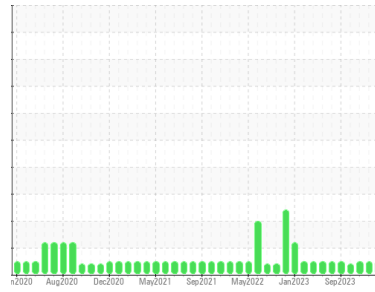




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Marathon
 Machine Id
[Marathon] Oil - Port Genset
 Component
Port Genset
 Fluid
DIESEL ENGINE OIL SAE 15W40 (35 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Chris comuzie)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0846113	WC0846102	WC0846104
Sample Date	Client Info			31 Mar 2024	12 Feb 2024	13 Dec 2023
Machine Age	hrs	Client Info		18075	17473	17011
Oil Age	hrs	Client Info		4831	4229	3768
Oil Changed	Client Info			Filtered	Filtered	Filtered
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>4.0		<1.0	<1.0	<1.0
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	26	32	34
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	4	3	3
Lead	ppm	ASTM D5185m	>17	0	5	6
Copper	ppm	ASTM D5185m	>70	7	4	4
Tin	ppm	ASTM D5185m	>15	<1	<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	250	198	232	208
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	129	130	120
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	712	714	706
Calcium	ppm	ASTM D5185m	3000	1512	1643	1569
Phosphorus	ppm	ASTM D5185m	1150	713	754	720
Zinc	ppm	ASTM D5185m	1350	867	896	891
Sulfur	ppm	ASTM D5185m	4250	2910	2583	2431

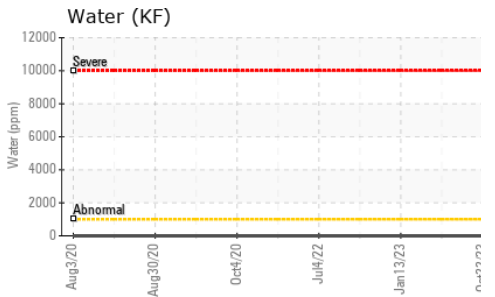
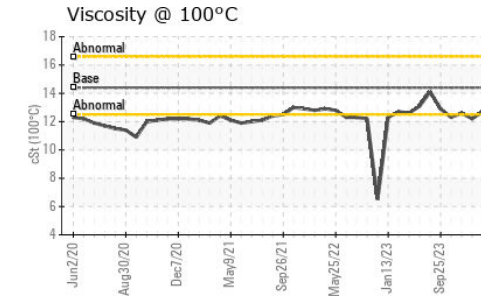
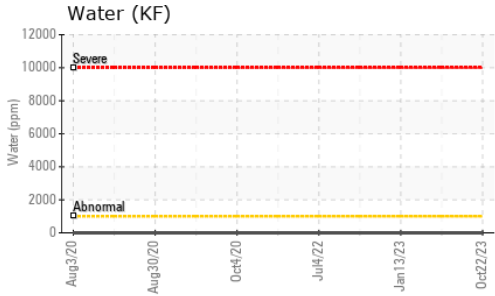
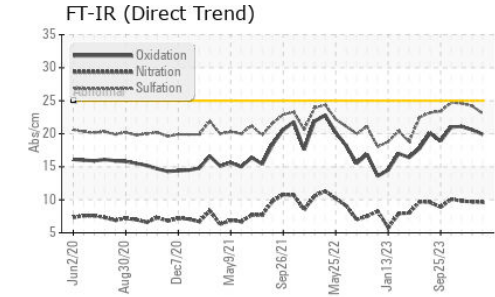
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	5	5
Sodium	ppm	ASTM D5185m	>158	3	4	6
Potassium	ppm	ASTM D5185m	>20	1	0	<1
Water	%	ASTM D6304	>0.1	NEG	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.2	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	9.6	9.7	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	24.2	24.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.9	20.6	21.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.99	8.59	8.31



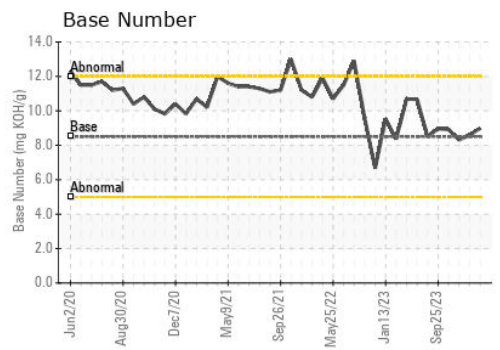
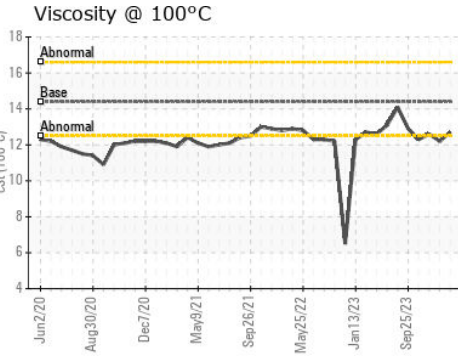
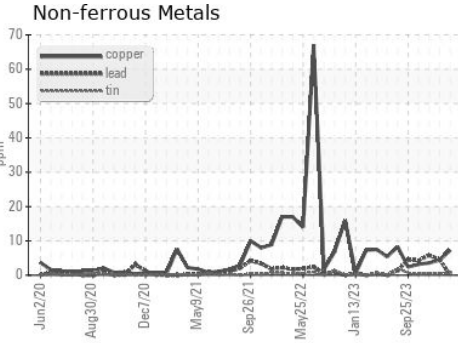
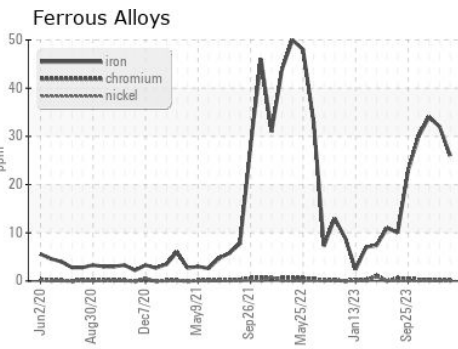
OIL ANALYSIS REPORT



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 @ 100°C	cSt	ASTM D445	14.4	12.7	12.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0846113 **Received** : 23 Apr 2024
Lab Number : **06157867** **Tested** : 25 Apr 2024
Unique Number : 10993290 **Diagnosed** : 25 Apr 2024 - Sean Felton
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)

T: (606)585-3950

F: x: