

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Morgan Hills 1A-7H-A168
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5048.70usft (ENS 140)
Project:	DJ BASIN	MD Reference:	23' KB @ 5048.70usft (ENS 140)
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	North Reference:	True
Well:	Morgan Hills 1A-7H-A168	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	PLAN #3		

Project	DJ BASIN		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)			
Site Position:		Northing:	1,265,216.88 usft	Latitude:	40.060530
From:	Lat/Long	Easting:	3,126,133.02 usft	Longitude:	-105.049370
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.29 °

Well	Morgan Hills 1A-7H-A168					
Well Position	+N/-S	0.00 usft	Northing:	1,269,405.88 usft	Latitude:	40.071988
	+E/-W	0.00 usft	Easting:	3,129,064.27 usft	Longitude:	-105.038820
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,025.70 usft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/7/2014	8.57	66.64	52,606

Design	PLAN #3				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,986.38	17.86	280.69	1,957.57	51.26	-271.43	1.00	1.00	0.00	280.69	
7,207.64	17.86	280.69	6,927.11	348.45	-1,845.27	0.00	0.00	0.00	0.00	
8,374.91	90.12	180.00	7,648.59	-368.07	-2,074.29	8.00	6.19	-8.63	-100.15	
17,814.89	90.12	180.00	7,628.00	-9,808.03	-2,074.29	0.00	0.00	0.00	0.00	MH 1A-7H-A168 PBH

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Wellbore:	HZ		
Design:	PLAN #3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	KOP @ 200'
300.00	1.00	280.69	299.99	0.16	-0.86	-0.16	1.00	1.00	
400.00	2.00	280.69	399.96	0.65	-3.43	-0.65	1.00	1.00	
500.00	3.00	280.69	499.86	1.46	-7.72	-1.46	1.00	1.00	
600.00	4.00	280.69	599.68	2.59	-13.71	-2.59	1.00	1.00	
700.00	5.00	280.69	699.37	4.05	-21.42	-4.05	1.00	1.00	
800.00	6.00	280.69	798.90	5.82	-30.84	-5.82	1.00	1.00	
900.00	7.00	280.69	898.26	7.92	-41.97	-7.92	1.00	1.00	
1,000.00	8.00	280.69	997.40	10.35	-54.79	-10.35	1.00	1.00	
1,001.31	8.01	280.69	998.70	10.38	-54.97	-10.38	1.00	1.00	Fox Hills - BASE
1,100.00	9.00	280.69	1,096.30	13.09	-69.32	-13.09	1.00	1.00	
1,200.00	10.00	280.69	1,194.93	16.15	-85.53	-16.15	1.00	1.00	
1,300.00	11.00	280.69	1,293.25	19.53	-103.44	-19.53	1.00	1.00	
1,400.00	12.00	280.69	1,391.25	23.23	-123.03	-23.23	1.00	1.00	
1,500.00	13.00	280.69	1,488.87	27.25	-144.30	-27.25	1.00	1.00	
1,600.00	14.00	280.69	1,586.11	31.58	-167.24	-31.58	1.00	1.00	
1,700.00	15.00	280.69	1,682.92	36.23	-191.84	-36.23	1.00	1.00	
1,800.00	16.00	280.69	1,779.29	41.18	-218.10	-41.18	1.00	1.00	
1,900.00	17.00	280.69	1,875.17	46.45	-246.01	-46.45	1.00	1.00	
1,986.38	17.86	280.69	1,957.57	51.26	-271.43	-51.26	1.00	1.00	EOB; INC=17.86°
2,000.00	17.86	280.69	1,970.54	52.03	-275.54	-52.03	0.00	0.00	
2,100.00	17.86	280.69	2,065.72	57.72	-305.68	-57.72	0.00	0.00	
