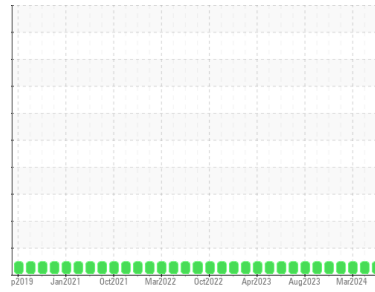




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
Twin Disc Oil - Starboard Reduction Gear
 Component
Starboard Reduction Gear
 Fluid
SAE 40W (40 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		WC0874845	WC0874838	WC0805421
Sample Date	Client Info		22 May 2024	22 Apr 2024	28 Mar 2024
Machine Age	hrs	Client Info	14250	13105	13105
Oil Age	hrs	Client Info	14250	13105	13105
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	21	20	18
Chromium	ppm	ASTM D5185m >10	0	<1	<1
Nickel	ppm	ASTM D5185m >10	<1	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	<1	0
Aluminum	ppm	ASTM D5185m >25	1	0	<1
Lead	ppm	ASTM D5185m >100	0	0	0
Copper	ppm	ASTM D5185m >50	6	6	3
Tin	ppm	ASTM D5185m >10	0	<1	1
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	5	3	3
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	43	43	42
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	716	692	667
Calcium	ppm	ASTM D5185m	839	785	743
Phosphorus	ppm	ASTM D5185m	868	842	810
Zinc	ppm	ASTM D5185m	983	939	911
Sulfur	ppm	ASTM D5185m	3051	2899	2841

CONTAMINANTS

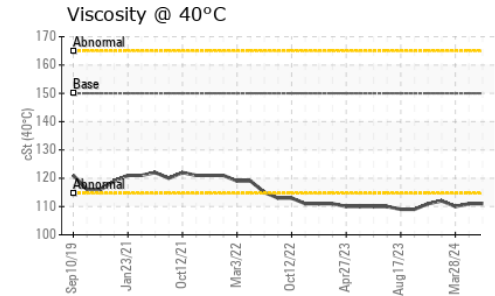
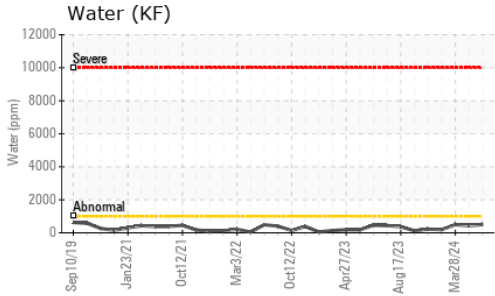
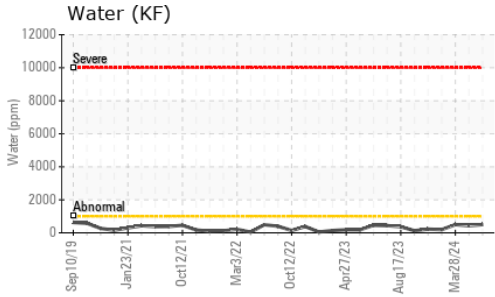
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	2	0	2
Sodium	ppm	ASTM D5185m	8	6	6
Potassium	ppm	ASTM D5185m >20	2	0	<1
Water	%	ASTM D6304 >0.1	0.049	0.043	0.049
ppm Water	ppm	ASTM D6304 >1000	499	431	497

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.82	0.709	0.773



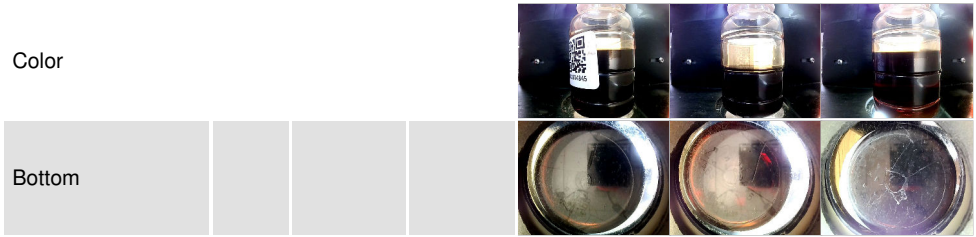
OIL ANALYSIS REPORT



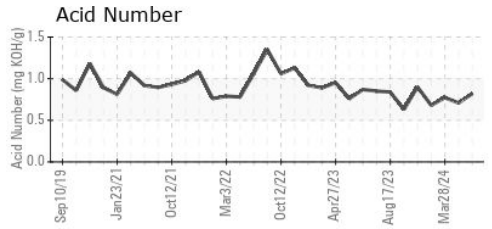
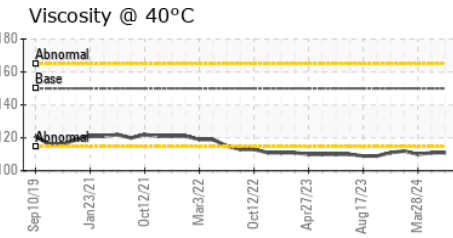
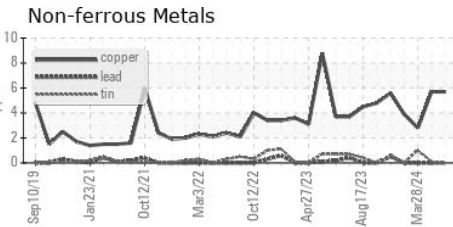
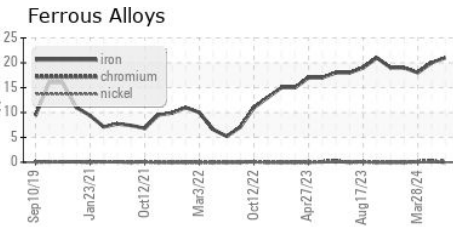
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	150	111	111

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0874845 **Received** : 25 Jun 2024
Lab Number : 06219791 **Tested** : 26 Jun 2024
Unique Number : 11097988 **Diagnosed** : 27 Jun 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF)

MARATHON PETROLEUM CO.
 101 12TH ST
 CATLETTSBURG, KY
 US 41169
 Contact: M/V CANTON
 mvcanton@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)