



CRESTONE PEAK  
RESOURCES

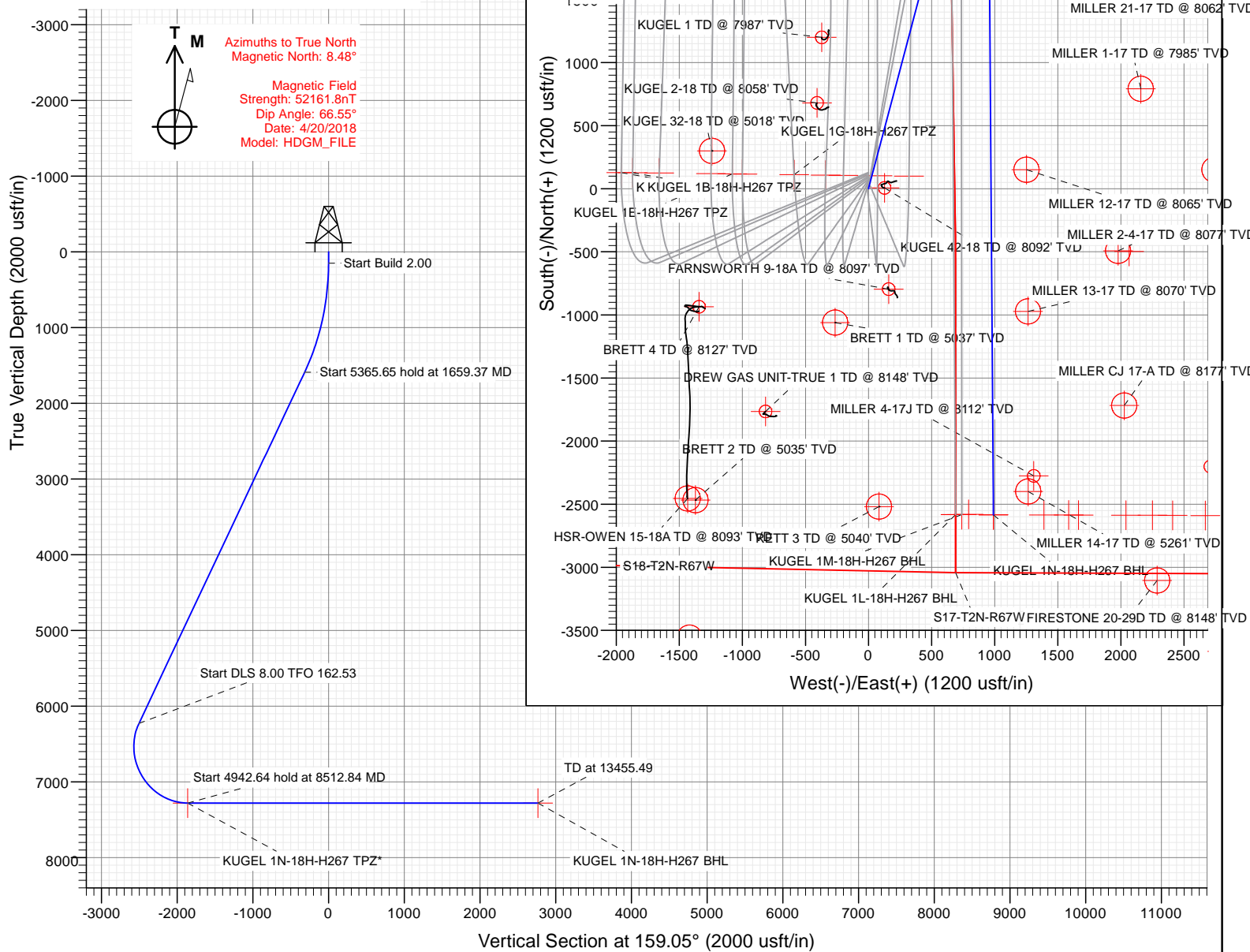
#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	1659.37	30.19	14.81	1590.50	375.60	99.31	2.00	14.81	-315.26	
4	7025.03	30.19	14.81	6228.49	2983.98	788.99	0.00	0.00	-2504.63	
5	8512.84	90.00	179.59	7280.00	2358.89	954.00	8.00	162.53	-1861.86	KUGEL 1N-18H-H267 TPZ*
6	13455.49	90.00	179.59	7280.00	-2583.63	989.15	0.00	0.00	2766.50	KUGEL 1N-18H-H267 BHL

