



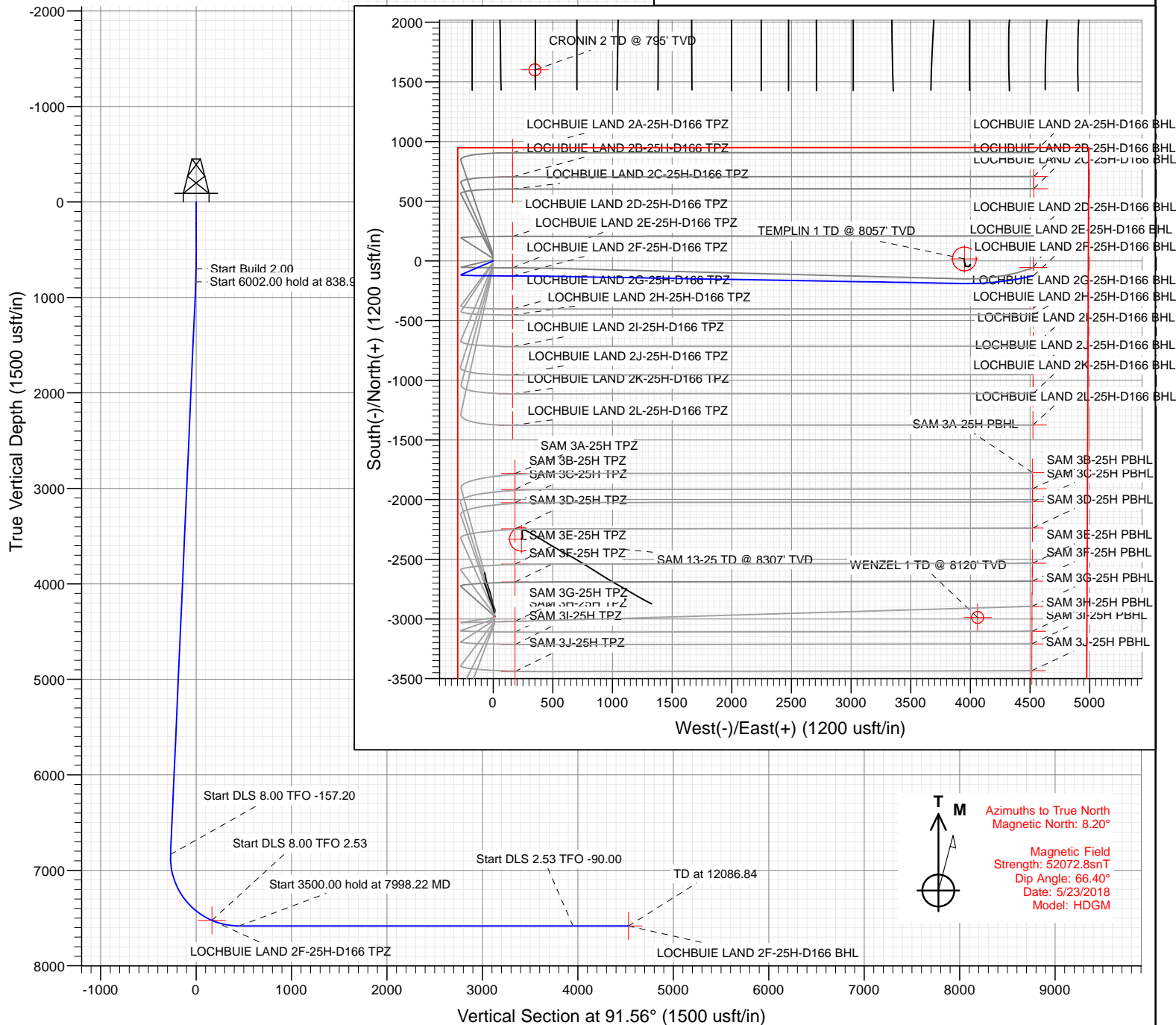
CRESTONE PEAK  
RESOURCES

#### 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	700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
3	838.98	2.78	246.76	838.93	-1.33	-3.10	2.00	246.76	-3.06	
4	6840.98	2.78	246.76	6833.87	-116.17	-270.56	0.00	0.00	-267.29	
5	7707.71	66.78	90.00	7523.93	-125.65	162.60	8.00	-157.20	165.96	LOCHBUIE LAND 2F-25H-D166 TPZ
6	7998.22	90.00	91.00	7582.00	-128.22	445.20	8.00	2.53	448.52	
7	11498.22	90.00	91.00	7582.00	-189.30	3944.66	0.00	0.00	3948.36	
8	12086.84	90.00	76.11	7582.00	-123.41	4527.93	2.53	-90.00	4529.61	LOCHBUIE LAND 2F-25H-D166 BHL

