



**CRESTONE PEAK**  
RESOURCES

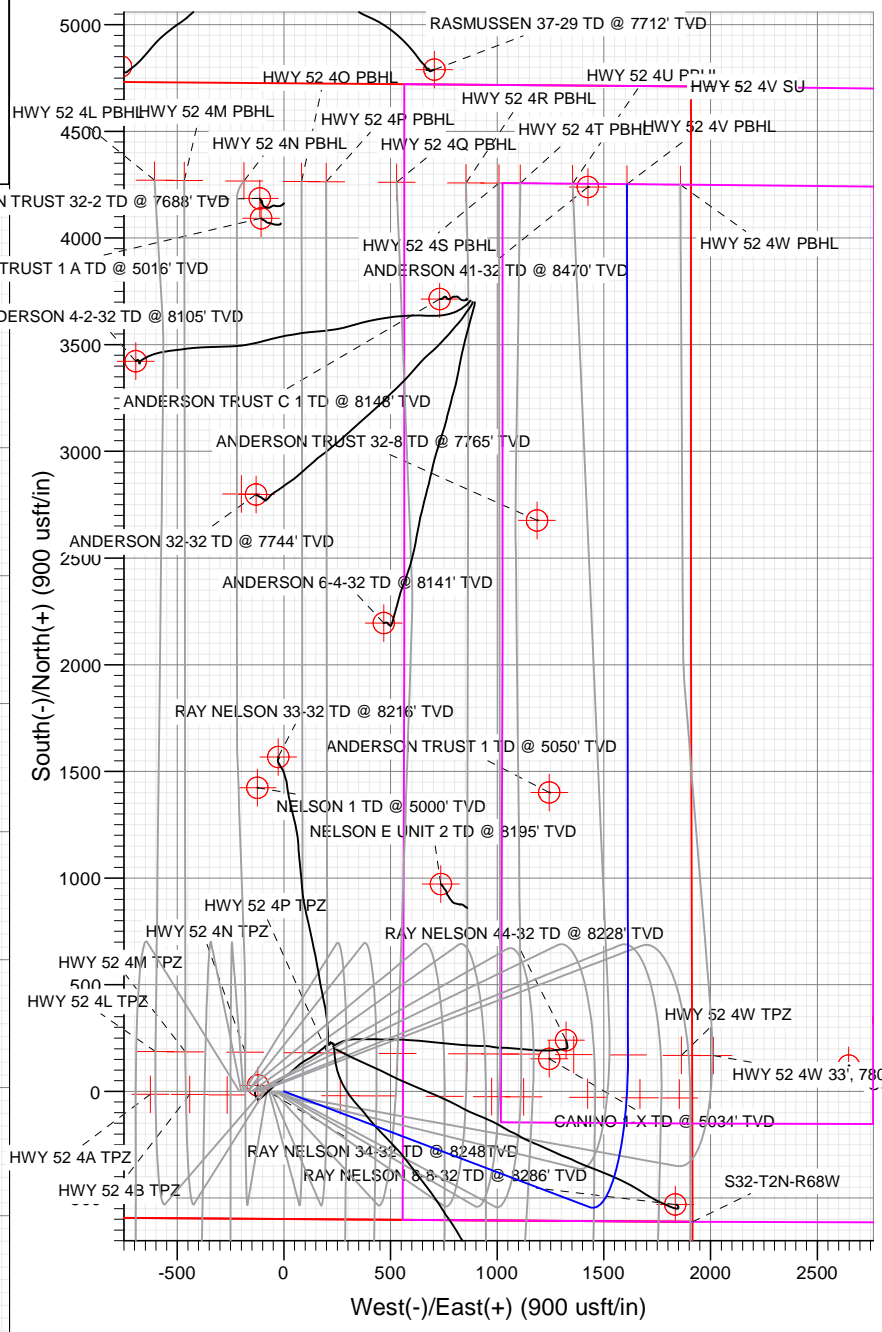
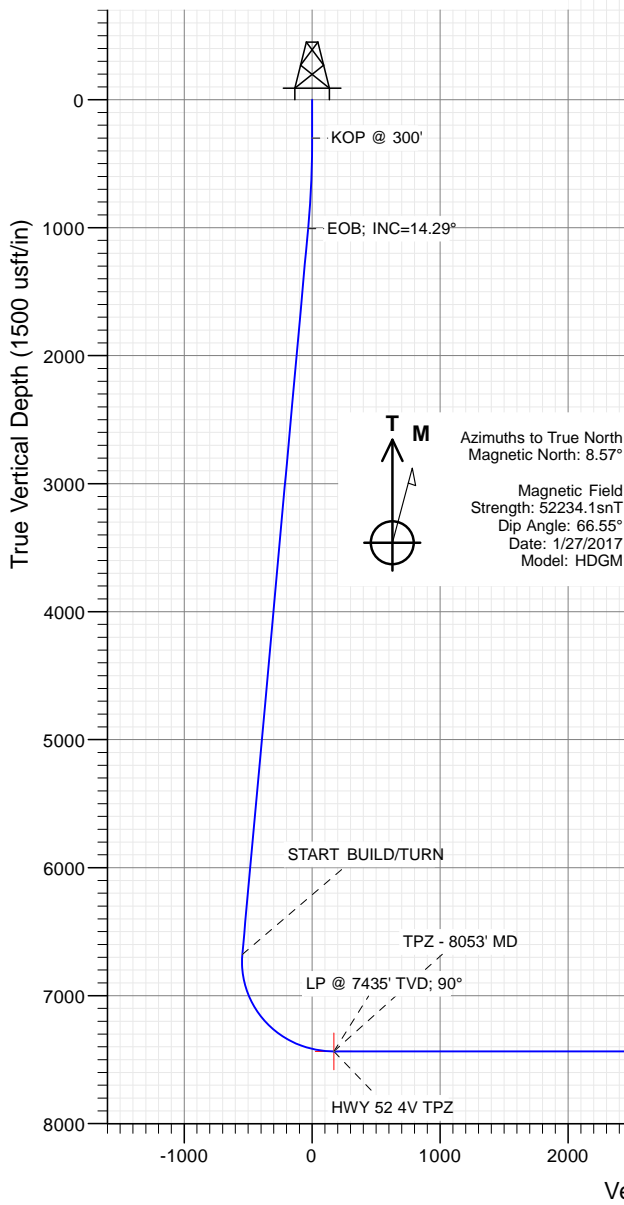
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1014.60	14.29	110.75	1007.22	-31.41	82.92	2.00	110.75	-31.51	
4	6865.63	14.29	110.75	6677.15	-543.10	1433.66	0.00	0.00	-544.85	
5	8053.55	90.00	359.93	7435.00	170.56	1613.24	8.00	-110.23	168.59	HWY 52 4V TPZ
6	12135.65	90.00	359.93	7435.00	4252.66	1608.22	0.00	0.00	4250.69	HWY 52 4V PBHL

