



API Form 19B-Section 1 Conforms to All requirements of Section 1 Special test - See Remarks/Exceptions below

Service Company PROMPERFORATOR, LTD Explosive weight 15 gm, RDX Powder, Case Material Steel

Gun OD & Trade Name 2.5" Scorpion 64 Max Temp, °F 338 (170 °C) 1 hr 3 hr 24 hr 100 hr 200 hr

Charge Name Scorpion PP-15SBO Maximum Pressure Rating 20 305 (140 Mpa) psi, Carrier Material Steel

Manufacturer Charge Part No. 07 061 Date of Manufacture 26.06.2017 Shot Density Tested 4,9 Shots/ft 16 Shots/m

Gun Type Non Reusable Case Gun Recommended Minimum ID for Running 3,11 (79 mm) in.

Phasing Tested 60 degrees, Firing Order: Top down Bottom up Available Firing Mode: Selective Simultaneous

Debris Description N/A

Remarks/Exceptions per Section 1.12 casing 102 mm x 6,5 mm (4,0"x0,26") GOST 632-80 GRADE E

Casing Data 4 in. (102 mm) OD, Weight 11,0 (16,5 kg/m) lb/ft API Grade, N/A Date of Section 1 Test 21 August, 2017

Target Data 36 in. (910 mm) OD, Amount of Cement 1 393 (632 kg) lb, Amount of Sand 2 784 (1 263 kg) lb, Amount of Water 725 (329 kg) lb.

Date of Compressive Strength Test 21 August, 2017 Briquette Compressive Strength 6 309 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. (mm)	<u>0,45 (11,4)</u>	<u>0,51 (13,1)</u>	<u>0,78 (16,7)</u>	<u>0,73 (18,6)</u>	<u>0,78 (16,7)</u>	<u>0,51 (13,1)</u>	<u>0,45 (11,4)</u>	<u>0,51 (13,1)</u>	<u>0,78 (16,7)</u>	<u>0,73 (18,6)</u>	<u>0,78 (16,7)</u>
Casing Hole Diameter, Short Axis, in (mm)	<u>0,75 (19,0)</u>	<u>0,77 (19,5)</u>	<u>0,73 (18,5)</u>	<u>0,79 (20,0)</u>	<u>0,74 (18,9)</u>	<u>0,79 (20,0)</u>	<u>0,72 (18,4)</u>	<u>0,80 (20,3)</u>	<u>0,78 (19,7)</u>	<u>0,77 (19,5)</u>	<u>0,77 (19,5)</u>
Casing Hole Diameter, Long Axis, in (mm)	<u>0,84 (21,4)</u>	<u>0,83 (21,2)</u>	<u>0,76 (19,2)</u>	<u>0,94 (24,0)</u>	<u>0,79 (20,1)</u>	<u>0,85 (21,5)</u>	<u>0,79 (20,0)</u>	<u>0,81 (20,6)</u>	<u>0,83 (21,1)</u>	<u>0,89 (22,6)</u>	<u>0,85 (21,7)</u>
Average Casing Hole Diameter, in. (mm)	<u>0,80 (20,2)</u>	<u>0,80 (20,4)</u>	<u>0,74 (18,9)</u>	<u>0,87 (22,0)</u>	<u>0,77 (19,5)</u>	<u>0,82 (20,8)</u>	<u>0,76 (19,2)</u>	<u>0,81 (20,5)</u>	<u>0,80 (20,4)</u>	<u>0,83 (21,1)</u>	<u>0,81 (20,8)</u>
Total Depth, in. (mm)	<u>5,6 (143)</u>	<u>6,9 (177)</u>	<u>6,2 (157)</u>	<u>6,2 (157)</u>	<u>6,0 (152)</u>	<u>6,6 (167)</u>	<u>6,0 (152)</u>	<u>6,8 (172)</u>	<u>6,6 (167)</u>	<u>5,6 (142)</u>	<u>7,1 (182)</u>
Burr Height, in. (mm)	<u>0,08 (2,0)</u>	<u>0,07 (1,7)</u>	<u>0,08 (2,0)</u>	<u>0,00 (0,1)</u>	<u>0,08 (2,0)</u>	<u>0,07 (1,8)</u>	<u>0,09 (2,2)</u>	<u>0,11 (2,9)</u>	<u>0,06 (1,5)</u>	<u>0,00 (0,1)</u>	<u>0,03 (0,8)</u>

