



Registered Data Sheet Perforating System Evaluation, API RP 19B Section 1

API Form 19B-Section 1 Conforms to All Requirements of Section 1 Special Test - See Remarks/Exceptions below

Service Company Available to All From Owen Oil Tools
 Explosive weight 20 gm, RDX powder, Case Material STEEL
 Gun OD & Trade Name 3-1/8" OD, TAG, 6 SPF, 60° TAG, 20g (HSC-3375-301)
 Max Temp, °F 330 1 hr 3 hr 24 hr 100 hr 200 hr
 Charge Name PERFORATOR 3-3/8" TAG BH RDX
 Maximum Pressure Rating 21,000 psi, Carrier Material STEEL
 Manufacturer Charge Part No. HSC-3375-301 Date of Manufacture 1-16-2008
 Gun Type SCALLOPED, EXPENDABLE, HOLLOW CARRIER
 Shot Density Tested 6 Shots/ft
 Phasing Tested 60 degrees, Firing Order: X Top down X Bottom up
 Recommended Minimum ID for Running 3.63" in.
 Debris Description SMALL STEEL PIECES
 Available Firing Mode: Selective X
 Debris Weight N/A gm/charge, Debris N/A in³/charge

Remarks/Exceptions per Section 1.11 _____
 Casing Data 4.5 OD, Weight 15.1 lb/ft, API Grade, P110 Date of Section 1 Test 4-21-2008
 Target Data 48.25 OD, Amount of Cement 3172 lb, Amount of Sand 6345 lb, Amount of Water 1661 lb.
 Date of Compressive Strength Test 4-21-2008 Briquette Compressive Strength 7037 psi, Age of Target 33 days

Shot No.	No 1	No 2	No 3	No 4	No 5	No 6	No 7	No 8	No 9	No 10	No 11
Clearance, in.	0.00	0.18	0.62	0.88	0.62	0.18	0.00	0.18	0.62	0.88	0.62
Casing Hole Diameter, Short Axis, in	0.56	0.64	0.59	0.57	0.61	0.60	0.60	0.61	0.58	0.59	0.55
Casing Hole Diameter, Long Axis, in	0.61	0.65	0.60	0.59	0.63	0.63	0.63	0.61	0.59	0.61	0.56
Average Casing Hole Diameter, in.	0.59	0.65	0.60	0.58	0.62	0.62	0.62	0.61	0.59	0.61	0.56
Total Depth, in.	4.97	3.84	4.84	4.84	4.97	5.47	4.65	4.34	5.84	3.97	5.47
Burr Height, in.	0.042	0.051	0.025	0.042	0.074	0.063	0.084	0.102	0.067	0.087	0.063
Shot No.	No 12	No 13	No 14	No 15	No 16	No 17	No 18	No 19	No 20	No 21	No 22
Clearance, in.	0.18	0.00	0.18	0.62	0.88	0.62	0.18	0.18	0.62	0.88	0.62
Casing Hole Diameter, Short Axis, in	0.59	0.60	0.64	0.58	0.51	0.54	0.60	0.60	0.54	0.59	0.59
Casing Hole Diameter, Long Axis, in	0.62	0.64	0.66	0.60	0.60	0.57	0.62	0.62	0.62	0.61	0.61
Average Casing Hole Diameter, in.	0.61	0.62	0.65	0.59	0.57	0.56	0.61	0.61	0.60	0.60	0.60
Total Depth, in.	4.59	5.34	4.59	4.84	4.72	4.84	4.72	4.72	4.82	4.82	4.82
Burr Height, in.	0.073	0.075	0.074	0.042	0.053	0.065	0.103	0.103	0.067	0.067	0.067

Remarks _____

Manufacturer's Certification
 Type of Certification: _____ Self _____ ALLAN PETTIGREW Third Party

I certify that these tests were made according to the procedures as outlined in API 19B: Recommended Practice for Evaluation of Well Perforators, Second Edition, September 2006. All of the equipment used in these tests, such as the guns, jet charges detonator cord, etc., was standard equipment with our company for the 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 that would be furnished to perforate a well for any operator. API neither endorses these tests nor recommends the use of the perforator system described.

X CERTIFIED BY John M. Ward (Company Official)
 RECERTIFIED _____ (Title)
 Name of test as it should appear on website: SPECIAL TEST, 3-1/8" OD, TAG, 6SPF, 60°, 20g (HSC-3375-301) IN 4-1/2" P110 CASING
 Name of test as it appears on application and application date: 3-1/8" TAG, 6 SPF, 60° HSC-3375-301

PRESIDENT (Date) 4-22-2008
 OWEN OIL TOOLS (Company)
 12001 COUNTY ROAD 1000 GODLEY, TX 76044 (Address)