PLAN #2  
HWY52 4V-32H-O268  
17X0X LR  
23 KB @ 5015.00usft  
Ground Level @ 4992.00  
North American Datum 1983  
Well HWY52 4V-32H-O268, True North

Type User	Target No Target (Freehand)	Azimuth	Origin Type Slot	N/S	E/W	From TVD
Name		TVD	+N/-S	+E/-W	Latitude	Longitude
HWY 52 4V PBHL		7435.00	4252.66	1608.22	40.101027	-105.018786
HWY 52 4V TPZ		7435.00	170.56	1613.24	40.089821	-105.018769

Project: DJ BASIN  
Site: S32-T2N-R68W  
Well: HWY52 4V-32H-O268  
Wellbore: OH  
Design: PLAN #2



WELL DETAILS: HWY52 4V-32H-O268

+N/-S	+E/-W	Northing	Ground Level:	4992.00	Latitude	Longitude
0.00	0.00	1275752.57	Easting	3133028.07	40.089353	-105.024535

**CATHEDRAL**



# Cathedral Energy Services

## Planning Report

<b>Database:</b> USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b> Well HWY52 4V-32H-O268
<b>Company:</b> Crestone Peak Resources	<b>TVD Reference:</b> 23' KB @ 5015.00usft
<b>Project:</b> DJ BASIN	<b>MD Reference:</b> 23' KB @ 5015.00usft
<b>Site:</b> S32-T2N-R68W	<b>North Reference:</b> True
<b>Well:</b> HWY52 4V-32H-O268	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> OH	
<b>Design:</b> PLAN #2	

<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		

<b>Site</b> S32-T2N-R68W					
<b>Site Position:</b>		<b>Northing:</b>	1,275,752.56 usft	<b>Latitude:</b>	40.089356
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,132,818.22 usft	<b>Longitude:</b>	-105.025285
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.31 °

<b>Well</b> HWY52 4V-32H-O268						
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,275,752.57 usft	<b>Latitude:</b>	40.089353
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	3,133,028.07 usft	<b>Longitude:</b>	-105.024535
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	4,992.00 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>
	HDGM	1/27/2017	(°) 8.57	(°) 66.55	(nT) 52,234

<b>Design</b> PLAN #2				
<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	359.93

<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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,014.60	14.29	110.75	1,007.22	-31.41	82.92	2.00	2.00	0.00	110.75	
6,865.63	14.29	110.75	6,677.15	-543.10	1,433.66	0.00	0.00	0.00	0.00	
8,053.55	90.00	359.93	7,435.00	170.56	1,613.24	8.00	6.37	-9.33	-110.23	HWY 52 4V TPZ
12,135.65	90.00	359.93	7,435.00	4,252.66	1,608.22	0.00	0.00	0.00	0.00	HWY 52 4V PBHL

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site:</b>	S32-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2		

