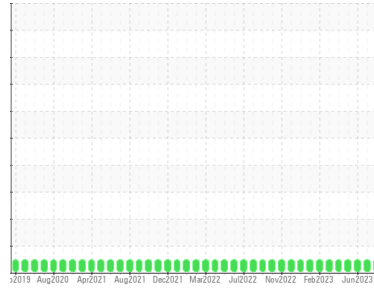




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Findlay
 Machine Id
[Findlay] Oil - Starboard Reduction Gear
 Component
Starboard Reduction Gear
 Fluid
MARATHON SAE 40 (35 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		WC0769025	WC0769495	WC0769536
Sample Date	Client Info		09 Aug 2023	15 Jul 2023	15 Jun 2023
Machine Age	hrs	Client Info	22120	21647	21390
Oil Age	hrs	Client Info	19900	19427	18785
Oil Changed	Client Info		Filtered	Not Changd	Filtered
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	15	17	19
Chromium	ppm	ASTM D5185m >10	<1	0	<1
Nickel	ppm	ASTM D5185m >10	0	0	<1
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	<1	0	<1
Lead	ppm	ASTM D5185m >100	<1	0	<1
Copper	ppm	ASTM D5185m >50	3	2	2
Tin	ppm	ASTM D5185m >10	<1	<1	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	20	21	20
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	49	53	46
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	722	822	716
Calcium	ppm	ASTM D5185m	875	943	856
Phosphorus	ppm	ASTM D5185m	800	881	825
Zinc	ppm	ASTM D5185m	922	1033	987
Sulfur	ppm	ASTM D5185m	2857	3221	3176

CONTAMINANTS

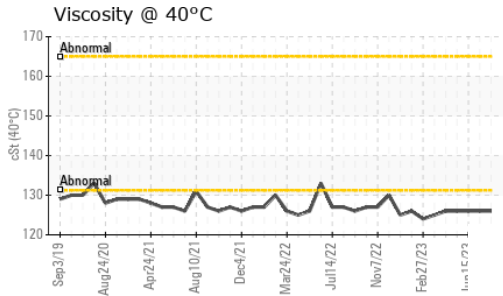
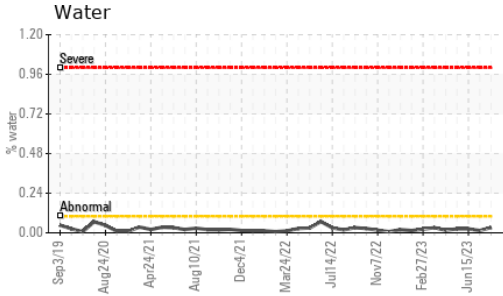
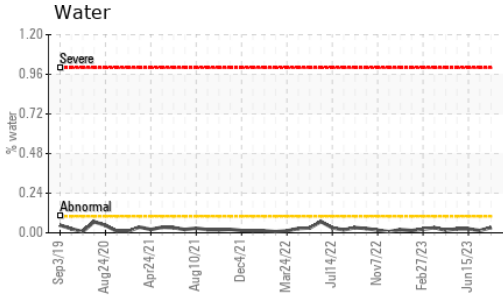
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	2	3	5
Sodium	ppm	ASTM D5185m	5	4	3
Potassium	ppm	ASTM D5185m >20	2	2	3
Water	%	ASTM D6304 >0.1	0.032	0.014	0.024
ppm Water	ppm	ASTM D6304 >1000	325.2	140.6	242.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.70	0.844	0.74



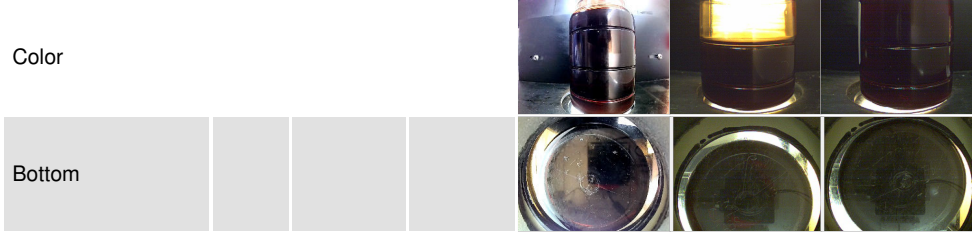
OIL ANALYSIS REPORT



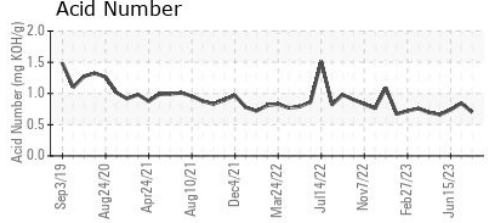
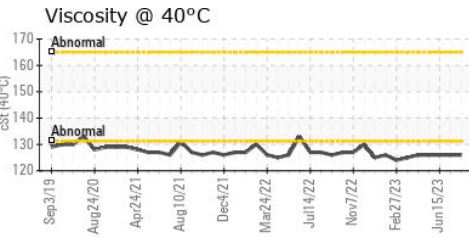
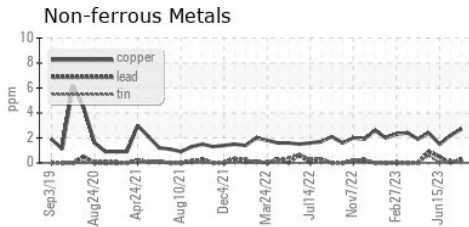
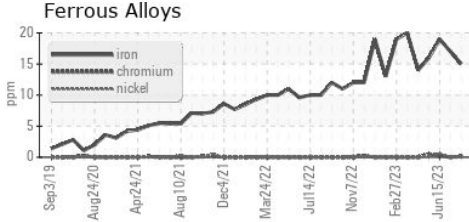
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	126	126	126

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. : WC0769025 **Received** : 17 Aug 2023
Lab Number : 05927314 **Diagnosed** : 18 Aug 2023
Unique Number : 10607261 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF)

MARATHON PETROLEUM CO.
 101 12TH ST
 CATLETTSBURG, KY
 US 41169
 Contact: SHAWN MCCLASKEY
 stmccclaskey@marathonpetroleum.com
 T: (606)739-2416
 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)