Project: DJ BASIN  
Site: S25-T1N-R66W (LOCHBUIE LAND)  
Well: LOCHBUIE LAND 2F-25H-D166  
Wellbore: OH  
Design: PLAN #1

PLAN #1 LOCHBUIE LAND 2F-25H-D166 KB @ 5100.00usft Ground Level @ 5077.00 North American Datum 1983 Well LOCHBUIE LAND 2F-25H-D166 - Slot LOCHBUIE LAND 2F-25H-D166 SHL, True North									
Type	TD	Target	No Target (Freehand)	Azimuth	Origin Type	N/S	E/W	From TVD	
Name	TD								
LOCHBUIE LAND 2F-25H-D166 TPZ	7523.93			+N/-S		+E/-W	Latitude		Longitude
LOCHBUIE LAND 2F-25H-D166 BHL	7582.00			-123.41		4527.93	40.026932	-104.733319	-104.733319



#### WELL DETAILS: LOCHBUIE LAND 2F-25H-D166

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1253584.19	3214538.35	40.026932	-104.733900



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well LOCHBUIE LAND 2F-25H-D166 - Slot LOC
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	KB @ 5100.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	KB @ 5100.00usft
<b>Site:</b>	S25-T1N-R66W (LOCHBUIE LAND)	<b>North Reference:</b>	True
<b>Well:</b>	LOCHBUIE LAND 2F-25H-D166	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1		

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

Site		S25-T1N-R66W (LOCHBUIE LAND)			
Site Position:		Northing:	1,253,634.19 usft	Latitude:	40.027069
From:	Map	Easting:	3,214,538.35 usft	Longitude:	-104.733898
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.50 °

Well	LOCHBUIE LAND 2F-25H-D166 - Slot LOCHBUIE LAND 2F-25H-D166 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,253,584.19 usft	Latitude:	40.026932
	+E/-W	0.00 usft	Easting:	3,214,538.35 usft	Longitude:	-104.733900
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,077.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	HDGM	5/23/2018	8.20	66.40	52,072.80000000

<b>Design</b>	PLAN #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	91.56

<b>Plan Sections</b>										
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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
838.98	2.78	246.76	838.93	-1.33	-3.10	2.00	2.00	0.00	246.76	
6,840.98	2.78	246.76	6,833.87	-116.17	-270.56	0.00	0.00	0.00	0.00	
7,707.71	66.78	90.00	7,523.93	-125.65	162.60	8.00	7.38	-18.09	-157.20	LOCHBUIE LAND 2F-
7,998.22	90.00	91.00	7,582.00	-128.22	445.20	8.00	7.99	0.34	2.53	
11,498.22	90.00	91.00	7,582.00	-189.30	3,944.66	0.00	0.00	0.00	0.00	
12,086.84	90.00	76.11	7,582.00	-123.41	4,527.93	2.53	0.00	-2.53	-90.00	LOCHBUIE LAND 2F-

