

OIL ANALYSIS REPORT

Sample Rating Trend

NORMA

Area Tampa Machine Id [Tampa] Oil - Port Genset Port Genset Fluid MOBIL 15W40 (7 GAL)

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

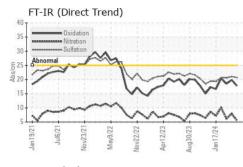
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

				A
2021 Jul2021	Nov2021 May2022	Nov2022 Apr2023 Aug	2023 Jan2024	

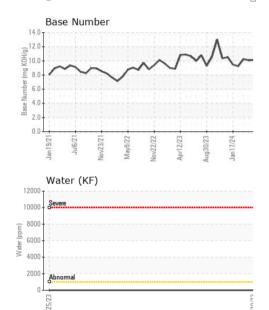
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0874673	WC0805299	WC0805292
Sample Date		Client Info		09 May 2024	11 Apr 2024	13 Mar 2024
Machine Age	hrs	Client Info		14780	21660	14780
Oil Age	hrs	Client Info		7	354	5720
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	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	3	3	4
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>12	3	2	2
Lead	ppm	ASTM D5185m	>17	<1	2	<1
Copper	ppm	ASTM D5185m	>70	1	2	2
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		<1	<1	<1
ADDITIVES		method	limit/base	current	history1	history2
						,
Boron	ppm	ASTM D5185m		80	80	84
Boron Barium	ppm ppm		_			
		ASTM D5185m	_	80	80	84
Barium	ppm	ASTM D5185m ASTM D5185m		80 <1	80 0	84 0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		80 <1 53	80 0 69	84 0 60
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		80 <1 53 <1	80 0 69 0	84 0 60 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		80 <1 53 <1 518	80 0 69 0 595	84 0 60 <1 547
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		80 <1 53 <1 518 1584	80 0 69 0 595 1785	84 0 60 <1 547 1585
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		80 <1 53 <1 518 1584 726	80 0 69 0 595 1785 878	84 0 60 <1 547 1585 756
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	80 <1 53 <1 518 1584 726 860	80 0 69 0 595 1785 878 955	84 0 60 <1 547 1585 756 858
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		80 <1 53 <1 518 1584 726 860 2572	80 0 69 0 595 1785 878 955 3068	84 0 60 <1 547 1585 756 858 2898
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	>25	80 <1 53 <1 518 1584 726 860 2572 current	80 0 69 0 595 1785 878 955 3068 history1	84 0 60 <1 547 1585 756 858 2898 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25	80 <1 53 <1 518 1584 726 860 2572 current 7	80 0 69 0 595 1785 878 955 3068 history1 5	84 0 60 <1 547 1585 756 858 2898 history2 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>25 >118 >20	80 <1 53 <1 518 1584 726 860 2572 current 7 3	80 0 69 0 595 1785 878 955 3068 history1 5 0	84 0 60 <1 547 1585 756 858 2898 history2 4 2
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	>25 >118 >20	80 <1 53 <1 518 1584 726 860 2572 current 7 3 2 NEG	80 0 69 0 595 1785 878 955 3068 history1 5 0 3	84 0 60 <1 547 1585 756 858 2898 history2 4 2 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>25 >118 >20 >0.1	80 <1 53 <1 518 1584 726 860 2572 current 7 3 2 NEG	80 0 69 0 595 1785 878 955 3068 history1 5 0 3 3 NEG	84 0 60 <1 547 1585 756 858 2898 history2 4 2 2 NEG
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED	ppm	ASTM D5185m ASTM D5185m	>25 >118 >20 >0.1	80 <1 53 <1 518 1584 726 860 2572 current 7 3 2 2 NEG current	80 0 69 0 595 1785 878 955 3068 history1 5 0 3 NEG history1	84 0 60 <1 547 1585 756 858 2898 history2 4 2 2 NEG history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m	>25 >118 >20 >0.1 limit/base	80 <1 53 <1 518 1584 726 860 2572 <i>current</i> 7 3 2 <i>current</i> 2 NEG <i>current</i>	80 0 69 0 595 1785 878 955 3068 history1 5 0 3 NEG history1 0.1	84 0 60 <1 547 1585 756 858 2898 history2 4 2 2 2 NEG history2 0.1
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 D5185m	>25 >118 >20 >0.1 limit/base	80 <1 53 <1 518 1584 726 860 2572 current 7 3 2 NEG 0.1 5.5	80 0 69 0 595 1785 878 955 3068 history1 5 0 3 NEG NEG history1 0.1 7.9	84 0 60 <1 547 1585 756 858 2898 history2 4 2 2 NEG NEG history2 0.1 6.1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Vater INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>25 >118 >20 >0.1 limit/base >20 >30 limit/base	80 <1 53 <1 518 1584 726 860 2572 <i>current</i> 7 3 2 NEG <i>current</i> 0.1 5.5 20.7	80 0 69 0 595 1785 878 955 3068 history1 5 0 3 NEG history1 0.1 7.9 21.0	84 0 60 <1 547 1585 756 858 2898 history2 4 2 2 NEG history2 0.1 6.1 20.6



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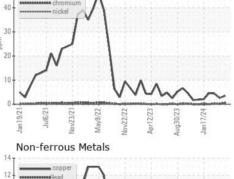


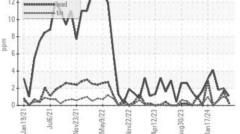


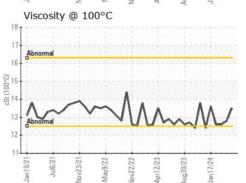
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		13.5	12.8	12.6
GRAPHS						

Ferrous Alloys

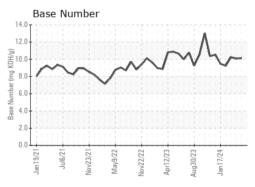
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Jan 17/24



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 MARATHON PETROLEUM CO. Sample No. : WC0874673 Received : 16 May 2024 101 12TH ST Lab Number : 06181540 Tested : 20 May 2024 CATLETTSBURG, KY Unique Number : 11032866 Diagnosed : 20 May 2024 - Sean Felton US 41169 Test Package : IND 2 (Additional Tests: KF) Contact: CORY GUMBERT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. cagumbert@marathonpetroleum.com T: (606)585-3950 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. F: x:

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

Report Id: MARCAT [WUSCAR] 06181540 (Generated: 05/20/2024 10:39:47) Rev: 1

Submitted By: M/V TAMPA