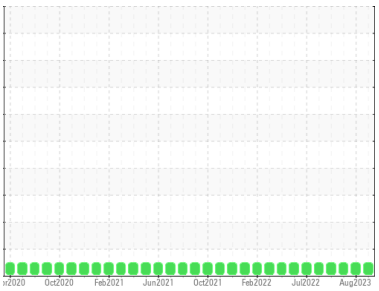
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
Catlettsburg
Machine Id
[Catlettsburg] Oil - Starboard Reduction Gear
Component
Starboard Reduction Gear
Fluid
MARATHON 80W145 (--- 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		**WC0769477**	WC0769476	WC0731845
Sample Date		Client Info		**28 Mar 2024**	08 Aug 2023	01 Oct 2022
Machine Age	hrs	Client Info		**3366**	0	0
Oil Age	hrs	Client Info		**3366**	0	52454
Oil Changed		Client Info		**Filtered**	Not Changd	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**103**	107	62
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**1**	0	<1
Titanium	ppm	ASTM D5185m		**2**	2	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**11**	8	3
Lead	ppm	ASTM D5185m	>100	**1**	<1	<1
Copper	ppm	ASTM D5185m	>50	**4**	17	6
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**108**	104	59
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	<1
Manganese	ppm	ASTM D5185m		**1**	2	<1
Magnesium	ppm	ASTM D5185m		**5**	3	11
Calcium	ppm	ASTM D5185m		**45**	40	63
Phosphorus	ppm	ASTM D5185m		**827**	909	701
Zinc	ppm	ASTM D5185m		**23**	23	36
Sulfur	ppm	ASTM D5185m		**21268**	23526	17746

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**6**	15	7
Sodium	ppm	ASTM D5185m		**4**	17	10
Potassium	ppm	ASTM D5185m	>20	**6**	43	28
Water	%	ASTM D6304	>0.1	**0.024**	0.011	0.011
ppm Water	ppm	ASTM D6304	>1000	**249**	112.0	115.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**2.51**	2.21	2.38

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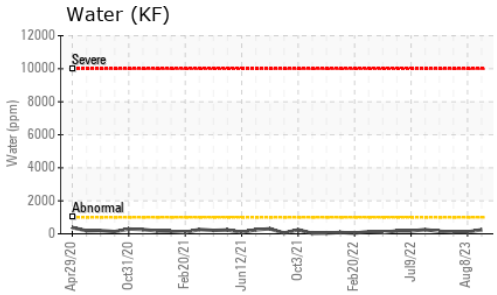
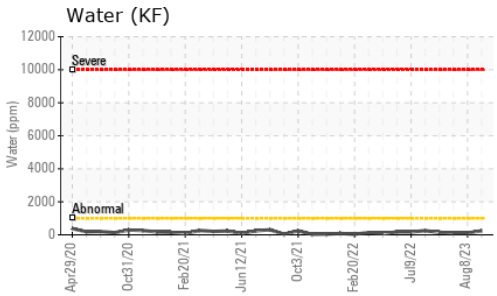
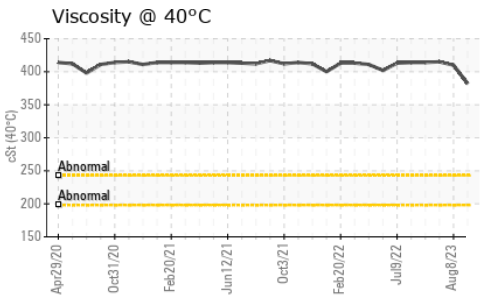




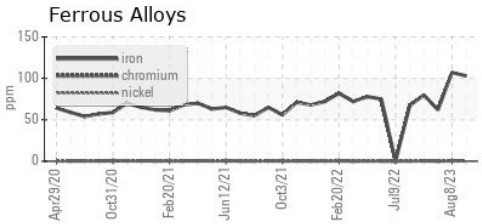


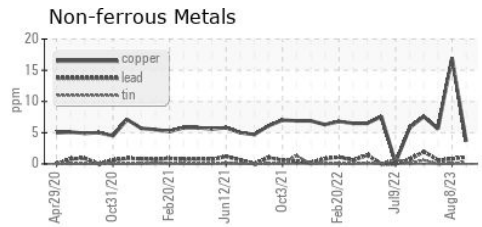
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

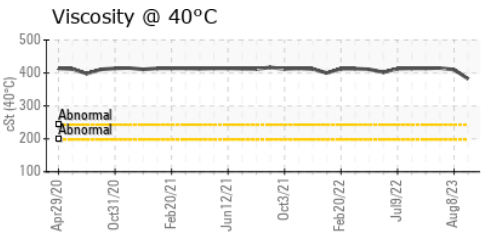
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**382**	410	415

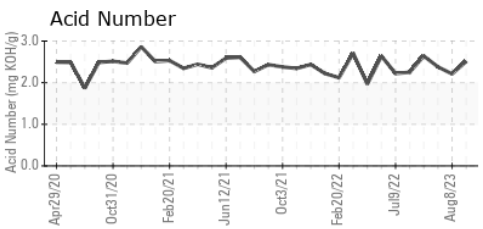
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0769477
Lab Number : 06139993
Unique Number : 10964801
Test Package : IND 2 (Additional Tests: KF)

Received : 05 Apr 2024
Tested : 08 Apr 2024
Diagnosed : 08 Apr 2024 - Wes Davis

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)

MARATHON PETROLEUM CO.
101 12TH ST
CATLETTSBURG, KY
US 41169
Contact: Barry Bridges
babridges@marathonpetroleum.com
T: (731)607-4313
F: