



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 PROMPERFORATOR, LTD Explosive Weight 36 gm, HMX powder, Case Material Steel  
 Gun OD & Trade Name 4.5" Scorpion114, SDP Max Temp, °F 338 (170°C) 2hr \_\_\_\_\_ 5hr \_\_\_\_\_ 12hr \_\_\_\_\_ 30hr \_\_\_\_\_ 72hr \_\_\_\_\_  
 Charge Name Scorpion PP-36SGP Maximum Pressure Rating 11600 (80MPa) psi, Carrier Material Steel  
 Manufacturer Charge Part No. Scorpion PP-36SGP Date of Manufacture 12.05.2014 Shot Density Tested 4,88 shots/ft 16 shots/m  
 Gun Type Non Reusable Case Gun Recommended Minimum ID for Running 5,7 (145 mm) in.  
 Phasing Tested 60 degrees, Firing Order: x Top Down \_\_\_\_\_ Bottom up Available Firing Mode: \_\_\_\_\_ Selective \_\_\_\_\_ x \_\_\_\_\_ Simultaneous \_\_\_\_\_  
 Debris Description N/A Debris Weight N/A gm/charge, Debris N/A in/charge  
 Remarks/Exceptions per Section 1.11 casing 168 mm x8,9 mm (6,6"x0,35") GOST 632-80 GRADE E  
 Casing Data 6,6" (168 mm) OD, Weight 24,5 (36,5 kg/m) lb/ft API Grade, N/A Date of Section 1 Test 07 July, 2014  
 Target Data 144" (3650mm) OD, Amount of Cement 21045 (9546kg) lb, Amount of Sand 42090 (19092kg) lb, Amount of Water 10944 (4964kg) lb.  
 Date of Compressive Strength Test 07 July 2014 Briquette Compressive Strength 5686 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>0,57 (14,6)</u>	<u>0,79 (20,0)</u>	<u>1,11 (28,2)</u>	<u>1,20 (30,6)</u>	<u>0,96 (24,3)</u>	<u>0,65 (16,5)</u>	<u>0,57 (14,6)</u>	<u>0,79 (20,0)</u>	<u>1,11 (28,2)</u>	<u>1,20 (30,6)</u>	<u>0,96 (24,3)</u>
Casing Hole Diameter, Short Axis, in (mm)...	<u>0,39 (9,90)</u>	<u>0,42 (10,60)</u>	<u>0,41 (10,50)</u>	<u>0,47 (12,00)</u>	<u>0,38 (9,60)</u>	<u>0,38 (9,60)</u>	<u>0,42 (10,70)</u>	<u>0,41 (10,40)</u>	<u>0,35 (9,00)</u>	<u>0,50 (12,80)</u>	<u>0,38 (9,70)</u>
Casing Hole Diameter, Long Axis, in (mm)....	<u>0,49 (12,40)</u>	<u>0,46 (11,70)</u>	<u>0,44 (11,20)</u>	<u>0,55 (14,00)</u>	<u>0,39 (10,00)</u>	<u>0,38 (9,70)</u>	<u>0,44 (11,20)</u>	<u>0,43 (11,00)</u>	<u>0,39 (10,00)</u>	<u>0,53 (13,40)</u>	<u>0,39 (10,00)</u>
Average Casing Hole Diameter, in (mm).....	<u>0,44 (11,15)</u>	<u>0,44 (11,15)</u>	<u>0,43 (10,85)</u>	<u>0,51 (13,00)</u>	<u>0,39 (9,80)</u>	<u>0,38 (9,65)</u>	<u>0,43 (10,95)</u>	<u>0,42 (10,70)</u>	<u>0,37 (9,50)</u>	<u>0,52 (13,10)</u>	<u>0,39 (9,85)</u>
Total Depth, in (mm).....	<u>65,91 (1674)</u>	LOST	<u>66,30 (1684)</u>	LOST	<u>63,35 (1609)</u>	<u>45,83 (1164)</u>	<u>65,31 (1659)</u>	<u>67,68 (1719)</u>	<u>63,54 (1614)</u>	LOST	<u>59,21 (1504)</u>
Burr Height, in (mm).....	<u>0,16 (4,00)</u>	<u>0,09 (2,30)</u>	<u>0,07 (1,90)</u>	<u>0,08 (2,00)</u>	<u>0,06 (1,40)</u>	<u>0,06 (1,60)</u>	<u>0,07 (1,70)</u>	<u>0,07 (1,90)</u>	<u>0,08 (2,10)</u>	<u>0,07 (1,70)</u>	<u>0,12 (3,10)</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>0,65 (16,5)</u>	<u>0,57 (14,6)</u>	<u>0,79 (20,0)</u>	<u>1,11 (28,2)</u>	<u>1,20 (30,6)</u>							XXXXX XXXXXX
Casing Hole Diameter, Short Axis, in (mm)...	<u>0,44 (11,10)</u>	<u>0,39 (10,00)</u>	<u>0,37 (9,30)</u>	<u>0,44 (11,10)</u>	<u>0,45 (11,40)</u>							<u>0,41 (10,48)</u>
Casing Hole Diameter, Long Axis, in (mm)....	<u>0,47 (11,90)</u>	<u>0,42 (10,60)</u>	<u>0,39 (9,90)</u>	<u>0,45 (11,40)</u>	<u>0,47 (12,00)</u>							<u>0,44 (11,28)</u>
Average Casing Hole Diameter, in (mm).....	<u>0,45 (11,50)</u>	<u>0,41 (10,30)</u>	<u>0,38 (9,60)</u>	<u>0,44 (11,25)</u>	<u>0,46 (11,70)</u>							<u>0,43 (10,88)</u>
Total Depth, in (mm).....	<u>58,23 (1479)</u>	<u>55,67 (1414)</u>	<u>63,54 (1614)</u>	<u>58,15 (1477)</u>	<u>66,50 (1689)</u>							<u>61,48 (1562)</u>
Burr Height, in (mm).....	<u>0,07 (1,70)</u>	<u>0,08 (2,00)</u>	<u>0,06 (1,50)</u>	<u>0,05 (1,30)</u>	<u>0,08 (2,10)</u>							<u>0,08 (2,02)</u>

Remarks: Penetration normalized to 5000 psi by method of SPE 27424 (approx 3.8% (1000 psi) = 63,11 in (1603 mm))

Manufacturer's Certification

Type of Certification: x Self \_\_\_\_\_ 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 describes.

API Witness A.Tovmachenko  11 July, 2014  
(Date)

x CERTIFIED BY M.R.Khayrutdinov General Director 11 July, 2014 PROMPERFORATOR, LTD 41, Moscow street, Samara, Russia, 443080  
 RECERTIFIED BY \_\_\_\_\_ (Company Official) \_\_\_\_\_ (Title) \_\_\_\_\_ (Date) \_\_\_\_\_ (Company) \_\_\_\_\_ (Address)

Name of test as it should appear on website: 4.5" Scorpion 114 w/charge Scorpion PP-36SGP, SDP

Name of test as it appears on application and application date: 4.5" Scorpion 114 w/charge Scorpion PP-36SGP May 02, 2014