



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 service companies. Manufactured by ETASA  
 Gun OD & Trade Name 4 5/8" DP RDX 5 SPF 60°  
 Charge Name 38.8 grams DP RDX  
 Manufacturer Charge Part No. TC47R Date of Manufacture 03/30/2011  
 Gun Type High Shot Density Gun.  
 Phasing Tested 60° degrees, Firing Order: Top down X Bottom up  
 Debris Description Cases and loading tube debris keeps inside the gun  
 Remarks/Exceptions per Section 1.11 Gun OD after shooting in liquid is 4.89In.

Explosive weight 38.8 gm, RDX \_\_\_\_\_ powder, Case Material STEEL  
 Max Temp, °F 330°F 1 hr 305 3 hr 260 24 hr 230 100 hr \_\_\_\_\_ 200 hr \_\_\_\_\_  
 Maximum Pressure Rating 15000 psi, Carrier Material STEEL  
 Shot Density Tested 5 Shots/ft \_\_\_\_\_  
 Recommended Minimum ID for Running \_\_\_\_\_ in.  
 Available Firing Mode: \_\_\_\_\_ Selective X Simultaneous \_\_\_\_\_  
 Debris Weight N/A gm/charge, Debris N/A in<sup>3</sup>/charge

Casing Data 7" OD, Weight 32 lb/ft, API Grade, L-80 Date of Section 1 Test May 10th 2011  
 Target Data 120" OD, Amount of Cement 18764 lb, Amount of Sand 37528 lb, Amount of Water 9757 lb.  
 Date of Compressive Strength Test May 10th 2011 Briquette Compressive Strength 6064 psi, Age of Target 32 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.	0.000	0.300	1.034	1.469	1.034	0.300	0.000	0.300	1.034	1.469	1.034
Casing Hole Diameter, Short Axis, in	0.480	0.450	0.420	0.400	0.430	0.420	0.500	0.480	0.400	0.390	0.410
Casing Hole Diameter, Long Axis, in	0.500	0.470	0.430	0.410	0.440	0.440	0.510	0.490	0.420	0.420	0.410
Average Casing Hole Diameter, in.	0.490	0.460	0.425	0.405	0.435	0.430	0.505	0.485	0.410	0.405	0.410
Total Depth, in.	52.453	49.453	54.453	53.953	47.453	49.453	47.453	49.453	53.703	46.453	46.953
Burr Height, in.	0.062	0.070	0.036	0.027	0.045	0.038	0.051	0.075	0.039	0.061	0.034

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.	0.300	0.000	0.300									XXXXXX
Casing Hole Diameter, Short Axis, in	0.430	0.490	0.440									0.439
Casing Hole Diameter, Long Axis, in	0.450	0.520	0.460									0.455
Average Casing Hole Diameter, in.	0.440	0.505	0.450									0.447
Total Depth, in.	51.453	46.453	45.953									49.649
Burr Height, in.	0.040	0.030	0.047									0.047

Remarks \_\_\_\_\_

Manufacturer's Certification

Type of Certification: \_\_\_\_\_ Self Jorge Smirnov 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 Dario E. Lattanzio Perforating Projects Manager 03/13/2011 ETASA Ruta 25 Km 13- Villa Rosa - Buenos Aires - Argentina  
 \_\_\_\_\_ RECERTIFIED \_\_\_\_\_ (Company Official) \_\_\_\_\_ (Title) \_\_\_\_\_ (Date) \_\_\_\_\_ (Company) \_\_\_\_\_ (Address)

Name of test as it should appear on website: 4 5/8" High Shot Density Gun With TC47R 38.8 grams RDX DP

Name of test as it appears on application and application date: 4 5/8" High Shot Density Gun With TC47R 38.8 grams RDX DP February 24th 2011