



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 AVAILABEL TO ALL FROM OWEN OIL TOOLS Explosive weight 3.2 gm, HMX powder, Case Material STEEL
 Gun OD & Trade Name 1-11/16" RTG, 6SPF, 60°, 3.2g, (RTG-1687-401BH) Max Temp, °F 400 1 hr 3 hr 24 hr 100 hr 200 hr
 Charge Name PERF 1-9/16" RTG BH HMX Maximum Pressure Rating 20,000 psi, Carrier Material STEEL
 Manufacturer Charge Part No. RTG-1687-401BH Date of Manufacture 12-31-2009 Shot Density Tested 6 Shots/ft
 Gun Type RETRIEVALBE, EXPENDABLE, HOLLOW CARRIER Recommended Minimum ID for Running 1.781" in.
 Phasing Tested 60 degrees, Firing Order: Top down Bottom up Available Firing Mode: Selective Simultaneous
 Debris Description N/A Debris Weight N/A gm/charge, Debris N/A in³/charge

Remarks/Exceptions per Section 1.11 _____

Casing Data 2-3/8" OD, Weight 4.6 lb/ft, API Grade, L-80 Date of Section 1 Test 1-28-2010
 Target Data 18" OD, Amount of Cement 2,115 lb, Amount of Sand 4,230 lb, Amount of Water 1.107 lb.
 Date of Compressive Strength Test 1-28-2010 Briquette Compressive Strength 8,156 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	No 11
Clearance, in.	0.00	0.06	0.21	0.29	0.21	0.06	0.00	0.06	0.21	0.29	0.21
Casing Hole Diameter, Short Axis, in.	0.38	0.36	0.33	0.32	0.38	0.39	0.38	0.37	0.36	0.32	0.37
Casing Hole Diameter, Long Axis, in.	0.38	0.39	0.38	0.35	0.38	0.39	0.39	0.38	0.36	0.33	0.38
Average Casing Hole Diameter, in.	0.38	0.38	0.36	0.34	0.38	0.39	0.39	0.38	0.36	0.33	0.38
Total Depth, in.	3.2	2.5	2.7	2.2	2.6	2.7	3.2	2.8	2.8	2.6	2.3
Burr Height, in.											

Shot No.	No 12	No 13	No 14	No 15	No 16	No 17	No 18	No 19	No 20	No 21	No 22	Average
Clearance, in.	0.06	0.00	0.06	0.21	0.29	0.21	0.06					XXXXXX
Casing Hole Diameter, Short Axis, in.	0.39	0.37	0.35	0.33	0.31	0.35	0.39					0.36
Casing Hole Diameter, Long Axis, in.	0.39	0.38	0.38	0.34	0.33	0.37	0.39					0.37
Average Casing Hole Diameter, in.	0.39	0.38	0.37	0.34	0.32	0.36	0.39					0.37
Total Depth, in.	3.0	3.2	2.5	2.3	2.2	2.2	2.8					2.7
Burr Height, in.												

Remarks _____

Manufacturer's Certification

Type of Certification: _____ Self Jerry Baldwin 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.

CERTIFIED BY *Dan W. Pratt* Dan W. Pratt Vice-President Engineering 1-29-2010 Owen Oil Tools 12001 CR 1000, Godley, Tx 76044
 _____ RECERTIFIED _____ (Company Official) _____ (Title) _____ (Date) _____ (Company) _____ (Address)

Name of test as it should appear on website: 1-11/16" RTG, 6SPF, 60°, 3.2g, (RTG-1687-401BH)

Name of test as it appears on application and application date: 1-11/16" RTG, 6SPF, 60°, 3.2g, (RTG-1687-401BH) (12-28-2009)