2,200.00	17.86	280.69	2,160.90	63.42	-335.83	-63.42	0.00	0.00	
2,300.00	17.86	280.69	2,256.08	69.11	-365.97	-69.11	0.00	0.00	
2,400.00	17.86	280.69	2,351.26	74.80	-396.11	-74.80	0.00	0.00	
2,500.00	17.86	280.69	2,446.44	80.49	-426.26	-80.49	0.00	0.00	
2,600.00	17.86	280.69	2,541.61	86.18	-456.40	-86.18	0.00	0.00	
2,700.00	17.86	280.69	2,636.79	91.88	-486.54	-91.88	0.00	0.00	
2,800.00	17.86	280.69	2,731.97	97.57	-516.68	-97.57	0.00	0.00	
2,900.00	17.86	280.69	2,827.15	103.26	-546.83	-103.26	0.00	0.00	
3,000.00	17.86	280.69	2,922.33	108.95	-576.97	-108.95	0.00	0.00	
3,100.00	17.86	280.69	3,017.51	114.64	-607.11	-114.64	0.00	0.00	
3,200.00	17.86	280.69	3,112.69	120.34	-637.25	-120.34	0.00	0.00	
3,300.00	17.86	280.69	3,207.87	126.03	-667.40	-126.03	0.00	0.00	
3,400.00	17.86	280.69	3,303.05	131.72	-697.54	-131.72	0.00	0.00	
3,500.00	17.86	280.69	3,398.22	137.41	-727.68	-137.41	0.00	0.00	
3,600.00	17.86	280.69	3,493.40	143.10	-757.83	-143.10	0.00	0.00	
3,700.00	17.86	280.69	3,588.58	148.80	-787.97	-148.80	0.00	0.00	
3,800.00	17.86	280.69	3,683.76	154.49	-818.11	-154.49	0.00	0.00	
3,900.00	17.86	280.69	3,778.94	160.18	-848.25	-160.18	0.00	0.00	
4,000.00	17.86	280.69	3,874.12	165.87	-878.40	-165.87	0.00	0.00	
4,100.00	17.86	280.69	3,969.30	171.56	-908.54	-171.56	0.00	0.00	
4,200.00	17.86	280.69	4,064.48	177.26	-938.68	-177.26	0.00	0.00	
4,300.00	17.86	280.69	4,159.66	182.95	-968.83	-182.95	0.00	0.00	
4,400.00	17.86	280.69	4,254.83	188.64	-998.97	-188.64	0.00	0.00	
4,500.00	17.86	280.69	4,350.01	194.33	-1,029.11	-194.33	0.00	0.00	
4,600.00	17.86	280.69	4,445.19	200.02	-1,059.25	-200.02	0.00	0.00	
4,642.56	17.86	280.69	4,485.70	202.45	-1,072.08	-202.45	0.00	0.00	Sussex
4,700.00	17.86	280.69	4,540.37	205.72	-1,089.40	-205.72	0.00	0.00	
4,800.00	17.86	280.69	4,635.55	211.41	-1,119.54	-211.41	0.00	0.00	

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Wellbore:	HZ		
Design:	PLAN #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
4,900.00	17.86	280.69	4,730.73	217.10	-1,149.68	-217.10	0.00	0.00	
5,000.00	17.86	280.69	4,825.91	222.79	-1,179.83	-222.79	0.00	0.00	
5,100.00	17.86	280.69	4,921.09	228.48	-1,209.97	-228.48	0.00	0.00	
5,200.00	17.86	280.69	5,016.26	234.18	-1,240.11	-234.18	0.00	0.00	
5,238.28	17.86	280.69	5,052.70	236.36	-1,251.65	-236.36	0.00	0.00	Shannon
5,300.00	17.86	280.69	5,111.44	239.87	-1,270.25	-239.87	0.00	0.00	
5,400.00	17.86	280.69	5,206.62	245.56	-1,300.40	-245.56	0.00	0.00	
5,500.00	17.86	280.69	5,301.80	251.25	-1,330.54	-251.25	0.00	0.00	
5,600.00	17.86	280.69	5,396.98	256.94	-1,360.68	-256.94	0.00	0.00	
5,700.00	17.86	280.69	5,492.16	262.64	-1,390.83	-262.64	0.00	0.00	
5,800.00	17.86	280.69	5,587.34	268.33	-1,420.97	-268.33	0.00	0.00	
5,900.00	17.86	280.69	5,682.52	274.02	-1,451.11	-274.02	0.00	0.00	