PLAN #2 (6.11)  
KUGEL 1N-18H-H267  
23 KIS @ 4976.00ft  
Ground Level @ 4953.00  
North American Datum 1983  
Well KUGEL 1N-18H-H267 - Slot KUGEL 1N, True North

Type	Target	TVD	+N/-S	+E/-W	Latitude	Longitude
TD	No Target (Freehand)					
Name						
KUGEL 1N-18H-H267 BHL		7280.00	-2583.63	989.15	40.132376	-104.922919
KUGEL 1N-18H-H267 TPZ*		7280.00	2358.89	954.00	40.145944	-104.923044

Project: DJ BASIN  
Site: S18-T2N-R67W (KUGEL)  
Well: KUGEL 1N-18H-H267  
Wellbore: OH  
Design: PLAN #2 (6.11)



CATHEDRAL



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well KUGEL 1N-18H-H267 - Slot KUGEL 1N
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 4976.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 4976.00usft
<b>Site:</b>	S18-T2N-R67W (KUGEL)	<b>North Reference:</b>	True
<b>Well:</b>	KUGEL 1N-18H-H267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2 (6.11)		

<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		S18-T2N-R67W (KUGEL)			
Site Position:		Northing:	1,294,180.28 usft	Latitude:	40.139495
From:	Lat/Long	Easting:	3,160,365.72 usft	Longitude:	-104.926402
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 °

Well	KUGEL 1N-18H-H267 - Slot KUGEL 1N					
Well Position	+N/-S	0.00 usft	Northing:	1,294,170.52 usft	Latitude:	40.139468
	+E/-W	0.00 usft	Easting:	3,160,350.52 usft	Longitude:	-104.926457
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,953.00 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_FILE	4/20/2018	8.48	66.55	52,161.80000000

<b>Design</b>	PLAN #2 (6.11)			
<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	159.05

<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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,659.37	30.19	14.81	1,590.50	375.60	99.31	2.00	2.00	0.00	14.81	
7,025.03	30.19	14.81	6,228.49	2,983.98	788.99	0.00	0.00	0.00	0.00	
8,512.84	90.00	179.59	7,280.00	2,358.89	954.00	8.00	4.02	11.08	162.53	KUGEL 1N-18H-H267
13,455.49	90.00	179.59	7,280.00	-2,583.63	989.15	0.00	0.00	0.00	0.00	KUGEL 1N-18H-H267

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well KUGEL 1N-18H-H267 - Slot KUGEL 1N
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 4976.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 4976.00usft
<b>Site:</b>	S18-T2N-R67W (KUGEL)	<b>North Reference:</b>	True
<b>Well:</b>	KUGEL 1N-18H-H267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2 (6.11)		

