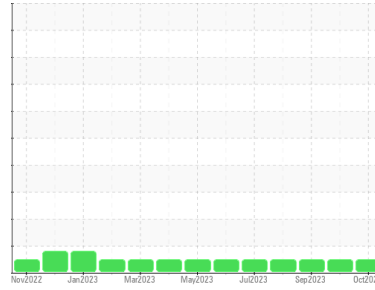




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
West Virginia
 Machine Id
[West Virginia] Oil - Port Reduction Gear
 Component
Port Reduction Gear
 Fluid
MARATHON 40W (35 GAL)

DIAGNOSIS

Recommendation

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

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	WC0805455	WC0804880	WC0805330
Sample Date	Client Info	27 Oct 2023	01 Oct 2023	02 Sep 2023
Machine Age	hrs Client Info	39163	38654	38086
Oil Age	hrs Client Info	75	1228	660
Oil Changed	Client Info	N/A	Not Changd	N/A
Sample Status		NORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>150	2	4	3
Chromium ppm ASTM D5185m	>10	0	<1	0
Nickel ppm ASTM D5185m	>10	0	0	0
Titanium ppm ASTM D5185m		0	<1	0
Silver ppm ASTM D5185m		0	0	0
Aluminum ppm ASTM D5185m	>25	<1	0	0
Lead ppm ASTM D5185m	>100	<1	<1	0
Copper ppm ASTM D5185m	>50	26	31	25
Tin ppm ASTM D5185m	>10	0	<1	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		14	16	18
Barium ppm ASTM D5185m		0	0	0
Molybdenum ppm ASTM D5185m		85	91	93
Manganese ppm ASTM D5185m		<1	<1	0
Magnesium ppm ASTM D5185m		196	227	240
Calcium ppm ASTM D5185m		2104	2180	2511
Phosphorus ppm ASTM D5185m		862	868	936
Zinc ppm ASTM D5185m		932	995	1076
Sulfur ppm ASTM D5185m		4150	4436	5723

CONTAMINANTS

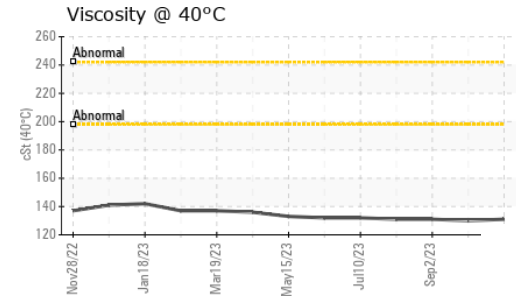
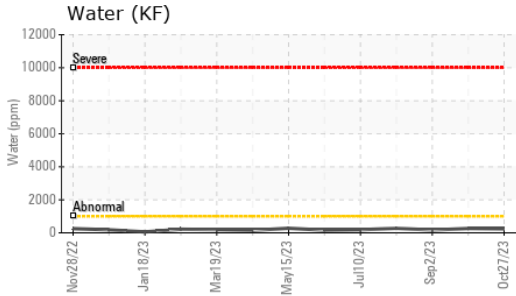
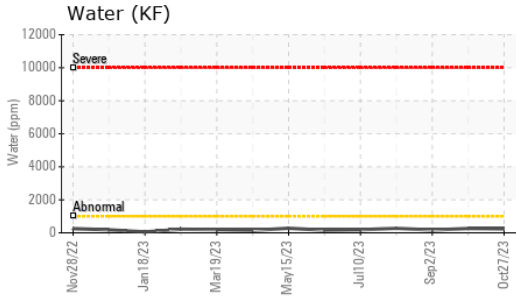
method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>50	3	3	3
Sodium ppm ASTM D5185m		2	3	2
Potassium ppm ASTM D5185m	>20	<1	<1	1
Water % ASTM D6304	>0.1	0.024	0.026	0.017
ppm Water ppm ASTM D6304	>1000	241.9	262.9	170.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045		1.00	0.934	1.29



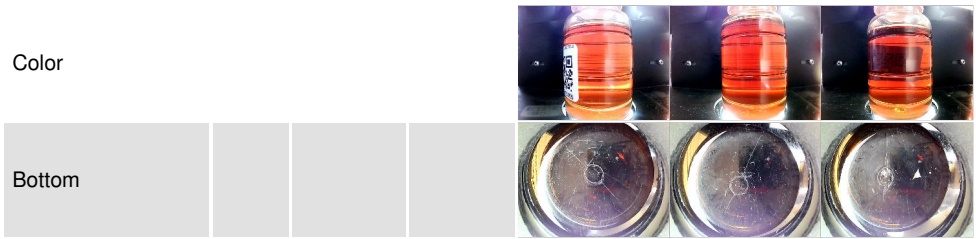
OIL ANALYSIS REPORT



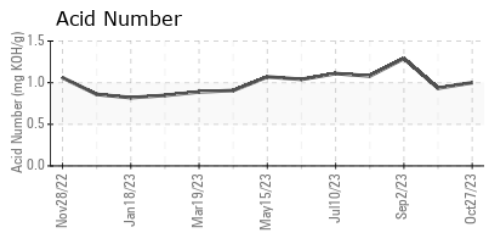
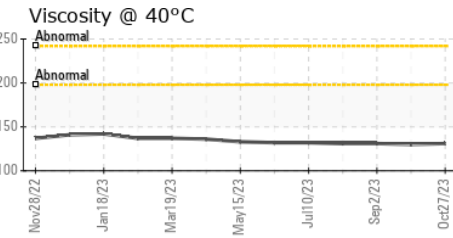
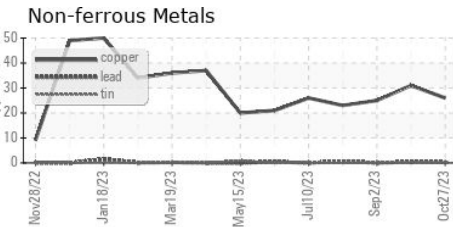
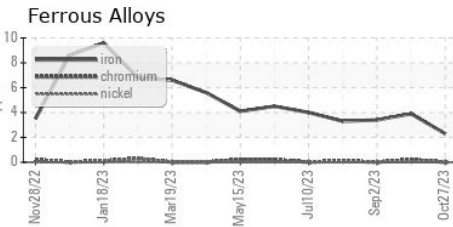
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	131	130	131

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0805455 **Received** : 01 Nov 2023
Lab Number : 05995686 **Diagnosed** : 03 Nov 2023
Unique Number : 10724046 **Diagnostician** : Jonathan Hester
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)