6,000.00	17.86	280.69	5,777.70	279.71	-1,481.25	-279.71	0.00	0.00	
6,100.00	17.86	280.69	5,872.87	285.40	-1,511.40	-285.40	0.00	0.00	
6,200.00	17.86	280.69	5,968.05	291.10	-1,541.54	-291.10	0.00	0.00	
6,300.00	17.86	280.69	6,063.23	296.79	-1,571.68	-296.79	0.00	0.00	
6,400.00	17.86	280.69	6,158.41	302.48	-1,601.83	-302.48	0.00	0.00	
6,500.00	17.86	280.69	6,253.59	308.17	-1,631.97	-308.17	0.00	0.00	
6,600.00	17.86	280.69	6,348.77	313.86	-1,662.11	-313.86	0.00	0.00	
6,700.00	17.86	280.69	6,443.95	319.56	-1,692.25	-319.56	0.00	0.00	
6,800.00	17.86	280.69	6,539.13	325.25	-1,722.40	-325.25	0.00	0.00	
6,825.82	17.86	280.69	6,563.70	326.72	-1,730.18	-326.72	0.00	0.00	Teepee Buttes (*if present)
6,900.00	17.86	280.69	6,634.30	330.94	-1,752.54	-330.94	0.00	0.00	
7,000.00	17.86	280.69	6,729.48	336.63	-1,782.68	-336.63	0.00	0.00	
7,100.00	17.86	280.69	6,824.66	342.32	-1,812.82	-342.32	0.00	0.00	
7,200.00	17.86	280.69	6,919.84	348.02	-1,842.97	-348.02	0.00	0.00	
7,207.64	17.86	280.69	6,927.11	348.45	-1,845.27	-348.45	0.00	0.00	START BUILD/TURN
7,300.00	18.04	256.57	7,015.10	347.76	-1,873.14	-347.76	8.00	0.19	
7,400.00	21.25	234.58	7,109.39	333.63	-1,903.02	-333.63	8.00	3.21	
7,500.00	26.49	219.51	7,200.90	305.88	-1,932.02	-305.88	8.00	5.24	
7,600.00	32.79	209.49	7,287.82	265.04	-1,959.58	-265.04	8.00	6.30	
7,682.26	38.41	203.59	7,354.70	222.18	-1,980.79	-222.18	8.00	6.83	Sharon Springs
7,700.00	39.65	202.50	7,368.48	211.90	-1,985.16	-211.90	8.00	7.02	
7,759.29	43.88	199.27	7,412.70	175.00	-1,999.19	-175.00	8.00	7.13	Niobrara
7,800.00	46.83	197.32	7,441.30	147.51	-2,008.27	-147.51	8.00	7.24	
7,900.00	54.19	193.25	7,504.87	73.11	-2,028.46	-73.11	8.00	7.36	
7,933.18	56.66	192.07	7,523.70	46.45	-2,034.44	-46.45	8.00	7.44	B Chalk
7,982.98	60.38	190.41	7,549.70	4.80	-2,042.70	-4.80	8.00	7.48	B Marl
8,000.00	61.66	189.87	7,557.94	-9.85	-2,045.33	9.85	8.00	7.51	
8,100.00	69.21	186.95	7,599.49	-99.75	-2,058.55	99.75	8.00	7.55	
8,112.93	70.19	186.59	7,603.98	-111.80	-2,059.98	111.80	8.00	7.57	TPZ
8,200.00	76.80	184.30	7,628.71	-194.85	-2,067.87	194.85	8.00	7.59	
8,218.42	78.20	183.83	7,632.70	-212.79	-2,069.14	212.79	8.00	7.61	C Chalk
8,300.00	84.41	181.82	7,645.03	-293.29	-2,073.10	293.29	8.00	7.62	
8,374.91	90.12	180.00	7,648.59	-368.07	-2,074.29	368.07	8.00	7.63	LP @ 7648' TVD; 90.12°
8,400.00	90.12	180.00	7,648.54	-393.16	-2,074.29	393.16	0.00	0.00	
8,500.00	90.12	180.00	7,648.32	-493.16	-2,074.29	493.16	0.00	0.00	
8,600.00	90.12	180.00	7,648.10	-593.16	-2,074.29	593.16	0.00	0.00	
8,700.00	90.12	180.00	7,647.89	-693.16	-2,074.29	693.16	0.00	0.00	
8,800.00	90.12	180.00	7,647.67	-793.16	-2,074.29	793.16	0.00	0.00	
8,900.00	90.12	180.00	7,647.45	-893.16	-2,074.29	893.16	0.00	0.00	
