

Bird dog 19 State #1H

Preliminary Completion Design
Lea Co. NM
2nd or 3rd Bone Spring Sand Horizontal

Conductor Casing		
Size - 20"		
Depth	100	ft.

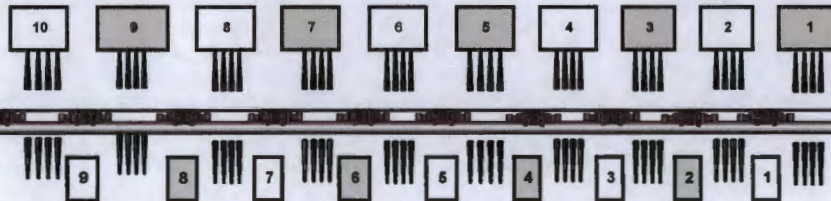
Surface Casing		
SIZE - 13.375"		
Depth	1,980	ft.

Intermediate Casing		
SIZE - 9.625"		
Depth	5,800	ft.

Production Casing		
SIZE - 5.5"		
Depth	16,345	ft.

CBP Sealing Depth		
NO	Plug	Depth
	Toe Stage #1	
1	4 1/2" CBP	15,757
2	4 1/2" CBP	15,307
3	4 1/2" CBP	14,857
4	4 1/2" CBP	14,407
5	4 1/2" CBP	13,957
6	4 1/2" CBP	13,507
7	4 1/2" CBP	13,057
8	4 1/2" CBP	12,607
9	4 1/2" CBP	12,157

Perforations = 180° - 60 deg Frasing								5 Clusters			8 Shots/Cluster		
Stage	Perforations	Perforations	Perforations	Perforations	Perforations	Perforations	Perforations	Perforations	Perforations	Perforations	Holes	Stage Size	Distance - Perfs
1	16,170	16,095	16,020	15,945	15,870	15,795	-	36	375	75			
2	16,720	16,645	16,570	16,495	16,420	16,345	-	36	375	75			
3	16,270	16,195	16,120	16,045	15,970	15,895	-	36	375	75			
4	14,820	14,745	14,670	14,595	14,520	14,445	-	36	375	75			
5	14,370	14,295	14,220	14,145	14,070	13,995	-	36	375	75			
6	13,920	13,845	13,770	13,695	13,620	13,545	-	36	375	75			
7	13,470	13,395	13,320	13,245	13,170	13,095	-	36	375	75			
8	13,020	12,945	12,870	12,795	12,720	12,645	-	36	375	75			
9	12,570	12,495	12,420	12,345	12,270	12,195	-	36	375	75			
10	12,120	12,045	11,970	11,895	11,820	11,745	-	36	375	75			



Fluid Totals		Proppant Totals		Job Summary Totals		Stages
15% NEFE HCL	30,000	30/50 White	2,750,000	Pad	39%	10
17# Linear Gel	150,000	30/50 CRC	400,000	Water Requirements (15% excess)	64,634	
17# Borate X-Link	2,120,000			Total Pump Time(hrs)	15.72	
Slickwater	160,000					
Total	57,857	bbls	3,150,000	lbs proppant		

DONE

Stage Description	Fluid Description	Proppant Description	Stage Clean Vol (gallons)	Total Clean Vol. (gallons)	Stage Slurry Vol. (gallons)	Prop Conc. (ppa)	Pump Rate (bpm)	Stage Time (min)	Total Time (min)	Stage Proppant (lbs)	Total Proppant (lbs)	Clean Rate BPM	Clean Stage BBLS	Clean Total BBLS	Slurry Rate BPM	Slurry Stage BBLS	Slurry Total BBLS	Blender Conc PPA	Blender Proppant Rate (lb/min)
1	Slickwater	Brkdwn	1,000	1,000	1,000	0.00	10.0	2.4	2.4	0	0	10.0	24	24	10.0	24	24	0.00	0
2	15% NEFE HCL	Acid	3,000	4,000	3,000	0.00	15.0	4.8	7.1	0	0	15.0	71	95	15.0	71	95	0.00	0
3	Slickwater	Acid Flush	15,000	19,000	15,000	0.00	70.0	5.1	12.2	0	0	70.0	357	452	70.0	357	452	0.00	0
4	17# Borate X-Link	Pad	60,000	79,000	60,000	0.00	70.0	20.4	32.7	0	0	70.0	1429	1881	70.0	1429	1881	0.00	0
5	17# Borate X-Link	30/50 White	20,000	99,000	20,453	0.50	70.0	7.0	39.6	10,000	10,000	68.4	476	2357	70.0	487	2368	0.50	1437
6	17# Borate X-Link	30/50 White	22,000	121,000	22,997	1.00	70.0	7.8	47.4	22,000	32,000	66.2	518	2875	69.2	542	2910	1.01	2813
7	17# Borate X-Link	30/50 White	22,000	143,000	23,495	1.50	70.0	8.0	55.4	33,000	65,000	61.1	488	3363	65.5	524	3433	1.61	4129
8	17# Borate X-Link	30/50 White	22,000	165,000	23,993	2.00	70.0	8.2	63.6	44,000	109,000	58.4	476	3840	64.2	524	3957	2.20	5392
9	17# Borate X-Link	30/50 White	24,000	189,000	26,718	2.50	70.0	9.1	72.7	60,000	169,000	57.2	520	4359	64.3	584	4542	2.75	6602
10	17# Borate X-Link	30/50 White	22,000	211,000	24,990	3.00	70.0	8.5	81.2	66,000	235,000	56.0	476	4836	64.4	548	5089	3.30	7765
11	17# Borate X-Link	30/50 White	10,000	221,000	11,812	4.00	70.0	4.0	85.2	40,000	275,000	52.6	211	5047	63.3	254	5343	4.51	9956
12	17# Borate X-Link	30/50 CRC	10,000	231,000	11,812	4.00	70.0	4.0	89.2	40,000	315,000	53.9	217	5263	64.6	260	5603	4.40	9956
16	17# Linear Gel	Flush	15,000	246,000	15,000	0.00	70.0	5.1	94.3	0	315,000	70.0	357	5620	70.0	357	5960	0.00	0



PROJECT DETAILS: Sec.19,T-21S,R-34E

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	11300.0	0.00	0.00	11300.0	0.0	0.0	0.00	0.00	0.0	KOP
3	12171.8	90.00	359.50	11855.0	555.0	-4.8	10.32	359.50	555.0	Land Curve
4	16345.3	91.51	359.49	11800.0	4727.8	-41.3	0.04	-0.43	4728.0	TD Lateral

