

**Tests at Wayne Feb. 1, 2010 - Feb. 4, 2010**

**Formulas applied to tests using actual test times**

<b>Test 1</b>													
Wayne HS 130 psi	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				1.410	140,000	197,400	0.666666	131,600					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	1.46	40	58.40	8.5	496.40	48	23,827		35,741			
	Efficiency										18%		
BB HS 1050 psi	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				1.270	140,000	177,800	0.666666	118,533					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	1.53	40	61.20	8.5	520.20	50	26,010		39,015			
	Efficiency										22%		
<b>BB efficiency vs. std Wayne Burner as % fuel saved/ BTU output</b>											<b>121%</b>	<b>8.3 pts.^</b>	<b>21% Less fuel</b>

<b>Test 4</b>													
Wayne EH 6.0 @ 100 psi	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				6.406	140,000	896,840	0.666666	597,893					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	6.87	40	274.90	8.5	2336.65	140	327,131		490,697			
	Efficiency										55%		
BB EH Pro 1150 psi dual nozzles	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				4.750	140,000	665,000	0.666666	443,333					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	6.96	40	278.40	8.5	2366.40	134	317,098		475,646			
	Efficiency										72%		
<b>BB efficiency vs. std Wayne Burner as %fuel saved/BTU output</b>											<b>131%</b>	<b>7.2pts^</b>	<b>12% less fuel</b>

<b>Test 5</b>													
Wayne FH 3.5 & 4.0	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				7.749	140,000	1,084,860	0.666666	723,239					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	8.47	40	338.80	8.5	2879.80	136	391,653		587,479			
	Efficiency										54%		
BB EH pro 900 psi	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				5.840	140,000	817,600	0.666666	545,066					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	8.50	40	340.00	8.5	2890.00	132	381,480		572,220			
	Efficiency										70%		
<b>BB efficiency vs. std Wayne</b>											<b>129%</b>	<b>8.9 pts.^</b>	<b>16.5% less fuel</b>

<b>Test 6 A &amp; B</b>													
Wayne FH 4.5 & 5.0	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				9.806	140,000	1,372,840	0.583333	800,823					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	11.13	35	389.55	8.5	3311.18	154	509,921		874,150			
	Efficiency										64%		
BB EH pro A 700 psi	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				6.208	140,000	869,120	0.583333	506,986					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	11.19	35	391.65	8.5	3329.03	116	386,167		662,000			
	Efficiency										76%		
B 900 psi	oil			<b>gph</b>	<b>Btu/g</b>	<b>Btu/hr</b>	<b>Hours</b>	<b>Total Btu</b>					
				6.855	140,000	959,700	0.583333	559,825					
		<b>Flow/min.</b>	<b>Min.</b>	<b>Gals.</b>	<b>Lbs/gal</b>	<b>Pounds</b>	<b>Temp rise</b>						
	water	11.13	35	389.55	8.5	3311.18	128	423,830		726,566			
	Efficiency										76%		
<b>BB efficiency vs. std Wayne</b>											<b>119%</b>	<b>9.8 pts. ^</b>	<b>20.1% less fuel</b>

Test 2,3 invalid chamber too large on boiler.  
 Test 4 reasonably effective. Would be better with larger flame.  
 Test 5 should have used 1,150 psi  
 Test 6 BB psi constrained by limited air through burner.