



# US DEPARTMENT OF TRANSPORTATION MARITIME ADMINISTRATION

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Fuel Efficiency Test on the Barbara Lois Generator  
using OCTCET35 Diesel Fuel Additive





**U.S. DEPARTMENT OF TRANSPORTATION**  
**MARITIME ADMINISTRATION**  
 Beaumont Reserve Fleet  
 2600 Amoco Rd. Beaumont, TX 77705



**OBJECTIVE:** **NON-ROAD FUEL EFFICIENCY TEST**

**PERFORMED BY:** **MARITIME ADMINISTRATION (MARAD) BEAUMONT RESERVE FLEET  
 BEAUMONT, TEXAS**

**VESSEL:** **BARBARA LOIS**

**EQUIPMENT:** **GENERATOR  
 CUMMINS POWER GENERATION**

**ADDITIVE:** **OCTCET35 PERFORMANCE ENHANCEMENT DIESEL FUEL ADDITIVE**

**TEST TEAM SUPERVISOR:** **BRIAN AMY**

**PHASE ONE:** **ESTABLISHING THE BASELINE**

**COMMENCEMENT DATE:** **AUGUST 1, 2014**

DATE/ENGINE HOURS	TOTAL DAYS	RUN HOURS	GALLONS USED	GALLONS PER HOUR
8-1-14/ 6873.0 8-10-14/ 6905.2	9	32.2	200	6.21
8-10-14/ 6905.2 8-17-14/ 6947.4	7	42.2	200	4.73
8-17-14/ 6930.8 8-20-14/ 6973.0	3	25.6	200	7.81
8-20-14/ 6973.0 8-26-14/ 7001.2	6	28.2	200	7.09
8-26-14/ 7001.2 9-3-14/ 7031.4	8	30.2	200	6.62
9-3-14/ 7031.4 9-22-14/ 7103.3	19	71.9	400	5.56
9-22-14/ 7103.3 10-8-14/ 7131.6	16	28.3	200	7.06
10-8-14/ 7131.6 10-15-14/ 7165.7	7	34.1	200	5.86
10-15-14/ 7165.7 10-27-14/ 7206.4	12	40.7	200	4.91
10-27-14/ 7206.4 10-29-14/ 7221.2	2	14.8	60	4.05
<b>TOTALS</b>	<b>89</b>	<b>348.2</b>	<b>2,060</b>	
<b>AVERAGES</b>	<b>8.9</b>	<b>3.91</b>	<b>23.15</b>	<b>5.92</b>



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**SYNOPSIS:**

**CYCLES RAN:** 10  
**TOTAL DAYS:** 89  
**RUN HOURS:** 348.2  
**AVERAGE HOURS PER CYCLE:** 3.91  
**GALLONS USED:** 2,060  
**AVERAGE GALLONS PER CYCLE:** 23.25  
**GALLONS PER HOUR:** 5.92

**ESTABLISHING THE BASELINE**

**OCTCET35 ADDED TO DIESEL FUEL**                      **OCTOBER29, 2014**

**PHASE TWO:**    **WITH OCTCET35**

DATE/ENGINE HOURS	TOTAL DAYS	RUN HOURS	GALLONS USED	GALLONS PER HOUR
10-29-14/ 7221.2 11-04-14/ 7246.2	6	25.0	140	5.6
11-04-14/ 7246.2 11-12-14/ 7280.6	8	34.4	190	5.52
11-12-14/ 7280.6 12-1-14/ 7323.8	19	43.2	200	4.63
12-1-14/ 7323.8 12-10-14/ 7362.2	10	38.4	200	5.21
12-10-14/ 7362.2 01-07-15/ 7403.6	28	41.4	200	4.83
01-07-15/ 7403.6 01-20-15/ 7442.0	13	38.4	200	5.20
01-20-15/ 7442.0 01-29-15/ 7483. 2	9	41.2	200	4.85
01-29-15/ 7483.2 03-19-15/ 7530.1	49	46.9	200	4.26
03-19-15/ 7530.1 03-25-15/ 7569.2	6	39.1	200	5.11
03-25-15/ 7569.2 03-31-15/ 7608.5	6	39.3	200	5.08
03-31-15/ 7608.5 04-08-15/ 7648.0	9	39.5	200	5.06
04-08-15/ 7648.0 04-15-15/ 7689.2	7	41.2	200	4.85
4-15-15/ 7689.2 4-20-15/ 7729.3	5	40.1	200	4.99
4-20-15/ 7729.3 4-29-15/ 7771.3	9	42.0	200	4.76
4-29-15/ 7771.3 5-14-15/ 7857.8	15	86.5	400	4.62
5-14-15/ 7857.8 5-19-15/ 7892.6	5	34.8	200	5.75
<b>TOTALS</b>	<b>204</b>	<b>671.4</b>	<b>3,330</b>	
<b>AVERAGES</b>	<b>12.75</b>	<b>3.29</b>	<b>16.32</b>	<b>4.96</b>



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**SYNOPSIS:**

**WITH OCTCET35**

<b>CYCLES RAN:</b>	<b>16</b>
<b>TOTAL DAYS:</b>	<b>204</b>
<b>RUN HOURS:</b>	<b>671.4</b>
<b>AVERAGE HOURS PER CYCLE:</b>	<b>3.29</b>
<b>GALLONS USED:</b>	<b>3,330</b>
<b>AVERAGE GALLONS PER CYCLE:</b>	<b>16.32</b>
<b>GALLONS PER HOUR:</b>	<b>4.96</b>

**DIFFERENCE BETWEEN BASELINE AND OCTCET35:0.96**

**SAVINGS ACHIEVED:**

**16.22%**

**OBSERVATIONS:**

**50% Reduction in black smoke/Smooother idling**

**CONCLUSION:**

**The fuel efficiency test successfully demonstrated OCTCET35's ability to save fuel and generate other benefits. MARAD has experienced no side effects at all.**