

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# [] NOT GIVEN WC0874798

Port Main Engine

{not provided} (--- GAL)

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

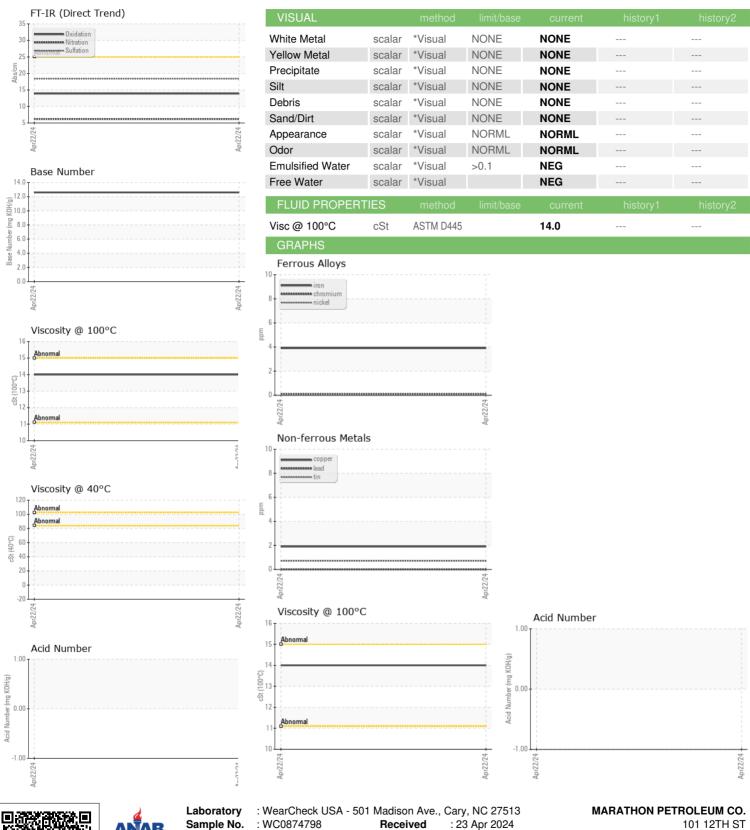
### **Fluid Condition**

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

				Apr2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0874798		
Sample Date		Client Info		22 Apr 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	4		
Chromium	ppm	ASTM D5185m	>8	<1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m	>3	<1		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>15	1		
Lead	ppm	ASTM D5185m	>18	0		
Copper	ppm	ASTM D5185m	>80	2		
Tin	ppm	ASTM D5185m	>14	<1		
Vanadium	ppm	ASTM D5185m		0		
O = al === ! ===	nnm	ASTM D5185m		•		
Cadmium	ppm	ASTIVI DOTOSITI		0		
ADDITIVES	ррпп	method	limit/base	current	history1	history2
	ppm		limit/base			
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 23	history1	history2
ADDITIVES Boron Barium	ppm	method ASTM D5185m ASTM D5185m	limit/base	current 23	history1	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 23 0 57	history1	history2  
ADDITIVES  Boron  Barium  Molybdenum  Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 23 0 57 <1	history1	history2   
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium	ppm ppm ppm ppm	method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 23 0 57 <1 1364	history1	history2   
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium	ppm ppm ppm ppm ppm	method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 23 0 57 <1 1364 1114	history1	history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus	ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base	current 23 0 57 <1 1364 1114 1008	history1	history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 23 0 57 <1 1364 1114 1008 1199	history1	history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m		current 23 0 57 <1 1364 1114 1008 1199 3680	history1	history2
ADDITIVES  Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current  23  0  57  <1  1364  1114  1008  1199  3680  current	history1 history1	history2 history2
ADDITIVES  Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base	current  23  0  57  <1  1364  1114  1008  1199  3680  current  4	history1 history1	history2 history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon  Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base >20 >75	current 23 0 57 <1 1364 1114 1008 1199 3680 current 4 2	history1 history1	history2 history2 history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon  Sodium  Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base >20 >75 >20	current  23  0  57  <1  1364  1114  1008  1199  3680  current  4  2  2	history1 history1	history2 history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon  Sodium  Potassium  Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base >20 >75 >20 >0.1	current  23  0  57  <1  1364  1114  1008  1199  3680  current  4  2  NEG	history1 history1	history2 history2
ADDITIVES  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	method  ASTM D5185m	limit/base >20 >75 >20 >0.1 limit/base	current  23  0  57  <1  1364  1114  1008  1199  3680  current  4  2  NEG  current	history1 history1 history1	history2 history2 history2 history2
ADDITIVES  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	method  ASTM D5185m	limit/base >20 >75 >20 >0.1 limit/base	current  23  0 57 <1 1364 1114 1008 1199 3680  current 4 2 2 NEG  current 0	history1 history1 history1 history1	history2 history2 history2 history2
ADDITIVES  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	method  ASTM D5185m  method  ASTM D5185m ASTM D6304  method  *ASTM D7844  *ASTM D7844	limit/base >20 >75 >20 >0.1 limit/base >20	current  23  0  57  <1  1364  1114  1008  1199  3680  current  4  2  NEG  current  0  6.2	history1 history1 history1	history2 history2 history2 history2
ADDITIVES  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	method  ASTM D5185m ASTM D6304	limit/base >20 >75 >20 >0.1 limit/base >20 >30	current  23  0  57  <1  1364  1114  1008  1199  3680  current  4  2  NEG  current  0  6.2  18.4	history1 history1 history1	history2 history2 history2 history2



## **OIL ANALYSIS REPORT**





Certificate 12367

Sample No.

: WC0874798 Lab Number : 06157871 Unique Number : 10993294

Received : 23 Apr 2024 **Tested** : 25 Apr 2024

Diagnosed : 25 Apr 2024 - Sean Felton

Test Package : IND 2 ( Additional Tests: KF, KV40, TAN Man ) To discuss this sample report, contact Customer Service at 1-800-237-1369.

US 41169 Contact: CORY GUMBERT cagumbert@marathonpetroleum.com T: (606)585-3950

CATLETTSBURG, KY

\* - 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)

Report Id: MARCAT [WUSCAR] 06157871 (Generated: 04/25/2024 20:14:29) Rev: 1

Contact/Location: CORY GUMBERT - MARCAT

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