

dugan production corp.

11/24/2008

Engineering Bureau
New Mexico Oil Conservation Division
1220 South St. Frances Drive (Pinon Bldg)
Santa Fe, NM 87505

RCVD NOV 25 '08

OIL CONS. DIV.

DIST. 3

Re: Molly Pitcher SWD 4, Step-Rate-Test Request

Gentlemen:

Dugan Production Corp. proposes to conduct a step-rate-test at the Molly Pitcher 4 SWD well. The well is located in Sec. 14, Twn. 30N, Rng 14W, 2610' FNL & 425' FEL. Injection is authorized by ADMINISTRATIVE ORDER SWD-840.

A wellbore schematic is attached.

Injection history is attached. Two pressure errors were noticed in review of these records. They are hand corrected on this report and will have a corrected C-115 filed.

The well was not fracture treated.

A bottom hole pressure recording device will be installed on slick line at the top perforation.

The well will be shut-in for 24 hrs. prior to commencement of the test.

Starting pump rate will be 0.5 bpm and increased at 0.5 bpm each 15 minutes.

Pumping equipment will be able to pump at the rates and pressures needed for the test.

Adequate water will be available to complete the test.

Casing and bradenhead pressures will be monitored during the test.

The wellhead equipment will be rated for the anticipated pressures.

The Aztec NMOCD office will be notified at least 24 hours before starting the test.

Sincerely

John Alexander
Vice President

CC:
New Mexico Oil Conservation Division
1000 Rio Brazos
Aztec, NM 87410

Attachments

CONDUCT BRADENHEAD TEST WITH WITNESS PRIOR TO START OF STEP RATE TEST.

Dugan Production Corp.
Molly Pitcher SWD 4
2620' fml & 425' fwl S. 4 - T. 30N - R. 14W
San Juan Co., NM

8-5/8" 24 lb/ft. casing @ 228'.
Cement to surface.

Stage Tool @ 1806'.

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Tubing 2-7/8" EUE 6.5 lb/ft. plastic lined.

Packer @ 4,068'. Baker AD-1 tension.

Perforations 4,132'-4,290' with one shot per two feet (total 78 holes)

5-1/2" 15.5 lb/ft. casing @ 4600'. Stage tool @ 1806'.
Stage 1 cement: 179 sx. Premium Lite FM with 8% gel, 5#/sx LCM-1,
1/4# celloflake and .4% sodium metasilicate.
Tailed with 245 sx. Type III cement with 1% CaCl₂ and 1/4# celloflake.
Circulate 5 bbls cement to surface.
Stage 2 cement: 200 sks. Premium Lite FM with 8% gel
5 lb/sk LCM-1, 1/4# celloflake, 0.4% sodium metasilicate, 3% CaCl₂.
Tailed with 75 sks. Type III cement with 1% CaCl₂ and 1/4# celloflake.
Circulate 10 bbls to surface.