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	KOP @ 300'
400.00	2.00	110.75	399.98	-0.62	1.63	-0.62	2.00	2.00	
500.00	4.00	110.75	499.84	-2.47	6.53	-2.48	2.00	2.00	
600.00	6.00	110.75	599.45	-5.56	14.68	-5.58	2.00	2.00	
700.00	8.00	110.75	698.70	-9.88	26.07	-9.91	2.00	2.00	
800.00	10.00	110.75	797.47	-15.42	40.70	-15.47	2.00	2.00	
900.00	12.00	110.75	895.62	-22.18	58.54	-22.25	2.00	2.00	
1,000.00	14.00	110.75	993.06	-30.15	79.58	-30.24	2.00	2.00	
1,014.60	14.29	110.75	1,007.22	-31.41	82.92	-31.51	2.00	2.00	EOB; INC=14.29°
1,100.00	14.29	110.75	1,089.97	-38.88	102.63	-39.00	0.00	0.00	
1,200.00	14.29	110.75	1,186.87	-47.62	125.72	-47.78	0.00	0.00	
1,300.00	14.29	110.75	1,283.78	-56.37	148.80	-56.55	0.00	0.00	
1,400.00	14.29	110.75	1,380.68	-65.11	171.89	-65.32	0.00	0.00	
1,500.00	14.29	110.75	1,477.59	-73.86	194.97	-74.10	0.00	0.00	
1,600.00	14.29	110.75	1,574.49	-82.60	218.06	-82.87	0.00	0.00	
1,700.00	14.29	110.75	1,671.40	-91.35	241.14	-91.64	0.00	0.00	
1,800.00	14.29	110.75	1,768.30	-100.09	264.23	-100.42	0.00	0.00	
1,900.00	14.29	110.75	1,865.21	-108.84	287.31	-109.19	0.00	0.00	
2,000.00	14.29	110.75	1,962.11	-117.59	310.40	-117.96	0.00	0.00	
2,100.00	14.29	110.75	2,059.02	-126.33	333.49	-126.74	0.00	0.00	
2,200.00	14.29	110.75	2,155.92	-135.08	356.57	-135.51	0.00	0.00	
2,300.00	14.29	110.75	2,252.83	-143.82	379.66	-144.28	0.00	0.00	
2,400.00	14.29	110.75	2,349.73	-152.57	402.74	-153.06	0.00	0.00	
2,500.00	14.29	110.75	2,446.64	-161.31	425.83	-161.83	0.00	0.00	
2,600.00	14.29	110.75	2,543.54	-170.06	448.91	-170.61	0.00	0.00	
2,700.00	14.29	110.75	2,640.45	-178.80	472.00	-179.38	0.00	0.00	
2,800.00	14.29	110.75	2,737.35	-187.55	495.08	-188.15	0.00	0.00	
2,900.00	14.29	110.75	2,834.26	-196.29	518.17	-196.93	0.00	0.00	
3,000.00	14.29	110.75	2,931.16	-205.04	541.26	-205.70	0.00	0.00	
3,100.00	14.29	110.75	3,028.07	-213.78	564.34	-214.47	0.00	0.00	
3,200.00	14.29	110.75	3,124.97	-222.53	587.43	-223.25	0.00	0.00	
3,300.00	14.29	110.75	3,221.88	-231.27	610.51	-232.02	0.00	0.00	
3,400.00	14.29	110.75	3,318.78	-240.02	633.60	-240.79	0.00	0.00	
3,500.00	14.29	110.75	3,415.69	-248.76	656.68	-249.57	0.00	0.00	
3,600.00	14.29	110.75	3,512.59	-257.51	679.77	-258.34	0.00	0.00	
3,700.00	14.29	110.75	3,609.50	-266.25	702.85	-267.11	0.00	0.00	
3,800.00	14.29	110.75	3,706.40	-275.00	725.94	-275.89	0.00	0.00	
3,900.00	14.29	110.75	3,803.31	-283.75	749.03	-284.66	0.00	0.00	
4,000.00	14.29	110.75	3,900.21	-292.49	772.11	-293.43	0.00	0.00	
4,100.00	14.29	110.75	3,997.12	-301.24	795.20	-302.21	0.00	0.00	
4,200.00	14.29	110.75	4,094.02	-309.98	818.28	-310.98	0.00	0.00	
4,300.00	14.29	110.75	4,190.93	-318.73	841.37	-319.75	0.00	0.00	
4,400.00	14.29	110.75	4,287.83	-327.47	864.45	-328.53	0.00	0.00	
4,500.00	14.29	110.75	4,384.74	-336.22	887.54	-337.30	0.00	0.00	
4,600.00	14.29	110.75	4,481.64	-344.96	910.62	-346.07	0.00	0.00	
4,700.00	14.29	110.75	4,578.55	-353.71	933.71	-354.85	0.00	0.00	
4,800.00	14.29	110.75	4,675.45	-362.45	956.80	-363.62	0.00	0.00	
4,900.00	14.29	110.75	4,772.36	-371.20	979.88	-372.39	0.00	0.00	
5,000.00	14.29	110.75	4,869.26	-379.94	1,002.97	-381.17	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 HWY52 4V-32H-O268
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site:</b>	S32-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2		

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	14.29	110.75	4,966.17	-388.69	1,026.05	-389.94	0.00	0.00	
5,200.00	14.29	110.75	5,063.07	-397.43	1,049.14	-398.72	0.00	0.00	
5,300.00	14.29	110.75	5,159.98	-406.18	1,072.22	-407.49	0.00	0.00	
5,400.00	14.29	110.75	5,256.88	-414.92	1,095.31	-416.26	0.00	0.00	
5,500.00	14.29	110.75	5,353.79	-423.67	1,118.40	-425.04	0.00	0.00	
5,600.00	14.29	110.75	5,450.69	-432.41	1,141.48	-433.81	0.00	0.00	
5,700.00	14.29	110.75	5,547.60	-441.16	1,164.57	-442.58	0.00	0.00	
5,800.00	14.29	110.75	5,644.50	-449.91	1,187.65	-451.36	0.00	0.00	
5,900.00	14.29	110.75	5,741.41	-458.65	1,210.74	-460.13	0.00	0.00	
6,000.00	14.29	110.75	5,838.31	-467.40	1,233.82	-468.90	0.00	0.00	
6,100.00	14.29	110.75	5,935.22	-476.14	1,256.91	-477.68	0.00	0.00	
6,200.00	14.29	110.75	6,032.12	-484.89	1,279.99	-486.45	0.00	0.00	
6,300.00	14.29	110.75	6,129.03	-493.63	1,303.08	-495.22	0.00	0.00	
6,400.00	14.29	110.75	6,225.93	-502.38	1,326.17	-504.00	0.00	0.00	
6,500.00	14.29	110.75	6,322.84	-511.12	1,349.25	-512.77	0.00	0.00	
6,600.00	14.29	110.75	6,419.74	-519.87	1,372.34	-521.54	0.00	0.00	
6,700.00	14.29	110.75	6,516.65	-528.61	1,395.42	-530.32	0.00	0.00	
6,800.00	14.29	110.75	6,613.55	-537.36	1,418.51	-539.09	0.00	0.00	
6,865.63	14.29	110.75	6,677.15	-543.10	1,433.66	-544.85	0.00	0.00	START BUILD/TURN
6,900.00	13.58	99.70	6,710.52	-545.28	1,441.61	-547.04	8.00	-2.06	
7,000.00	14.54	66.56	6,807.67	-542.26	1,464.74	-544.05	8.00	0.96	
7,100.00	19.08	43.43	6,903.48	-525.37	1,487.53	-527.19	8.00	4.54	
7,200.00	25.34	30.11	6,996.07	-494.94	1,509.54	-496.78	8.00	6.26	
7,300.00	32.34	22.02	7,083.65	-451.56	1,530.34	-453.42	8.00	7.00	
7,400.00	39.69	16.60	7,164.50	-396.07	1,549.52	-397.96	8.00	7.35	
7,500.00	47.22	12.66	7,237.05	-329.56	1,566.72	-331.47	8.00	7.53	
7,600.00	54.85	9.58	7,299.90	-253.32	1,581.59	-255.25	8.00	7.63	
7,700.00	62.55	7.03	7,351.82	-168.83	1,593.85	-170.78	8.00	7.70	
7,800.00	70.29	4.82	7,391.79	-77.74	1,603.26	-79.70	8.00	7.74	
7,900.00	78.06	2.82	7,419.05	18.18	1,609.63	16.21	8.00	7.76	
8,000.00	85.83	0.92	7,433.05	117.06	1,612.84	115.09	8.00	7.78	
8,053.55	90.00	359.93	7,435.00	170.56	1,613.24	168.59	8.00	7.78	TPZ - 8053' MD - LP @ 7435' TVD; 90°
8,100.00	90.00	359.93	7,435.00	217.01	1,613.18	215.04	0.00	0.00	
8,200.00	90.00	359.93	7,435.00	317.01	1,613.06	315.04	0.00	0.00	
8,300.00	90.00	359.93	7,435.00	417.01	1,612.93	415.04	0.00	0.00	
8,400.00	90.00	359.93	7,435.00	517.01	1,612.81	515.04	0.00	0.00	
8,500.00	90.00	359.93	7,435.00	617.01	1,612.69	615.04	0.00	0.00	
8,600.00	90.00	359.93	7,435.00	717.01	1,612.57	715.04	0.00	0.00	
8,700.00	90.00	359.93	7,435.00	817.01	1,612.44	815.04	0.00	0.00	
8,800.00	90.00	359.93	7,435.00	917.01	1,612.32	915.04	0.00	0.00	
8,900.00	90.00	359.93	7,435.00	1,017.01	1,612.20	1,015.04	0.00	0.00	
9,000.00	90.00	359.93	7,435.00	1,117.01	1,612.07	1,115.04	0.00	0.00	
9,100.00	90.00	359.93	7,435.00	1,217.01	1,611.95	1,215.04	0.00	0.00	
9,200.00	90.00	359.93	7,435.00	1,317.01	1,611.83	1,315.04	0.00	0.00	
9,300.00	90.00	359.93	7,435.00	1,417.01	1,611.70	1,415.04	0.00	0.00	
9,400.00	90.00	359.93	7,435.00	1,517.01	1,611.58	1,515.04	0.00	0.00	
9,500.00	90.00	359.93	7,435.00	1,617.01	1,611.46	1,615.04	0.00	0.00	
9,600.00	90.00	359.93	7,435.00	1,717.01	1,611.34	1,715.04	0.00	0.00	
9,700.00	90.00	359.93	7,435.00	1,817.01	1,611.21	1,815.04	0.00	0.00	
9,800.00	90.00	359.93	7,435.00	1,917.01	1,611.09	1,915.04	0.00	0.00	
9,900.00	90.00	359.93	7,435.00	2,017.01	1,610.97	2,015.04	0.00	0.00	
10,000.00	90.00	359.93	7,435.00	2,117.01	1,610.84	2,115.04	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 HWY52 4V-32H-O268
<b>Company:</b> Crestone Peak Resources	<b>TVD Reference:</b> 23' KB @ 5015.00usft
<b>Project:</b> DJ BASIN	<b>MD Reference:</b> 23' KB @ 5015.00usft
<b>Site:</b> S32-T2N-R68W	<b>North Reference:</b> True
<b>Well:</b> HWY52 4V-32H-O268	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> OH	
<b>Design:</b> PLAN #2	

