



CRESTONE PEAK
RESOURCES

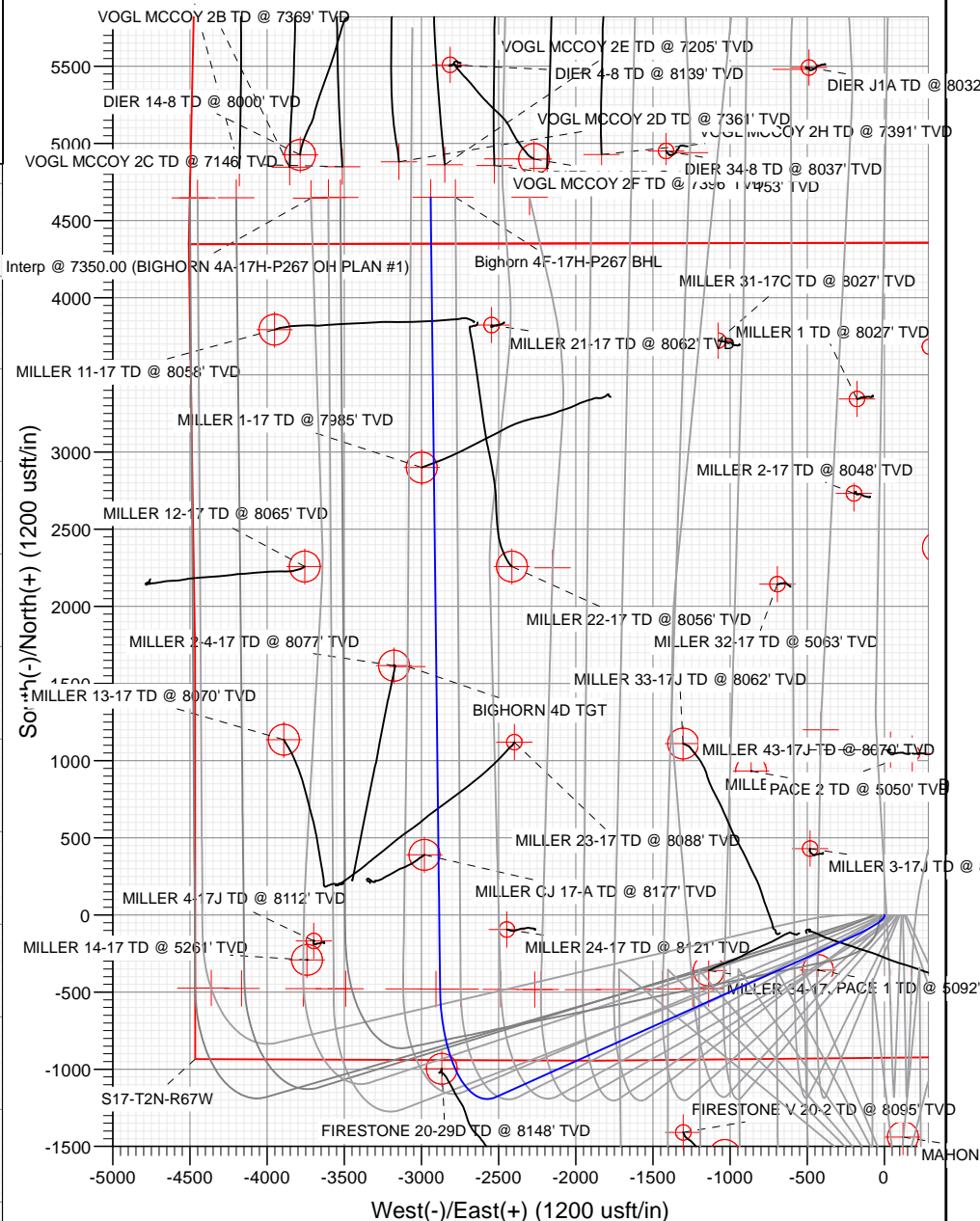
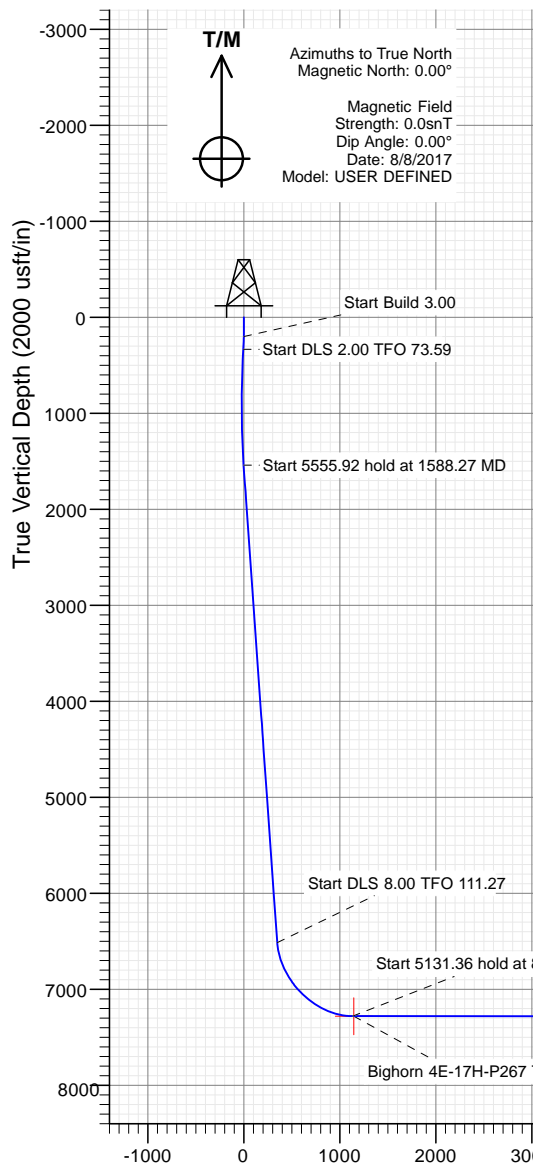
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	333.33	4.00	180.00	333.23	-4.65	0.00	3.00	180.00	-3.93	
4	1588.27	26.49	245.82	1540.12	-165.67	-259.48	2.00	73.59	-1.38	
5	7144.19	26.49	245.82	6512.73	-1180.92	-2520.15	0.00	0.00	348.48	
6	8397.28	90.00	359.32	7280.00	-480.36	-2879.15	8.00	111.27	1132.46	
7	13528.64	90.00	359.32	7280.00	4650.64	-2940.05	0.00	0.00	5502.03	Bighorn 4E-17H-P267 BHL

