

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

5-1/8" OD 6 SPF S.D.P. 60° TAG
SDP-3375-311NT4

Service Company <u>AVAILABLE TO ALL FROM OWEN OIL TOOLS, INC</u>	Explosive Weight <u>25</u> gm, <u>RDX</u> powder, Case Material <u>STEEL</u>
Gun OD & Trade Name <u>5-1/8" OD 6 SPF S.D.P. 60° TAG</u>	Max. Temp, F <u>330</u> 1 hr <u>3</u> hr <u>24</u> hr <u>100</u> hr _____ hr
Charge Name <u>PERF - 3-3/8" TAG SDP SUPERHERO PLUS+ RDX</u>	Maximum Pressure Rating <u>17000</u> psi, Carrier Material <u>OWEN SPEC. STEEL</u>
Manufacturer Charge Part No. <u>SDP-3375-311NT4</u> Date of Manufacture <u>9/20/2007</u>	Shot Density <u>6</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>60°</u> degrees, Firing Order <u>X</u> Top down, _____ Bottom up	Available Firing Mode <u>X</u> Selective, _____ X 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>20-Apr-09</u>
Target Data <u>108</u>	OD, Briquet Compressive Strength <u>5551</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>0.21</u>	<u>0.70</u>	<u>0.97</u>	<u>0.70</u>	<u>0.21</u>	<u>0.00</u>	<u>0.21</u>	<u>0.70</u>	<u>0.97</u>	
Casing Hole Diameter, Short Axis, in.	<u>0.43</u>	<u>0.42</u>	<u>0.35</u>	<u>0.28</u>	<u>0.33</u>	<u>0.42</u>	<u>0.42</u>	<u>0.41</u>	<u>0.34</u>	<u>0.29</u>	
Casing Hole Diameter, Long Axis, in.	<u>0.44</u>	<u>0.42</u>	<u>0.35</u>	<u>0.29</u>	<u>0.34</u>	<u>0.43</u>	<u>0.43</u>	<u>0.43</u>	<u>0.35</u>	<u>0.29</u>	
Average Casing Hole Diameter, in.	<u>0.44</u>	<u>0.42</u>	<u>0.35</u>	<u>0.29</u>	<u>0.34</u>	<u>0.43</u>	<u>0.43</u>	<u>0.42</u>	<u>0.35</u>	<u>0.29</u>	
Total Depth, in.	<u>45.25</u>	<u>47.50</u>	<u>50.25</u>	<u>50.70</u>	<u>47.60</u>	<u>45.80</u>	<u>43.75</u>	<u>44.25</u>	<u>47.80</u>	<u>48.25</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>0.70</u>	<u>0.21</u>	_____	_____	_____	_____	_____	_____	_____	_____	<u>XXXX</u>
Casing Hole Diameter, Short Axis, in.	<u>0.33</u>	<u>0.42</u>	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.37</u>
Casing Hole Diameter, Long Axis, in.	<u>0.34</u>	<u>0.43</u>	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.38</u>
Average Casing Hole Diameter, in.	<u>0.34</u>	<u>0.43</u>	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.37</u>
Total Depth, in.	<u>46.90</u>	<u>47.80</u>	_____	_____	_____	_____	_____	_____	_____	_____	<u>47.15</u>
Burr Height, in.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.00</u>
Remarks <u>PENETRATION NORMALIZED TO 5000 PSI WOULD BE 48.45" (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, _____	Faceplate Hole Diameter, Short Axis, in.	_____	_____	_____	_____	_____	_____	_____
Density ASTM C 97, _____	Faceplate Hole Diameter, Long Axis, in.	_____	_____	_____	_____	_____	_____	_____
Date of Hard Rock Test _____	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>MATTHEW CLAY</u>	BALLISTICS ENGINEERING MANAGER	4-20-2009	OWEN OIL TOOLS, INC 12001 COUNTY ROAD 1000, GODLEY, TX USA 76044
	RECERTIFIED _____	(Company Officer) _____	(Date) _____	(Address) _____