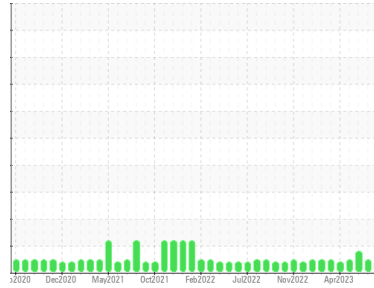




# PROBLEM SUMMARY

Sample Rating Trend



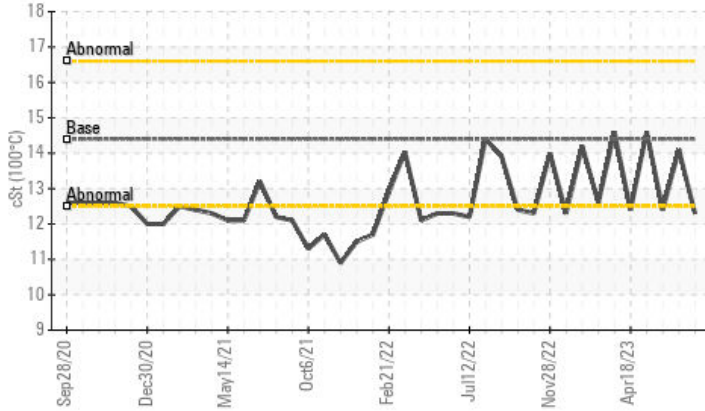
## VISCOSITY



Area  
**Martinsville**  
 Machine Id  
**[Martinsville] Oil - Starboard Genset**  
 Component  
**Starboard Genset**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (7 GAL)**

### COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



### RECOMMENDATION

No corrective action is recommended at this time.  
 Resample at the next service interval to monitor. ( Customer Sample Comment: George Willis )

### PROBLEMATIC TEST RESULTS

Sample Status		ATTENTION	NORMAL	ABNORMAL
Visc @ 100°C	cSt	▲ 12.3	14.1	▲ 12.4

Customer Id: MARCAT  
 Sample No.: WC0769127  
 Lab Number: 05927458  
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Angela Borella +1 800-237-1369  
[angela.borella@wearcheckusa.com](mailto:angela.borella@wearcheckusa.com)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 10 Jul 2023 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



### 13 Jun 2023 Diag: Sean Felton

VISCOSITY



No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report



### 15 May 2023 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

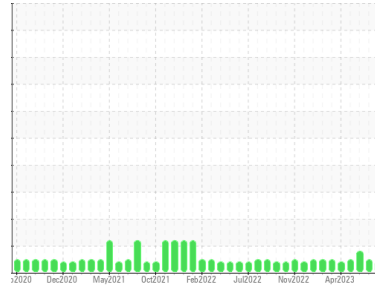
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Area  
**Martinsville**  
 Machine Id  
**[Martinsville] Oil - Starboard Genset**  
 Component  
**Starboard Genset**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (7 GAL)**

### DIAGNOSIS

#### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. ( Customer Sample Comment: George Willis )

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### ▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0769127</b>	WC0769183	WC0719194
Sample Date	Client Info		<b>08 Aug 2023</b>	10 Jul 2023	13 Jun 2023
Machine Age	hrs	Client Info	<b>16449</b>	16146	15815
Oil Age	hrs	Client Info	<b>301</b>	330	440
Oil Changed	Client Info		<b>Not Chngd</b>	N/A	Changed
Sample Status			<b>ATTENTION</b>	NORMAL	ABNORMAL

### CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		<b>NEG</b>	NEG	NEG

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >25	<b>4</b>	2	7
Chromium	ppm	ASTM D5185m >5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m >5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >10	<b>2</b>	1	<1
Lead	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m >5	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	<b>128</b>	217	67
Barium	ppm	ASTM D5185m 10	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m 100	<b>84</b>	103	73
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 450	<b>1174</b>	1278	▲ 1423
Calcium	ppm	ASTM D5185m 3000	<b>1342</b>	1479	1414
Phosphorus	ppm	ASTM D5185m 1150	<b>891</b>	1011	972
Zinc	ppm	ASTM D5185m 1350	<b>1068</b>	1192	1207
Sulfur	ppm	ASTM D5185m 4250	<b>3542</b>	3628	3826

### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	7	4
Sodium	ppm	ASTM D5185m >158	<b>0</b>	0	2
Potassium	ppm	ASTM D5185m >20	<b>0</b>	1	0
Fuel	%	ASTM D3524 >4.0	<b>&lt;1.0</b>	<1.0	<1.0

