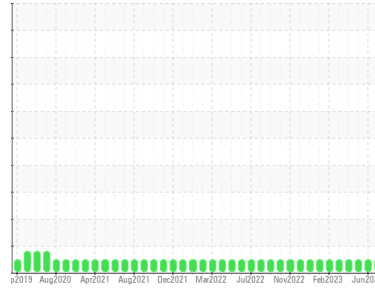




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Findlay
 Machine Id
[Findlay] Oil - Port Reduction Gear
 Component
Port Reduction Gear
 Fluid
MARATHON SAE 40 (35 GAL)

DIAGNOSIS

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

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		WC0769470	WC0769535	WC0769529
Sample Date	Client Info		15 Jul 2023	15 Jun 2023	23 May 2023
Machine Age	hrs	Client Info	21655	21382	20852
Oil Age	hrs	Client Info	19428	18786	18249
Oil Changed	Client Info		Not Chngd	Filtered	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	21	20	20
Chromium	ppm	ASTM D5185m >10	0	<1	<1
Nickel	ppm	ASTM D5185m >10	0	<1	<1
Titanium	ppm	ASTM D5185m	0	0	<1
Silver	ppm	ASTM D5185m	<1	0	<1
Aluminum	ppm	ASTM D5185m >25	<1	<1	2
Lead	ppm	ASTM D5185m >100	<1	0	<1
Copper	ppm	ASTM D5185m >50	2	2	2
Tin	ppm	ASTM D5185m >10	<1	0	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	20	21	25
Barium	ppm	ASTM D5185m	1	0	0
Molybdenum	ppm	ASTM D5185m	52	48	46
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	693	755	677
Calcium	ppm	ASTM D5185m	920	874	819
Phosphorus	ppm	ASTM D5185m	828	849	769
Zinc	ppm	ASTM D5185m	958	1016	862
Sulfur	ppm	ASTM D5185m	2611	3259	2723

CONTAMINANTS

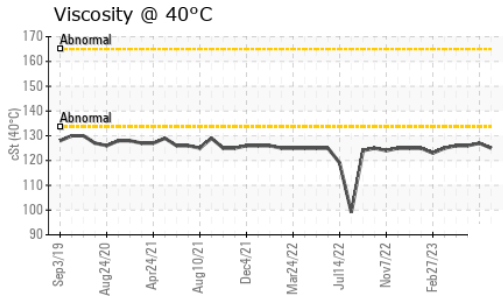
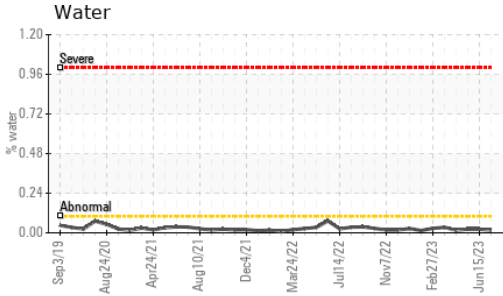
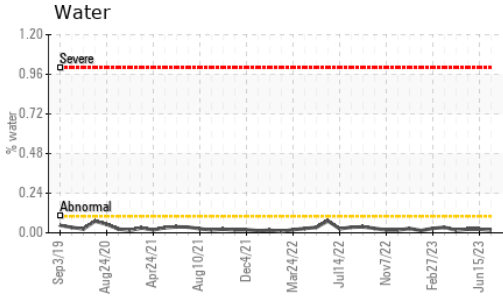
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	3	4	3
Sodium	ppm	ASTM D5185m	0	3	4
Potassium	ppm	ASTM D5185m >20	2	3	0
Water	%	ASTM D6304 >0.1	0.016	0.022	0.022
ppm Water	ppm	ASTM D6304 >1000	161.2	228.6	224.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.355	0.73	0.723



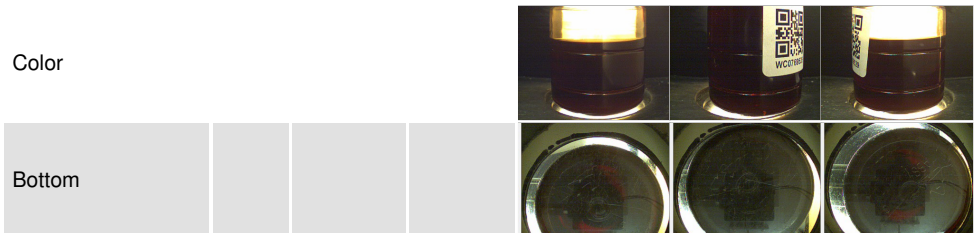
OIL ANALYSIS REPORT



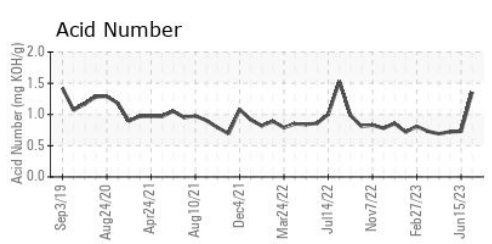
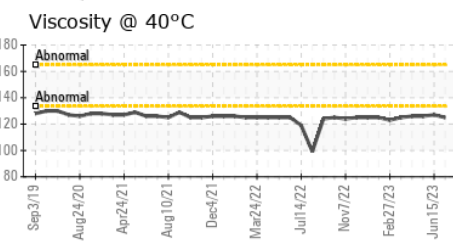
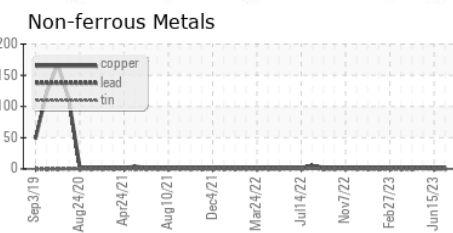
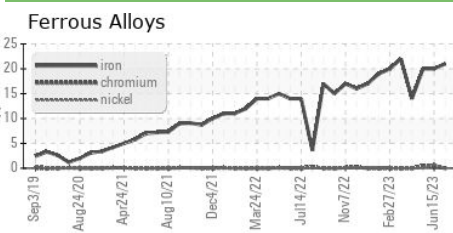
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	125	127	126

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0769470 **Received** : 20 Jul 2023
Lab Number : 05903356 **Diagnosed** : 24 Jul 2023
Unique Number : 10564712 **Diagnostician** : Don Baldrige
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:

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)