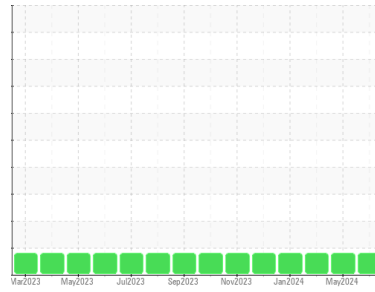




OIL ANALYSIS REPORT

Sample Rating Trend



Area
Huntington
 Machine Id
[Huntington] Oil - Port Reduction Gear
 Component
Port Reduction Gear
 Fluid
 DIESEL ENGINE OIL SAE 40 (24 GAL)

DIAGNOSIS

Recommendation
 No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
 The copper level is abnormal. All other 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	WC0898317	WC0874557	WC0874744
Sample Date	Client Info	09 Jun 2024	08 May 2024	19 Mar 2024
Machine Age	hrs	22633	22033	20995
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	Not Changd	Not Changd
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >150	6	4	4
Chromium	ppm	ASTM D5185m >10	0	<1	0
Nickel	ppm	ASTM D5185m >10	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	<1	0	<1
Aluminum	ppm	ASTM D5185m >25	2	0	<1
Lead	ppm	ASTM D5185m >100	<1	0	0
Copper	ppm	ASTM D5185m >50	▲ 266	▲ 247	▲ 214
Tin	ppm	ASTM D5185m >10	<1	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 250	9	7	7
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	100	96	87
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 450	190	199	175
Calcium	ppm	ASTM D5185m 3000	2318	2250	2012
Phosphorus	ppm	ASTM D5185m 1150	921	903	824
Zinc	ppm	ASTM D5185m 1350	1038	968	893
Sulfur	ppm	ASTM D5185m 4250	3471	3262	3058

CONTAMINANTS

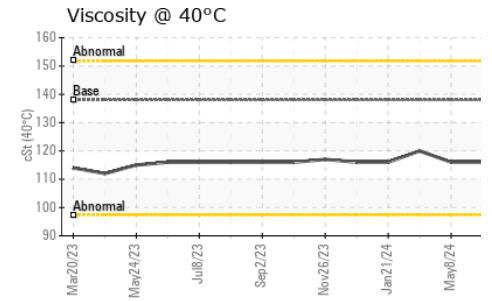
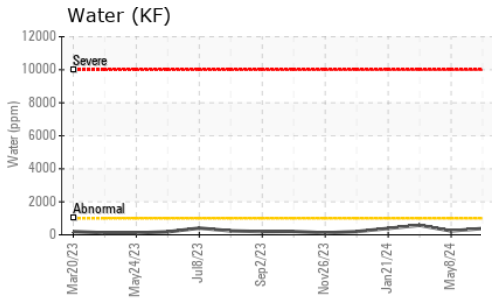
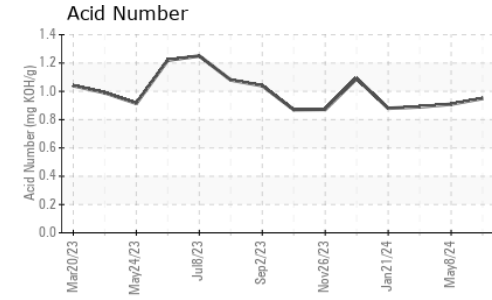
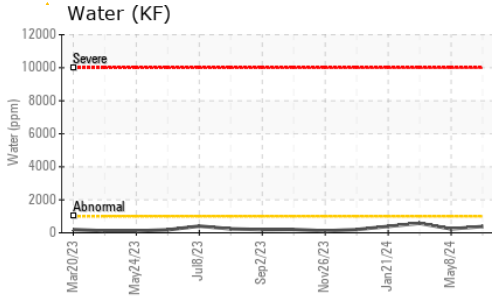
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	4	0	2
Sodium	ppm	ASTM D5185m >216	6	5	4
Potassium	ppm	ASTM D5185m >20	4	0	0
Water	%	ASTM D6304 >0.1	0.038	0.023	0.057
ppm Water	ppm	ASTM D6304 >1000	384	237	578

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.95	0.909	0.89



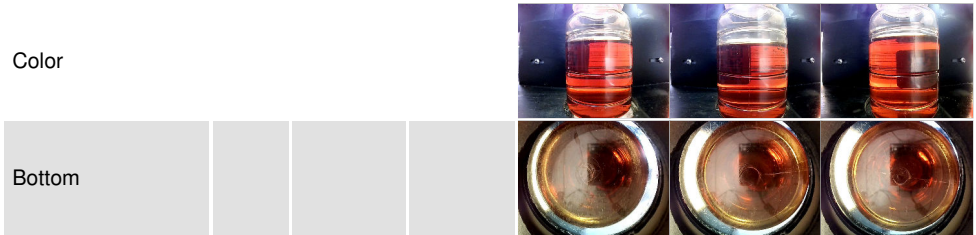
OIL ANALYSIS REPORT



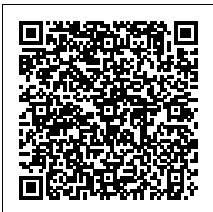
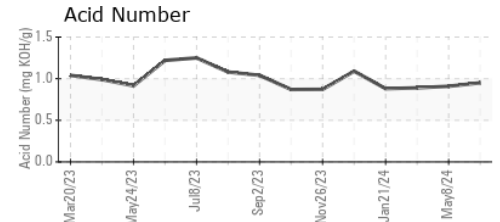
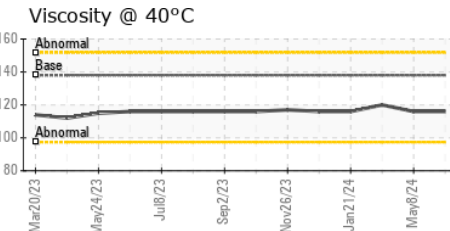
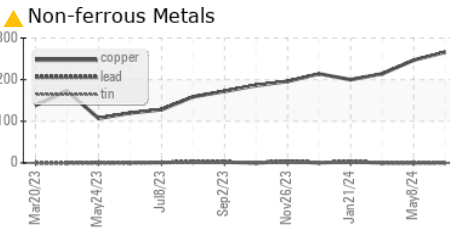
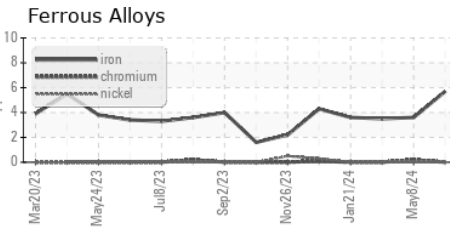
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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 138	116	116	120

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. : WC0898317

Lab Number : 06210205

Unique Number : 11083069

Test Package : IND 2 (Additional Tests: KF)

Received : 14 Jun 2024

Tested : 18 Jun 2024

Diagnosed : 18 Jun 2024 - Sean Felton

MARATHON PETROLEUM CO.

101 12TH ST

CATLETTSBURG, KY

US 41169

Contact: CORY GUMBERT

cagumbert@marathonpetroleum.com

T: (606)585-3950

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)