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well LOCHBUIE LAND 2F-25H-D166 - Slot LOC
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	KB @ 5100.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	KB @ 5100.00usft
<b>Site:</b>	S25-T1N-R66W (LOCHBUIE LAND)	<b>North Reference:</b>	True
<b>Well:</b>	LOCHBUIE LAND 2F-25H-D166	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
800.00	2.00	246.76	799.98	-0.69	-1.60	-1.58	2.00	2.00	
838.98	2.78	246.76	838.93	-1.33	-3.10	-3.06	2.00	2.00	
900.00	2.78	246.76	899.87	-2.50	-5.82	-5.75	0.00	0.00	
1,000.00	2.78	246.76	999.76	-4.41	-10.27	-10.15	0.00	0.00	
1,100.00	2.78	246.76	1,099.64	-6.32	-14.73	-14.55	0.00	0.00	
1,200.00	2.78	246.76	1,199.52	-8.24	-19.18	-18.95	0.00	0.00	
1,300.00	2.78	246.76	1,299.40	-10.15	-23.64	-23.36	0.00	0.00	
1,400.00	2.78	246.76	1,399.29	-12.06	-28.10	-27.76	0.00	0.00	
1,500.00	2.78	246.76	1,499.17	-13.98	-32.55	-32.16	0.00	0.00	
1,600.00	2.78	246.76	1,599.05	-15.89	-37.01	-36.56	0.00	0.00	
1,700.00	2.78	246.76	1,698.93	-17.80	-41.47	-40.97	0.00	0.00	
1,800.00	2.78	246.76	1,798.81	-19.72	-45.92	-45.37	0.00	0.00	
1,900.00	2.78	246.76	1,898.70	-21.63	-50.38	-49.77	0.00	0.00	
2,000.00	2.78	246.76	1,998.58	-23.54	-54.83	-54.17	0.00	0.00	
2,100.00	2.78	246.76	2,098.46	-25.46	-59.29	-58.57	0.00	0.00	
2,200.00	2.78	246.76	2,198.34	-27.37	-63.75	-62.98	0.00	0.00	
2,300.00	2.78	246.76	2,298.23	-29.28	-68.20	-67.38	0.00	0.00	
2,400.00	2.78	246.76	2,398.11	-31.20	-72.66	-71.78	0.00	0.00	
2,500.00	2.78	246.76	2,497.99	-33.11	-77.11	-76.18	0.00	0.00	
2,600.00	2.78	246.76	2,597.87	-35.02	-81.57	-80.59	0.00	0.00	
2,700.00	2.78	246.76	2,697.76	-36.94	-86.03	-84.99	0.00	0.00	
2,800.00	2.78	246.76	2,797.64	-38.85	-90.48	-89.39	0.00	0.00	
2,900.00	2.78	246.76	2,897.52	-40.76	-94.94	-93.79	0.00	0.00	
3,000.00	2.78	246.76	2,997.40	-42.68	-99.40	-98.20	0.00	0.00	
3,100.00	2.78	246.76	3,097.29	-44.59	-103.85	-102.60	0.00	0.00	
3,200.00	2.78	246.76	3,197.17	-46.50	-108.31	-107.00	0.00	0.00	
3,300.00	2.78	246.76	3,297.05	-48.42	-112.76	-111.40	0.00	0.00	
3,400.00	2.78	246.76	3,396.93	-50.33	-117.22	-115.81	0.00	0.00	
3,500.00	2.78	246.76	3,496.81	-52.24	-121.68	-120.21	0.00	0.00	
3,600.00	2.78	246.76	3,596.70	-54.16	-126.13	-124.61	0.00	0.00	
3,700.00	2.78	246.76	3,696.58	-56.07	-130.59	-129.01	0.00	0.00	
3,800.00	2.78	246.76	3,796.46	-57.98	-135.05	-133.42	0.00	0.00	
3,900.00	2.78	246.76	3,896.34	-59.90	-139.50	-137.82	0.00	0.00	
4,000.00	2.78	246.76	3,996.23	-61.81	-143.96	-142.22	0.00	0.00	
4,100.00	2.78	246.76	4,096.11	-63.72	-148.41	-146.62	0.00	0.00	
4,200.00	2.78	246.76	4,195.99	-65.64	-152.87	-151.02	0.00	0.00	
4,300.00	2.78	246.76	4,295.87	-67.55	-157.33	-155.43	0.00	0.00	
4,400.00	2.78	246.76	4,395.76	-69.46	-161.78	-159.83	0.00	0.00	
4,500.00	2.78	246.76	4,495.64	-71.38	-166.24	-164.23	0.00	0.00	
4,600.00	2.78	246.76	4,595.52	-73.29	-170.69	-168.63	0.00	0.00	
4,700.00	2.78	246.76	4,695.40	-75.21	-175.15	-173.04	0.00	0.00	
4,800.00	2.78	246.76	4,795.28	-77.12	-179.61	-177.44	0.00	0.00	
4,900.00	2.78	246.76	4,895.17	-79.03	-184.06	-181.84	0.00	0.00	
