



## 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 Oiltech Services Pte. Ltd.  
 Gun OD & Trade Name 3-3/8" 6 SPF 60° Phase  
 Charge Name HSD 34BX 22.7g RDX XDP  
 Manufacturer Charge Part No. OT60184 Date of Manufacture 12 Sep 2011  
 Gun Type TCP, Wireline, Retrievable Tubular Carrier with scallop  
 Phasing Tested 60 degrees, Firing Order:  Top down  Bottom up  
 Debris Description N/A

Explosive weight 22.7 gm, RDX powder, Case Material Steel  
 Max Temp, °F 340 1 hr 3 hr 24 hr 100 hr 200 hr  
 Maximum Pressure Rating 20,000 psi, Carrier Material Steel  
 Shot Density Tested 6 Shots/ft \_\_\_\_\_  
 Recommended Minimum ID for Running 5" in.  
 Available Firing Mode: N/A Selective  Simultaneous  
 Debris Weight N/A gm/charge, Debris N/A in<sup>3</sup>/charge

Remarks/Exceptions per Section 1.11 The total depth include the thickness of the casing.

Casing Data 4-1/2" OD, Weight 11.6 lb/ft, API Grade, L-80 Date of Section 1 Test 16 Nov 2011  
 Target Data 85" OD, Amount of Cement 9,013 lb, Amount of Sand 18,023 lb, Amount of Water 4,696 lb.  
 Date of Compressive Strength Test 16 Nov 2011 Briquette Compressive Strength 6,543 psi, Age of Target 30 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.	0.00	0.14	0.45	0.62	0.45	0.14	0.00	0.14	0.45	0.62	0.45
Casing Hole Diameter, Short Axis, in	0.34	0.31	0.31	0.32	0.35	0.32	0.35	0.34	0.33	0.32	0.31
Casing Hole Diameter, Long Axis, in	0.36	0.34	0.33	0.34	0.37	0.35	0.36	0.36	0.35	0.33	0.33
Average Casing Hole Diameter, in.	0.35	0.33	0.32	0.33	0.36	0.34	0.36	0.35	0.34	0.33	0.32
Total Depth, in.	30.25	26.25*	22.25*	32.25	30.25	31.75	31.25	34.25	31.75	32.75	28.25
Burr Height, in.	0.04	0.02	0.05	0.06	0.05	0.04	0.06	0.06	0.06	0.06	0.06

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.	0.14	0.00	0.14	0.45	0.62	0.45	0.14	0.00	0.14	0.45		XXXXXX
Casing Hole Diameter, Short Axis, in	0.32	0.32	0.33	0.32	0.31	0.33	0.31	0.34	0.32	0.33		0.34
Casing Hole Diameter, Long Axis, in	0.34	0.34	0.35	0.34	0.34	0.34	0.33	0.35	0.33	0.34		0.34
Average Casing Hole Diameter, in.	0.33	0.33	0.34	0.33	0.33	0.34	0.32	0.35	0.33	0.34		0.34
Total Depth, in.	29.25	30.25	28.75	33.25	25.25*	30.25	30.25	23.25*	29.25	26.25*		31.06
Burr Height, in.	0.06	0.06	0.06	0.03	0.04	0.05	0.04	0.04	0.03	0.05		0.05

Remarks 100% penetration marked with " \* " could not be determined, and are not included in the average. The average penetration with compressive strength of 5,000 psi is 33.46" The above chartges were manufactured by Dahana Oiltech Joint Operation (DOJO), Indonesia

### Manufacturer's Certification

Type of Certification: \_\_\_\_\_ 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 described.

CERTIFIED BY Frankie Teo AGM 31 Aug 2012 Oiltech Services Pte Ltd Loyang Offshore Supply Base, 25 Loyang Crescent, B1k 302 TOPS Ave 3 #02-06, Singapore 508988  
 RECERTIFIED (Company Official) (Title) (Date) (Company) (Address)

Name of test as it should appear on website: 3-3/8", HSD 22.7g RDX XDP, 60° Phasing, 6 SPF

Name of test as it appears on application and application date: Charge: HSD 22.7g RDX XDP, Gun: 3-3/8", 6 SPF, 60° Phase Carrier