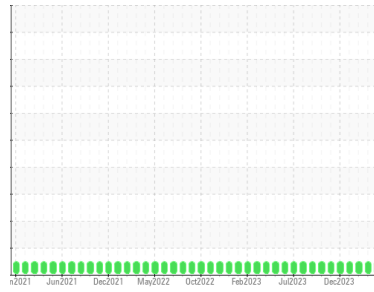




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Ohio Valley

Machine Id

[Ohio Valley] Oil - Starboard Reduction Gear

Component

Starboard Reduction Gear

Fluid

GEAR OIL SAE 85W140 (180 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		WC0845992	WC0846056	WC0845997
Sample Date	Client Info		11 Apr 2024	16 Mar 2024	16 Feb 2024
Machine Age	hrs	Client Info	25685	25422	25107
Oil Age	hrs	Client Info	25685	25422	25107
Oil Changed	Client Info		Not Changed	N/A	Not Changed
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	52	54	54
Chromium	ppm	ASTM D5185m >10	<1	0	0
Nickel	ppm	ASTM D5185m >10	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	8	8	7
Lead	ppm	ASTM D5185m >100	0	0	0
Copper	ppm	ASTM D5185m >50	2	4	4
Tin	ppm	ASTM D5185m >10	<1	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 400	16	26	16
Barium	ppm	ASTM D5185m 200	0	0	0
Molybdenum	ppm	ASTM D5185m 12	<1	0	1
Manganese	ppm	ASTM D5185m	<1	0	<1
Magnesium	ppm	ASTM D5185m 12	10	5	20
Calcium	ppm	ASTM D5185m 150	80	42	58
Phosphorus	ppm	ASTM D5185m 1650	884	934	874
Zinc	ppm	ASTM D5185m 125	44	26	34
Sulfur	ppm	ASTM D5185m 22500	16977	16119	13680

CONTAMINANTS

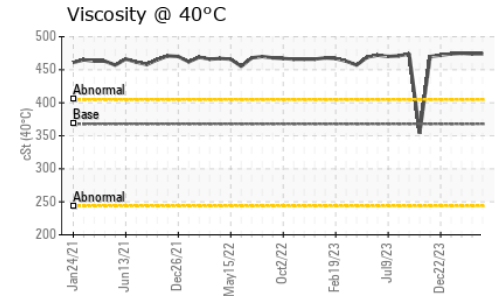
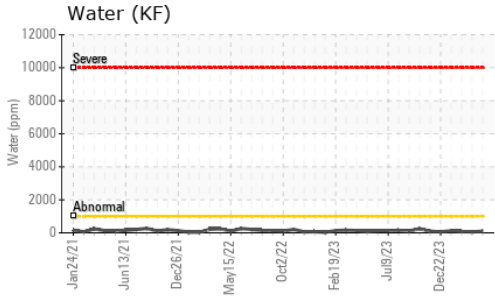
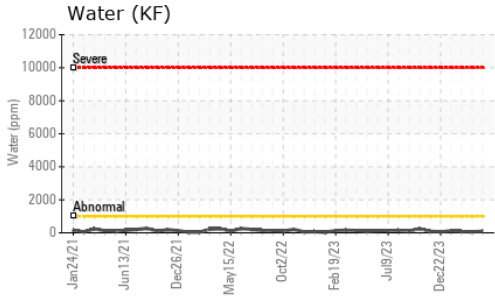
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	8	9	8
Sodium	ppm	ASTM D5185m	3	2	2
Potassium	ppm	ASTM D5185m >20	34	34	31
Water	%	ASTM D6304 >0.1	0.008	0.005	0.007
ppm Water	ppm	ASTM D6304 >1000	89	60	72

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	2.19	2.13	2.07



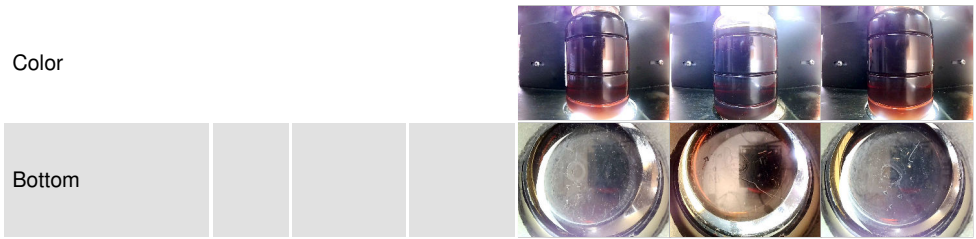
OIL ANALYSIS REPORT



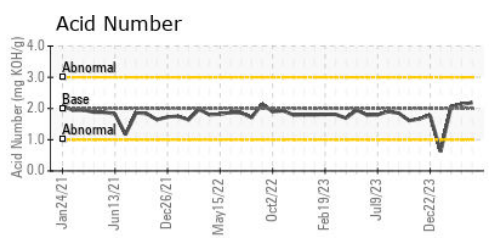
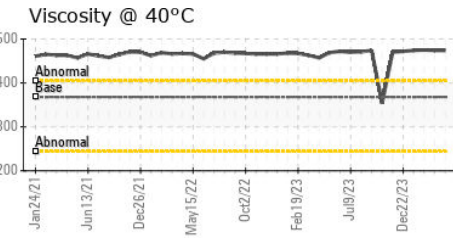
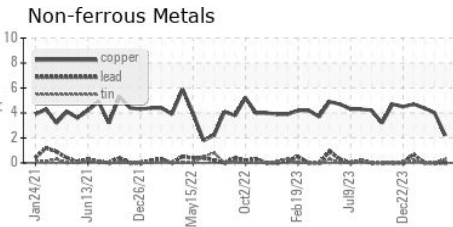
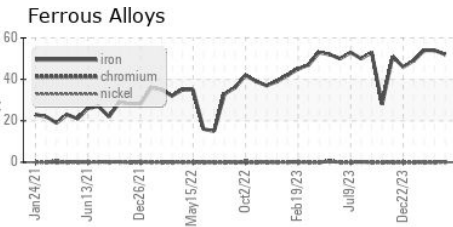
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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 368	474	474	475

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0845992 **Received** : 23 Apr 2024
Lab Number : **06157761** **Tested** : 24 Apr 2024
Unique Number : 10993184 **Diagnosed** : 25 Apr 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF)

MARATHON PETROLEUM CO.
 101 12TH ST
 CATLETTSBURG, KY
 US 41169
 Contact: CORY GUMBERT
 cagumbert@marathonpetroleum.com

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)