



REGISTERED DATA SHEET PERFORATING SYSTEM EVALUATION, API RP 19B SECTION 1

Service Company Available to all Design Number _____ Explosive Weight 6.5 gm, HMX powder, Case Material Steel
 Gun OD & Trade Name 2" RTTG, BH HMX Max. Temp, °F 400 1 hr _____ 3 hr _____ 24 hr _____ 100 hr _____ 200 hr
 Charge Name 2" RTG, BH HMX (DSC 04-07-39) Maximum Pressure Rating 20,000 psi, Carrier Material Steel
 Manufacturer Charge Part No. RT 36 HBH Date of Manufacture July 28th 2004 Shot Density Tested _____ 6 _____ Shots/ft
 Gun Type _____ Retrievable Through Tubing Gun, 6 SPF 60° Recommended Minimum ID for Running _____ * _____ in.
 Phasing Tested 60 degrees, Firing Order X 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 * Gun OD after shooting in liquid is 2.17in., in air 2.23in.

SECTION 1 - CONCRETE TARGET

Casing Data 3 1/2" OD, Weight 9.2 lb/ft, L-80 API Grade, Date of Section 1 Test August 30th 2004
 Target Data 40" OD, Amount of Cement 1900 lb., Amount of Sand 3800 lb., Amount of Water 990 lb.
 Date of Compressive Strength Test August 31st 2004, Briquette Compressive Strength 6105 psi, Age of Target 31 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	0.180	0.656	0.953	0.656	0.180	0.00	0.180	0.656	0.953	0.656	
Casing Hole Diameter, Short Axis, in.	0.40	0.43	0.40	0.38	0.41	0.40	0.39	0.42	0.44	0.38	0.37	
Casing Hole Diameter, Long Axis, in.	0.46	0.47	0.41	0.40	0.44	0.47	0.42	0.44	0.47	0.41	0.40	
Average Casing Hole Diameter, in.	0.430	0.450	0.405	0.390	0.425	0.435	0.405	0.430	0.455	0.395	0.385	
Total Depth, in.	6.006	6.506	5.256	5.506	5.006	7.006	5.756	6.256	5.006	6.006	6.506	
Burr Height, in.	0.081	0.073	0.068	0.062	0.059	0.071	0.053	0.042	0.069	0.088	0.045	
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.	0.180	0.00	0.180									0.388
Casing Hole Diameter, Short Axis, in.	0.39	0.36	0.43									0.400
Casing Hole Diameter, Long Axis, in.	0.41	0.40	0.44									0.431
Average Casing Hole Diameter, in.	0.400	0.380	0.435									0.416
Total Depth, in.	5.756	5.506	5.756									5.845
Burr Height, in.	0.054	0.050	0.068									0.063

WITNESSING INFORMATION

Date of Notice of Intent to Test: July 27th 2004

Witnessed by: [Signature] J. Smirnov (API Certified)

Other Activities Witnessed: Target Pouring _____ Briquette Preparation _____ Testing X Burr Height Measurement X Samples Taken: Concrete X Casing X

CERTIFICATION

I certify that these tests were made according to the procedures as outlined in API RP 19B: Recommended Practices for Evaluation of Well Perforators, First Edition, November 2000. 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, which would be furnished to perforate a well for any operator. The American Petroleum Institute neither endorses these test results nor recommends the use of the perforator system described.

X CERTIFIED BY [Signature] E.T.A. S.A. Perforating Projects Manager Sept 1st 2004 Explosivos Tecnológicos Argentinos S.A. Ruta 25Km.13 Pilar- Bs.As. Argentina
 _____ RECERTIFIED _____ (Title) (Date) (Company) (Address)

MARIO LEATTANZIO
 GERENTE PRODUCTO Y SISTEMAS
 PERFORATING PROJECTS MANAGER