### 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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.00	14.81	200.00	0.42	0.11	-0.35	2.00	2.00	
300.00	3.00	14.81	299.93	3.80	1.00	-3.19	2.00	2.00	
400.00	5.00	14.81	399.68	10.54	2.79	-8.85	2.00	2.00	
500.00	7.00	14.81	499.13	20.64	5.46	-17.33	2.00	2.00	
600.00	9.00	14.81	598.15	34.10	9.02	-28.62	2.00	2.00	
700.00	11.00	14.81	696.63	50.89	13.45	-42.71	2.00	2.00	
800.00	13.00	14.81	794.44	70.98	18.77	-59.58	2.00	2.00	
900.00	15.00	14.81	891.46	94.37	24.95	-79.21	2.00	2.00	
1,000.00	17.00	14.81	987.58	121.02	32.00	-101.58	2.00	2.00	
1,100.00	19.00	14.81	1,082.68	150.89	39.90	-126.65	2.00	2.00	
1,200.00	21.00	14.81	1,176.65	183.96	48.64	-154.41	2.00	2.00	
1,300.00	23.00	14.81	1,269.36	220.17	58.22	-184.80	2.00	2.00	
1,400.00	25.00	14.81	1,360.71	259.49	68.61	-217.81	2.00	2.00	
1,500.00	27.00	14.81	1,450.59	301.87	79.82	-253.38	2.00	2.00	
1,600.00	29.00	14.81	1,538.88	347.25	91.82	-291.47	2.00	2.00	
1,659.37	30.19	14.81	1,590.50	375.60	99.31	-315.26	2.00	2.00	
1,700.00	30.19	14.81	1,625.62	395.35	104.53	-331.84	0.00	0.00	
1,800.00	30.19	14.81	1,712.06	443.96	117.39	-372.64	0.00	0.00	
1,900.00	30.19	14.81	1,798.50	492.58	130.24	-413.45	0.00	0.00	
2,000.00	30.19	14.81	1,884.94	541.19	143.09	-454.25	0.00	0.00	
2,100.00	30.19	14.81	1,971.38	589.80	155.95	-495.05	0.00	0.00	
2,200.00	30.19	14.81	2,057.81	638.41	168.80	-535.86	0.00	0.00	
2,300.00	30.19	14.81	2,144.25	687.03	181.66	-576.66	0.00	0.00	
2,400.00	30.19	14.81	2,230.69	735.64	194.51	-617.46	0.00	0.00	
2,500.00	30.19	14.81	2,317.13	784.25	207.36	-658.27	0.00	0.00	
2,600.00	30.19	14.81	2,403.57	832.86	220.22	-699.07	0.00	0.00	
2,700.00	30.19	14.81	2,490.01	881.48	233.07	-739.87	0.00	0.00	
2,800.00	30.19	14.81	2,576.44	930.09	245.92	-780.68	0.00	0.00	
2,900.00	30.19	14.81	2,662.88	978.70	258.78	-821.48	0.00	0.00	
3,000.00	30.19	14.81	2,749.32	1,027.31	271.63	-862.28	0.00	0.00	
3,100.00	30.19	14.81	2,835.76	1,075.93	284.48	-903.09	0.00	0.00	
3,200.00	30.19	14.81	2,922.20	1,124.54	297.34	-943.89	0.00	0.00	
3,300.00	30.19	14.81	3,008.64	1,173.15	310.19	-984.69	0.00	0.00	
3,400.00	30.19	14.81	3,095.08	1,221.76	323.04	-1,025.50	0.00	0.00	
3,500.00	30.19	14.81	3,181.51	1,270.38	335.90	-1,066.30	0.00	0.00	
3,600.00	30.19	14.81	3,267.95	1,318.99	348.75	-1,107.10	0.00	0.00	
3,700.00	30.19	14.81	3,354.39	1,367.60	361.61	-1,147.91	0.00	0.00	
3,800.00	30.19	14.81	3,440.83	1,416.21	374.46	-1,188.71	0.00	0.00	
3,900.00	30.19	14.81	3,527.27	1,464.83	387.31	-1,229.51	0.00	0.00	
4,000.00	30.19	14.81	3,613.71	1,513.44	400.17	-1,270.32	0.00	0.00	
4,100.00	30.19	14.81	3,700.15	1,562.05	413.02	-1,311.12	0.00	0.00	
4,200.00	30.19	14.81	3,786.58	1,610.66	425.87	-1,351.92	0.00	0.00	
4,300.00	30.19	14.81	3,873.02	1,659.28	438.73	-1,392.73	0.00	0.00	
4,400.00	30.19	14.81	3,959.46	1,707.89	451.58	-1,433.53	0.00	0.00	
4,500.00	30.19	14.81	4,045.90	1,756.50	464.43	-1,474.33	0.00	0.00	
4,600.00	30.19	14.81	4,132.34	1,805.11	477.29	-1,515.14	0.00	0.00	
4,700.00	30.19	14.81	4,218.78	1,853.73	490.14	-1,555.94	0.00	0.00	
4,800.00	30.19	14.81	4,305.21	1,902.34	502.99	-1,596.74	0.00	0.00	
4,900.00	30.19	14.81	4,391.65	1,950.95	515.85	-1,637.55	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 KUGEL 1N-18H-H267 - Slot KUGEL 1N
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 4976.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 4976.00usft
<b>Site:</b>	S18-T2N-R67W (KUGEL)	<b>North Reference:</b>	True
<b>Well:</b>	KUGEL 1N-18H-H267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2 (6.11)		

