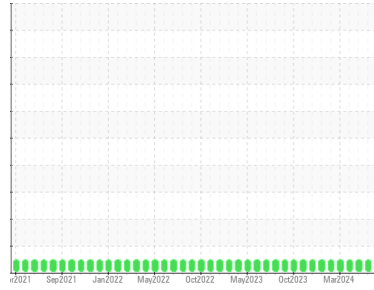




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Area  
**Speedway**  
 Machine Id  
**[Speedway] Oil - Port Main Engine**  
 Component  
**Port Main Engine**  
 Fluid  
**MOBIL MOBILGARD 410 NC (270 GAL)**

### DIAGNOSIS

**Recommendation**  
 Resample at the next service interval to monitor. ( Customer Sample Comment: Top Up Amount: 96 GAL )

**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			<b>WC0874682</b>	WC0845793	WC0845796
Sample Date	Client Info			<b>08 Jul 2024</b>	11 Jun 2024	15 May 2024
Machine Age	hrs	Client Info		<b>20790</b>	20337	19966
Oil Age	hrs	Client Info		<b>18817</b>	18364	18717
Oil Changed	Client Info			<b>Oil Added</b>	Filtered	Oil Added
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	<b>4</b>	9	5
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>15	<b>5</b>	5	5
Lead	ppm	ASTM D5185m	>18	<b>&lt;1</b>	4	2
Copper	ppm	ASTM D5185m	>80	<b>9</b>	20	10
Tin	ppm	ASTM D5185m	>14	<b>1</b>	6	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	7	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>2</b>	9	2
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>44</b>	23	11
Calcium	ppm	ASTM D5185m		<b>2911</b>	3163	2951
Phosphorus	ppm	ASTM D5185m		<b>28</b>	26	5
Zinc	ppm	ASTM D5185m	10	<b>28</b>	17	0
Sulfur	ppm	ASTM D5185m		<b>4807</b>	5132	4960

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	<b>5</b>	5	5
Sodium	ppm	ASTM D5185m	>75	<b>2</b>	3	1
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	0
Water	%	ASTM D6304	>0.1	<b>NEG</b>	NEG	NEG

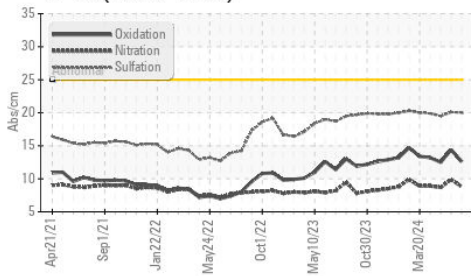
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.8</b>	9.9	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.0</b>	20.1	19.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.6</b>	14.4	12.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.0	<b>8.24</b>	9.49	9.32



# OIL ANALYSIS REPORT

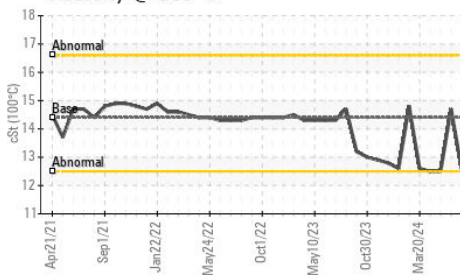
FT-IR (Direct Trend)



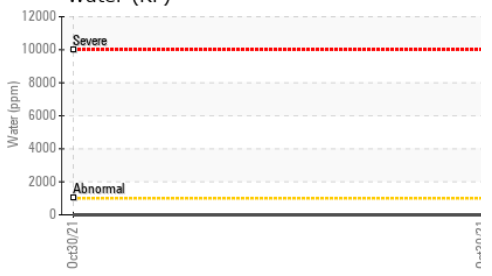
Water (KF)



Viscosity @ 100°C



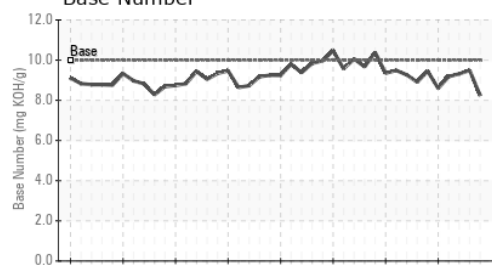
Water (KF)



Viscosity @ 100°C



Base Number

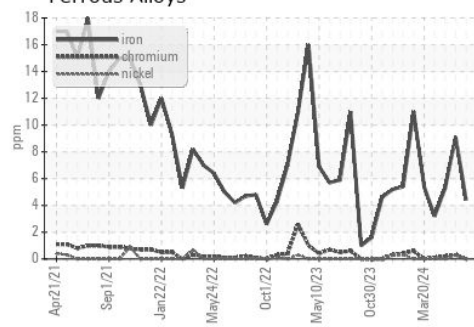


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

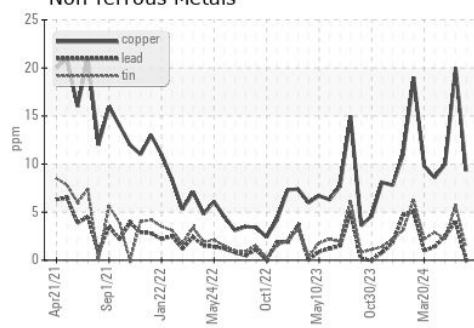
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	12.6	14.7	12.5

## GRAPHS

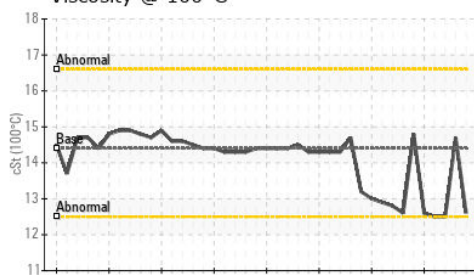
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0874682  
**Lab Number** : 06236287  
**Unique Number** : 11125121  
**Test Package** : IND 2 ( Additional Tests: KF )  
**Received** : 15 Jul 2024  
**Tested** : 16 Jul 2024  
**Diagnosed** : 16 Jul 2024 - Sean Felton

**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: