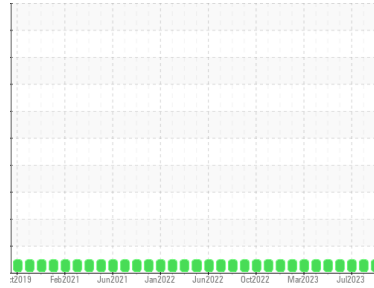




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**Nashville**  
 Machine Id  
**[Nashville] Oil - Starboard Reduction Gear**  
 Component  
**Starboard Reduction Gear**  
 Fluid  
**GEAR OIL SAE 85W140 (35 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Dparnell )

### 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>WC0769328</b>	WC0769334	WC0769189
Sample Date	Client Info		<b>05 Sep 2023</b>	07 Aug 2023	10 Jul 2023
Machine Age	hrs	Client Info	<b>55760</b>	55238	54755
Oil Age	hrs	Client Info	<b>9523</b>	4089	8841
Oil Changed		Client Info	<b>Filtered</b>	Filtered	Filtered
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	<b>6</b>	4	4
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m >100	<b>&lt;1</b>	2	0
Copper	ppm	ASTM D5185m >50	<b>1</b>	5	<1
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 400	<b>90</b>	100	102
Barium	ppm	ASTM D5185m 200	<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m 12	<b>0</b>	3	2
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	2	<1
Magnesium	ppm	ASTM D5185m 12	<b>14</b>	14	18
Calcium	ppm	ASTM D5185m 150	<b>71</b>	60	72
Phosphorus	ppm	ASTM D5185m 1650	<b>1002</b>	921	983
Zinc	ppm	ASTM D5185m 125	<b>37</b>	4	31
Sulfur	ppm	ASTM D5185m 22500	<b>11740</b>	12895	13599

## CONTAMINANTS

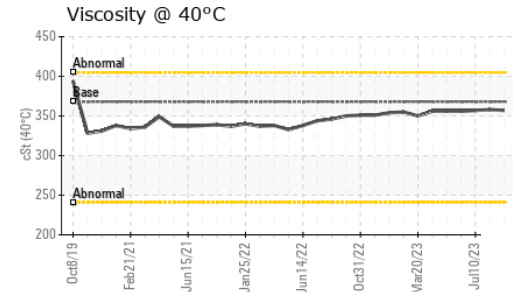
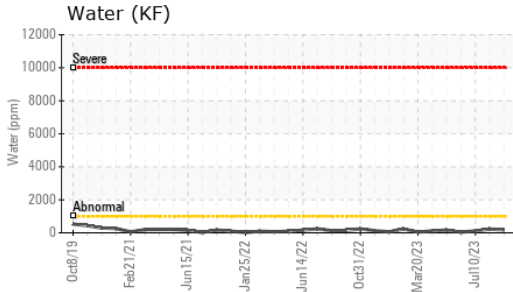
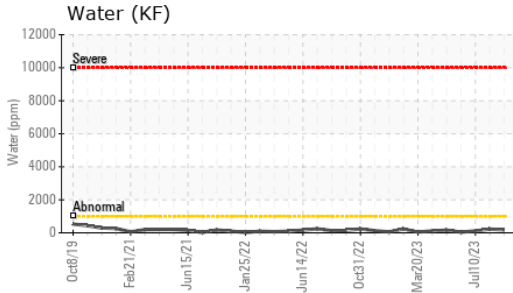
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>1</b>	2	<1
Sodium	ppm	ASTM D5185m	<b>0</b>	6	<1
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	4	<1
Water	%	ASTM D6304 >0.1	<b>0.017</b>	0.022	0.011
ppm Water	ppm	ASTM D6304 >1000	<b>179.1</b>	226.5	114.1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	<b>1.24</b>	1.21	1.19



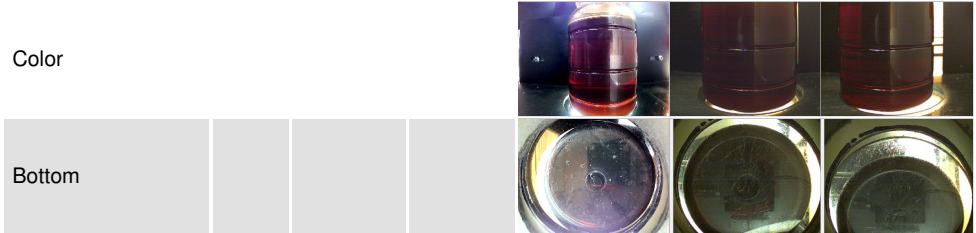
# OIL ANALYSIS REPORT



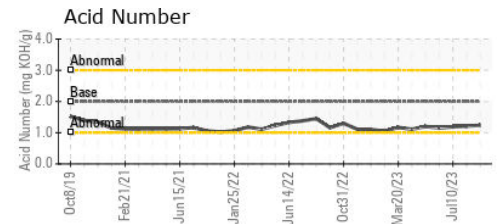
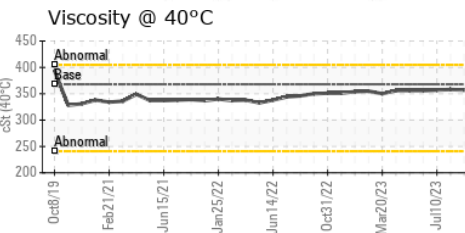
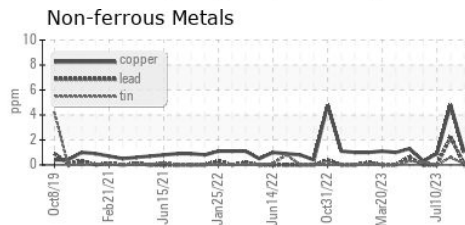
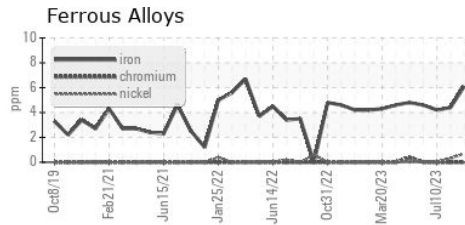
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	357	358

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. : WC0769328 Received : 25 Sep 2023  
 Lab Number : 05960716 Diagnosed : 27 Sep 2023  
 Unique Number : 10661929 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:

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)