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
10,100.00	90.00	359.93	7,435.00	2,217.01	1,610.72	2,215.04	0.00	0.00	
10,200.00	90.00	359.93	7,435.00	2,317.01	1,610.60	2,315.04	0.00	0.00	
10,300.00	90.00	359.93	7,435.00	2,417.01	1,610.47	2,415.04	0.00	0.00	
10,400.00	90.00	359.93	7,435.00	2,517.01	1,610.35	2,515.04	0.00	0.00	
10,500.00	90.00	359.93	7,435.00	2,617.01	1,610.23	2,615.04	0.00	0.00	
10,600.00	90.00	359.93	7,435.00	2,717.01	1,610.11	2,715.04	0.00	0.00	
10,700.00	90.00	359.93	7,435.00	2,817.01	1,609.98	2,815.04	0.00	0.00	
10,800.00	90.00	359.93	7,435.00	2,917.01	1,609.86	2,915.04	0.00	0.00	
10,900.00	90.00	359.93	7,435.00	3,017.01	1,609.74	3,015.04	0.00	0.00	
11,000.00	90.00	359.93	7,435.00	3,117.01	1,609.61	3,115.04	0.00	0.00	
11,100.00	90.00	359.93	7,435.00	3,217.01	1,609.49	3,215.04	0.00	0.00	
11,200.00	90.00	359.93	7,435.00	3,317.01	1,609.37	3,315.04	0.00	0.00	
11,300.00	90.00	359.93	7,435.00	3,417.01	1,609.24	3,415.04	0.00	0.00	
11,400.00	90.00	359.93	7,435.00	3,517.01	1,609.12	3,515.04	0.00	0.00	
11,500.00	90.00	359.93	7,435.00	3,617.01	1,609.00	3,615.04	0.00	0.00	
11,600.00	90.00	359.93	7,435.00	3,717.01	1,608.88	3,715.04	0.00	0.00	
11,700.00	90.00	359.93	7,435.00	3,817.01	1,608.75	3,815.04	0.00	0.00	
11,800.00	90.00	359.93	7,435.00	3,917.01	1,608.63	3,915.04	0.00	0.00	
11,900.00	90.00	359.93	7,435.00	4,017.01	1,608.51	4,015.04	0.00	0.00	
12,000.00	90.00	359.93	7,435.00	4,117.01	1,608.38	4,115.04	0.00	0.00	
12,100.00	90.00	359.93	7,435.00	4,217.01	1,608.26	4,215.04	0.00	0.00	
12,135.65	90.00	359.93	7,435.00	4,252.66	1,608.22	4,250.69	0.00	0.00	TD at 12135.65

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
HWY 52 4V PBHL - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	7,435.00	4,252.66	1,608.22	1,280,013.78	3,134,613.46	40.101027	-105.018786	
HWY 52 4V TPZ - plan hits target center - Point	0.00	0.00	7,435.00	170.56	1,613.24	1,275,931.77	3,134,640.37	40.089821	-105.018769	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
300.00	300.00	0.00	0.00	KOP @ 300'	
1,014.60	1,007.22	-31.41	82.92	EOB; INC=14.29°	
6,865.63	6,677.15	-543.10	1,433.66	START BUILD/TURN	
8,053.55	7,435.00	170.56	1,613.24	TPZ - 8053' MD	
8,053.55	7,435.00	170.56	1,613.24	LP @ 7435' TVD; 90°	
12,135.65	7,435.00	4,252.66	1,608.22	TD at 12135.65	

