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: 7" DP HMX ExTrA! 12 SPF 135°

Charge Name: 39 grams HMX DP ExTrA!

Manufacturer Charge Part No.: TC47H ExTrA! Date of Manufacture:

Gun Type: High Shot Density Gun.

Phasing Tested: 135° degrees, Firing Order: ___ Top down X ___ Bottom up

Debris Description: Cases and loading tube debris keeps inside the gun

Explosive weight: 39 gm, HMX powder, Case Material: STEEL

Max Temp, °F: 400°F 1 hr ___ 3 hr ___ 24 hr ___ 100 hr ___ 200 hr

Maximum Pressure Rating: 13000 psi, Carrier Material: STEEL

Shot Density Tested: 12 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:

Casing Data: 9 5/8" OD, Weight: 47 lb/ft, API Grade: L-80 Date of Section 1 Test: 03 /15 /2010

Target Data: 150" OD, Amount of Cement: 31800 lb, Amount of Sand: 63600 lb, Amount of Water: 16520 lb.

Date of Compressive Strength Test: 03 / 16 / 2010 Briquette Compressive Strength: 6210 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.	0.000	1.394	0.758	0.205	1.681	0.205	0.758	1.394	0.000	1.394	0.758
Casing Hole Diameter, Short Axis, in	0.370	0.430	0.400	0.380	0.480	0.420	0.410	0.420	0.370	0.430	0.400
Casing Hole Diameter, Long Axis, in	0.420	0.440	0.450	0.400	0.520	0.450	0.430	0.430	0.430	0.460	0.410
Average Casing Hole Diameter, in.	0.395	0.435	0.425	0.390	0.500	0.435	0.420	0.425	0.400	0.445	0.405
Total Depth, in.	45.470	57.470	59.470	54.470	55.970	55.470	56.470	58.470	50.470	56.470	57.470
Burr Height, in.	0.056	0.019	0.059	0.031	0.034	0.038	0.030	0.055	0.057	0.021	0.049

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.	0.205	1.681	0.205	0.758	1.394	0.000	1.394	0.758				XXXXXX
Casing Hole Diameter, Short Axis, in	0.390	0.490	0.420	0.420	0.400	0.390	0.460	0.380				0.414
Casing Hole Diameter, Long Axis, in	0.420	0.520	0.430	0.440	0.420	0.450	0.480	0.430				0.444
Average Casing Hole Diameter, in.	0.405	0.505	0.425	0.430	0.410	0.420	0.470	0.405				0.429
Total Depth, in.	48.470	53.470	57.470	62.470	61.470	52.470	55.970	56.470				55.575
Burr Height, in.	0.056	0.065	0.041	0.025	0.048	0.068	0.042	0.065				0.045

Remarks:

Manufacturer's Certification

Type of Certification: ___ Self Jorge Smirnoff API W Third Party

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	Gabriel O. Scipioni	Explosives Plant Manager		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: 7" High Shot Density Gun ExTrA! With TC47H ExTrA! 39grams HMX DP

Name of test as it appears on application and application date: 7" High Shot Density Gun ExTrA! With TC47H ExTrA! 39grams HMX DP