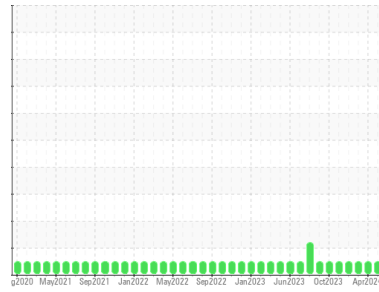




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Kenova

Machine Id

[Kenova] Oil - Starboard Reduction Gear

Component

Starboard Reduction Gear

Fluid

Reduction Gear Oil (35 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your 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		WC0860076	WC0859752	WC0859755
Sample Date	Client Info		06 May 2024	10 Apr 2024	11 Mar 2024
Machine Age	hrs	Client Info	41408	40864	40248
Oil Age	hrs	Client Info	4224	3675	3058
Oil Changed	Client Info		Not Chngd	N/A	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	12	11	10
Chromium	ppm	ASTM D5185m >10	<1	<1	0
Nickel	ppm	ASTM D5185m >10	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	<1	0
Lead	ppm	ASTM D5185m >100	0	0	0
Copper	ppm	ASTM D5185m >50	2	0	<1
Tin	ppm	ASTM D5185m >10	0	<1	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	11	11	9
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	15	14	13
Manganese	ppm	ASTM D5185m	<1	<1	0
Magnesium	ppm	ASTM D5185m	224	210	211
Calcium	ppm	ASTM D5185m	3534	3382	3414
Phosphorus	ppm	ASTM D5185m	920	898	863
Zinc	ppm	ASTM D5185m	995	960	927
Sulfur	ppm	ASTM D5185m	10160	10054	9780

CONTAMINANTS

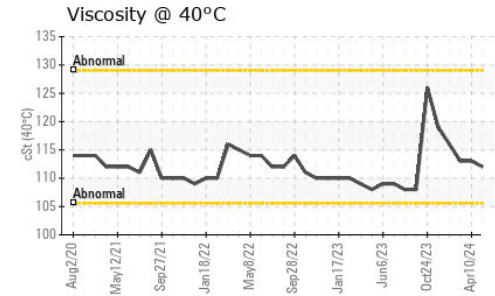
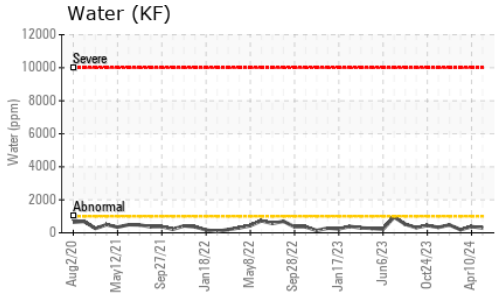
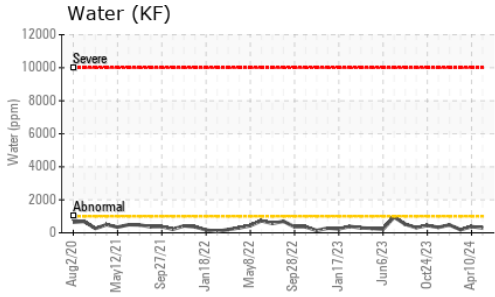
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	0	4	3
Sodium	ppm	ASTM D5185m	2	2	1
Potassium	ppm	ASTM D5185m >20	0	0	0
Water	%	ASTM D6304 >0.1	0.030	0.037	0.019
ppm Water	ppm	ASTM D6304 >1000	301	374	190

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.86	1.04	0.95



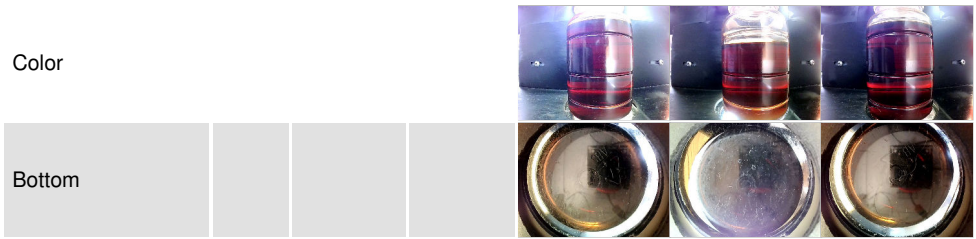
OIL ANALYSIS REPORT



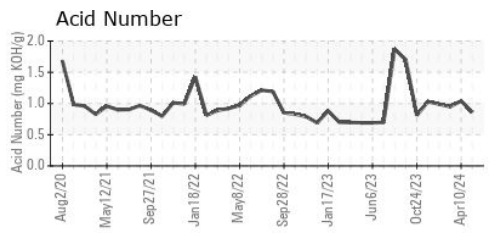
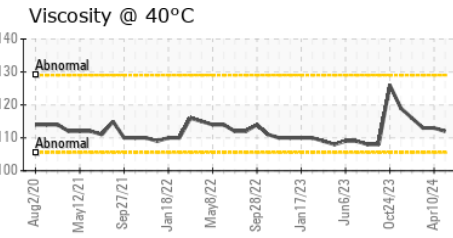
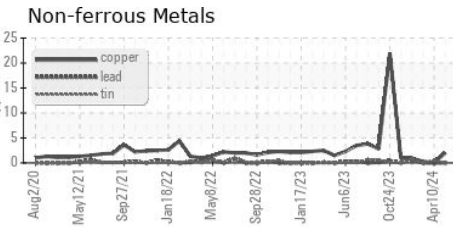
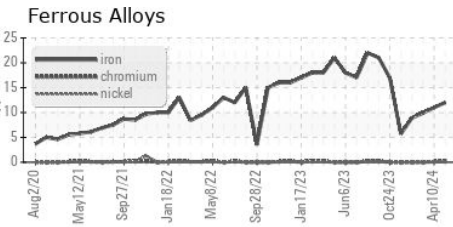
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	112	113	113

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0860076 **Received** : 16 May 2024
Lab Number : 06181438 **Tested** : 17 May 2024
Unique Number : 11032764 **Diagnosed** : 17 May 2024 - Wes Davis
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)