### 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	30.19	14.81	4,478.09	1,999.56	528.70	-1,678.35	0.00	0.00	
5,100.00	30.19	14.81	4,564.53	2,048.18	541.56	-1,719.15	0.00	0.00	
5,200.00	30.19	14.81	4,650.97	2,096.79	554.41	-1,759.96	0.00	0.00	
5,300.00	30.19	14.81	4,737.41	2,145.40	567.26	-1,800.76	0.00	0.00	
5,400.00	30.19	14.81	4,823.85	2,194.01	580.12	-1,841.56	0.00	0.00	
5,500.00	30.19	14.81	4,910.28	2,242.63	592.97	-1,882.37	0.00	0.00	
5,600.00	30.19	14.81	4,996.72	2,291.24	605.82	-1,923.17	0.00	0.00	
5,700.00	30.19	14.81	5,083.16	2,339.85	618.68	-1,963.97	0.00	0.00	
5,800.00	30.19	14.81	5,169.60	2,388.46	631.53	-2,004.78	0.00	0.00	
5,900.00	30.19	14.81	5,256.04	2,437.08	644.38	-2,045.58	0.00	0.00	
6,000.00	30.19	14.81	5,342.48	2,485.69	657.24	-2,086.38	0.00	0.00	
6,100.00	30.19	14.81	5,428.91	2,534.30	670.09	-2,127.19	0.00	0.00	
6,200.00	30.19	14.81	5,515.35	2,582.91	682.94	-2,167.99	0.00	0.00	
6,300.00	30.19	14.81	5,601.79	2,631.53	695.80	-2,208.79	0.00	0.00	
6,400.00	30.19	14.81	5,688.23	2,680.14	708.65	-2,249.60	0.00	0.00	
6,500.00	30.19	14.81	5,774.67	2,728.75	721.51	-2,290.40	0.00	0.00	
6,600.00	30.19	14.81	5,861.11	2,777.36	734.36	-2,331.20	0.00	0.00	
6,700.00	30.19	14.81	5,947.55	2,825.98	747.21	-2,372.01	0.00	0.00	
6,800.00	30.19	14.81	6,033.98	2,874.59	760.07	-2,412.81	0.00	0.00	
6,900.00	30.19	14.81	6,120.42	2,923.20	772.92	-2,453.61	0.00	0.00	
7,000.00	30.19	14.81	6,206.86	2,971.81	785.77	-2,494.42	0.00	0.00	
7,025.03	30.19	14.81	6,228.49	2,983.98	788.99	-2,504.63	0.00	0.00	
7,100.00	24.53	19.14	6,295.06	3,016.93	798.92	-2,531.85	8.00	-7.55	
7,200.00	17.30	28.94	6,388.44	3,049.61	812.95	-2,557.35	8.00	-7.22	
7,300.00	11.15	50.36	6,485.39	3,068.83	827.61	-2,570.06	8.00	-6.15	
7,400.00	8.74	96.01	6,584.02	3,074.21	842.64	-2,569.71	8.00	-2.42	
7,500.00	12.46	135.88	6,682.43	3,065.66	857.73	-2,556.33	8.00	3.72	
7,600.00	19.01	153.28	6,778.68	3,043.33	872.58	-2,530.17	8.00	6.55	
7,700.00	26.35	161.63	6,870.91	3,007.67	886.92	-2,491.74	8.00	7.34	