5,000.00	2.78	246.76	4,995.05	-80.95	-188.52	-186.24	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well LOCHBUIE LAND 2F-25H-D166 - Slot LOC
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	KB @ 5100.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	KB @ 5100.00usft
<b>Site:</b>	S25-T1N-R66W (LOCHBUIE LAND)	<b>North Reference:</b>	True
<b>Well:</b>	LOCHBUIE LAND 2F-25H-D166	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
5,100.00	2.78	246.76	5,094.93	-82.86	-192.98	-190.65	0.00	0.00	
5,200.00	2.78	246.76	5,194.81	-84.77	-197.43	-195.05	0.00	0.00	
5,300.00	2.78	246.76	5,294.70	-86.69	-201.89	-199.45	0.00	0.00	
5,400.00	2.78	246.76	5,394.58	-88.60	-206.34	-203.85	0.00	0.00	
5,500.00	2.78	246.76	5,494.46	-90.51	-210.80	-208.26	0.00	0.00	
5,600.00	2.78	246.76	5,594.34	-92.43	-215.26	-212.66	0.00	0.00	
5,700.00	2.78	246.76	5,694.23	-94.34	-219.71	-217.06	0.00	0.00	
5,800.00	2.78	246.76	5,794.11	-96.25	-224.17	-221.46	0.00	0.00	
5,900.00	2.78	246.76	5,893.99	-98.17	-228.62	-225.87	0.00	0.00	
6,000.00	2.78	246.76	5,993.87	-100.08	-233.08	-230.27	0.00	0.00	
6,100.00	2.78	246.76	6,093.76	-101.99	-237.54	-234.67	0.00	0.00	
6,200.00	2.78	246.76	6,193.64	-103.91	-241.99	-239.07	0.00	0.00	
6,300.00	2.78	246.76	6,293.52	-105.82	-246.45	-243.47	0.00	0.00	
6,400.00	2.78	246.76	6,393.40	-107.73	-250.91	-247.88	0.00	0.00	
6,500.00	2.78	246.76	6,493.28	-109.65	-255.36	-252.28	0.00	0.00	
6,600.00	2.78	246.76	6,593.17	-111.56	-259.82	-256.68	0.00	0.00	
6,700.00	2.78	246.76	6,693.05	-113.47	-264.27	-261.08	0.00	0.00	
6,800.00	2.78	246.76	6,792.93	-115.39	-268.73	-265.49	0.00	0.00	
6,840.98	2.78	246.76	6,833.87	-116.17	-270.56	-267.29	0.00	0.00	
6,900.00	2.41	116.04	6,892.86	-117.28	-270.76	-267.46	8.00	-0.62	
7,000.00	10.21	95.53	6,992.18	-119.06	-260.02	-256.68	8.00	7.80	
7,100.00	18.19	92.82	7,089.05	-120.68	-235.57	-232.19	8.00	7.97	
7,200.00	26.18	91.73	7,181.57	-122.12	-197.87	-194.47	8.00	7.99	
7,300.00	34.17	91.12	7,267.95	-123.34	-147.66	-144.24	8.00	7.99	
7,400.00	42.17	90.73	7,346.50	-124.32	-85.91	-82.49	8.00	8.00	
7,500.00	50.17	90.44	7,415.70	-125.04	-13.84	-10.43	8.00	8.00	
7,600.00	58.16	90.21	7,474.19	-125.48	67.17	70.56	8.00	8.00	
7,700.00	66.16	90.01	7,520.85	-125.65	155.52	158.89	8.00	8.00	
7,707.71	66.78	90.00	7,523.93	-125.65	162.60	165.96	8.00	8.00	LOCHBUIE LAND 2F-25H-D166 TPZ
7,800.00	74.16	90.34	7,554.76	-125.91	249.51	252.85	8.00	7.99	
7,900.00	82.15	90.68	7,575.28	-126.78	347.30	350.62	8.00	7.99	
7,998.22	90.00	91.00	7,582.00	-128.22	445.20	448.52	8.00	7.99	
8,000.00	90.00	91.00	7,582.00	-128.25	446.98	450.31	0.00	0.00	
8,100.00	90.00	91.00	7,582.00	-129.99	546.96	550.30	0.00	0.00	
8,200.00	90.00	91.00	7,582.00	-131.74	646.95	650.30	0.00	0.00	
8,300.00	90.00	91.00	7,582.00	-133.48	746.93	750.29	0.00	0.00	
8,400.00	90.00	91.00	7,582.00	-135.23	846.92	850.29	0.00	0.00	
8,500.00	90.00	91.00	7,582.00	-136.98	946.90	950.28	0.00	0.00	
8,600.00	90.00	91.00	7,582.00	-138.72	1,046.89	1,050.28	0.00	0.00	
8,700.00	90.00	91.00	7,582.00	-140.47	1,146.87	1,150.27	0.00	0.00	
8,800.00	90.00	91.00	7,582.00	-142.21	1,246.86	1,250.27	0.00	0.00	
