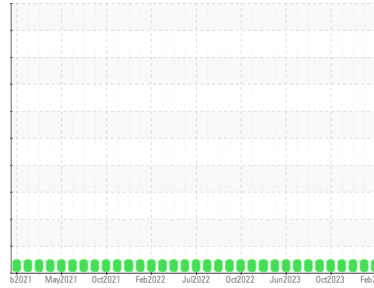




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Tri State
 Machine Id
[Tri State] Oil - Starboard Reduction Gear
 Component
Starboard 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	WC0859811	WC0845749	WC0769588	
Sample Date	Client Info	26 Feb 2024	26 Jan 2024	22 Dec 2023	
Machine Age	hrs	Client Info	13690	0	20610
Oil Age	hrs	Client Info	382	561	1117
Oil Changed	Client Info	Changed	Oil Added	Not Chngd	
Sample Status		NORMAL	NORMAL	NORMAL	

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >150	1	2	3
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m >10	0	0	0
Titanium	ppm	ASTM D5185m	0	<1	<1
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	<1	<1
Lead	ppm	ASTM D5185m >100	0	0	0
Copper	ppm	ASTM D5185m >50	0	<1	1
Tin	ppm	ASTM D5185m >10	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 250	<1	<1	3
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	37	39	38
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m 450	633	658	650
Calcium	ppm	ASTM D5185m 3000	698	696	749
Phosphorus	ppm	ASTM D5185m 1150	784	801	828
Zinc	ppm	ASTM D5185m 1350	844	920	931
Sulfur	ppm	ASTM D5185m 4250	2546	2412	2440

CONTAMINANTS

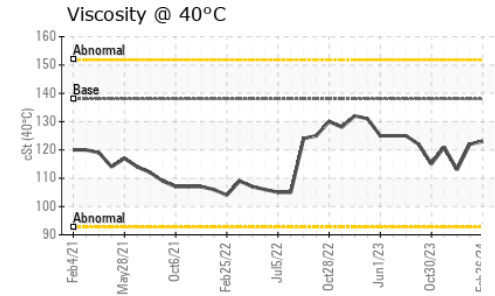
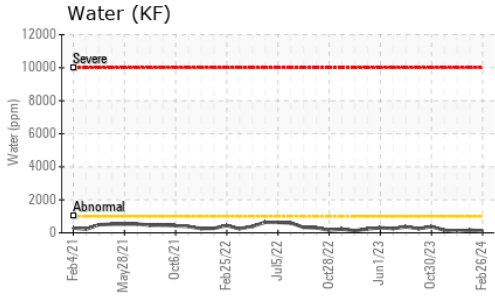
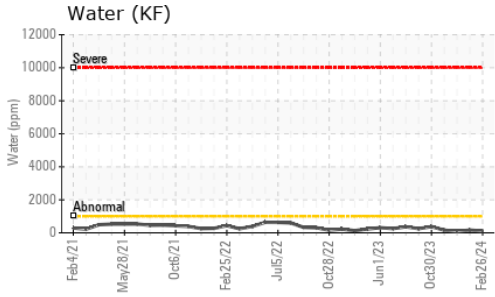
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	<1	1	2
Sodium	ppm	ASTM D5185m >216	<1	2	3
Potassium	ppm	ASTM D5185m >20	0	2	<1
Water	%	ASTM D6304 >0.1	0.010	0.016	0.008
ppm Water	ppm	ASTM D6304 >1000	105	167	86

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.99	0.95	1.15



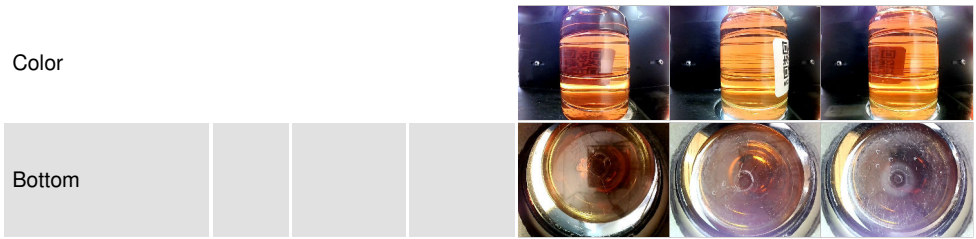
OIL ANALYSIS REPORT



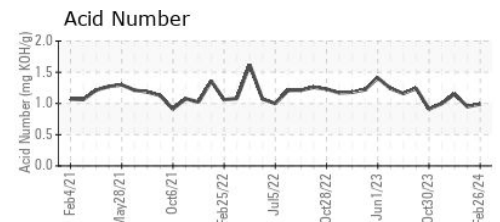
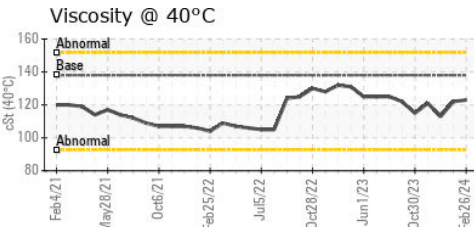
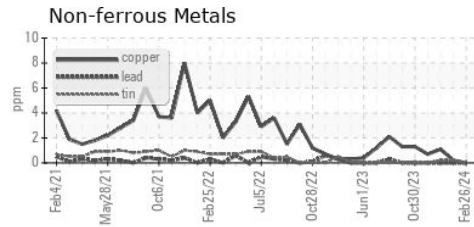
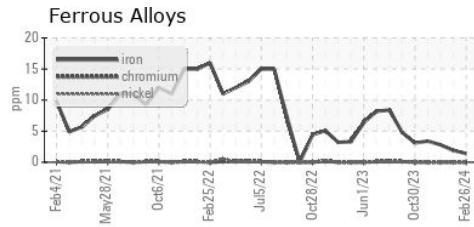
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	123	122	113

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0859811 **Received** : 19 Mar 2024
Lab Number : **06122465** **Tested** : 20 Mar 2024
Unique Number : 10936616 **Diagnosed** : 21 Mar 2024 - 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)