7,800.00	33.97	166.49	6,957.32	2,959.37	900.46	-2,441.79	8.00	7.62	
7,900.00	41.72	169.73	7,036.24	2,899.36	912.93	-2,381.28	8.00	7.75	
8,000.00	49.54	172.11	7,106.11	2,828.82	924.11	-2,311.41	8.00	7.82	
8,100.00	57.40	173.99	7,165.59	2,749.11	933.76	-2,233.53	8.00	7.86	
8,200.00	65.28	175.56	7,213.52	2,661.80	941.70	-2,149.15	8.00	7.88	
8,300.00	73.17	176.95	7,248.96	2,568.58	947.77	-2,059.91	8.00	7.89	
8,400.00	81.08	178.22	7,271.23	2,471.26	951.86	-1,967.56	8.00	7.90	
8,500.00	88.98	179.44	7,279.89	2,371.73	953.89	-1,873.89	8.00	7.91	
8,512.84	90.00	179.59	7,280.00	2,358.89	954.00	-1,861.86	8.00	7.91	KUGEL 1N-18H-H267 TPZ*
8,600.00	90.00	179.59	7,280.00	2,271.74	954.62	-1,780.25	0.00	0.00	
8,700.00	90.00	179.59	7,280.00	2,171.74	955.33	-1,686.61	0.00	0.00	
8,800.00	90.00	179.59	7,280.00	2,071.74	956.04	-1,592.96	0.00	0.00	
8,900.00	90.00	179.59	7,280.00	1,971.74	956.75	-1,499.32	0.00	0.00	
9,000.00	90.00	179.59	7,280.00	1,871.75	957.47	-1,405.68	0.00	0.00	
9,100.00	90.00	179.59	7,280.00	1,771.75	958.18	-1,312.04	0.00	0.00	
9,200.00	90.00	179.59	7,280.00	1,671.75	958.89	-1,218.40	0.00	0.00	
9,300.00	90.00	179.59	7,280.00	1,571.75	959.60	-1,124.76	0.00	0.00	
9,400.00	90.00	179.59	7,280.00	1,471.76	960.31	-1,031.11	0.00	0.00	
9,500.00	90.00	179.59	7,280.00	1,371.76	961.02	-937.47	0.00	0.00	
9,600.00	90.00	179.59	7,280.00	1,271.76	961.73	-843.83	0.00	0.00	
9,700.00	90.00	179.59	7,280.00	1,171.76	962.44	-750.19	0.00	0.00	
9,800.00	90.00	179.59	7,280.00	1,071.77	963.15	-656.55	0.00	0.00	
9,900.00	90.00	179.59	7,280.00	971.77	963.87	-562.91	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 KUGEL 1N-18H-H267 - Slot KUGEL 1N
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 4976.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 4976.00usft
<b>Site:</b>	S18-T2N-R67W (KUGEL)	<b>North Reference:</b>	True
<b>Well:</b>	KUGEL 1N-18H-H267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2 (6.11)		