Well ID: MOLP04		Name: MOLLY PITCHER 4 SWD								
	Date	Type No	Stroke Length	Amp	Htz	Pump Depth	Injection Vol	Injection Pressure	Annulus Pressure	Choke Size
1	11/1/2002	0 0	0.00	0.0	0.0	0	10355.00	350	0.00	
2	12/1/2002	0 0	0.00	0.0	0.0	0	25970.00	850	0.00	
3	1/1/2003	0 0	0.00	0.0	0.0	0	21396.00	400	0.00	
4	2/1/2003	0 0	0.00	0.0	0.0	0	45844.00	500	0.00	
5	3/1/2003	0 0	0.00	0.0	0.0	0	48670.00	500	0.00	
6	4/1/2003	0 0	0.00	0.0	0.0	0	48740.00	520	0.00	
7	5/1/2003	0 0	0.00	0.0	0.0	0	52400.00	580	0.00	
8	6/1/2003	0 0	0.00	0.0	0.0	0	56340.00	630	0.00	
9	7/1/2003	0 0	0.00	0.0	0.0	0	55807.00	630	0.00	
10	8/1/2003	0 0	0.00	0.0	0.0	0	56209.00	610	0.00	
11	9/1/2003	0 0	0.00	0.0	0.0	0	50053.00	625	0.00	
12	10/1/2003	0 0	0.00	0.0	0.0	0	26734.00	600	0.00	
13	11/1/2003	0 0	0.00	0.0	0.0	0	44780.00	600	0.00	
14	12/1/2003	0 0	0.00	0.0	0.0	0	40853.00	1675	0.00	
15	1/1/2004	0 0	0.00	0.0	0.0	0	39421.00	650	0.00	
16	2/1/2004	0 0	0.00	0.0	0.0	0	17613.00	600	0.00	
17	3/1/2004	0 0	0.00	0.0	0.0	0	37481.00	550	0.00	
18	4/1/2004	0 0	0.00	0.0	0.0	0	27912.00	550	0.00	
19	5/1/2004	0 0	0.00	0.0	0.0	0	38267.00	550	0.00	
20	6/1/2004	0 0	0.00	0.0	0.0	0	22212.00	430	0.00	
21	7/1/2004	0 0	0.00	0.0	0.0	0	38062.00	714	0.00	
22	8/1/2004	0 0	0.00	0.0	0.0	0	33625.00	700	0.00	
23	9/1/2004	0 0	0.00	0.0	0.0	0	52147.00	480	0.00	
24	10/1/2004	0 0	0.00	0.0	0.0	0	52251.00	400	0.00	
25	11/1/2004	0 0	0.00	0.0	0.0	0	52823.00	400	0.00	
26	12/1/2004	0 0	0.00	0.0	0.0	0	41245.00	400	0.00	
27	1/1/2005	0 0	0.00	0.0	0.0	0	45380.00	400	0.00	
28	2/1/2005	0 0	0.00	0.0	0.0	0	41238.00	620	0.00	
29	3/1/2005	0 0	0.00	0.0	0.0	0	22101.00	400	0.00	
30	4/1/2005	0 0	0.00	0.0	0.0	0	36172.00	465	0.00	
31	5/1/2005	0 0	0.00	0.0	0.0	0	13498.00	600	0.00	