# **Crestone Peak Resources**

**DJ BASIN**

**S32-T2N-R68W**

**HWY52 4V-32H-O268**

**OH**

**PLAN #2**

## **Anticollision Report**

**22 February, 2017**

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #2		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,500.00usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>		<b>Date</b>	2/22/2017		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	12,135.65	PLAN #2 (OH)	MWD+HDGM	OWSG MWD + HDGM	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
S32-T2N-R68W						
Anderson 32-32 - CPR WELL - SURVEYS						Out of range
Anderson 41-32 - CPR - NO SURVEYS	12,122.38	7,315.00	183.80	94.39	2.056	CC, ES, SF
Anderson 4-2-32 - CPR WELL - SURVEYS						Out of range
Anderson 6-4-32 - CPR WELL - SURVEYS	10,082.17	7,608.75	1,130.20	1,052.90	14.621	CC, ES, SF
Anderson Trust 1 - KPK - NO SURVEYS						Out of range
Anderson Trust 1 A - CPR WELL - SURVEYS						Out of range
Anderson Trust 32-2 - CPR WELL - GYRO						Out of range
Anderson Trust 32-8 - CPR - NO SURVEYS	10,559.56	7,393.00	423.71	356.25	6.281	CC, ES, SF
Anderson Trust C 1 - CPR WELL - GYRO	11,605.81	7,356.61	860.88	784.14	11.218	CC, ES, SF
Anderson Trust C Unit 2 - CPR WELL - GYRO						Out of range
Brown 22-5 - CPR WELL - SURVEYS						Out of range
Brown 31-5 - CPR WELL - SURVEYS						Out of range
Brown 41-5 - CPR WELL - SURVEYS	1,798.94	1,768.16	105.83	92.81	8.129	CC
Brown 41-5 - CPR WELL - SURVEYS	1,800.00	1,769.19	105.83	92.80	8.126	ES
Brown 41-5 - CPR WELL - SURVEYS	1,900.00	1,867.95	107.76	94.46	8.098	SF
Brown 5-3 - CPR WELL - GYRO						Out of range
Brown C Unit 1 - CPR WELL - GYRO						Out of range
Brown C Unit 2 - CPR WELL - GYRO						Out of range
Canino 1-X - HUGHES CW - NO SURVEYS	5,147.91	4,964.60	583.00	548.56	16.926	CC
Canino 1-X - HUGHES CW - NO SURVEYS	5,200.00	5,015.07	583.14	548.34	16.755	ES, SF
Champlin 86 Amoco F 6 - KPK - NO SURVEYS						Out of range
Champlin Amoco 86 F 7 - KPK WELL - SURVEYS						Out of range
Foster 33-5 - CPR WELL - SURVEYS						Out of range
Foster 43-5 - CPR WELL - SURVEYS						Out of range
Foster 4-5 - CPR WELL - SURVEYS						Out of range
Foster 4-6-5 - CPR WELL - SURVEYS						Out of range
Foster 6-4-5 - CPR - SURVEYS						Out of range
Foster 6-4-5X - CPR WELL - SURVEYS						Out of range
Foster 6-8-5 - CPR WELL - SURVEYS						Out of range
Foster 8-8-5 - CPR WELL - SURVEYS						Out of range
Foster E Unit 1 - CPR - GYRO						Out of range
Gene 11-5 - KERR-MCGEE - SURVEYS						Out of range
HWY52 4A-32H-O268 - OH - PLAN #2	200.00	200.00	209.84	208.85	211.329	CC, ES
HWY52 4A-32H-O268 - OH - PLAN #2	4,300.00	4,051.55	1,498.20	1,467.74	49.186	SF
HWY52 4B-32H-O268 - OH - PLAN #2	300.00	300.00	200.05	198.34	116.995	CC, ES
HWY52 4B-32H-O268 - OH - PLAN #2	4,800.00	4,585.47	1,489.59	1,454.91	42.950	SF
HWY52 4C-32H-O268 - OH - PLAN #2	300.00	300.00	189.98	188.27	111.104	CC, ES
HWY52 4C-32H-O268 - OH - PLAN #2	5,000.00	4,789.45	1,498.97	1,462.56	41.170	SF
HWY52 4D-32H-O268 - OH - PLAN #2	300.00	300.00	179.91	178.20	105.214	CC, ES
HWY52 4D-32H-O268 - OH - PLAN #2	8,400.00	7,590.02	1,328.75	1,269.36	22.376	SF
HWY52 4E-32H-O268 - OH - PLAN #2	300.00	300.00	170.11	168.40	99.487	CC, ES
HWY52 4E-32H-O268 - OH - PLAN #2	7,451.44	8,257.03	1,157.78	1,099.15	19.747	SF
HWY52 4F-32H-O268 - OH - PLAN #2	200.00	200.00	160.04	159.05	161.175	CC
HWY52 4F-32H-O268 - OH - PLAN #2	300.00	299.92	160.06	158.35	93.648	ES
HWY52 4F-32H-O268 - OH - PLAN #2	7,726.16	8,185.41	865.59	806.37	14.615	SF
HWY52 4G-32H-O268 - OH - PLAN #2	300.00	300.00	149.97	148.26	87.705	CC, ES
HWY52 4G-32H-O268 - OH - PLAN #2	8,284.91	7,764.58	697.56	636.96	11.512	SF
HWY52 4H-32H-O268 - OH - PLAN #2	300.00	300.00	139.90	138.19	81.814	CC, ES
HWY52 4H-32H-O268 - OH - PLAN #2	7,750.00	8,085.95	444.19	384.72	7.469	SF
HWY52 4I-32H-O268 - OH - PLAN #2	300.00	300.00	130.10	128.39	76.087	CC
HWY52 4I-32H-O268 - OH - PLAN #2	8,200.00	7,830.43	175.00	113.53	2.847	ES, SF
HWY52 4J-32H-O268 - OH - PLAN #2	8,424.68	7,723.14	97.71	33.86	1.530	CC, ES, SF
HWY52 4K-32H-O268 - OH - PLAN #2	484.13	490.86	109.87	106.78	35.582	CC

