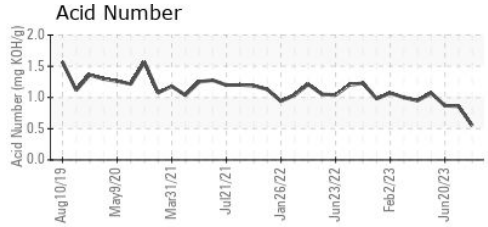
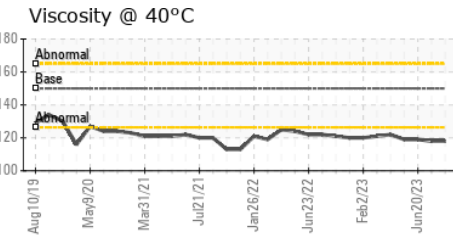
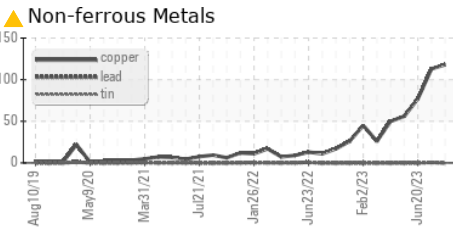
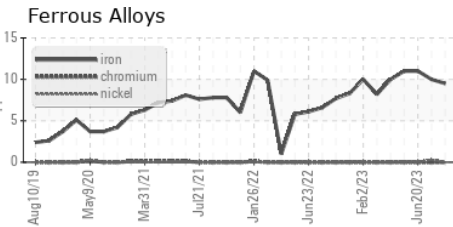
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	150	118	118

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.** : WC0735337 **Received** : 15 Nov 2023  
**Lab Number** : 06008436 **Diagnosed** : 17 Nov 2023  
**Unique Number** : 10742198 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF )

**MARATHON PETROLEUM CO.**  
 101 12TH ST  
 CATLETTSBURG, KY  
 US 41169  
 Contact: SHAWN MCCLASKEY  
 stmccclaskey@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)