9,000.00	90.12	180.00	7,647.23	-993.16	-2,074.29	993.16	0.00	0.00	

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Planned Survey

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9,100.00	90.12	180.00	7,647.01	-1,093.16	-2,074.29	1,093.16	0.00	0.00	
9,200.00	90.12	180.00	7,646.79	-1,193.16	-2,074.29	1,193.16	0.00	0.00	
9,300.00	90.12	180.00	7,646.58	-1,293.16	-2,074.29	1,293.16	0.00	0.00	
9,400.00	90.12	180.00	7,646.36	-1,393.16	-2,074.29	1,393.16	0.00	0.00	
9,500.00	90.12	180.00	7,646.14	-1,493.16	-2,074.29	1,493.16	0.00	0.00	
9,600.00	90.12	180.00	7,645.92	-1,593.16	-2,074.29	1,593.16	0.00	0.00	
9,700.00	90.12	180.00	7,645.70	-1,693.16	-2,074.29	1,693.16	0.00	0.00	
9,800.00	90.12	180.00	7,645.49	-1,793.16	-2,074.29	1,793.16	0.00	0.00	
9,900.00	90.12	180.00	7,645.27	-1,893.16	-2,074.29	1,893.16	0.00	0.00	
10,000.00	90.12	180.00	7,645.05	-1,993.16	-2,074.29	1,993.16	0.00	0.00	
10,100.00	90.12	180.00	7,644.83	-2,093.16	-2,074.29	2,093.16	0.00	0.00	
10,200.00	90.12	180.00	7,644.61	-2,193.16	-2,074.29	2,193.16	0.00	0.00	
10,300.00	90.12	180.00	7,644.39	-2,293.16	-2,074.29	2,293.16	0.00	0.00	
10,400.00	90.12	180.00	7,644.18	-2,393.16	-2,074.29	2,393.16	0.00	0.00	
10,500.00	90.12	180.00	7,643.96	-2,493.16	-2,074.29	2,493.16	0.00	0.00	
10,600.00	90.12	180.00	7,643.74	-2,593.16	-2,074.29	2,593.16	0.00	0.00	
10,700.00	90.12	180.00	7,643.52	-2,693.16	-2,074.29	2,693.16	0.00	0.00	
10,800.00	90.12	180.00	7,643.30	-2,793.15	-2,074.29	2,793.15	0.00	0.00	
10,900.00	90.12	180.00	7,643.09	-2,893.15	-2,074.29	2,893.15	0.00	0.00	
11,000.00	90.12	180.00	7,642.87	-2,993.15	-2,074.29	2,993.15	0.00	0.00	
11,100.00	90.12	180.00	7,642.65	-3,093.15	-2,074.29	3,093.15	0.00	0.00	
11,200.00	90.12	180.00	7,642.43	-3,193.15	-2,074.29	3,193.15	0.00	0.00	
11,300.00	90.12	180.00	7,642.21	-3,293.15	-2,074.29	3,293.15	0.00	0.00	
11,400.00	90.12	180.00	7,642.00	-3,393.15	-2,074.29	3,393.15	0.00	0.00	
11,500.00	90.12	180.00	7,641.78	-3,493.15	-2,074.29	3,493.15	0.00	0.00	
11,600.00	90.12	180.00	7,641.56	-3,593.15	-2,074.29	3,593.15	0.00	0.00	
11,700.00	90.12	180.00	7,641.34	-3,693.15	-2,074.29	3,693.15	0.00	0.00	
11,800.00	90.12	180.00	7,641.12	-3,793.15	-2,074.29	3,793.15	0.00	0.00	
11,900.00	90.12	180.00	7,640.90	-3,893.15	-2,074.29	3,893.15	0.00	0.00	
12,000.00	90.12	180.00	7,640.69	-3,993.15	-2,074.29	3,993.15	0.00	0.00	
12,100.00	90.12	180.00	7,640.47	-4,093.15	-2,074.29	4,093.15	0.00	0.00	
12,200.00	90.12	180.00	7,640.25	-4,193.15	-2,074.29	4,193.15	0.00	0.00	
12,300.00	90.12	180.00	7,640.03	-4,293.15	-2,074.29	4,293.15	0.00	0.00	
12,400.00	90.12	180.00	7,639.81	-4,393.15	-2,074.29	4,393.15	0.00	0.00	
12,500.00	90.12	180.00	7,639.60	-4,493.15	-2,074.29	4,493.15	0.00	0.00	
12,600.00	90.12	180.00	7,639.38	-4,593.15	-2,074.29	4,593.15	0.00	0.00	
