



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

Max. Temp., oF_400 1 hr	Service Company Available to all	Explosive Weight 22.7 gm, HMX powder, Case Material Steel											
Manufacturer Charge Part No. TC38H Date of Manufacture Feb 07th 2003 Shot Density Gun 12 SPF 135* WL/TCP Shot Density Gun 12 SPF 135* WL/	Gun OD & Trade Name 4 5/8" High Shot	3 hr	24 h	1r1	00 hr	200 hr							
Manufacturer Charge Part No. <u>TC38H</u> Date of Manufacture <u>Feb 07th 2003</u> Shot Density <u>Tested</u> Gun Type <u>High Shot Density Gun 12 SPF 135* WLTCP</u> Becommended Minimum ID for Running *													
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 in³/charge Debris N/A Debris Debris N/A Debris Debris N/A Debris Debris N/A In³/charge Debris N/A Debris Debris Debris N/A Debris Debris Debris Debris N/A Debris Debris Debris N/A Debris Debris Debris Debris N/A Debris	· · · · · · · · · · · · · · · ·		Shot Density Tested 12 Shots/ft										
Phasing Tested 136 degrees Firing Order X Top Down, Bottom Up Debris Weight N/A gm/charge Debris D			Recommended Minimum ID for Running *in.										
Debris Description N/A Debris Weight N/A gm/charge, Debris N/A in 3/charge Remarks													
Second Date 1	-	•	<u> </u>										
Casing Data 7" OD, Weight 32 Ib/ft, L.80 API Grade, Date of Section 1 Test March 11th 2003 July J													
Target Data													
Target Dats 35" OD, Amount of Cement 1155 Ib., Amount of Sand 2310 Ib., Amount of Water 600 Ib. Date of Compressive Strength Test March 11" 2003 , Briquette Compressive Strength 5843 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 1.314 0.694 0.182 1.602 0.182 0.894 1.314 0.00 1.314 0.694 Casing Hole Diameter, Short Axis, in 0.840 0.870 0.930 0.980 0.880 0.880 0.880 0.800 0.860 0.865 0.900 0.910 Average Casing Hole Diameter, in 0.865 0.920 0.930 0.890 0.900 0.956 0.850 0.905 0.910 Average Casing Hole Diameter, in 0.865 0.920 0.930 0.890 0.900 0.850 0.800 0.915 0.905 0.910 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 0.182 1.802 0.880 0.880 0.900 0.910 0.800 0.800 0.803 0.803 0.905 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 0.890 0.880 0.880 0.930 0.920 0.860 0.910 0.800 0.870 0.800 0.870 0.865 Clearance, in 0.890 0.880 0.880 0.930 0.920 0.880 0.910 0.880 0.910 0.880 0.870 0.802 0.900 0.867 Casing Hole Diameter, Short Axis, in 0.890 0.880 0.980 0.880 0.920 0.880 0.910 0.880 0.910 0.880 0.870 0.800 0.800 0.867 Casing Hole Diameter, Short Axis, in 0.890 0.880 0.930 0.920 0.880 0.910 0.880 0.870 0.800 0.870 0.800 0.867 Casing Hole Diameter, Short Axis, in 0.890 0.880 0.930 0.920 0.880 0.910 0.880 0.870 0.800 0.800 0.807 Casing Hole Diameter, Long Axis, in 0.890 0.880 0.930 0.920 0.880 0.910 0.880 0.870 0.800 0.8	Casing Data 7" OD			and the second s					2003				
Date of Compressive Strength Test March 11th 2003	<u> </u>												
No. 1 No. 2 No. 3 No. 4 No. 5 No. 6 No. 7 No. 8 No. 9 No. 10 No. 11		-		•								. —	
Clearance, in			•		_			•					
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Casing Hole Diameter, Long Axis, in. 0.890 0.970 0.930 0.920 0.920 0.870 0.860 0.970 0.960 0.920 0.960 0.901 0.935 0.905 0.901 0.935 0.905	· · · · · · · · · · · · · · · · · · ·									0.900	0.910		
Average Casing Hole Diameter, in						0.870							
Total Depth, in	_		0.930										
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		6.433 7.433											
Clearance, in	Burr Height, in	0.076 0.059	0.084	0.107	0.094	0.077	0.063	0.105	0.105	0.072	0.063		
Casing Hole Diameter, Short Axis, in 0.830 0.850 0.850 0.850 0.920 0.860 0.910 0.880 0.870 0.860 0.940 0.921 Casing Hole Diameter, Long Axis, in 0.890 0.880 0.930 0.920 0.930 0.920 0.930 0.920 0.930 0.870 0.960 0.940 0.921 Average Casing Hole Diameter, in 0.860 0.865 0.890 0.885 0.925 0.895 0.915 0.905 0.870 0.900 0.915 0.894 Total Depth, in 7.433 6.433 7.683 7.183 6.933 LOST 8.183 6.933 7.433 6.433 7.433 6.993 Burr Height, in 0.084 0.094 0.093 0.097 0.096 0.107 0.090 0.055 0.106 0.088 0.102 0.087 WITNESSING INFORMATION Date of Notice of Intent to Test: Jan 03rd 2003 Witnessed by: 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 manned 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	Shot No.	No. 12 No. 13	No. 14									~	
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Average Casing Hole Diameter, in	•												
Total Depth, in													
Burr Height, in													
WITNESSING INFORMATION Date of Notice of Intent to Test: Jan 03rd 2003 Witnessed by: J. Smirnoff (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													
Other Activities Witnessed: Target Pouring Briquette: Preparation Testing _X Burr Height Measurement _X Samples Taken: Concrete _X Casing _X		<u> </u>	0.033	0.037		<u> </u>							
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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.	not changed in any mannet for the test.	Furthermore, the equi	ipment was cho	osen at rand	dom from sto	ock and there	efore will be	e substantiall	lly the same a	as the equipm	ment, which	would be	
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X CERTIFIED BY Perferating Projects Manager 03/12/2003 Explosivos Tecnológicos Argentinos S.A. Ruta 25Km.13 Pilar- Bs.As. Argentina	X CERTIFIED BY \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ET Rerferating Pro	Perferating Projects Manager 03/12/20									Argentina	
RECERTIFIED (Title) (Date) (Company) (Address)	RECERTIFIED	RIO E. LATTANZIO	(Title)				(Company))		4)	(esendo		
PERFORETURE PRODUCTO Y SISTEMA													

API Form 19R-A