PLAN #1
BIGHORN 4E-17H-P267
23 KB @ 4959.00
Ground Level @ 4959.00
North American Datum 1983
Well BIGHORN 4E-17H-P267, True North

Type	Target	No Target (Freehand)	TVD	+N/-S	+E/-W	Latitude	Longitude
Name	Bighorn 4E-17H-P267 BHL		7280.00	4650.64	-2940.05	40.146450	-104.918536
	Bighorn 4E-17H-P267 TPZ		7280.00	-480.61	-2905.99	40.132364	-104.918412

Project: DJ BASIN
Site: BIGHORN
Well: BIGHORN 4E-17H-P267
Wellbore: OH
Design: PLAN #1



Vertical Section at 327.70° (2000 usft/in)

WELL DETAILS: BIGHORN 4E-17H-P267

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1292097.20	3165519.27	40.133684	-104.908019

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well BIGHORN 4E-17H-P267
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 4982.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 4982.00usft
Site:	BIGHORN	North Reference:	True
Well:	BIGHORN 4E-17H-P267	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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		BIGHORN			
Site Position:		Northing:	1,292,097.01 usft	Latitude:	40.133684
From:	Lat/Long	Easting:	3,165,479.29 usft	Longitude:	-104.908162
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	BIGHORN 4E-17H-P267					
Well Position	+N/-S	0.00 usft	Northing:	1,292,097.20 usft	Latitude:	40.133684
	+E/-W	0.00 usft	Easting:	3,165,519.27 usft	Longitude:	-104.908019
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,959.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	8/8/2017	0.00	0.00	0.00000000

Design	PLAN #1			
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	327.70

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	
333.33	4.00	180.00	333.23	-4.65	0.00	3.00	3.00	0.00	180.00	
1,588.27	26.49	245.82	1,540.12	-165.67	-259.48	2.00	1.79	5.24	73.59	
7,144.19	26.49	245.82	6,512.73	-1,180.92	-2,520.15	0.00	0.00	0.00	0.00	
8,397.28	90.00	359.32	7,280.00	-480.36	-2,879.15	8.00	5.07	9.06	111.27	
13,528.64	90.00	359.32	7,280.00	4,650.64	-2,940.05	0.00	0.00	0.00	0.00	Bighorn 4E-17H-P267