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
S32-T2N-R68W						
HWY52 4K-32H-O268 - OH - PLAN #2	600.00	610.66	110.11	106.13	27.700	ES
HWY52 4K-32H-O268 - OH - PLAN #2	8,222.80	7,802.05	273.91	211.08	4.360	SF
HWY52 4L-32H-O268 - OH - PLAN #2	200.00	200.00	99.89	98.89	100.594	CC, ES
HWY52 4L-32H-O268 - OH - PLAN #2	800.00	786.18	172.29	166.97	32.405	SF
HWY52 4M-32H-O268 - OH - PLAN #2	200.00	200.00	90.09	89.10	90.732	CC, ES
HWY52 4M-32H-O268 - OH - PLAN #2	800.00	789.71	155.65	150.34	29.314	SF
HWY52 4N-32H-O268 - OH - PLAN #2	300.00	300.00	80.02	78.31	46.798	CC, ES
HWY52 4N-32H-O268 - OH - PLAN #2	800.00	795.52	127.13	121.86	24.151	SF
HWY52 4O-32H-O268 - OH - PLAN #2	332.07	332.83	69.37	67.45	36.054	CC, ES
HWY52 4O-32H-O268 - OH - PLAN #2	800.00	799.32	102.90	97.58	19.341	SF
HWY52 4P-32H-O268 - OH - PLAN #2	300.00	300.00	59.88	58.17	35.017	CC, ES
HWY52 4P-32H-O268 - OH - PLAN #2	12,135.65	12,044.01	1,413.69	1,259.90	9.192	SF
HWY52 4Q-32H-O268 - OH - PLAN #2	300.00	300.00	50.08	48.37	29.290	CC, ES
HWY52 4Q-32H-O268 - OH - PLAN #2	12,135.65	11,928.08	1,078.94	927.54	7.126	SF
HWY52 4R-32H-O268 - OH - PLAN #2	300.00	300.00	40.01	38.30	23.399	CC, ES
HWY52 4R-32H-O268 - OH - PLAN #2	12,135.65	12,087.14	761.26	608.42	4.981	SF
HWY52 4S-32H-O268 - OH - PLAN #2	300.00	300.00	29.94	28.23	17.509	CC, ES
HWY52 4S-32H-O268 - OH - PLAN #2	12,135.65	12,247.93	640.83	490.42	4.260	SF
HWY52 4T-32H-O268 - OH - PLAN #2	300.00	300.00	19.87	18.16	11.619	CC, ES
HWY52 4T-32H-O268 - OH - PLAN #2	12,135.65	12,040.23	499.89	347.15	3.273	SF
HWY52 4U-32H-O268 - OH - PLAN #2	300.00	300.00	10.07	8.36	5.891	CC, ES
HWY52 4U-32H-O268 - OH - PLAN #2	7,850.00	7,719.38	93.77	34.29	1.577	SF
HWY52 4W-32H-O268 - OH - PLAN #2	115.99	117.99	10.07	9.67	25.320	CC
HWY52 4W-32H-O268 - OH - PLAN #2	200.00	202.00	10.07	9.07	10.074	ES
HWY52 4W-32H-O268 - OH - PLAN #2	12,135.65	12,243.21	335.08	220.02	2.912	SF
Nelson 1 - TEXAS TEA - NO SURVEYS	300.00	254.00	1,428.67	1,427.36	1,090.943	CC, ES
Nelson 1 - TEXAS TEA - NO SURVEYS	1,200.00	1,140.87	1,491.99	1,485.53	230.826	SF
Nelson E Unit 1 - CPR WELL - GYRO						Out of range
Nelson E Unit 2 - CPR WELL - GYRO	8,834.96	7,360.47	861.20	818.28	20.064	CC, ES, SF
Oskarson 2-8-33 - CPR WELL - SURVEYS						Out of range
Oskarson 23-33 - CPR WELL - GYRO						Out of range
Oskarson 4 - HRM - NO SURVEYS						Out of range
Oskarson 4-4-33 - CPR WELL - SURVEYS						Out of range
Oskarson 4-6-33 - CPR WELL - SURVEYS						Out of range
Oskarson 4-8-33 - CPR WELL - SURVEYS						Out of range
Oskarson E Unit 1 - CPR WELL - GYRO	8,206.82	7,416.55	1,196.80	1,157.81	30.696	CC, ES
Oskarson E Unit 1 - CPR WELL - GYRO	8,600.00	7,422.23	1,259.71	1,217.17	29.609	SF
Paquette 14-5 - KERR-MCGEE - GYRO						Out of range
Rasmussen 10-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 16-29 - KMG WELL - SURVEYS	12,135.65	7,565.71	1,309.24	1,228.37	16.190	CC, ES, SF
Rasmussen 19-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 20-29 - CPR WELL - SURVEYS						Out of range
Rasmussen 22-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 23-29 - KMG WELL - KMG WELL						Out of range
Rasmussen 25-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 36-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 37-29 - KMG WELL - SURVEYS	12,135.65	7,531.82	1,055.09	954.44	10.484	CC, ES, SF
Rasmussen 39-29 - KMG WELL - SURVEYS						Out of range
Rasmussen Fed 35-29 - KMG WELL - SURVEYS						Out of range
Ray Nelson 13-32 - CPR WELL - SURVEYS						Out of range
Ray Nelson 14-32 - CPR WELL - SURVEYS						Out of range
Ray Nelson 23-32 - CPR WELL - GYRO						Out of range
Ray Nelson 24-32 - CPR WELL - SURVEYS						Out of range

