

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area Detroit [Detroit] Oil - Port Genset Fluid MOBIL 15W40 (7 GAL)

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

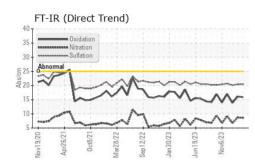
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

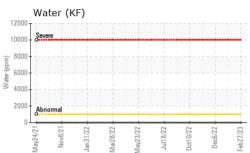
v2020	Apr2021	0ct2021	Mar2022	Sep2022	Jan2023	Jun2023	Nov2023

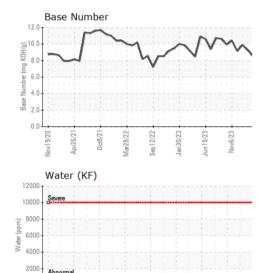
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0804783	WC0804772	WC0804824
Sample Date		Client Info		25 Mar 2024	05 Feb 2024	01 Jan 2024
Machine Age	hrs	Client Info		22305	21669	21334
Oil Age	hrs	Client Info		311	335	1
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	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	5	6	4
Chromium	ppm	ASTM D5185m	>4	0	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	<1
Aluminum	ppm	ASTM D5185m	>12	3	2	3
Lead	ppm	ASTM D5185m	>17	0	<1	3
Copper	ppm	ASTM D5185m	>70	3	5	2
Tin	ppm	ASTM D5185m	>15	0	0	1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
			Para la Anna anna			biotory ()
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	limit/base	81	history1 80	85
	ppm ppm		iimit/base			
Boron Barium		ASTM D5185m	limit/base	81	80	85
Boron	ppm	ASTM D5185m ASTM D5185m	limit/base	81 0	80 0	85 0
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		81 0 22	80 0 23	85 0 22
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		81 0 22 <1	80 0 23 <1	85 0 22 2
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		81 0 22 <1 270	80 0 23 <1 268	85 0 22 2 256
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		81 0 22 <1 270 2342	80 0 23 <1 268 2339	85 0 22 2 256 2132
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		81 0 22 <1 270 2342 440	80 0 23 <1 268 2339 440	85 0 22 2 256 2132 417
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	81 0 22 <1 270 2342 440 533	80 0 23 <1 268 2339 440 552	85 0 22 2 256 2132 417 508
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 ASTM D5185m	limit/base	81 0 22 <1 270 2342 440 533 4569	80 0 23 <1 268 2339 440 552 3867	85 0 22 2 56 2132 417 508 3715
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	81 0 22 <1 270 2342 440 533 4569 current	80 0 23 <1 268 2339 440 552 3867 history1	85 0 22 2 256 2132 417 508 3715 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 method	limit/base >25 >118	81 0 22 <1 270 2342 440 533 4569 current 7	80 0 23 <1 268 2339 440 552 3867 history1 4	85 0 22 2 56 2132 417 508 3715 history2 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base >25 >118 >20	81 0 22 <1 270 2342 440 533 4569 current 7 2	80 0 23 <1 268 2339 440 552 3867 history1 4 2	85 0 22 2 56 2132 417 508 3715 history2 13 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20	81 0 22 <1 270 2342 440 533 4569 <u>current</u> 7 2 2 <1 NEG	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0	85 0 22 2 56 2132 417 508 3715 history2 13 3 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 >0.1	81 0 22 <1 270 2342 440 533 4569 <u>current</u> 7 2 2 <1 NEG	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0 NEG	85 0 22 2 56 2132 417 508 3715 history2 13 3 5 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 >118 >20 >0.1 limit/base	81 0 22 <1 270 2342 440 533 4569 <u>current</u> 7 2 2 <1 NEG	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0 NEG NEG	85 0 22 2 56 2132 417 508 3715 history2 13 3 5 NEG history2
Boron 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 ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 >0.1 limit/base	81 0 22 <1 270 2342 440 533 4569 <i>current</i> 7 2 2 <1 NEG <i>current</i> 0.1	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0 NEG history1 0.1	85 0 22 2 56 2132 417 508 3715 history2 13 3 5 NEG history2 0.1
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 D5185m	limit/base >25 >118 >20 >0.1 limit/base	81 0 22 <1 270 2342 440 533 4569 Current 7 2 <1 NEG Current 0.1 8.6	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0 NEG NEG history1 0.1 8.7	85 0 22 2 256 2132 417 508 3715 history2 13 3 5 NEG NEG history2 0.1 6.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 >0.1 limit/base >20 >30	81 0 22 <1 270 2342 440 533 4569 Current 7 2 <1 NEG 0.1 8.6 20.5 Current	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0 NEG NEG history1 0.1 8.7 20.4 history1	85 0 22 2 256 2132 417 508 3715 history2 13 3 5 NEG history2 0.1 6.7 20.1 history2
Boron 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	limit/base >25 >118 >20 >0.1 limit/base >20 >30	81 0 22 <1 270 2342 440 533 4569 <u>current</u> 7 2 <1 NEG 0.1 8.6 20.5	80 0 23 <1 268 2339 440 552 3867 history1 4 2 0 NEG NEG history1 0.1 8.7 20.4	85 0 22 2 56 2132 417 508 3715 history2 13 3 5 NEG history2 0.1 6.7 20.1



OIL ANALYSIS REPORT







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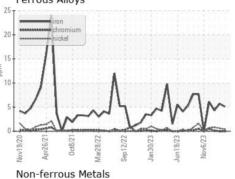
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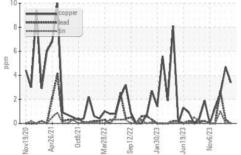
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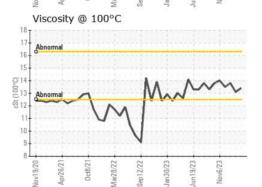
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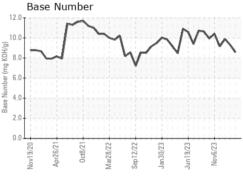
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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		13.4	13.1	13.8
GRAPHS						

Ferrous Alloys









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 MARATHON PETROLEUM CO. : WC0804783 Sample No. Received : 05 Apr 2024 101 12TH ST Lab Number : 06140127 Tested : 09 Apr 2024 CATLETTSBURG, KY Unique Number : 10964935 Diagnosed : 09 Apr 2024 - Sean Felton US 41169 Test Package : IND 2 (Additional Tests: KF) Contact: CORY GUMBERT Certificate 12367 cagumbert@marathonpetroleum.com To discuss this sample report, contact Customer Service at 1-800-237-1369. 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] 06140127 (Generated: 04/09/2024 18:29:27) Rev: 1

Submitted By: M/V DETROIT

Page 2 of 2