Well ID:	MOLP04		Name:		MOLLY PITCHER 4 SWD						
	Date	Type	Ho	Stroke Length	Amp	Htz	Pump Depth	Injection Vol	Injection Pressure	Annulus Pressure	Choke Size
32	6/1/2005	0	0	0.00	0.0	0.0	0	29044.00	630	0.00	
33	7/1/2005	0	0	0.00	0.0	0.0	0	43433.00	760	0.00	
34	8/1/2005	0	0	0.00	0.0	0.0	0	52126.00	665	0.00	
35	9/1/2005	0	0	0.00	0.0	0.0	0	35580.00	640	0.00	
36	10/1/2005	0	0	0.00	0.0	0.0	0	45165.00	745	0.00	
37	11/1/2005	0	0	0.00	0.0	0.0	0	33197.00	630	0.00	
38	12/1/2005	0	0	0.00	0.0	0.0	0	38871.00	630	0.00	
39	1/1/2006	0	0	0.00	0.0	0.0	0	38064.00	640	0.00	
40	2/1/2006	0	0	0.00	0.0	0.0	0	26019.00	640	0.00	
41	3/1/2006	0	0	0.00	0.0	0.0	0	36260.00	640	0.00	
42	4/1/2006	0	0	0.00	0.0	0.0	0	46553.00	820	0.00	
43	5/1/2006	0	0	0.00	0.0	0.0	0	43395.00	900	0.00	
44	6/1/2006	0	0	0.00	0.0	0.0	0	40624.00	760	0.00	
45	7/1/2006	0	0	0.00	0.0	0.0	0	46609.00	820	0.00	
46	8/1/2006	0	0	0.00	0.0	0.0	0	39161.00	760	0.00	
47	9/1/2006	0	0	0.00	0.0	0.0	0	38130.00	800	0.00	
48	10/1/2006	0	0	0.00	0.0	0.0	0	42367.00	795	0.00	
49	11/1/2006	0	0	0.00	0.0	0.0	0	35720.00	795	0.00	
50	12/1/2006	0	0	0.00	0.0	0.0	0	37611.00	797	0.00	
51	1/1/2007	0	0	0.00	0.0	0.0	0	37668.00	800	0.00	
52	2/1/2007	0	0	0.00	0.0	0.0	0	32335.00	900	0.00	
53	3/1/2007	0	0	0.00	0.0	0.0	0	34962.00	900	0.00	
54	4/1/2007	0	0	0.00	0.0	0.0	0	36983.00	700	0.00	
55	5/1/2007	0	0	0.00	0.0	0.0	0	32639.00	700	0.00	
56	6/1/2007	0	0	0.00	0.0	0.0	0	75031.00	900	0.00	
57	7/1/2007	0	0	0.00	0.0	0.0	0	22807.00	675	0.00	
58	8/1/2007	0	0	0.00	0.0	0.0	0	24278.00	625	0.00	
59	9/1/2007	0	0	0.00	0.0	0.0	0	27381.00	700	0.00	
60	10/1/2007	0	0	0.00	0.0	0.0	0	35795.00	775	0.00	
61	11/1/2007	0	0	0.00	0.0	0.0	0	32752.00	780	0.00	
62	12/1/2007	0	0	0.00	0.0	0.0	0	29461.00	900	0.00	

