



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 Explosive weight 39 gm, HMX powder, Case Material STEEL

Gun OD & Trade Name 4" DP HMX ExTra! 4 SPF 90° Max Temp, °F 400°F 1 hr 3 hr 24 hr 100 hr 200 hr

Charge Name 39 grams HMX DP ExTra! Maximum Pressure Rating 20000 psi, Carrier Material STEEL

Manufacturer Charge Part No. TC47H ExTra! Date of Manufacture Shot Density Tested 4 Shots/ft

Gun Type High Shot Density Gun. Recommended Minimum ID for Running in.

Phasing Tested 90° degrees, Firing Order: Top down X Bottom up Available Firing Mode: Selective X Simultaneous

Debris Description Cases and loading tube debris keeps inside the gun Debris Weight N/A gm/charge, Debris N/A in³/charge

Remarks/Exceptions per Section 1.11

Casing Data 5 1/2" OD, Weight 17 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 6175 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	0.405	0.892	0.405	0.000	0.405	0.892	0.405	0.000	0.405	0.892
Casing Hole Diameter, Short Axis, in	0.450	0.420	0.390	0.460	0.530	0.490	0.420	0.460	0.530	0.510	0.420
Casing Hole Diameter, Long Axis, in	0.490	0.450	0.400	0.490	0.540	0.510	0.430	0.490	0.540	0.520	0.450
Average Casing Hole Diameter, in.	0.465	0.435	0.395	0.475	0.535	0.500	0.425	0.475	0.535	0.515	0.435
Total Depth, in.	50.308	54.308	62.308	56.308	47.808	56.808	61.308	56.308	48.308	57.808	60.308
Burr Height, in.	0.055	0.047	0.027	0.076	0.080	0.058	0.035	0.068	0.059	0.065	0.022

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.	0.405											XXXXXX
Casing Hole Diameter, Short Axis, in	0.430											0.459
Casing Hole Diameter, Long Axis, in	0.440											0.478
Average Casing Hole Diameter, in.	0.435											0.469
Total Depth, in.	58.308											56.100
Burr Height, in.	0.040											0.053

Remarks

Manufacturer's Certification

Type of Certification: Self Jorge Smimoff APIW 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 March 17th 2010 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: 4" High Shot Density Gun ExTra! With TC47H ExTra! 39grams HMX DP

Name of test as it appears on application and application date: 4" High Shot Density Gun ExTra! With TC47H ExTra! 39grams HMX DP