

## **OIL ANALYSIS REPORT**

### Area Canton [Canton] Oil - Port Genset

Port Genset Fluid MARATHON 15W40 (35 GAL)

#### DIAGNOSIS

#### A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### 📥 Wear

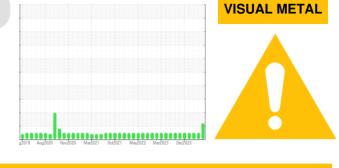
Moderate concentration of visible metal present. All component wear rates are normal.

#### 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.

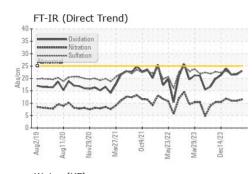


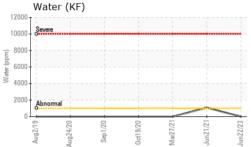
Sample Rating Trend

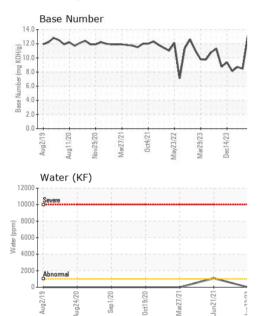
SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0874843	WC0805423	WC0805430
Sample Date		Client Info		22 Apr 2024	28 Mar 2024	27 Feb 2024
Machine Age	hrs	Client Info		0	17830	0
Oil Age	hrs	Client Info		0	3672	0
Oil Changed		Client Info		N/A	Oil Added	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINATIO	N	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	10	8	11
Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	_	<1	0	0
Silver	ppm	ASTM D5185m	>5	<1	0	0
Aluminum	ppm	ASTM D5185m		3	4	1
Lead	ppm	ASTM D5185m	>17	<1	0	0
Copper	ppm	ASTM D5185m		1	0	0
Tin	ppm	ASTM D5185m	>15	1	<1	0
Vanadium	ppm	ASTM D5185m	210	<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 135	history1 141	history2 137
	ppm ppm		limit/base	135		
Boron Barium	ppm	ASTM D5185m	limit/base		141	137
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118	141 0 117	137 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	135 <1	141 0	137 0 112
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683	141 0 117 <1 696	137 0 112 0 751
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683 1414	141 0 117 <1 696 1488	137 0 112 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683 1414 739	141 0 117 <1 696 1488 759	137 0 112 0 751 1516 697
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683 1414	141 0 117 <1 696 1488	137 0 112 0 751 1516
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683 1414 739 894 2772	141 0 117 <1 696 1488 759 921	137 0 112 0 751 1516 697 883
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683 1414 739 894 2772	141 0 117 <1 696 1488 759 921 3117	137 0 112 0 751 1516 697 883 3209
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	135 <1 118 <1 683 1414 739 894 2772 current	141 0 117 <1 696 1488 759 921 3117 history1	137 0 112 0 751 1516 697 883 3209 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	135 <1 118 <1 683 1414 739 894 2772 current 5	141 0 117 <1 696 1488 759 921 3117 history1 5	137 0 112 0 751 1516 697 883 3209 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base >25	135 <1 118 <1 683 1414 739 894 2772 current 5 8	141 0 117 <1 696 1488 759 921 3117 history1 5 8	137 0 112 0 751 1516 697 883 3209 history2 4 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	135 <1 118 <1 683 1414 739 894 2772 current 5 8 8 3	141 0 117 <1 696 1488 759 921 3117 history1 5 8 8 2	137 0 112 0 751 1516 697 883 3209 history2 4 7 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >0.1	135 <1 118 <1 683 1414 739 894 2772 current 5 8 8 3 NEG current	141 0 117 <1 696 1488 759 921 3117 history1 5 8 2 NEG history1	137 0 112 0 751 1516 697 883 3209 history2 4 7 0 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >0.1 limit/base	135 <1 118 <1 683 1414 739 894 2772 current 5 8 8 3 NEG current 0.2	141 0 117 <1 696 1488 759 921 3117 history1 5 8 2 NEG history1 0.2	137 0 112 0 751 1516 697 883 3209 history2 4 7 0 NEG history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >0.1	135 <1 118 <1 683 1414 739 894 2772 current 5 8 8 3 NEG current	141 0 117 <1 696 1488 759 921 3117 history1 5 8 2 NEG history1	137 0 112 0 751 1516 697 883 3209 history2 4 7 0 NEG history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 *ASTM D7844	limit/base >25 >20 >0.1 limit/base	135 <1 118 <1 683 1414 739 894 2772 current 5 8 3 NEG 0.2 11.5	141 0 117 <1 696 1488 759 921 3117 history1 5 8 2 NEG NEG history1 0.2 11.0	137 0 112 0 751 1516 697 883 3209 history2 4 7 0 NEG NEG history2 0.2 11.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >20 >0.1 limit/base >20 >30	135 <1 118 <1 683 1414 739 894 2772 current 5 8 3 NEG 0.2 11.5 22.9 current	141 0 117 <1 696 1488 759 921 3117 history1 5 8 2 NEG NEG history1 0.2 11.0 22.0 history1	137 0 112 0 751 1516 697 883 3209 history2 4 7 0 NEG NEG history2 0.2 11.0 21.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >0.1 limit/base >20 >30	135 <1 118 <1 683 1414 739 894 2772 current 5 8 3 NEG 0.2 11.5 22.9	141 0 117 <1 696 1488 759 921 3117 history1 5 8 2 NEG history1 0.2 11.0 22.0	137 0 112 0 751 1516 697 883 3209 history2 4 7 0 NEG NEG history2 0.2 11.0 21.6



# **OIL ANALYSIS REPORT**







VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE		NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		12.5	12.6	12.7
GRAPHS						

Ferrous Alloys

Non-ferrous Metals

40

35 30

25

ud 20

15

10

18

17

16 15

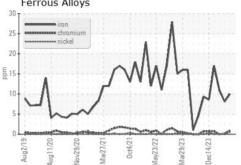
()0.014 13 12

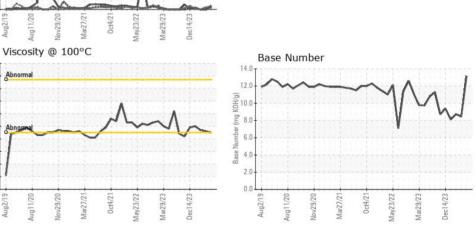
10

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Aug2/19

Aug2/





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 MARATHON PETROLEUM CO. Sample No. : WC0874843 Received : 16 May 2024 101 12TH ST Lab Number : 06181575 Tested : 20 May 2024 CATLETTSBURG, KY Unique Number : 11032901 Diagnosed : 20 May 2024 - Sean Felton US 41169 Test Package : IND 2 (Additional Tests: KF) Contact: M/V CANTON Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mvcanton@marathonpetroleum.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: MARCAT [WUSCAR] 06181575 (Generated: 05/20/2024 11:00:46) Rev: 1

Submitted By: M/V CANTON