

**CERTIFICATION DATA SHEET**  
**PERFORATING SYSTEM EVALUATION, RP 43, SECTIONS 1 AND 2**

**5-1/8" OD 12 SPF D.P.135°45°TAG**  
**SDP-3125-411NT4**

Service Company <u>AVAILABLE TO ALL FROM OWEN OIL TOOLS, INC</u>	Explosive Weight <u>21</u> gm, <u>HMX</u> powder, Case Material <u>STEEL</u>
Gun OD & Trade Name <u>5-1/8" OD 12 SPF D.P.135°45°TAG</u>	Max. Temp, F <u>400</u> 1 hr <u>        </u> 3 hr <u>        </u> 24 hr <u>        </u> 100 hr <u>        </u> hr
Charge Name <u>PERF - 3-1/8" SDP SUPER HERO NT4 HMX</u>	Maximum Pressure Rating <u>17000</u> psi, Carrier Material <u>OWEN SPEC. STEEL</u>
Manufacturer Charge Part No. <u>SDP-3125-411NT4</u> Date of Manufacture <u>9/20/2007</u>	Shot Density <u>12</u> shots/ft
Gun Type <u>EXPENDABLE, RETRIEVABLE, HOLLOW STEEL CARRIER (THROW AWAY GUN)</u>	Recommended Minimum ID for Running <u>5.675</u> in.
Phasing Tested <u>135°45°</u> degrees, Firing Order <u>X</u> Top down, <u>        </u> Bottom up	Available Firing Mode <u>X</u> Selective, <u>X</u> Simultaneous.
Debris Description <u>SMALL STEEL PIECES</u>	Debris Weight <u>NA</u> gm/charge, Debris <u>NA</u> in.3/charge
Remarks <u>        </u>	

**SECTION 1 - CONCRETE TARGET**

Casing Data <u>7"</u> OD, Weight <u>32</u> lb/ft, <u>L-80</u> API Grade, Date of Concrete Test <u>23-Oct-07</u>
Target Data <u>72</u> OD, Briquet Compressive Strength <u>5246</u> psi, Age of Target <u>28</u> days

Shot No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	
Clearance, in. ....	<u>0.00</u>	<u>0.81</u>	<u>0.45</u>	<u>0.12</u>	<u>0.97</u>	<u>0.12</u>	<u>0.45</u>	<u>0.81</u>	<u>0.00</u>	<u>0.81</u>	
Casing Hole Diameter, Short Axis, in. ....	<u>0.37</u>	<u>0.34</u>	<u>0.39</u>	<u>0.39</u>	<u>0.36</u>	<u>0.40</u>	<u>0.37</u>	<u>0.36</u>	<u>0.39</u>	<u>0.37</u>	
Casing Hole Diameter, Long Axis, in. ....	<u>0.37</u>	<u>0.35</u>	<u>0.40</u>	<u>0.39</u>	<u>0.35</u>	<u>0.41</u>	<u>0.37</u>	<u>0.36</u>	<u>0.39</u>	<u>0.39</u>	
Average Casing Hole Diameter, in. ....	<u>0.37</u>	<u>0.35</u>	<u>0.40</u>	<u>0.39</u>	<u>0.36</u>	<u>0.41</u>	<u>0.41</u>	<u>0.36</u>	<u>0.39</u>	<u>0.38</u>	
Total Depth, in. ....	<u>43.40</u>	<u>45.80</u>	<u>43.50</u>	<u>40.90</u>	<u>41.60</u>	<u>42.70</u>	<u>42.80</u>	<u>44.70</u>	<u>42.10</u>	<u>43.80</u>	
Burr Height, in. ....	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	
Shot No.	No. 11	No. 12	No. 13	No. 14	No. 15	No. 16	No. 17	No. 18	No. 19	No. 20	Average
Clearance, in. ....	<u>0.45</u>	<u>0.12</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>XXXX</u>
Casing Hole Diameter, Short Axis, in. ....	<u>0.37</u>	<u>0.36</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>0.37</u>
Casing Hole Diameter, Long Axis, in. ....	<u>0.38</u>	<u>0.36</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>0.38</u>
Average Casing Hole Diameter, in. ....	<u>0.38</u>	<u>0.36</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>0.37</u>
Total Depth, in. ....	<u>43.10</u>	<u>43.20</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>43.13</u>
Burr Height, in. ....	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>0.00</u>

Remarks PENETRATION NORMALIZED TO 5000 PSI WOULD BE 43.66" (5% PER 1000 PSI)

**SECTION 2 - HARD ROCK CORE TARGET**

	Shot No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Average
Compressive Strength, <u>        </u>	Faceplate Hole Diameter, Short Axis, in. ....	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
Density ASTM C 97, <u>        </u>	Faceplate Hole Diameter, Long Axis, in. ....	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
Date of Hard Rock Test <u>        </u>	Average Faceplate Hole Diameter, in. ....	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
	Total Depth, in. ....	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

**CERTIFICATION**

Type of Certification:  Self  Third Party

I certify that these tests were made according to the procedures as outlined in RP 43: Recommended Practices for Evaluation of Well Perforators, Fifth Edition, January 1991. All of the equipment used in these tests, such as the guns, jet charges, detonator cord, etc., was standard with our company for use in the gun being tested, and was not changed in any manner for the test. Furthermore, the equipment was chosen at random from stock and therefore will be substantially the same as the equipment which would be furnished to perforate a well for any operator.

<u>X</u>	CERTIFIED BY <u>DAN W. PRATT</u>	VICE PRESIDENT - ENGINEERING	10-23-2007	OWEN OIL TOOLS, INC 12001 COUNTY ROAD 1000, GODLEY, TX USA 76044
	RECERTIFIED	(Company Officer)	(Date)	(Company) (Address)