### INFRA-RED

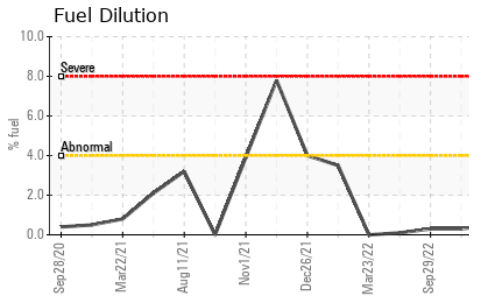
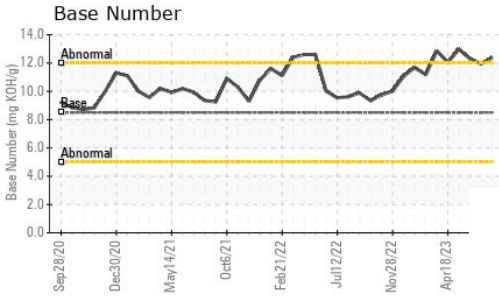
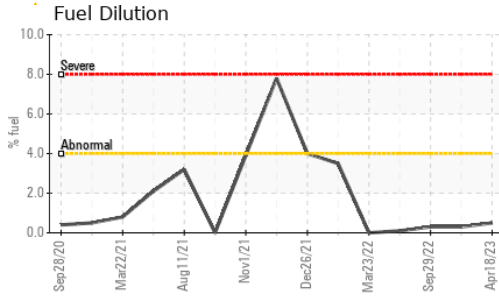
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.1</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.7</b>	5.4	8.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.9</b>	19.5	20.8

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.6</b>	13.8	15.9
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>12.38</b>	11.94	12.31



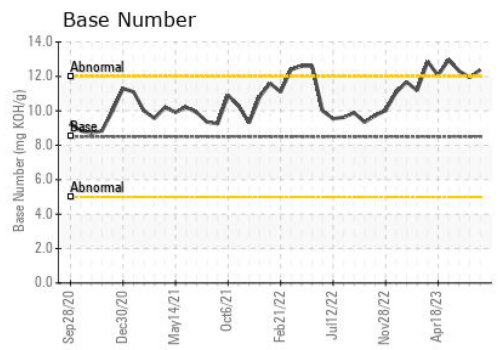
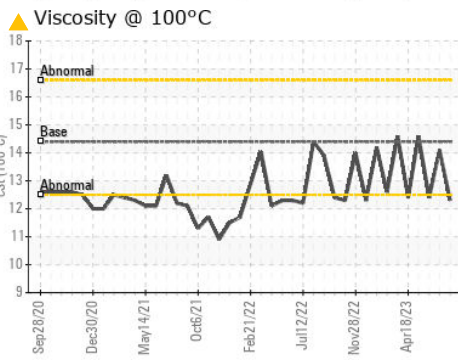
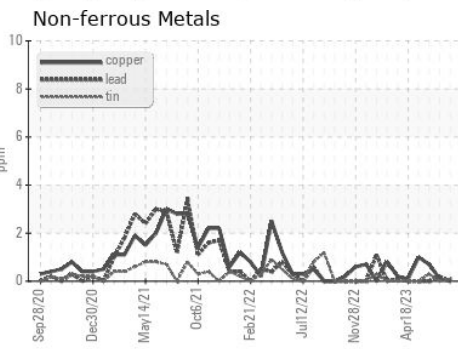
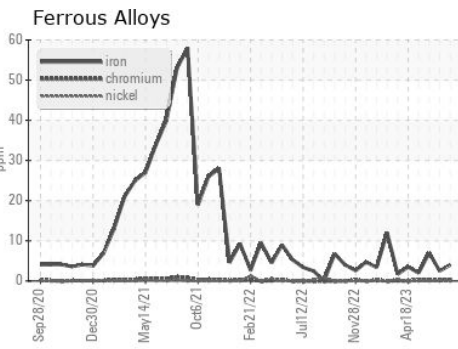
# OIL ANALYSIS REPORT



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	▲ 12.3	14.1	▲ 12.4

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0769127 **Received** : 17 Aug 2023  
**Lab Number** : **05927458** **Diagnosed** : 18 Aug 2023  
**Unique Number** : 10607405 **Diagnostician** : Angela Borella  
**Test Package** : IND 2 ( Additional Tests: FuelDilution, PercentFuel )

**MARATHON PETROLEUM CO.**  
 101 12TH ST  
 CATLETTSBURG, KY  
 US 41169  
 Contact: CORY GUMBERT  
 cagumbert@marathonpetroleum.com  
 T: (606)585-3950  
 F: x:

Certificate L2367  
 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)