



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, HMX Max. Temp, °F 400 1 hr _____ 3 hr _____ 24 hr _____ 100 hr _____ 200 hr
 Charge Name 2" RTG, HMX (DSC 03-02-19) Maximum Pressure Rating 20.000 psi, Carrier Material Steel
 Manufacturer Charge Part No. RT 36 H Date of Manufacture Feb 06th 2003 Shot Density Tested _____ 6 _____ Shots/ft
 Gun Type Retrievable Trough 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 2 7/8" OD, Weight 6.4 lb/ft, L-80 API Grade, Date of Section 1 Test March 10th 2003
 Target Data 54 1/2" OD, Amount of Cement 3570 lb., Amount of Sand 7140 lb., Amount of Water 1856 lb.
 Date of Compressive Strength Test March 10th 2003, Briquette Compressive Strength 5531 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	0.095	0.315	0.440	0.315	0.095	0.00	0.095	0.315	0.440	0.315	
Casing Hole Diameter, Short Axis, in..	0.202	0.190	0.202	0.205	0.192	0.202	0.192	0.194	0.180	0.210	0.215	
Casing Hole Diameter, Long Axis, in. .	0.204	0.220	0.209	0.223	0.198	0.223	0.195	0.196	0.200	0.224	0.225	
Average Casing Hole Diameter, in.....	0.203	0.205	0.206	0.214	0.195	0.213	0.194	0.195	0.190	0.217	0.220	
Total Depth, in.	20.723	19.723	20.723	18.973	18.973	18.223	18.223	18.473	19.535	19.723	19.598	
Burr Height, in.....	0.028	0.024	0.039	0.053	0.029	0.031	0.049	0.032	0.029	0.031	0.051	
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.....	0.095	0.00	0.095	0.315	0.440	0.315	0.095	0.00	0.095			0.194
Casing Hole Diameter, Short Axis, in..	0.204	0.206	0.212	0.205	0.223	0.210	0.207	0.210	0.196			0.203
Casing Hole Diameter, Long Axis, in. .	0.228	0.216	0.218	0.216	0.230	0.212	0.213	0.215	0.230			0.215
Average Casing Hole Diameter, in.....	0.216	0.211	0.215	0.211	0.227	0.211	0.210	0.213	0.213			0.209
Total Depth, in.	16.473	21.723	19.973	18.973	18.223	19.473	18.473	19.973	18.223			19.219
Burr Height, in.....	0.030	0.028	0.035	0.038	0.049	0.020	0.032	0.053	0.021			0.035

WITNESSING INFORMATION

Date of Notice of Intent to Test: Jan 03rd 2003 Witnessed by: [Signature] 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 DARIO E. LANZIO Perforating Projects Manager 03/10/03 Explosivos Tecnicos Argentinos S.A. Ruta 25Km.13 Pilar- Bs.As. Argentina
 _____ RECERTIFIED GERENTE PRODUCCION SISTEMAS PERFORATING PROJECTS MANAGER (Title) (Date) (Company) (Address)