**CERTIFICATION DATA SHEET**

**PERFORATING SYSTEM EVALUATION, RP 43, SECTIONS 1 AND 2**

**5-1/8" OD 12 SPF D.P.135°/45° TAG**

**SDP-3375-311NT**

Service Company: AVAILABLE TO ALL FROM OWEN OIL TOOLS, INC

Gun OD & Trade Name: 5-1/8" OD 12 SPF D.P.135°/45° TAG

Charge Name: PERF - 3-3/8" TAG SDP NT RDX

Manufacturer Charge Part No.: SDP-3375-311NT  Date of Manufacture: 9/20/07

Gun Type: EXPENDABLE, RETRIEVABLE, HOLLOW STEEL CARRIER (THROW AWAY GUN)

Phasing Tested: 135°/45° degrees, Firing Order: X Top down, ____ Bottom up

Debris Description: SMALL STEEL PIECES

Remarks:

Explosive Weight: 23 gm, RDX powder, Case Material: STEEL

Max. Temp, F: 330 1 hr ____ 3 hr ____ 24 hr ____ 100 hr ____ hr

Maximum Pressure Rating: 17000 psi, Carrier Material: OWEN SPEC. STEEL

Shot Density: 12 shots/ft

Recommended Minimum ID for Running: 5.675 in.

Available Firing Mode: X Selective, X Simultaneous.

Debris Weight: NA gm/charge, Debris: NA in.3/charge

## SECTION 1 - CONCRETE TARGET

Casing Data: 7" OD, Weight: 32 lb/ft, L-80 API Grade, Date of Concrete Test: 23-Oct-07

Target Data: 72 OD, Briquet Compressive Strength: 5246 psi, Age of Target: 28 days

| Shot No. | No. 1 | No. 2 | No. 3 | No. 4 | No. 5 | No. 6 | No. 7 | No. 8 | No. 9 | No. 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Clearence, in. | 0.00 | 0.81 | 0.45 | 0.12 | 0.97 | 0.12 | 0.45 | 0.81 | 0.00 | 0.81 |
| Casing Hole Diameter, Short Axis, in. | 0.44 | 0.44 | 0.43 | 0.46 | 0.38 | 0.43 | 0.43 | 0.42 | 0.45 | 0.44 |
| Casing Hole Diameter, Long Axis, in. | 0.45 | 0.45 | 0.47 | 0.48 | 0.38 | 0.48 | 0.47 | 0.44 | 0.47 | 0.46 |
| Average Casing Hole Diameter, in. | 0.45 | 0.45 | 0.45 | 0.47 | 0.38 | 0.46 | 0.45 | 0.43 | 0.46 | 0.45 |
| Total Depth, in. | 41.00 | 40.50 | 39.10 | 41.40 | 41.60 | 39.20 | 40.20 | 39.30 | 41.20 | 39.10 |
| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Clearence, in. | 0.45 | 0.12 | | | | | | | | | XXXX |
| Casing Hole Diameter, Short Axis, in. | 0.45 | 0.46 | | | | | | | | | 0.44 |
| Casing Hole Diameter, Long Axis, in. | 0.46 | 0.48 | | | | | | | | | 0.46 |
| Average Casing Hole Diameter, in. | 0.46 | 0.47 | | | | | | | | | 0.45 |
| Total Depth, in. | 38.70 | 39.50 | | | | | | | | | 40.07 |
| Burr Height, in. | | | | | | | | | | | 0.00 |

Remarks: PENETRATION NORMALIZED TO 5000 PSI WOULD BE 40.56" (5% PER 1000 PSI)

## SECTION 2 - HARD ROCK CORE TARGET

Compressive Strength, ____

Density ASTM C 97, ____

Date of Hard RockTest ____

| Shot No. | No. 1 | No. 2 | No. 3 | No. 4 | No. 5 | No. 6 | Average |
|---|---|---|---|---|---|---|---|
| Faceplate Hole Diameter, Short Axis, in. | | | | | | | |
| Faceplate Hole Diameter, Long Axis, in. | | | | | | | |
| Average Faceplate Hole Diameter, in. | | | | | | | |
| Total Depth, in. | | | | | | | |

## CERTIFICATION

Type of Certification: [ X ] 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 equipement was chosen at random from stock and therefore will be substantially the same as the equipement which would be furnished to perforate a well for any operator.

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