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well BIGHORN 4E-17H-P267
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 4982.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 4982.00usft
Site:	BIGHORN	North Reference:	True
Well:	BIGHORN 4E-17H-P267	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	
300.00	3.00	180.00	299.95	-2.62	0.00	-2.21	3.00	3.00	
333.33	4.00	180.00	333.23	-4.65	0.00	-3.93	3.00	3.00	
400.00	4.56	196.31	399.71	-9.52	-0.74	-7.65	2.00	0.84	
500.00	5.88	212.96	499.30	-17.64	-4.65	-12.42	2.00	1.33	
600.00	7.51	222.99	598.61	-26.72	-11.90	-16.23	2.00	1.63	
700.00	9.29	229.34	697.54	-36.76	-22.48	-19.06	2.00	1.77	
800.00	11.14	233.64	795.95	-47.75	-36.38	-20.92	2.00	1.85	
900.00	13.03	236.71	893.73	-59.67	-53.59	-21.80	2.00	1.89	
1,000.00	14.95	239.01	990.76	-72.50	-74.07	-21.70	2.00	1.92	
1,100.00	16.89	240.79	1,086.92	-86.24	-97.82	-20.62	2.00	1.94	
1,200.00	18.85	242.22	1,182.09	-100.86	-124.80	-18.57	2.00	1.95	
1,300.00	20.81	243.38	1,276.16	-116.35	-154.97	-15.54	2.00	1.96	
1,400.00	22.77	244.36	1,369.01	-132.68	-188.30	-11.53	2.00	1.97	
1,500.00	24.75	245.18	1,460.53	-149.84	-224.75	-6.56	2.00	1.97	
1,588.27	26.49	245.82	1,540.12	-165.67	-259.48	-1.38	2.00	1.98	
1,600.00	26.49	245.82	1,550.62	-167.81	-264.25	-0.64	0.00	0.00	
1,700.00	26.49	245.82	1,640.12	-186.08	-304.94	5.66	0.00	0.00	
1,800.00	26.49	245.82	1,729.62	-204.36	-345.63	11.96	0.00	0.00	
1,900.00	26.49	245.82	1,819.12	-222.63	-386.32	18.25	0.00	0.00	
2,000.00	26.49	245.82	1,908.62	-240.90	-427.01	24.55	0.00	0.00	
2,100.00	26.49	245.82	1,998.12	-259.18	-467.70	30.85	0.00	0.00	
2,200.00	26.49	245.82	2,087.62	-277.45	-508.39	37.14	0.00	0.00	
2,300.00	26.49	245.82	2,177.12	-295.72	-549.08	43.44	0.00	0.00	
2,400.00	26.49	245.82	2,266.62	-314.00	-589.76	49.74	0.00	0.00	
2,500.00	26.49	245.82	2,356.13	-332.27	-630.45	56.03	0.00	0.00	
2,600.00	26.49	245.82	2,445.63	-350.54	-671.14	62.33	0.00	0.00	
2,700.00	26.49	245.82	2,535.13	-368.82	-711.83	68.63	0.00	0.00	
2,800.00	26.49	245.82	2,624.63	-387.09	-752.52	74.92	0.00	0.00	
2,900.00	26.49	245.82	2,714.13	-405.36	-793.21	81.22	0.00	0.00	
3,000.00	26.49	245.82	2,803.63	-423.64	-833.90	87.52	0.00	0.00	
3,100.00	26.49	245.82	2,893.13	-441.91	-874.59	93.82	0.00	0.00	
3,200.00	26.49	245.82	2,982.63	-460.18	-915.28	100.11	0.00	0.00	
3,300.00	26.49	245.82	3,072.13	-478.46	-955.97	106.41	0.00	0.00	
3,400.00	26.49	245.82	3,161.64	-496.73	-996.66	112.71	0.00	0.00	
3,500.00	26.49	245.82	3,251.14	-515.00	-1,037.35	119.00	0.00	0.00	
3,600.00	26.49	245.82	3,340.64	-533.28	-1,078.04	125.30	0.00	0.00	
3,700.00	26.49	245.82	3,430.14	-551.55	-1,118.73	131.60	0.00	0.00	
3,800.00	26.49	245.82	3,519.64	-569.82	-1,159.42	137.89	0.00	0.00	
3,900.00	26.49	245.82	3,609.14	-588.10	-1,200.11	144.19	0.00	0.00	
