



# PROBLEM SUMMARY

Sample Rating Trend

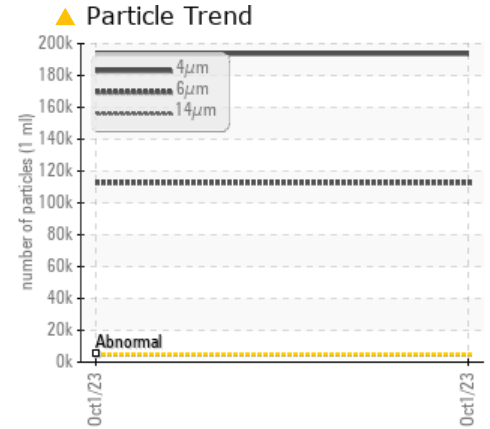
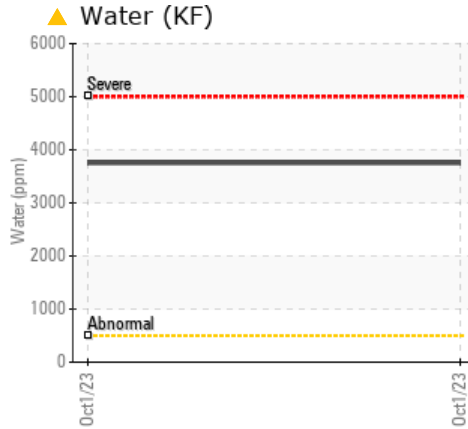
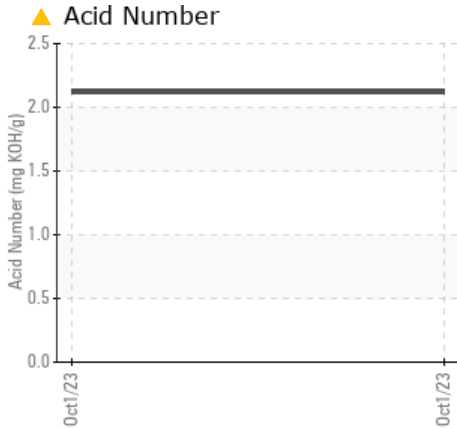
**WATER**



Machine Id  
**NOT GIVEN WC0805489 - STEERING**  
 Component  
**Hydraulic System**  
 Fluid  
**NOT GIVEN (--- GAL)**



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	---	---
Water	%	ASTM D6304	>0.05	<b>▲ 0.375</b>	---	---
ppm Water	ppm	ASTM D6304	>500	<b>▲ 3751.9</b>	---	---
Particles >4µm		ASTM D7647	>5000	<b>▲ 193688</b>	---	---
Particles >6µm		ASTM D7647	>1300	<b>▲ 112622</b>	---	---
Particles >14µm		ASTM D7647	>160	<b>▲ 4773</b>	---	---
Particles >21µm		ASTM D7647	>40	<b>▲ 470</b>	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 25/24/19</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>▲ 2.12</b>	---	---

Customer Id: MARCAT  
 Sample No.: WC0805489  
 Lab Number: 05966287  
 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

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

## HISTORICAL DIAGNOSIS



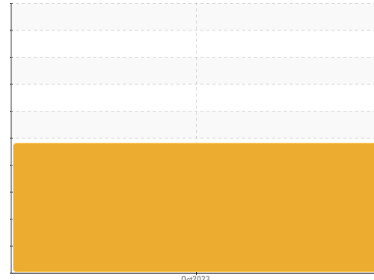
# OIL ANALYSIS REPORT

Sample Rating Trend

**WATER**



Machine Id  
**[ ] NOT GIVEN WC0805489 - STEERING**  
 Component  
**Hydraulic System**  
 Fluid  
**NOT GIVEN (--- GAL)**



## DIAGNOSIS

### Recommendation

We advise that you check for the source of water entry. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of particulates present in the oil. There is a moderate concentration of water present in the oil.

