

Registered Data Sheet Perforating System Evaluation, API RP 19B Section 1

					SDP (12/14/2021)	e 4" 45G HMX (4.50" EXP Gun, 5SPF 90 Degree with Charge 4" 45G HMX SDP (12/14/2021)	Gun, 5SPF 90	4.50" EXF		on date:	tion and applicati	ppears on applicat	Name of test as it appears on application and application date:
						/IX, SDP	4.50" EXP Gun, 5SPF, 90 Degree with Charge 4", 45G, HMX, SDP	e with Char	PF, 90 Degre	XP Gun, 5SI	4.50" E	ebsite:	Name of test as it should appear on website:	lame of test as it s
	ÿ	(Address)			(Company)		(Date)	<i>(C</i>	(Title)	(II)		(Company Official)	(Co	
	:670	143 HCR 4361, Milford, TX 76670	143 HCR 43	Inc.	Hunting Titan, Inc.	Ŧ	12/14/2021	lanager	Energetics Plant Manager	Ene		Chris Sokolove	C	CERTIFIED BY
									ation downhole.	vrelate to penetr	not directly co	9B Section 1 may	Penetration data recorded in API RP19B Section 1 may not directly correlate to penetration downhole	^o enetration data re
	4	of Well Perforators, Third Edition, October 2014. All of the for the use in the gun being tested and was not changed in any manner ment, which would be furnished to perforate a well for any operator.	xer 2014. All of I was not chang Forate a well for	n of Well Perforators, Third Edition, October 2014. All of the for the use in the gun being tested and was not changed in any mar quipment, which would be furnished to perforate a well for any operator.	Perforators, Th. use in the gun which would be	n c quipi	ded Practices for Evaluatio equipment with our company substantially the same as the e ped.	nded Practices d equipment w substantiall ribed.	utlined in API RP 19B: Recommended tonating cord, etc., was standard equation stock and therefore will be suit the perforator system described.	utlined in API RE etonating cord, e from stock and if the perforate	rocedures as o ped charges, de n at random nends the use o	according to the procedures as ou as the guns, shaped charges, dei pment was chosen at random sults nor recommends the use of	E 5 6	I certify that these tests were mao equipment used in these tests, su for the test. Further more, the eq API neither endorses these test re
			×	Burr Height Measurements	Burr Height	×	Briquette Testing	E	ration	Briquette Preparation		Target Pouring	ed Activities:	Optionally Witnessed Activities.
^			2021	tness: 12/14/2021	Date of Witness:		WITNESSING INFORMATION	WITNESSIN	,	1	(g)	rvides	Francisco Ollervides	Witnessed by:
							d target.	from top of poured target	proximity <12in fr		not #1 and #2 di	by API auditor. Sh	Above data witnessed by API auditor. Shot #1 and #2 disqualified due-to	Kemarks: Ab
0.05			0.03	0.07	0.04	0.04	0.08	0.07	0.04	0.03	0.05			ht, in.
60.59			62.45	66.20	66.45	27.95	40.95	68.70	65.95	43.45	68.45			Total Depth, in.
0.40	-		0.42	0.37	0.37	0.41	0.37	0.42	0.39	0.43	0.38	:	le Diameter, in.	Average Casing Hole Diameter, in
0.30			0.42	0.37	0.38	0.42	0.38	0.43	0.39	0.44	0.39	:	ter, Long Axis, in	Casing Hole Diameter, Long Axis, in
0.26			0.00	0.36	0.36	0.40	0.36	0.41	0.38	0.42	0.37		ter, Short Axis, in	Casing Hole Diameter, Short Axis, in
Average	No 22	NO 21	08.0	0 00	080	0 68	0.80	0.92	0.80	0.68	0.80			Clearance, in.
	: }	2			No. 10	Mo 17	Mo 16	No 15	No 14	Mo 13	Mo 12			Shot No.
	0.04	0.05	0.08	0.05	0.04	0.08	0.06	0.04	0.07	DQ	DQ			Burr Height, in.
	69.95	69.45	63.45	65.70	62.45	64.70	63.70	63.95	56.70	DΩ	DQ			Total Depth, in.
	0.36	0.37	0.38	0.38	0.36	0.40	0.41	*0.40	0.41	Da	DΩ	:	ole Diameter, in.	Average Casing Hole Diameter, in.
	0.36	0.37	0.40	0.38	0.36	0.41	0.42	0.42	0.42	8	DΩ		eter, Long Axis, in	Casing Hole Diameter, Long Axis, in
	0.35	0.36	0.36	0.37	0.36	0.38	0.40	0.38	0.40	DQ	DQ		Casing Hole Diameter, Short Axis, in	Casing Hole Diam
	0.92	0.80	0.68	0.80	0.92	0.80	0.68	0.80	0.92	Da	DQ			Clearance, in.
	No 11	No 10	No 9	No 8	No 7	No 6	No 5	No 4	No 3	No 2	No 1			Shot No.
days		28	Target	Age of Target	psi,		Briquette Compressive Strength 5,538	ompressive S	Briquette (2/14/2021		pate of compressive strength rest	pate of complex
lb.	16,488	ter	Amount of Water	lb,	63,455		Amount of Sand	lb,	31,735	if Cement	Amount of Cement	ou,	16ZIN	rarger vara
	_	December 14th 2021	Decem	ion 1 Test	Date of Section 1 Test	L80	API Grade,	lb/ft,	32		Weight_	,00	7in	Casing Data
												2	Remarks/Exceptions per Section 1.12	Remarks/Exception
				1				ı				Steel Flakes	Stee	Debris Description
Simultaneous			×	Selective	1.05	×	Available Firing Mode:	,	Bottom up	Тор домп	×	es, Firing Order.	90 degrees,	Phasing Tested
5					4 92	for Runnina	Recommended Minimum ID for Running	Recomme		ble		Hollow Steel Carrier,	Hollo	Gun Type
Shots/ft		1. 0000	11.			5	ested	Shot Density T	10/29, 11/1 2021	Date of Manufacture 10/28, 10/29, 11/1 2021 Shot Density Tested		EXP-4045-421T	7	Manufacturer Charge Part No.
200 hr	100 Mr	T Stool	Material H	nsi Carrier		17 500	Maximum Pressure Rating	Maximum Pre			o o pogred	4" 45G HMX SDP		Charge Name
		eriai Steel	Case Ma	POWO	. _	45 9111,		May Tomp of			DE QU Degree	4 Sin EXP Gun ASE		Gun OD & Trade Name
				below	-xcept	ee Kemarks	. 6	Emberius	or oecuon i	Controlling to All requirements of Section 1	2	Titon Inc	_ •	Service Company
						,		-	on dian d	o du imamante	forms to All	/ 000	Section 1	API Form 19B-Section