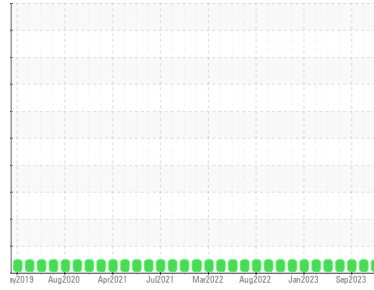




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Marathon
 Machine Id
[Marathon] Oil - Port Reduction Gear
 Component
Port Reduction Gear
 Fluid
Reduction Gear Oil (35 GAL)

DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor. (Customer Sample Comment: Chris Comuzie)

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		WC0846098	WC0846101	WC0769277
Sample Date	Client Info		12 Feb 2024	13 Dec 2023	25 Sep 2023
Machine Age	hrs	Client Info	6030	4903	3367
Oil Age	hrs	Client Info	6030	4903	3367
Oil Changed	Client Info		Filtered	Filtered	N/A
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	132	120	81
Chromium	ppm	ASTM D5185m >10	1	1	<1
Nickel	ppm	ASTM D5185m >10	<1	<1	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	<1
Aluminum	ppm	ASTM D5185m >25	<1	1	<1
Lead	ppm	ASTM D5185m >100	0	<1	<1
Copper	ppm	ASTM D5185m >50	18	16	13
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	6	9	8
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	50	52	52
Manganese	ppm	ASTM D5185m	<1	1	1
Magnesium	ppm	ASTM D5185m	681	716	713
Calcium	ppm	ASTM D5185m	1023	981	992
Phosphorus	ppm	ASTM D5185m	820	874	836
Zinc	ppm	ASTM D5185m	926	972	970
Sulfur	ppm	ASTM D5185m	2545	2649	2590

CONTAMINANTS

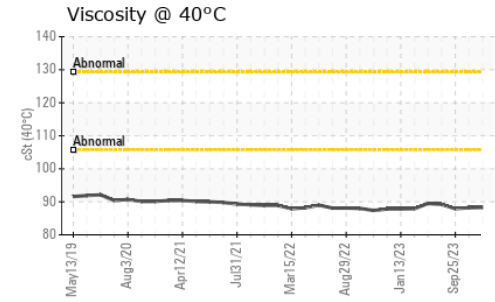
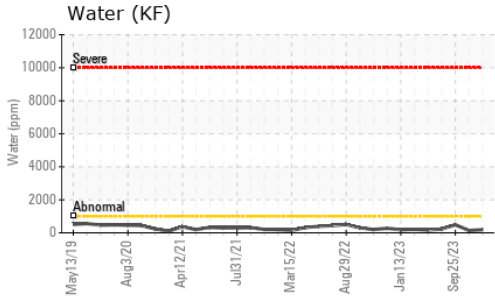
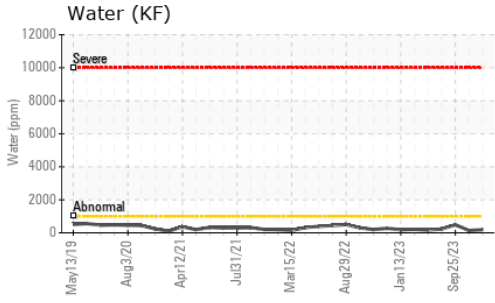
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	2	3	3
Sodium	ppm	ASTM D5185m	3	4	2
Potassium	ppm	ASTM D5185m >20	2	4	4
Water	%	ASTM D6304 >0.1	0.019	0.013	0.048
ppm Water	ppm	ASTM D6304 >1000	193	140	487.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.18	1.17	1.09



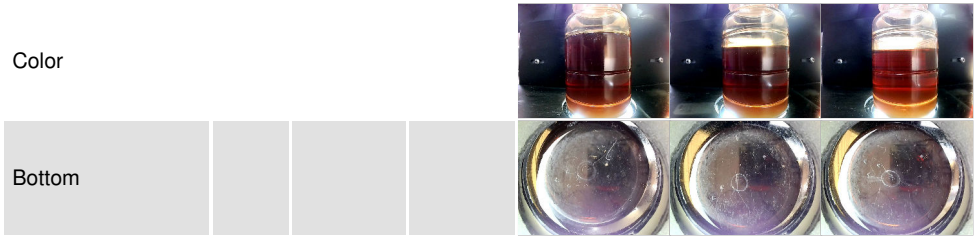
OIL ANALYSIS REPORT



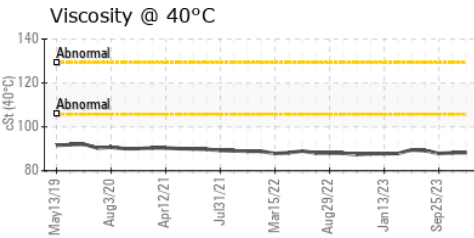
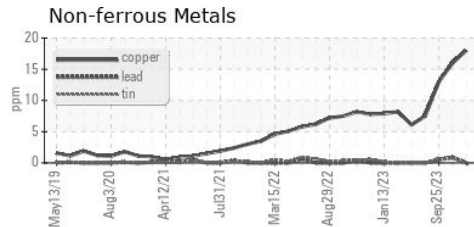
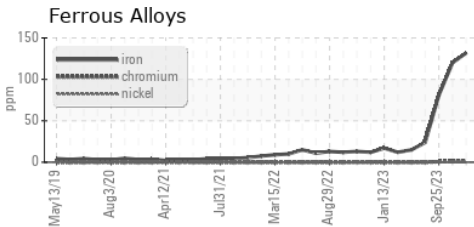
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	88.3	88.2	87.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0846098 **Received** : 27 Feb 2024
Lab Number : 06101731 **Tested** : 28 Feb 2024
Unique Number : 10899961 **Diagnosed** : 29 Feb 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:

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)