Well ID	MOLPD4	Name	MOLLY PITCHER 4 SWD								
	Date	Type	No	Stroke Length	Amp	Hz	Pump Depth	Injection Vol	Injection Pressure	Annulus Pressure	Choke Size
63	1/1/2008	0	0	0.00	0.0	0.0	0	23116.00	700	0.00	
64	2/1/2008	0	0	0.00	0.0	0.0	0	29864.00	790	0.00	
65	3/1/2008	0	0	0.00	0.0	0.0	0	30362.00	753	0.00	
66	4/1/2008	0	0	0.00	0.0	0.0	0	29613.00	820	0.00	
67	5/1/2008	0	0	0.00	0.0	0.0	0	40739.00	750	0.00	
68	6/1/2008	0	0	0.00	0.0	0.0	0	23924.00	750	0.00	
69	7/1/2008	0	0	0.00	0.0	0.0	0	26204.00	750	0.00	
70	7/1/2008	0	0	0.00	0.0	0.0	0	29013.00	800	0.00	
71	8/1/2008	0	0	0.00	0.0	0.0	0	32555.00	820	0.00	

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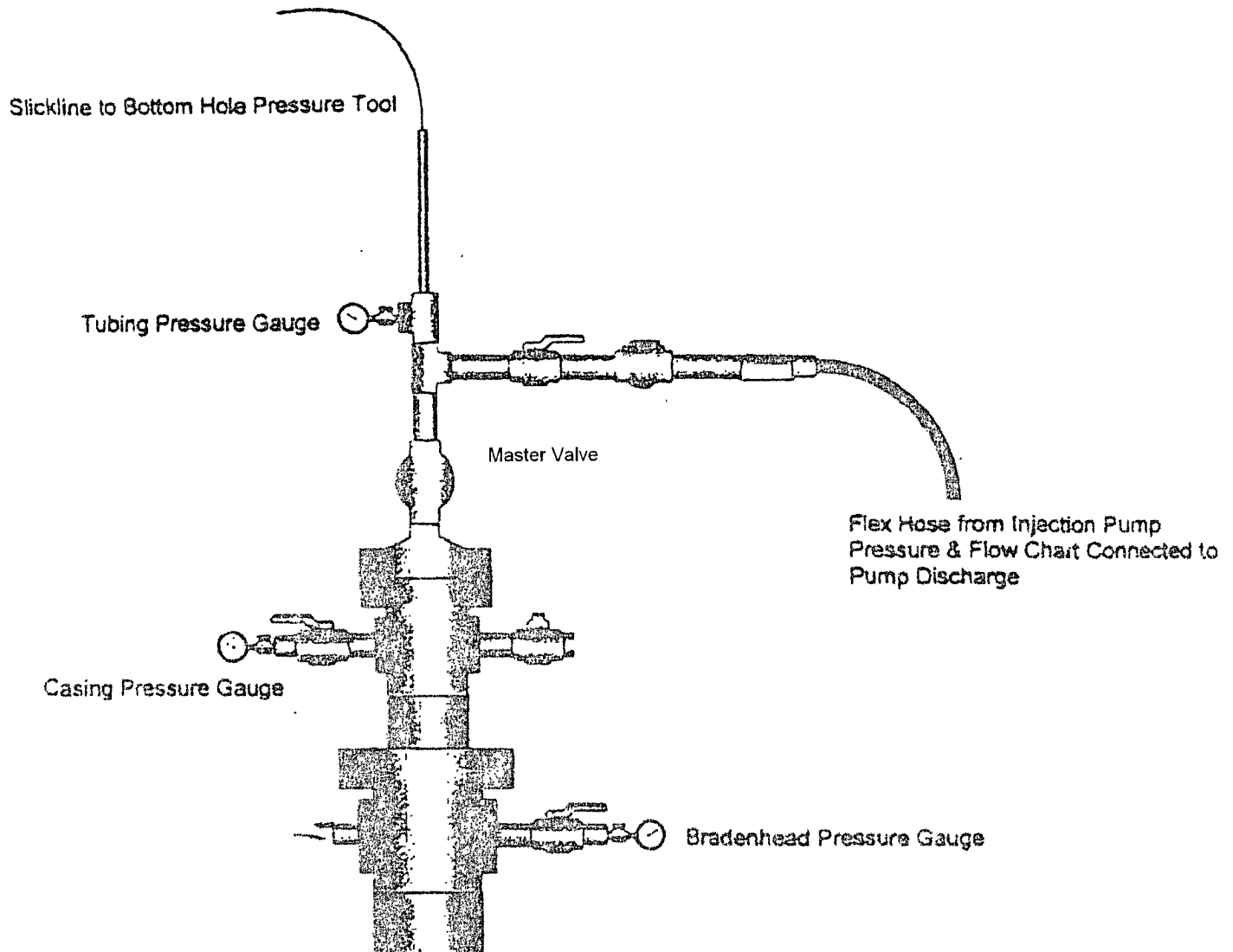
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Step Rate Test, Rig Up Diagram

Dugan Production Corp.
Molly Pitcher SWD 4
2620' fml & 425' fwl
S 4 - T. 30N - R. 14W
San Juan Co., NM



Molly Pitcher SWD 4
Rate-Volume

11/24/2008

Molly Pitcher SWD 4				
Water Required for SRT				
total time	min/step	Rate bpm	bbls/step	Cum Wtr
0.25	15	0.5	7.5	7.5
0.5	15	1	15	22.5
0.75	15	1.5	22.5	45
1	15	2	30	75
1.25	15	2.5	37.5	112.5
1.5	15	3	45	157.5
1.75	15	3.5	52.5	210
2	15	4	60	270
2.25	15	4.5	67.5	337.5
2.5	15	5	75	412.5
2.75	15	5.5	82.5	495
3	15	6	90	585
3.25	15	6.5	97.5	682.5
3.5	15	7	105	787.5
3.75	15	7.5	112.5	900
4	15	8	120	1020
4.25	15	8.5	127.5	1147.5
4.5	15	9	135	1282.5
4.75	15	9.5	142.5	1425
5	15	10	150	1575
5.25	15	10.5	157.5	1732.5
5.5	15	11	165	1897.5