

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

Service Company Available to all Design Number \_\_\_\_\_ Explosive Weight 16.5 gm, HMX powder, Case Material Steel  
 Gun OD & Trade Name 4" High Shot Density Gun 12 SPF 135° - DP - HMX Max. Temp. °F 400 1 hr \_\_\_\_\_ 3 hr \_\_\_\_\_ 24 hr \_\_\_\_\_ 100 hr \_\_\_\_\_ 200 hr  
 Charge Name 16.5 gms. Barracuda DP HMX (DSC 03-08-45) Maximum Pressure Rating 20,000 psi, Carrier Material Steel  
 Manufacturer Charge Part No. TC46H Date of Manufacture Aug 15<sup>th</sup> 2003 Shot Density Tested \_\_\_\_\_ 12 \_\_\_\_\_ Shots/ft  
 Gun Type High Shot Density Gun For WL or TCP Recommended Minimum ID for Running \_\_\_\_\_ \* \_\_\_\_\_ in.  
 Phasing Tested 135° 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 in<sup>3</sup>/charge  
 Remarks \* Gun OD After firing in liquid 4.24"

**SECTION 1 - CONCRETE TARGET**

Casing Data 5 1/2" OD, Weight 17 lb/ft, L-80 API Grade, Date of Section 1 Test Sept 22<sup>nd</sup> 2003  
 Target Data 70 1/2" OD, Amount of Cement 4809 lb., Amount of Sand 9618 lb., Amount of Water 2500 lb.  
 Date of Compressive Strength Test Sept 23<sup>rd</sup> 2003, Briquette Compressive Strength 6809 psi, Age of Target 30 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	0.741	0.405	0.110	0.892	0.110	0.405	0.741	0.000	0.741	0.405
Casing Hole Diameter, Short Axis, in. ....	0.388	0.399	0.344	0.371	0.374	0.370	0.340	0.391	0.389	0.366	0.354
Casing Hole Diameter, Long Axis, in. ....	0.395	0.401	0.348	0.385	0.376	0.382	0.361	0.414	0.393	0.378	0.362
Average Casing Hole Diameter, in. ....	0.392	0.400	0.346	0.378	0.375	0.376	0.351	0.403	0.391	0.372	0.358
Total Depth, in. ....	27.304	27.429	28.804	30.054	26.304	28.304	26.804	27.554	27.804	26.804	28.804
Burr Height, in. ....	0.062	0.025	0.090	0.085	0.052	0.036	0.059	0.088	0.080	0.064	0.062

  

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. ....	0.110	0.892	0.110	0.405	0.741	0.000	0.741	0.405	0.110	0.892	0.110	0.412
Casing Hole Diameter, Short Axis, in. ....	0.369	0.405	0.388	0.413	0.370	0.368	0.356	0.379	0.360	0.417	0.386	0.377
Casing Hole Diameter, Long Axis, in. ....	0.392	0.409	0.395	0.423	0.379	0.400	0.370	0.386	0.390	0.420	0.395	0.389
Average Casing Hole Diameter, in. ....	0.381	0.407	0.392	0.418	0.375	0.384	0.363	0.383	0.375	0.419	0.391	0.383
Total Depth, in. ....	26.554	28.554	25.804	27.304	27.054	26.304	28.554	27.554	29.304	26.804	24.804	27.480
Burr Height, in. ....	0.081	0.045	0.062	0.053	0.071	0.052	0.073	0.059	0.084	0.073	0.051	0.064

**WITNESSING INFORMATION**

Date of Notice of Intent to Test: July 25<sup>th</sup> 2003 Witnessed by: J. Smirnov 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 DARIO E. CATTANZIO Perforating Projects Manager Sept 24<sup>th</sup> 2003 Explosivos Tecnologicos Argentinos S.A. Ruta 25Km.13 Pilar- Bs.As. Argentina  
 \_\_\_\_\_ RECERTIFIED GERENTE PROYECTOS (Title) \_\_\_\_\_ (Date) \_\_\_\_\_ (Company) \_\_\_\_\_ (Address)  
 PERFORATING PROJECTS MANAGER