12,700.00	90.12	180.00	7,639.16	-4,693.15	-2,074.29	4,693.15	0.00	0.00	
12,800.00	90.12	180.00	7,638.94	-4,793.15	-2,074.29	4,793.15	0.00	0.00	
12,900.00	90.12	180.00	7,638.72	-4,893.15	-2,074.29	4,893.15	0.00	0.00	
13,000.00	90.12	180.00	7,638.50	-4,993.15	-2,074.29	4,993.15	0.00	0.00	
13,100.00	90.12	180.00	7,638.29	-5,093.15	-2,074.29	5,093.15	0.00	0.00	
13,200.00	90.12	180.00	7,638.07	-5,193.15	-2,074.29	5,193.15	0.00	0.00	
13,300.00	90.12	180.00	7,637.85	-5,293.15	-2,074.29	5,293.15	0.00	0.00	
13,400.00	90.12	180.00	7,637.63	-5,393.15	-2,074.29	5,393.15	0.00	0.00	
13,500.00	90.12	180.00	7,637.41	-5,493.15	-2,074.29	5,493.15	0.00	0.00	
13,600.00	90.12	180.00	7,637.20	-5,593.15	-2,074.29	5,593.15	0.00	0.00	
13,700.00	90.12	180.00	7,636.98	-5,693.15	-2,074.29	5,693.15	0.00	0.00	
13,800.00	90.12	180.00	7,636.76	-5,793.15	-2,074.29	5,793.15	0.00	0.00	
13,900.00	90.12	180.00	7,636.54	-5,893.15	-2,074.29	5,893.15	0.00	0.00	
14,000.00	90.12	180.00	7,636.32	-5,993.15	-2,074.29	5,993.15	0.00	0.00	
14,100.00	90.12	180.00	7,636.10	-6,093.15	-2,074.29	6,093.15	0.00	0.00	
14,200.00	90.12	180.00	7,635.89	-6,193.15	-2,074.29	6,193.15	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Morgan Hills 1A-7H-A168
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5048.70usft (ENS 140)
Project:	DJ BASIN	MD Reference:	23' KB @ 5048.70usft (ENS 140)
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	North Reference:	True
Well:	Morgan Hills 1A-7H-A168	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	PLAN #3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
14,300.00	90.12	180.00	7,635.67	-6,293.15	-2,074.29	6,293.15	0.00	0.00	
14,400.00	90.12	180.00	7,635.45	-6,393.15	-2,074.29	6,393.15	0.00	0.00	
14,500.00	90.12	180.00	7,635.23	-6,493.15	-2,074.29	6,493.15	0.00	0.00	
14,600.00	90.12	180.00	7,635.01	-6,593.15	-2,074.29	6,593.15	0.00	0.00	
14,700.00	90.12	180.00	7,634.80	-6,693.15	-2,074.29	6,693.15	0.00	0.00	
14,800.00	90.12	180.00	7,634.58	-6,793.15	-2,074.29	6,793.15	0.00	0.00	
14,900.00	90.12	180.00	7,634.36	-6,893.15	-2,074.29	6,893.15	0.00	0.00	
15,000.00	90.12	180.00	7,634.14	-6,993.14	-2,074.29	6,993.14	0.00	0.00	
15,100.00	90.12	180.00	7,633.92	-7,093.14	-2,074.29	7,093.14	0.00	0.00	
15,200.00	90.12	180.00	7,633.70	-7,193.14	-2,074.29	7,193.14	0.00	0.00	
15,300.00	90.12	180.00	7,633.49	-7,293.14	-2,074.29	7,293.14	0.00	0.00	
15,400.00	90.12	180.00	7,633.27	-7,393.14	-2,074.29	7,393.14	0.00	0.00	
15,500.00	90.12	180.00	7,633.05	-7,493.14	-2,074.29	7,493.14	0.00	0.00	
15,600.00	90.12	180.00	7,632.83	-7,593.14	-2,074.29	7,593.14	0.00	0.00	
15,700.00	90.12	180.00	7,632.61	-7,693.14	-2,074.29	7,693.14	0.00	0.00	
15,800.00	90.12	180.00	7,632.40	-7,793.14	-2,074.29	7,793.14	0.00	0.00	
15,900.00	90.12	180.00	7,632.18	-7,893.14	-2,074.29	7,893.14	0.00	0.00	