4,000.00	26.49	245.82	3,698.64	-606.37	-1,240.80	150.49	0.00	0.00	
4,100.00	26.49	245.82	3,788.14	-624.64	-1,281.49	156.78	0.00	0.00	
4,200.00	26.49	245.82	3,877.64	-642.92	-1,322.18	163.08	0.00	0.00	
4,300.00	26.49	245.82	3,967.15	-661.19	-1,362.87	169.38	0.00	0.00	
4,400.00	26.49	245.82	4,056.65	-679.46	-1,403.56	175.68	0.00	0.00	
4,500.00	26.49	245.82	4,146.15	-697.74	-1,444.24	181.97	0.00	0.00	
4,600.00	26.49	245.82	4,235.65	-716.01	-1,484.93	188.27	0.00	0.00	
4,700.00	26.49	245.82	4,325.15	-734.28	-1,525.62	194.57	0.00	0.00	
4,800.00	26.49	245.82	4,414.65	-752.56	-1,566.31	200.86	0.00	0.00	
4,900.00	26.49	245.82	4,504.15	-770.83	-1,607.00	207.16	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well BIGHORN 4E-17H-P267
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 4982.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 4982.00usft
Site:	BIGHORN	North Reference:	True
Well:	BIGHORN 4E-17H-P267	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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
5,000.00	26.49	245.82	4,593.65	-789.10	-1,647.69	213.46	0.00	0.00	
5,100.00	26.49	245.82	4,683.15	-807.38	-1,688.38	219.75	0.00	0.00	
5,200.00	26.49	245.82	4,772.66	-825.65	-1,729.07	226.05	0.00	0.00	
5,300.00	26.49	245.82	4,862.16	-843.93	-1,769.76	232.35	0.00	0.00	
5,400.00	26.49	245.82	4,951.66	-862.20	-1,810.45	238.65	0.00	0.00	
5,500.00	26.49	245.82	5,041.16	-880.47	-1,851.14	244.94	0.00	0.00	
5,600.00	26.49	245.82	5,130.66	-898.75	-1,891.83	251.24	0.00	0.00	
5,700.00	26.49	245.82	5,220.16	-917.02	-1,932.52	257.54	0.00	0.00	
5,800.00	26.49	245.82	5,309.66	-935.29	-1,973.21	263.83	0.00	0.00	
5,900.00	26.49	245.82	5,399.16	-953.57	-2,013.90	270.13	0.00	0.00	
6,000.00	26.49	245.82	5,488.66	-971.84	-2,054.59	276.43	0.00	0.00	
6,100.00	26.49	245.82	5,578.17	-990.11	-2,095.28	282.72	0.00	0.00	
6,200.00	26.49	245.82	5,667.67	-1,008.39	-2,135.97	289.02	0.00	0.00	
6,300.00	26.49	245.82	5,757.17	-1,026.66	-2,176.66	295.32	0.00	0.00	
6,400.00	26.49	245.82	5,846.67	-1,044.93	-2,217.35	301.61	0.00	0.00	
6,500.00	26.49	245.82	5,936.17	-1,063.21	-2,258.03	307.91	0.00	0.00	
6,600.00	26.49	245.82	6,025.67	-1,081.48	-2,298.72	314.21	0.00	0.00	
6,700.00	26.49	245.82	6,115.17	-1,099.75	-2,339.41	320.51	0.00	0.00	
6,800.00	26.49	245.82	6,204.67	-1,118.03	-2,380.10	326.80	0.00	0.00	
6,900.00	26.49	245.82	6,294.17	-1,136.30	-2,420.79	333.10	0.00	0.00	
7,000.00	26.49	245.82	6,383.68	-1,154.57	-2,461.48	339.40	0.00	0.00	
7,100.00	26.49	245.82	6,473.18	-1,172.85	-2,502.17	345.69	0.00	0.00	
7,144.19	26.49	245.82	6,512.73	-1,180.92	-2,520.15	348.48	0.00	0.00	
7,200.00	25.19	255.63	6,562.98	-1,188.97	-2,543.02	353.89	8.00	-2.33	
7,300.00	24.65	274.64	6,653.81	-1,192.57	-2,584.50	373.01	8.00	-0.54	
7,400.00	26.48	292.76	6,744.16	-1,182.24	-2,625.91	403.87	8.00	1.82	
7,500.00	30.24	307.69	6,832.25	-1,158.18	-2,666.46	445.88	8.00	3.76	