### 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	179.59	7,280.00	871.77	964.58	-469.27	0.00	0.00	
10,100.00	90.00	179.59	7,280.00	771.77	965.29	-375.62	0.00	0.00	
10,200.00	90.00	179.59	7,280.00	671.78	966.00	-281.98	0.00	0.00	
10,300.00	90.00	179.59	7,280.00	571.78	966.71	-188.34	0.00	0.00	
10,400.00	90.00	179.59	7,280.00	471.78	967.42	-94.70	0.00	0.00	
10,500.00	90.00	179.59	7,280.00	371.78	968.13	-1.06	0.00	0.00	
10,600.00	90.00	179.59	7,280.00	271.79	968.84	92.58	0.00	0.00	
10,700.00	90.00	179.59	7,280.00	171.79	969.55	186.22	0.00	0.00	
10,800.00	90.00	179.59	7,280.00	71.79	970.27	279.87	0.00	0.00	
10,900.00	90.00	179.59	7,280.00	-28.21	970.98	373.51	0.00	0.00	
11,000.00	90.00	179.59	7,280.00	-128.20	971.69	467.15	0.00	0.00	
11,100.00	90.00	179.59	7,280.00	-228.20	972.40	560.79	0.00	0.00	
11,200.00	90.00	179.59	7,280.00	-328.20	973.11	654.43	0.00	0.00	
11,300.00	90.00	179.59	7,280.00	-428.19	973.82	748.07	0.00	0.00	
11,400.00	90.00	179.59	7,280.00	-528.19	974.53	841.72	0.00	0.00	
11,500.00	90.00	179.59	7,280.00	-628.19	975.24	935.36	0.00	0.00	
11,600.00	90.00	179.59	7,280.00	-728.19	975.95	1,029.00	0.00	0.00	
11,700.00	90.00	179.59	7,280.00	-828.18	976.67	1,122.64	0.00	0.00	
11,800.00	90.00	179.59	7,280.00	-928.18	977.38	1,216.28	0.00	0.00	
11,900.00	90.00	179.59	7,280.00	-1,028.18	978.09	1,309.92	0.00	0.00	
12,000.00	90.00	179.59	7,280.00	-1,128.18	978.80	1,403.56	0.00	0.00	
12,100.00	90.00	179.59	7,280.00	-1,228.17	979.51	1,497.21	0.00	0.00	
12,200.00	90.00	179.59	7,280.00	-1,328.17	980.22	1,590.85	0.00	0.00	
12,300.00	90.00	179.59	7,280.00	-1,428.17	980.93	1,684.49	0.00	0.00	
12,400.00	90.00	179.59	7,280.00	-1,528.17	981.64	1,778.13	0.00	0.00	
12,500.00	90.00	179.59	7,280.00	-1,628.16	982.35	1,871.77	0.00	0.00	
12,600.00	90.00	179.59	7,280.00	-1,728.16	983.07	1,965.41	0.00	0.00	
12,700.00	90.00	179.59	7,280.00	-1,828.16	983.78	2,059.05	0.00	0.00	
12,800.00	90.00	179.59	7,280.00	-1,928.16	984.49	2,152.70	0.00	0.00	
12,900.00	90.00	179.59	7,280.00	-2,028.15	985.20	2,246.34	0.00	0.00	
13,000.00	90.00	179.59	7,280.00	-2,128.15	985.91	2,339.98	0.00	0.00	
13,100.00	90.00	179.59	7,280.00	-2,228.15	986.62	2,433.62	0.00	0.00	
13,200.00	90.00	179.59	7,280.00	-2,328.15	987.33	2,527.26	0.00	0.00	
13,300.00	90.00	179.59	7,280.00	-2,428.14	988.04	2,620.90	0.00	0.00	
13,400.00	90.00	179.59	7,280.00	-2,528.14	988.75	2,714.55	0.00	0.00	
13,455.49	90.00	179.59	7,280.00	-2,583.63	989.15	2,766.50	0.00	0.00	KUGEL 1N-18H-H267 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									
KUGEL 1N-18H-H267 T - plan hits target center - Point	0.00	0.00	7,280.00	2,358.89	954.00	1,296,535.53	3,161,289.24	40.145944	-104.923044
KUGEL 1N-18H-H267 B - plan hits target center - Point	0.00	0.00	7,280.00	-2,583.63	989.15	1,291,593.34	3,161,356.36	40.132376	-104.922919