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. (mm)	<u>0,51 (13,1)</u>	<u>0,45 (11,4)</u>	<u>0,51 (13,1)</u>	<u>0,78 (16,7)</u>	<u>0,73 (18,6)</u>							<u>xxxx (xxxx)</u>
Casing Hole Diameter, Short Axis, in (mm)	<u>0,74 (18,7)</u>	<u>0,75 (19,0)</u>	<u>0,79 (20,0)</u>	<u>0,78 (19,7)</u>	<u>0,73 (18,5)</u>							<u>0,76 (19,3)</u>
Casing Hole Diameter, Long Axis, in (mm)	<u>0,86 (21,8)</u>	<u>0,78 (19,9)</u>	<u>0,89 (22,5)</u>	<u>0,86 (21,9)</u>	<u>0,84 (21,4)</u>							<u>0,84 (21,3)</u>
Average Casing Hole Diameter, in. (mm)	<u>0,80 (20,3)</u>	<u>0,77 (19,5)</u>	<u>0,84 (21,3)</u>	<u>0,82 (20,8)</u>	<u>0,79 (20,0)</u>							<u>0,80 (20,3)</u>
Total Depth, in. (mm)	<u>6,6 (167)</u>	<u>7,1 (182)</u>	<u>7,5 (190)</u>	<u>7,1 (182)</u>	<u>6,2 (157)</u>							<u>6,5 (165)</u>
Burr Height, in. (mm)	<u>0,07 (1,8)</u>	<u>0,09 (2,2)</u>	<u>0,08 (2,0)</u>	<u>0,04 (1,0)</u>	<u>0,04 (0,9)</u>							<u>0,06 (1,6)</u>

Remarks: Penetration normalized to 5000 psi by method of SPE 27424 (approx 3,8% (1000 psi) = 6,8 in (173 mm)

WITNESSING INFORMATION

Witnessed by: K.POLIAKOV 25 August 2017

Optionally Witnessed Activities: Target Pouring Briquette Preparation Briquette Testing Burr Height Measurements

I certify that these tests were made according to the procedures as outlined in API RP 19B: Recommended Practices for Evaluation of Well Perforators, Second Edition, September 2006. All of the equipment used in these tests, such as the guns, shaped charges, detonating 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. API neither endorses these test results nor recommends the use of the perforator system described.

Penetration data recorded in API RP19B Section 1 may not directly correlate to penetration downhole.

CERTIFIED BY A.V.Plotnikov Technical Director 25 August, 2017 PROMPERFORATOR, LTD 4, Proizvodstvennaya Street, Chapayevsk, 446100, RF
 (Company Official) (Title) (Date) (Company) (Address)

Name of test as it should appear on website: 2.5" Scorpion 64 w/charge Scorpion PP-15SBO, SBH

Name of test as it appears on application and application date: 2.5" Scorpion 64 w/charge Scorpion PP-15SBO, July 06, 2017

Figure 2-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 PROMPERFORATOR, LTD Explosive weight 15 gm, RDX Powder, Case Material Steel

Gun OD & Trade Name 2.5" Scorpion 64 Max Temp, °F 338 (170 °C) 1 hr 3 hr 24 hr 100 hr 200 hr

Charge Name Scorpion PP-15GP Maximum Pressure Rating 20 305 (140 Mpa) psi, Carrier Material Steel

Manufacturer Charge Part No. 07 060 Date of Manufacture 22.06.2017 Shot Density Tested 6,1 Shots/ft 20 Shots/m

Gun Type Non Reusable Case Gun Recommended Minimum ID for Running 3,11 (79 mm) in.

Phasing Tested 60 degrees, Firing Order: Top down Bottom up Available Firing Mode: Selective Simultaneous

Debris Description N/A

Remarks/Exceptions per Section 1.12 casing 102 mm x 6,5 mm (4,0"x0,26") GOST 632-80 GRADE E

Casing Data 4 in. (102 mm) OD, Weight 11,0 (16,5 kg/m) lb/ft, API Grade, N/A Date of Section 1 Test 21 August, 2017

Target Data 95 in. (2425 mm) OD, Amount of Cement 9 665 (4 384 kg) lb, Amount of Sand 19 332 (8 769 kg) lb, Amount of Water 5 027 (2 280 kg) lb.