7,600.00	35.32	319.15	6,916.38	-1,120.86	-2,705.36	498.21	8.00	5.08	
7,700.00	41.23	327.89	6,994.91	-1,071.00	-2,741.84	559.85	8.00	5.91	
7,800.00	47.66	334.71	7,066.31	-1,009.58	-2,775.20	629.59	8.00	6.43	
7,900.00	54.41	340.23	7,129.19	-937.78	-2,804.79	706.09	8.00	6.75	
8,000.00	61.38	344.88	7,182.33	-857.02	-2,830.04	787.85	8.00	6.97	
8,100.00	68.48	348.94	7,224.69	-768.85	-2,850.44	873.27	8.00	7.11	
8,200.00	75.68	352.62	7,255.44	-675.01	-2,865.62	960.71	8.00	7.19	
8,300.00	82.93	356.07	7,274.00	-577.30	-2,875.26	1,048.44	8.00	7.25	
8,397.28	90.00	359.32	7,280.00	-480.36	-2,879.15	1,132.46	8.00	7.27	
8,397.35	90.00	359.32	7,280.00	-480.29	-2,879.15	1,132.52	0.00	0.00	Bighorn 4E-17H-P267 TPZ
8,400.00	90.00	359.32	7,280.00	-477.64	-2,879.18	1,134.78	0.00	0.00	
8,500.00	90.00	359.32	7,280.00	-377.65	-2,880.37	1,219.94	0.00	0.00	
8,600.00	90.00	359.32	7,280.00	-277.65	-2,881.56	1,305.09	0.00	0.00	
8,700.00	90.00	359.32	7,280.00	-177.66	-2,882.74	1,390.24	0.00	0.00	
8,800.00	90.00	359.32	7,280.00	-77.67	-2,883.93	1,475.40	0.00	0.00	
8,900.00	90.00	359.32	7,280.00	22.33	-2,885.12	1,560.55	0.00	0.00	
9,000.00	90.00	359.32	7,280.00	122.32	-2,886.30	1,645.71	0.00	0.00	
9,100.00	90.00	359.32	7,280.00	222.31	-2,887.49	1,730.86	0.00	0.00	
9,200.00	90.00	359.32	7,280.00	322.30	-2,888.68	1,816.01	0.00	0.00	
9,300.00	90.00	359.32	7,280.00	422.30	-2,889.86	1,901.17	0.00	0.00	
9,400.00	90.00	359.32	7,280.00	522.29	-2,891.05	1,986.32	0.00	0.00	
9,500.00	90.00	359.32	7,280.00	622.28	-2,892.24	2,071.48	0.00	0.00	
9,600.00	90.00	359.32	7,280.00	722.28	-2,893.42	2,156.63	0.00	0.00	
9,700.00	90.00	359.32	7,280.00	822.27	-2,894.61	2,241.79	0.00	0.00	
9,800.00	90.00	359.32	7,280.00	922.26	-2,895.80	2,326.94	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well BIGHORN 4E-17H-P267
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 4982.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 4982.00usft
Site:	BIGHORN	North Reference:	True
Well:	BIGHORN 4E-17H-P267	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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
9,900.00	90.00	359.32	7,280.00	1,022.26	-2,896.98	2,412.09	0.00	0.00	
10,000.00	90.00	359.32	7,280.00	1,122.25	-2,898.17	2,497.25	0.00	0.00	
10,100.00	90.00	359.32	7,280.00	1,222.24	-2,899.36	2,582.40	0.00	0.00	
10,200.00	90.00	359.32	7,280.00	1,322.23	-2,900.54	2,667.56	0.00	0.00	
10,300.00	90.00	359.32	7,280.00	1,422.23	-2,901.73	2,752.71	0.00	0.00	
10,400.00	90.00	359.32	7,280.00	1,522.22	-2,902.92	2,837.86	0.00	0.00	
10,500.00	90.00	359.32	7,280.00	1,622.21	-2,904.10	2,923.02	0.00	0.00	
10,600.00	90.00	359.32	7,280.00	1,722.21	-2,905.29	3,008.17	0.00	0.00	
10,700.00	90.00	359.32	7,280.00	1,822.20	-2,906.48	3,093.33	0.00	0.00	
10,800.00	90.00	359.32	7,280.00	1,922.19	-2,907.66	3,178.48	0.00	0.00	
