



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

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 in³/charge

Remarks/Exceptions per Section 1.11 Gun OD after shooting in liquid is 4.89In.

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 API W Third Party J. Smirnov

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