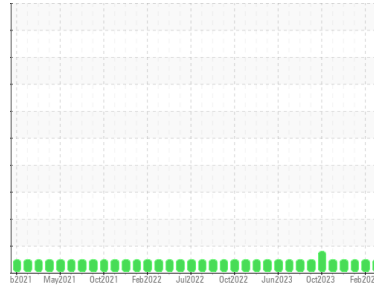




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**Tri State**  
 Machine Id  
**[Tri State] Oil - Port Reduction Gear**  
 Component  
**Port Reduction Gear**  
 Fluid  
**DIESEL ENGINE OIL SAE 40 (8 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>WC0874808</b>	WC0859920	WC0845870	
Sample Date	Client Info	<b>20 Mar 2024</b>	26 Feb 2024	26 Jan 2024	
Machine Age	hrs	Client Info	<b>22382</b>	21950	0
Oil Age	hrs	Client Info	<b>416</b>	1243	561
Oil Changed	Client Info	<b>Not Chngd</b>	Changed	Oil Added	
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL	

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >150	<b>2</b>	1	1
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>0</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	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>1</b>	0	<1
Tin	ppm	ASTM D5185m >10	<b>0</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 250	<b>&lt;1</b>	1	<1
Barium	ppm	ASTM D5185m 10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 100	<b>41</b>	37	37
Manganese	ppm	ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m 450	<b>655</b>	644	600
Calcium	ppm	ASTM D5185m 3000	<b>739</b>	693	652
Phosphorus	ppm	ASTM D5185m 1150	<b>826</b>	780	735
Zinc	ppm	ASTM D5185m 1350	<b>945</b>	840	827
Sulfur	ppm	ASTM D5185m 4250	<b>2447</b>	2552	2164

## CONTAMINANTS

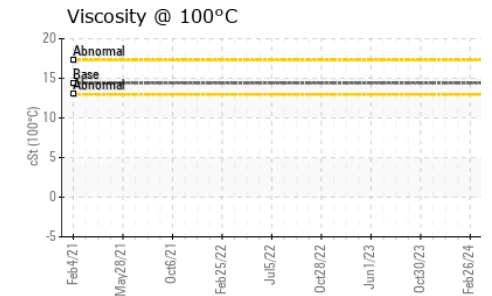
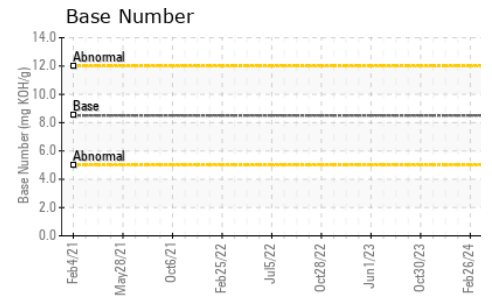
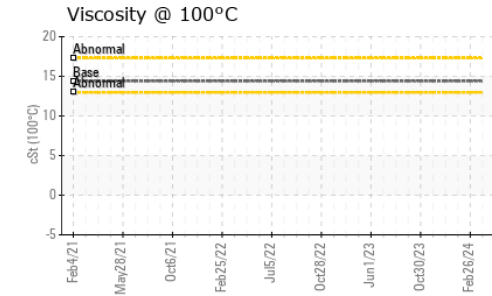
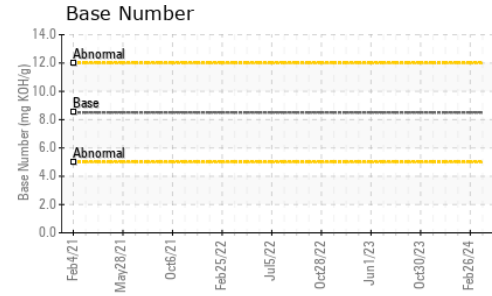
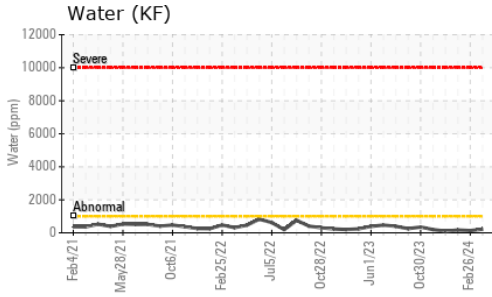
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	<b>2</b>	<1	1
Sodium	ppm	ASTM D5185m >216	<b>&lt;1</b>	<1	2
Potassium	ppm	ASTM D5185m >20	<b>2</b>	0	0
Water	%	ASTM D6304 >0.1	<b>0.022</b>	0.013	0.016
ppm Water	ppm	ASTM D6304 >1000	<b>223</b>	136	170

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>1.06</b>	0.952	1.07



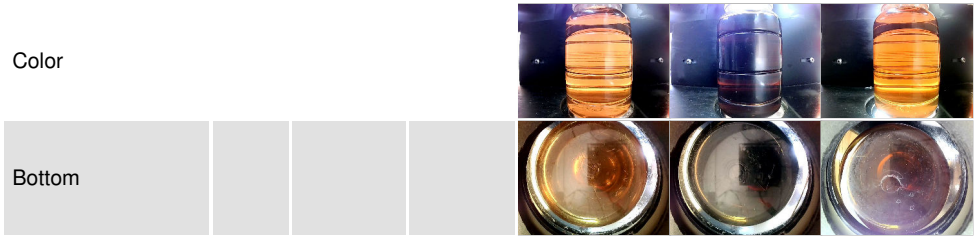
# OIL ANALYSIS REPORT



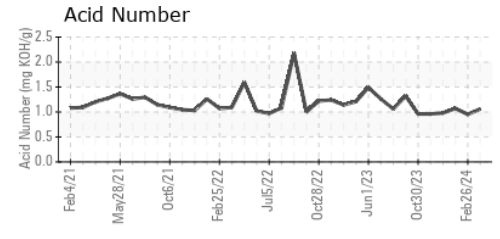
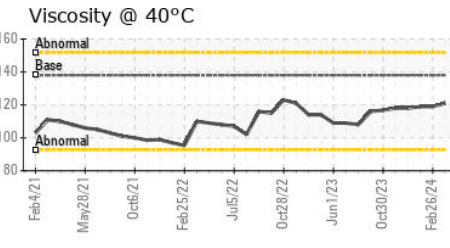
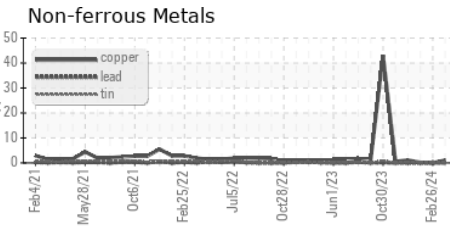
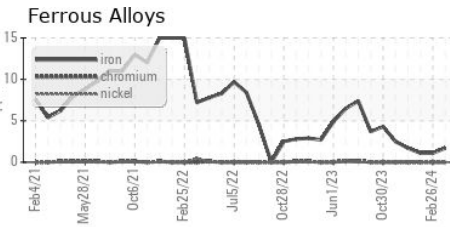
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	138	121	119

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0874808 **Received** : 27 Mar 2024  
**Lab Number** : 06130709 **Tested** : 30 Mar 2024  
**Unique Number** : 10950174 **Diagnosed** : 30 Mar 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: FT-IR, KF, KV100, TBN )

**MARATHON PETROLEUM CO.**  
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 US 41169  
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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)