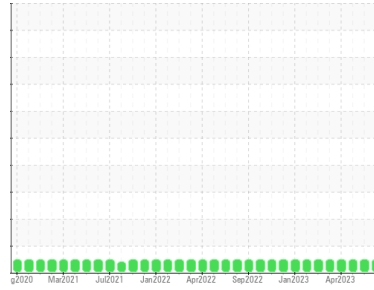




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Detroit
 Machine Id
[Detroit] Oil - Port Reduction Gear
 Component
Port Reduction Gear
 Fluid
SAE 30W (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	WC0769388	WC0735709	WC0731965	
Sample Date	Client Info	17 Jul 2023	19 Jun 2023	22 May 2023	
Machine Age	hrs	Client Info	24791	24316	0
Oil Age	hrs	Client Info	15728	15253	0
Oil Changed	Client Info	Not Chngd	Not Chngd	N/A	
Sample Status		NORMAL	NORMAL	NORMAL	

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >150	28	27	28
Chromium	ppm	ASTM D5185m >10	0	0	<1
Nickel	ppm	ASTM D5185m >10	0	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	<1	0	0
Lead	ppm	ASTM D5185m >100	0	0	<1
Copper	ppm	ASTM D5185m >50	10	10	13
Tin	ppm	ASTM D5185m >10	<1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	35	29	29
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	12	12	12
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	239	225	227
Calcium	ppm	ASTM D5185m	3252	3105	3150
Phosphorus	ppm	ASTM D5185m	968	936	944
Zinc	ppm	ASTM D5185m	1067	1052	1078
Sulfur	ppm	ASTM D5185m	8851	8050	8364

CONTAMINANTS

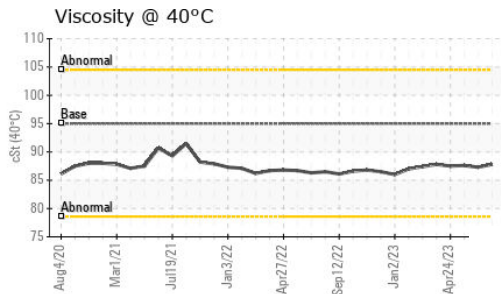
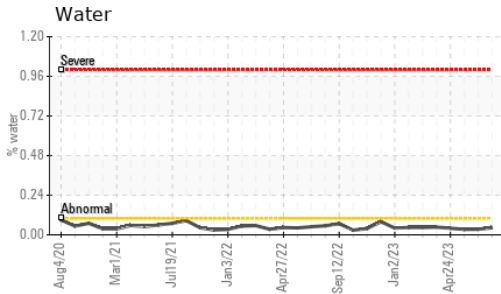
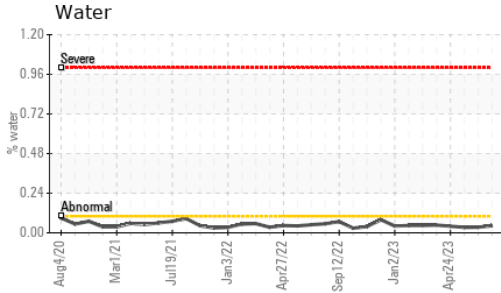
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	4	5	4
Sodium	ppm	ASTM D5185m	3	0	<1
Potassium	ppm	ASTM D5185m >20	0	2	1
Water	%	ASTM D6304 >0.1	0.043	0.034	0.033
ppm Water	ppm	ASTM D6304 >1000	433.1	345.8	331.9

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.55	0.74	0.662



OIL ANALYSIS REPORT



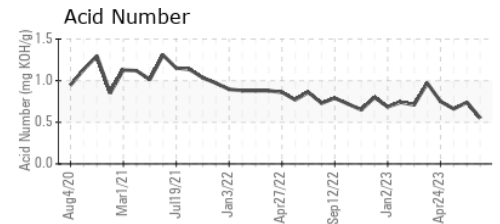
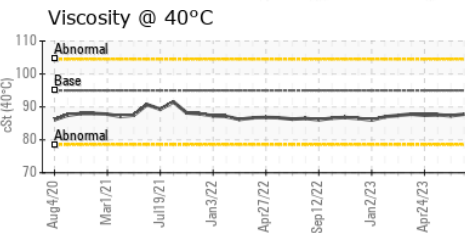
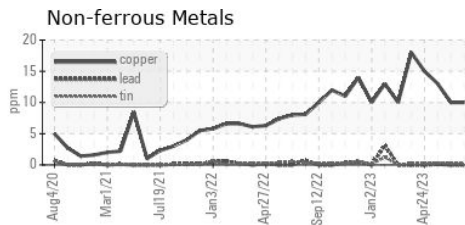
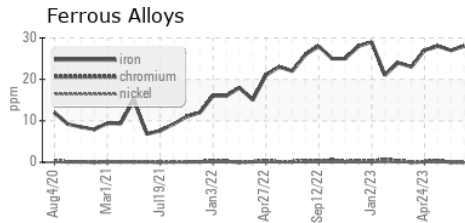
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	95.0	87.8	87.3

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. : WC0769388 Received : 21 Jul 2023
 Lab Number : 05904405 Diagnosed : 25 Jul 2023
 Unique Number : 10565761 Diagnostician : Angela Borella
 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)