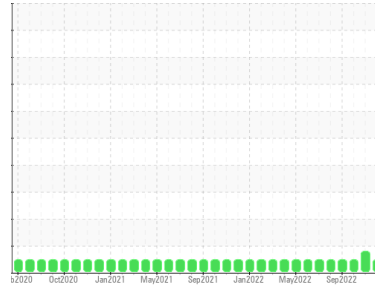




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Catlettsburg

Machine Id

[Catlettsburg] Oil - Port Reduction Gear

Component

Port Reduction Gear

Fluid

MARATHON 80W140 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.
NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

The water content is negligible. 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		WC0769480	WC0769472	WC0731821
Sample Date	Client Info		28 Mar 2024	08 Aug 2023	01 Oct 2022
Machine Age	hrs	Client Info	3382	0	0
Oil Age	hrs	Client Info	3382	55461	52330
Oil Changed	Client Info		Changed	Not Changd	N/A
Sample Status			NORMAL	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	64	▲ 167	139
Chromium	ppm	ASTM D5185m >10	<1	<1	<1
Nickel	ppm	ASTM D5185m >10	1	0	<1
Titanium	ppm	ASTM D5185m	2	1	<1
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	7	12	5
Lead	ppm	ASTM D5185m >100	3	4	2
Copper	ppm	ASTM D5185m >50	2	14	13
Tin	ppm	ASTM D5185m >10	<1	0	0
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	120	76	101
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	<1	<1
Manganese	ppm	ASTM D5185m	1	2	2
Magnesium	ppm	ASTM D5185m	13	6	9
Calcium	ppm	ASTM D5185m	20	49	50
Phosphorus	ppm	ASTM D5185m	830	938	930
Zinc	ppm	ASTM D5185m	16	47	51
Sulfur	ppm	ASTM D5185m	21578	23059	22670

CONTAMINANTS

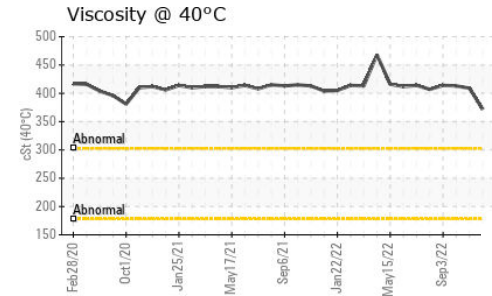
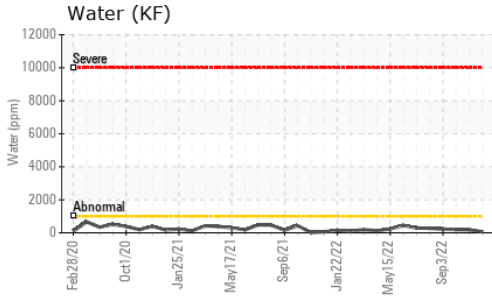
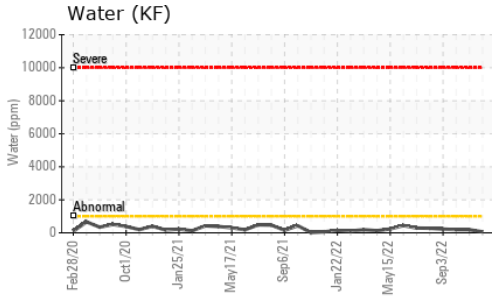
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	4	20	12
Sodium	ppm	ASTM D5185m	2	7	6
Potassium	ppm	ASTM D5185m >20	5	53	50
Water	%	ASTM D6304 >0.1	0.005	0.018	0.019
ppm Water	ppm	ASTM D6304 >1000	60	189.6	194.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	2.46	2.59	2.71



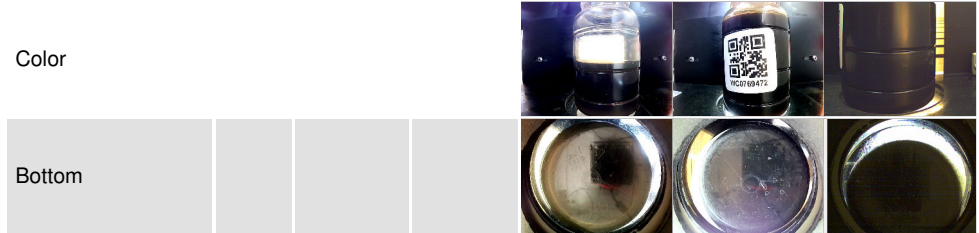
OIL ANALYSIS REPORT



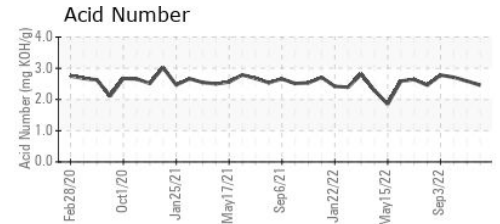
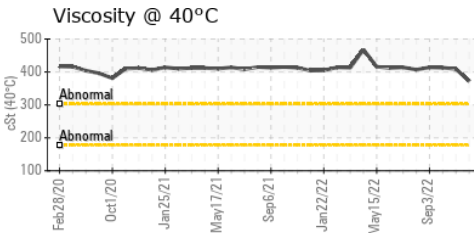
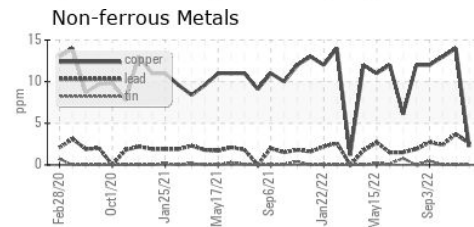
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	372	409	413

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. : WC0769480

Lab Number : 06139994

Unique Number : 10964802

Test Package : IND 2 (Additional Tests: KF)

Received : 05 Apr 2024

Tested : 08 Apr 2024

Diagnosed : 08 Apr 2024 - Wes Davis

MARATHON PETROLEUM CO.

101 12TH ST

CATLETTSBURG, KY

US 41169

Contact: Barry Bridges

babridges@marathonpetroleum.com

T: (731)607-4313

F:

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)