### Fluid Condition

The AN level is above the recommended limit.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>WC0805489</b>	---	---
Sample Date	Client Info	<b>01 Oct 2023</b>	---	---
Machine Age	hrs Client Info	<b>0</b>	---	---
Oil Age	hrs Client Info	<b>0</b>	---	---
Oil Changed	Client Info	<b>N/A</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>20	<b>2</b>	---	---
Chromium ppm ASTM D5185m	>20	<b>&lt;1</b>	---	---
Nickel ppm ASTM D5185m	>20	<b>&lt;1</b>	---	---
Titanium ppm ASTM D5185m		<b>0</b>	---	---
Silver ppm ASTM D5185m		<b>0</b>	---	---
Aluminum ppm ASTM D5185m	>20	<b>0</b>	---	---
Lead ppm ASTM D5185m	>20	<b>0</b>	---	---
Copper ppm ASTM D5185m	>20	<b>2</b>	---	---
Tin ppm ASTM D5185m	>20	<b>0</b>	---	---
Vanadium ppm ASTM D5185m		<b>&lt;1</b>	---	---
Cadmium ppm ASTM D5185m		<b>&lt;1</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m		<b>0</b>	---	---
Barium ppm ASTM D5185m		<b>0</b>	---	---
Molybdenum ppm ASTM D5185m		<b>&lt;1</b>	---	---
Manganese ppm ASTM D5185m		<b>0</b>	---	---
Magnesium ppm ASTM D5185m		<b>5</b>	---	---
Calcium ppm ASTM D5185m		<b>14</b>	---	---
Phosphorus ppm ASTM D5185m		<b>514</b>	---	---
Zinc ppm ASTM D5185m		<b>25</b>	---	---
Sulfur ppm ASTM D5185m		<b>51</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>15	<b>2</b>	---	---
Sodium ppm ASTM D5185m		<b>5</b>	---	---
Potassium ppm ASTM D5185m	>20	<b>0</b>	---	---
Water % ASTM D6304	>0.05	<b>▲ 0.375</b>	---	---
ppm Water ppm ASTM D6304	>500	<b>▲ 3751.9</b>	---	---

## FLUID CLEANLINESS

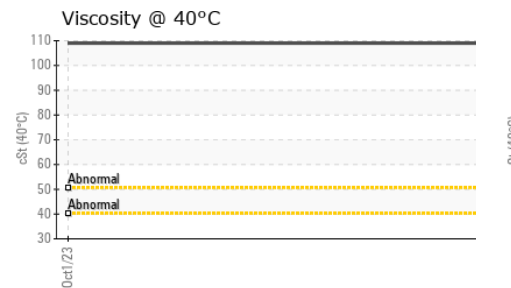
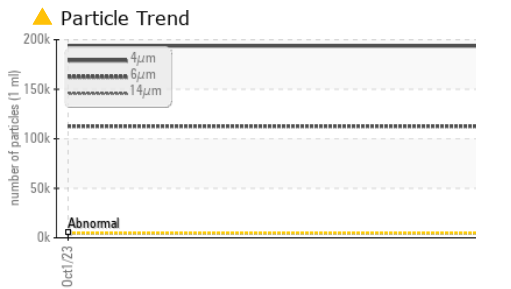
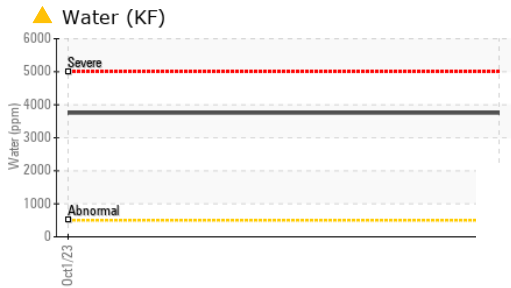
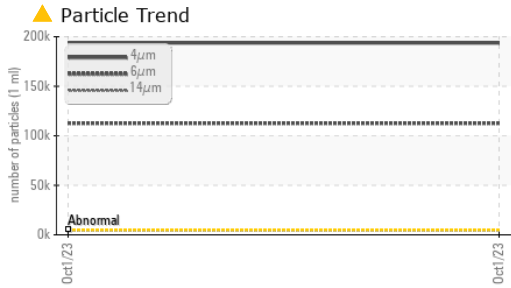
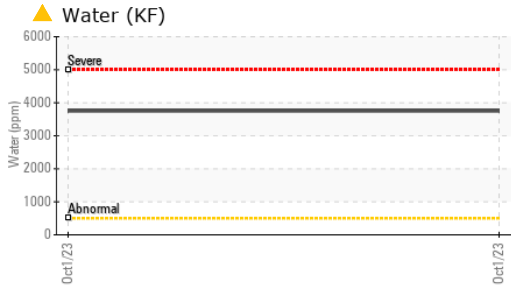
method	limit/base	current	history1	history2
Particles >4µm ASTM D7647	>5000	<b>▲ 193688</b>	---	---
Particles >6µm ASTM D7647	>1300	<b>▲ 112622</b>	---	---
Particles >14µm ASTM D7647	>160	<b>▲ 4773</b>	---	---
Particles >21µm ASTM D7647	>40	<b>▲ 470</b>	---	---
Particles >38µm ASTM D7647	>10	<b>6</b>	---	---
Particles >71µm ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness ISO 4406 (c)	>19/17/14	<b>▲ 25/24/19</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045		<b>▲ 2.12</b>	---	---