10,900.00	90.00	359.32	7,280.00	2,022.19	-2,908.85	3,263.63	0.00	0.00	
11,000.00	90.00	359.32	7,280.00	2,122.18	-2,910.04	3,348.79	0.00	0.00	
11,100.00	90.00	359.32	7,280.00	2,222.17	-2,911.23	3,433.94	0.00	0.00	
11,200.00	90.00	359.32	7,280.00	2,322.16	-2,912.41	3,519.10	0.00	0.00	
11,300.00	90.00	359.32	7,280.00	2,422.16	-2,913.60	3,604.25	0.00	0.00	
11,400.00	90.00	359.32	7,280.00	2,522.15	-2,914.79	3,689.41	0.00	0.00	
11,500.00	90.00	359.32	7,280.00	2,622.14	-2,915.97	3,774.56	0.00	0.00	
11,600.00	90.00	359.32	7,280.00	2,722.14	-2,917.16	3,859.71	0.00	0.00	
11,700.00	90.00	359.32	7,280.00	2,822.13	-2,918.35	3,944.87	0.00	0.00	
11,800.00	90.00	359.32	7,280.00	2,922.12	-2,919.53	4,030.02	0.00	0.00	
11,900.00	90.00	359.32	7,280.00	3,022.11	-2,920.72	4,115.18	0.00	0.00	
12,000.00	90.00	359.32	7,280.00	3,122.11	-2,921.91	4,200.33	0.00	0.00	
12,100.00	90.00	359.32	7,280.00	3,222.10	-2,923.09	4,285.48	0.00	0.00	
12,200.00	90.00	359.32	7,280.00	3,322.09	-2,924.28	4,370.64	0.00	0.00	
12,300.00	90.00	359.32	7,280.00	3,422.09	-2,925.47	4,455.79	0.00	0.00	
12,400.00	90.00	359.32	7,280.00	3,522.08	-2,926.65	4,540.95	0.00	0.00	
12,500.00	90.00	359.32	7,280.00	3,622.07	-2,927.84	4,626.10	0.00	0.00	
12,600.00	90.00	359.32	7,280.00	3,722.07	-2,929.03	4,711.25	0.00	0.00	
12,700.00	90.00	359.32	7,280.00	3,822.06	-2,930.21	4,796.41	0.00	0.00	
12,800.00	90.00	359.32	7,280.00	3,922.05	-2,931.40	4,881.56	0.00	0.00	
12,900.00	90.00	359.32	7,280.00	4,022.04	-2,932.59	4,966.72	0.00	0.00	
13,000.00	90.00	359.32	7,280.00	4,122.04	-2,933.77	5,051.87	0.00	0.00	
13,100.00	90.00	359.32	7,280.00	4,222.03	-2,934.96	5,137.03	0.00	0.00	
13,200.00	90.00	359.32	7,280.00	4,322.02	-2,936.15	5,222.18	0.00	0.00	
13,300.00	90.00	359.32	7,280.00	4,422.02	-2,937.33	5,307.33	0.00	0.00	
13,400.00	90.00	359.32	7,280.00	4,522.01	-2,938.52	5,392.49	0.00	0.00	
13,500.00	90.00	359.32	7,280.00	4,622.00	-2,939.71	5,477.64	0.00	0.00	
13,528.64	90.00	359.32	7,280.00	4,650.64	-2,940.05	5,502.03	0.00	0.00	Bighorn 4E-17H-P267 BHL

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									
Bighorn 4E-17H-P267 T	0.00	0.00	7,280.00	-480.61	-2,905.99	1,291,597.20	3,162,616.56	40.132364	-104.918412
- plan misses target center by 26.84usft at 8397.35usft MD (7280.00 TVD, -480.29 N, -2879.15 E)									
- Point									
Bighorn 4E-17H-P267 B	0.00	0.00	7,280.00	4,650.64	-2,940.05	1,296,728.11	3,162,548.24	40.146450	-104.918536
- plan hits target center									
- Point									

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well BIGHORN 4E-17H-P267
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 4982.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 4982.00usft
Site:	BIGHORN	North Reference:	True
Well:	BIGHORN 4E-17H-P267	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		