

CERTIFICATION DATA SHEET

4" OD, TAG, 4 SPF, 90°, 39G,SDP SUPER-HERO (SDP-4500-411NT3)

FORM 43F

PERFORATING SYSTEM EVALUATION, RP 43, SECTIONS 1 AND 2

SDP-4500-411NT3

Service Company <u>AVAILABLE TO ALL FROM OWEN OIL TOOLS, INC.</u>	Explosive Weight <u>39</u> gm, <u>HMX</u> powder, Case Material <u>STEEL</u>
Gun OD & Trade Name <u>4" OD, TAG, 4 SPF, 90°, 39G,SDP SUPER-HERO (SDP-4500-411NT3)</u>	Max. Temp, F <u>400</u> 1 hr _____ 3 hr _____ 24 hr _____ 100 hr _____ hr
Charge Name <u>PERFORATOR, 4-1/2", SDP, 39G, HMX</u>	Maximum Pressure Rating <u>19,000</u> psi, Carrier Material <u>STEEL</u>
Manufacturer Charge Part No. <u>SDP-4500-411NT3</u> Date of Manufacture <u>12-Dec-08</u>	Shot Density <u>4</u> _____ shots/ft
Gun Type <u>SCALLPOED, EXPENDABLE</u>	Recommended Minimum ID for Running <u>4.360</u> _____ in.
Phasing Tested <u>90</u> degrees, Firing Order <u>X</u> Top down, _____ Bottom up	Available Firing Mode _____ Selective, <u>X</u> _____ Simultaneous.
Debris Description <u>SMALL STEEL PIECES</u>	Debris Weight <u>N/A</u> gm/charge, Debris <u>N/A</u> in.³/charge
Remarks <u>RDX VERSION AVAILABLE AS SDP-4500-311NT3</u>	

SECTION 1 - CONCRETE TARGET

Casing Data	<u>5 1/2</u>	OD, Weight	<u>17</u> lb/ft,	L-80	API Grade, Date of Concrete Test	<u>30-Jan-08</u>				
Target Data	<u>96</u>	OD, Briquet Compressive Strength	<u>6100</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>0.41</u>	<u>0.89</u>	<u>0.41</u>	<u>0.00</u>	<u>0.41</u>	_____	_____	_____	_____	_____
Casing Hole Diameter, Short Axis, in.	<u>0.39</u>	<u>0.44</u>	<u>0.42</u>	<u>0.41</u>	<u>0.40</u>	<u>0.40</u>	_____	_____	_____	_____	_____
Casing Hole Diameter, Long Axis, in.	<u>0.40</u>	<u>0.44</u>	<u>0.42</u>	<u>0.41</u>	<u>0.41</u>	<u>0.42</u>	_____	_____	_____	_____	_____
Average Casing Hole Diameter, in.	<u>0.40</u>	<u>0.44</u>	<u>0.42</u>	<u>0.41</u>	<u>0.41</u>	<u>0.41</u>	_____	_____	_____	_____	_____
Total Depth, in.	<u>58.00</u>	<u>60.50</u>	<u>61.30</u>	<u>60.10</u>	<u>59.80</u>	<u>57.50</u>	_____	_____	_____	_____	_____
Burr Height, in.	<u>0.04</u>	<u>0.05</u>	<u>0.04</u>	<u>0.04</u>	<u>0.03</u>	<u>0.04</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.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Casing Hole Diameter, Short Axis, in.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.41</u>
Casing Hole Diameter, Long Axis, in.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.42</u>
Average Casing Hole Diameter, in.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.41</u>
Total Depth, in.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<u>59.53</u>
Burr Height, in.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<u>0.01</u>
Remarks <u>PENETRATION NORMALIZED TO 5000 PSI CONCRETE WOULD BE 62.80" (5% PER 1000 PSI)</u>											

SECTION 2 - BEREA SANDSTONE CORE TARGET

	Shot No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Average
Berea Bulk Porosity, _____	Faceplate Hole Diameter, Short Axis, in.	_____	_____	_____	_____	_____	_____	_____
	Faceplate Hole Diameter, Long Axis, in.	_____	_____	_____	_____	_____	_____	_____
Date of Beria 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.

CERTIFIED BY	<u><i>Dan W. Pratt</i></u> DAN W. PRATT	VICE PRESIDENT - ENGINEERING	30-Jan-08	OWEN OIL TOOLS, INC 8900 FORUM WAY, FT. WORTH TX. 76140
RECERTIFIED	(Company Officer)	(Title)	(Date)	(Address)