16,000.00	90.12	180.00	7,631.96	-7,993.14	-2,074.29	7,993.14	0.00	0.00	
16,100.00	90.12	180.00	7,631.74	-8,093.14	-2,074.29	8,093.14	0.00	0.00	
16,200.00	90.12	180.00	7,631.52	-8,193.14	-2,074.29	8,193.14	0.00	0.00	
16,300.00	90.12	180.00	7,631.30	-8,293.14	-2,074.29	8,293.14	0.00	0.00	
16,400.00	90.12	180.00	7,631.09	-8,393.14	-2,074.29	8,393.14	0.00	0.00	
16,500.00	90.12	180.00	7,630.87	-8,493.14	-2,074.29	8,493.14	0.00	0.00	
16,600.00	90.12	180.00	7,630.65	-8,593.14	-2,074.29	8,593.14	0.00	0.00	
16,700.00	90.12	180.00	7,630.43	-8,693.14	-2,074.29	8,693.14	0.00	0.00	
16,800.00	90.12	180.00	7,630.21	-8,793.14	-2,074.29	8,793.14	0.00	0.00	
16,900.00	90.12	180.00	7,630.00	-8,893.14	-2,074.29	8,893.14	0.00	0.00	
17,000.00	90.12	180.00	7,629.78	-8,993.14	-2,074.29	8,993.14	0.00	0.00	
17,100.00	90.12	180.00	7,629.56	-9,093.14	-2,074.29	9,093.14	0.00	0.00	
17,200.00	90.12	180.00	7,629.34	-9,193.14	-2,074.29	9,193.14	0.00	0.00	
17,300.00	90.12	180.00	7,629.12	-9,293.14	-2,074.29	9,293.14	0.00	0.00	
17,400.00	90.12	180.00	7,628.91	-9,393.14	-2,074.29	9,393.14	0.00	0.00	
17,500.00	90.12	180.00	7,628.69	-9,493.14	-2,074.29	9,493.14	0.00	0.00	
17,600.00	90.12	180.00	7,628.47	-9,593.14	-2,074.29	9,593.14	0.00	0.00	
17,700.00	90.12	180.00	7,628.25	-9,693.14	-2,074.29	9,693.14	0.00	0.00	
17,800.00	90.12	180.00	7,628.03	-9,793.14	-2,074.29	9,793.14	0.00	0.00	
17,814.89	90.12	180.00	7,628.00	-9,808.03	-2,074.29	9,808.03	0.00	0.00	TD at 17814.89

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
MH 1A-7H-A168 PBHL	0.00	0.00	7,628.00	-9,808.03	-2,074.29	1,259,587.19	3,127,041.02	40.045063	-105.046229
- plan hits target center									
- Point									

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Morgan Hills 1A-7H-A168
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5048.70usft (ENS 140)
Project:	DJ BASIN	MD Reference:	23' KB @ 5048.70usft (ENS 140)
Site:	S7-T1N-R68W (Woolley-Sosa/Becky/Morgan Hills)	North Reference:	True
Well:	Morgan Hills 1A-7H-A168	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	PLAN #3		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,001.31	998.70	Fox Hills - BASE				
4,642.56	4,485.70	Sussex				
5,238.28	5,052.70	Shannon				
6,825.82	6,563.70	Teepee Buttes (*if present)				
7,682.26	7,354.70	Sharon Springs				
7,759.29	7,412.70	Niobrara				
7,933.18	7,523.70	B Chalk				
7,982.98	7,549.70	B Marl				
8,218.42	7,632.70	C Chalk				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.00	0.00	KOP @ 200'	
1,986.38	1,957.57	51.26	-271.43	EOB; INC=17.86°	
7,207.64	6,927.11	348.45	-1,845.27	START BUILD/TURN	
8,112.93	7,603.98	-111.80	-2,059.98	TPZ	
8,374.91	7,648.59	-368.07	-2,074.29	LP @ 7648' TVD; 90.12°	
17,814.89	7,628.00	-9,808.03	-2,074.29	TD at 17814.89	