8,900.00	90.00	91.00	7,582.00	-143.96	1,346.84	1,350.26	0.00	0.00	
9,000.00	90.00	91.00	7,582.00	-145.70	1,446.83	1,450.26	0.00	0.00	
9,100.00	90.00	91.00	7,582.00	-147.45	1,546.81	1,550.26	0.00	0.00	
9,200.00	90.00	91.00	7,582.00	-149.19	1,646.80	1,650.25	0.00	0.00	
9,300.00	90.00	91.00	7,582.00	-150.94	1,746.78	1,750.25	0.00	0.00	
9,400.00	90.00	91.00	7,582.00	-152.68	1,846.77	1,850.24	0.00	0.00	
9,500.00	90.00	91.00	7,582.00	-154.43	1,946.75	1,950.24	0.00	0.00	
9,600.00	90.00	91.00	7,582.00	-156.17	2,046.74	2,050.23	0.00	0.00	
9,700.00	90.00	91.00	7,582.00	-157.92	2,146.72	2,150.23	0.00	0.00	
9,800.00	90.00	91.00	7,582.00	-159.66	2,246.71	2,250.22	0.00	0.00	
9,900.00	90.00	91.00	7,582.00	-161.41	2,346.69	2,350.22	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well LOCHBUIE LAND 2F-25H-D166 - Slot LOC
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	KB @ 5100.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	KB @ 5100.00usft
<b>Site:</b>	S25-T1N-R66W (LOCHBUIE LAND)	<b>North Reference:</b>	True
<b>Well:</b>	LOCHBUIE LAND 2F-25H-D166	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
10,000.00	90.00	91.00	7,582.00	-163.15	2,446.68	2,450.21	0.00	0.00	
10,100.00	90.00	91.00	7,582.00	-164.90	2,546.66	2,550.21	0.00	0.00	
10,200.00	90.00	91.00	7,582.00	-166.64	2,646.64	2,650.20	0.00	0.00	
10,300.00	90.00	91.00	7,582.00	-168.39	2,746.63	2,750.20	0.00	0.00	
10,400.00	90.00	91.00	7,582.00	-170.13	2,846.61	2,850.19	0.00	0.00	
10,500.00	90.00	91.00	7,582.00	-171.88	2,946.60	2,950.19	0.00	0.00	
10,600.00	90.00	91.00	7,582.00	-173.63	3,046.58	3,050.18	0.00	0.00	
10,700.00	90.00	91.00	7,582.00	-175.37	3,146.57	3,150.18	0.00	0.00	
10,800.00	90.00	91.00	7,582.00	-177.12	3,246.55	3,250.17	0.00	0.00	
10,900.00	90.00	91.00	7,582.00	-178.86	3,346.54	3,350.17	0.00	0.00	
11,000.00	90.00	91.00	7,582.00	-180.61	3,446.52	3,450.16	0.00	0.00	
11,100.00	90.00	91.00	7,582.00	-182.35	3,546.51	3,550.16	0.00	0.00	
11,200.00	90.00	91.00	7,582.00	-184.10	3,646.49	3,650.15	0.00	0.00	
11,300.00	90.00	91.00	7,582.00	-185.84	3,746.48	3,750.15	0.00	0.00	
11,400.00	90.00	91.00	7,582.00	-187.59	3,846.46	3,850.14	0.00	0.00	
11,498.22	90.00	91.00	7,582.00	-189.30	3,944.66	3,948.36	0.00	0.00	
11,500.00	90.00	90.95	7,582.00	-189.33	3,946.45	3,950.14	2.53	0.00	
11,600.00	90.00	88.43	7,582.00	-188.79	4,046.44	4,050.08	2.53	0.00	
11,700.00	90.00	85.90	7,582.00	-183.84	4,146.31	4,149.78	2.53	0.00	
11,800.00	90.00	83.37	7,582.00	-174.48	4,245.86	4,249.04	2.53	0.00	
11,900.00	90.00	80.84	7,582.00	-160.74	4,344.90	4,347.67	2.53	0.00	
12,000.00	90.00	78.31	7,582.00	-142.64	4,443.24	4,445.48	2.53	0.00	
12,086.84	90.00	76.11	7,582.00	-123.41	4,527.93	4,529.61	2.53	0.00	LOCHBUIE LAND 2F-25H-D166 BHL

### Targets

#### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LOCHBUIE LAND 2F-25H-D166 - plan hits target center - Point	0.00	0.00	7,582.00	-123.41	4,527.93	1,253,499.90	3,219,067.17	40.026592	-104.717731
LOCHBUIE LAND 2F-25H-D166 - plan hits target center - Point	0.00	0.00	7,523.93	-125.65	162.60	1,253,459.95	3,214,702.02	40.026587	-104.733319