Date of Compressive Strength Test 21 August, 2017 Briquette Compressive Strength 6 338 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. (mm)	0,45 (11,4)	0,51 (13,1)	0,78 (16,7)	0,73 (18,4)	0,78 (16,7)	0,51 (13,1)	0,45 (11,4)	0,51 (13,1)	0,78 (16,7)	0,73 (18,4)	0,78 (16,7)
Casing Hole Diameter, Short Axis, in (mm)	0,30 (7,7)	0,29 (7,4)	0,32 (8,1)	0,34 (8,6)	0,35 (8,8)	0,31 (8,0)	0,33 (8,4)	0,31 (7,9)	0,33 (8,4)	0,33 (8,3)	0,33 (8,4)
Casing Hole Diameter, Long Axis, in (mm)	0,31 (7,9)	0,33 (8,3)	0,34 (8,6)	0,36 (9,2)	0,35 (9,0)	0,32 (8,2)	0,37 (9,5)	0,31 (8,0)	0,34 (8,6)	0,35 (8,9)	0,33 (8,5)
Average Casing Hole Diameter, in. (mm)	0,31 (7,8)	0,31 (7,9)	0,33 (8,4)	0,36 (9,2)	0,35 (8,9)	0,32 (8,1)	0,35 (9,0)	0,31 (8,0)	0,33 (8,5)	0,34 (8,6)	0,33 (8,5)
Total Depth, in. (mm)	28,4 (722)	27,6 (702)	27,6 (702)	29,8 (757)	31,4 (797)	26,6 (677)	22,9 (582)	26,8 (682)	24,5 (622)	27,4 (697)	24,3 (617)
Burr Height, in. (mm)	0,04 (1,0)	0,04 (1,0)	0,04 (0,9)	0,06 (1,4)	0,04 (1,0)	0,04 (0,9)	0,03 (0,7)	0,04 (1,1)	0,04 (0,9)	0,04 (1,0)	0,04 (0,9)

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. (mm)	0,51 (13,1)	0,45 (11,4)	0,51 (13,1)	0,78 (16,7)	0,73 (18,4)	0,78 (16,7)	0,51 (13,1)	0,45 (11,4)	0,51 (13,1)			xxxx (xxxx)
Casing Hole Diameter, Short Axis, in (mm)	0,33 (8,5)	0,32 (8,2)	0,29 (7,3)	0,30 (7,5)	0,32 (8,2)	0,33 (8,4)	0,35 (9,0)	0,34 (8,7)	0,31 (7,8)			0,32 (8,2)
Casing Hole Diameter, Long Axis, in (mm)	0,35 (8,9)	0,35 (9,0)	0,31 (8,0)	0,35 (8,9)	0,33 (8,3)	0,33 (8,5)	0,37 (9,5)	0,36 (9,1)	0,31 (7,8)			0,34 (8,7)
Average Casing Hole Diameter, in. (mm)	0,34 (8,7)	0,34 (8,6)	0,30 (7,7)	0,32 (8,2)	0,32 (8,3)	0,61 (8,5)	0,36 (9,3)	0,35 (8,9)	0,31 (7,8)			0,33 (8,4)
Total Depth, in. (mm)	29,6 (752)	28,4 (722)	26,0 (662)	20,7 (527)	32,5 (827)	24,3 (617)	25,3 (642)	26,8 (682)	22,9 (582)			26,7 (678)
Burr Height, in. (mm)	0,04 (1,0)	0,03 (0,7)	0,04 (1,1)	0,04 (0,9)	0,03 (0,8)	0,04 (1,1)	0,05 (1,3)	0,04 (1,1)	0,03 (0,8)			0,04 (1,0)

Remarks: Penetration normalized to 5000 psi by method of SPE 27424 (approx 3,8% (1000 psi) = 28,0 in (712 mm)

WITNESSING INFORMATION

Witnessed by: K.POLIAKOV 25 August 2017

Optionally Witnessed Activities: Target Pouring Briquette Preparation Briquette Testing Burr Height Measurements

I certify that these tests were made according to the procedures as outlined in API RP 19B: Recommended Practices for Evaluation of Well Perforators, Second Edition, September 2006. All of the equipment used in these tests, such as the guns, shaped charges, detonating 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. API neither endorses these test results nor recommends the use of the perforator system described.

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 (Company Official) (Title) (Date) (Company) (Address)

Name of test as it should appear on website: 2.5" Scorpion 64 w/charge Scorpion PP-15GP, DP

Name of test as it appears on application and application date: 2.5" Scorpion 64 w/charge Scorpion PP-15GP, July 06, 2017

Figure 2-Data Sheet- Perforating System Evaluation, API RP 19B Section 1