# OIL ANALYSIS REPORT



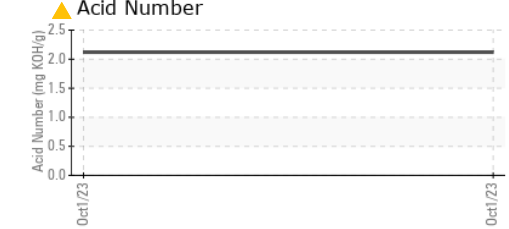
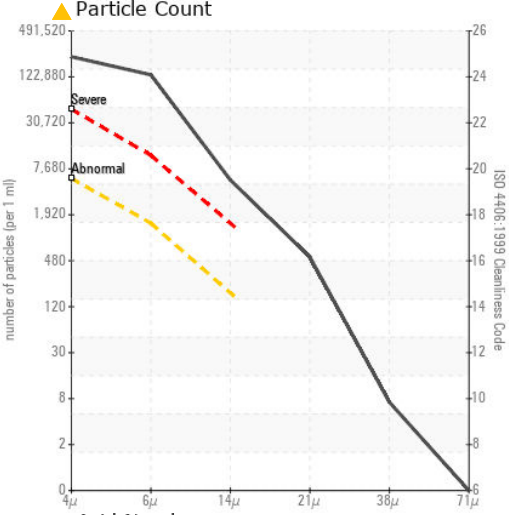
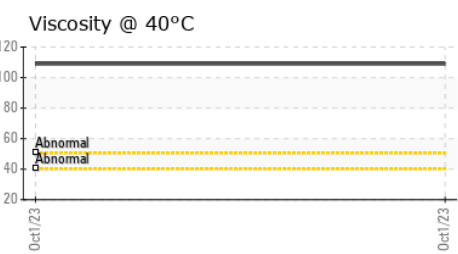
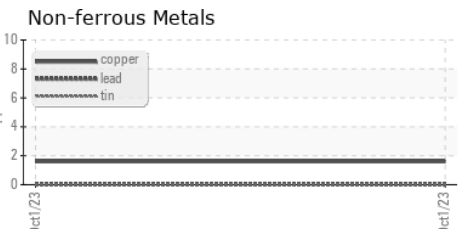
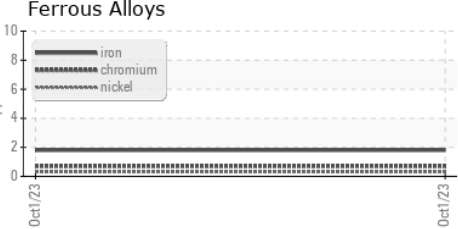
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.05	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	109	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color		no image	no image
Bottom		no image	no image

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0805489 **Received** : 02 Oct 2023  
**Lab Number** : 05966287 **Diagnosed** : 03 Oct 2023  
**Unique Number** : 10672838 **Diagnostician** : 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  
 T: (606)585-3950  
 F: x:

Certificate L2367  
 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)