

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

5-1/8" OD 12 SPF D.P.135°/45° TAG
TAG-3375-311L

Service Company <u>AVAILABLE TO ALL FROM OWEN OIL TOOLS, INC</u>	Explosive Weight <u>19 gm, RDX</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>330</u> 1 hr <u>3 hr</u> 24 hr <u>100 hr</u> hr
Charge Name <u>PERF - 3-3/8" TAG DP RDX</u>	Maximum Pressure Rating <u>17000</u> psi, Carrier Material <u>OWEN SPEC. STEEL</u>
Manufacturer Charge Part No. <u>TAG-3375-311L</u> Date of Manufacture <u>9/20/07</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>Bottom up</u>	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 _____	

SECTION 1 - CONCRETE TARGET

Casing Data <u>7"</u>	OD, Weight <u>32</u> lb/ft,	L-80	API Grade, Date of Concrete Test <u>23-Oct-07</u>							
Target Data <u>60</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>0.51</u>	<u>0.42</u>	<u>0.46</u>	<u>0.53</u>	<u>0.38</u>	<u>0.50</u>	<u>0.47</u>	<u>0.41</u>	<u>0.50</u>	<u>0.41</u>	
Casing Hole Diameter, Long Axis, in.	<u>0.48</u>	<u>0.45</u>	<u>0.43</u>	<u>0.50</u>	<u>0.35</u>	<u>0.51</u>	<u>0.44</u>	<u>0.44</u>	<u>0.49</u>	<u>0.44</u>	
Average Casing Hole Diameter, in.	<u>0.50</u>	<u>0.44</u>	<u>0.45</u>	<u>0.52</u>	<u>0.37</u>	<u>0.51</u>	<u>0.46</u>	<u>0.43</u>	<u>0.50</u>	<u>0.43</u>	
Total Depth, in.	<u>19.00</u>	<u>18.20</u>	<u>19.90</u>	<u>19.10</u>	<u>18.90</u>	<u>19.10</u>	<u>20.10</u>	<u>18.50</u>	<u>18.60</u>	<u>18.50</u>	
Burr Height, in.											
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>XXXX</u>
Casing Hole Diameter, Short Axis, in.	<u>0.44</u>	<u>0.50</u>									<u>0.46</u>
Casing Hole Diameter, Long Axis, in.	<u>0.45</u>	<u>0.51</u>									<u>0.46</u>
Average Casing Hole Diameter, in.	<u>0.45</u>	<u>0.51</u>									<u>0.46</u>
Total Depth, in.	<u>19.50</u>	<u>18.90</u>									<u>19.03</u>
Burr Height, in.											<u>0.00</u>
Remarks <u>PENETRATION NORMALIZED TO 5000 PSI WOULD BE 19.26" (5% PER 1000 PSI)</u>											

SECTION 2 - HARD ROCK CORE TARGET

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

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)	(Title)	(Date)	(Address)