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
S32-T2N-R68W						
Ray Nelson 2-4-32 - CPR WELL - SURVEYS						Out of range
Ray Nelson 33-32 - CPR WELL - SURVEYS	1,069.52	1,036.70	278.83	273.13	48.959	CC, ES
Ray Nelson 33-32 - CPR WELL - SURVEYS	1,500.00	1,405.66	333.93	325.58	39.980	SF
Ray Nelson 34-32 - CPR WELL - SURVEYS	1,220.07	1,186.99	289.03	282.34	43.221	CC, ES
Ray Nelson 34-32 - CPR WELL - SURVEYS	2,300.00	2,234.98	407.29	394.10	30.888	SF
Ray Nelson 44-32 - CPR WELL - SURVEYS	8,110.55	7,544.43	287.54	244.46	6.676	CC, ES
Ray Nelson 44-32 - CPR WELL - SURVEYS	8,200.00	7,545.80	301.12	255.73	6.633	SF
Ray Nelson 4-4-32 - CPR WELL - SURVEYS						Out of range
Ray Nelson 4-6-32 - CPR WELL - SURVEYS						Out of range
Ray Nelson 8-8-32 - CPR WELL - SURVEYS	100.00	76.35	313.72	313.47	1,235.294	CC
Ray Nelson 8-8-32 - CPR WELL - SURVEYS	7,200.00	7,272.36	342.53	299.36	7.934	SF
Ray Nelson 8-8-32 - CPR WELL - SURVEYS	7,344.58	7,398.53	329.22	288.74	8.133	ES
SEC Four 12-4 - KMG WELL - SURVEYS						Out of range
SEC Four 13-4 - KMG WELL - SURVEYS						Out of range
SEC Four 14-4 - KMG WELL - SURVEYS						Out of range
SEC Four 21-4 - KMG WELL - SURVEYS						Out of range
SEC Four 22-4 - KMG WELL - SURVEYS						Out of range
SEC Four 31-4 - KMG WELL - SURVEYS	7,010.36	6,998.28	1,473.54	1,418.11	26.583	CC, ES
SEC Four 31-4 - KMG WELL - SURVEYS	7,200.00	7,169.78	1,498.37	1,441.24	26.228	SF
SEC Four 32-4 - KMG WELL - SURVEYS						Out of range
SEC Four 33-4 - KMG WELL - SURVEYS						Out of range
SEC Four 3-4 - KMG WELL - SURVEYS						Out of range
SEC Four 35-4 - KMG WELL - SURVEYS						Out of range
SEC Four 4-4 - KMG WELL - SURVEYS	7,212.39	7,182.32	1,429.69	1,385.96	32.692	CC, ES
SEC Four 4-4 - KMG WELL - SURVEYS	7,450.00	7,348.00	1,463.08	1,417.36	31.998	SF
SEC Four 5-4 - KMG WELL - SURVEYS						Out of range
SEC Four 6-4 - KMG WELL - SURVEYS						Out of range
Tallgrass 1-8 - KMG - SURVEYS						Out of range
Tallgrass 2-8 - KMG - SURVEYS						Out of range
Tallgrass 3-8 - KMG - SURVEYS						Out of range
Tallgrass 4-8 - KMG - SURVEYS						Out of range
Tallgrass 5-8 - KMG - NO SURVEYS						Out of range

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S32-T2N-R68W (File/Hwy 52)						
File 3A-32H-K268 - Hz - FINAL						Out of range
File 3A-32H-K268 - Hz - Plan #7						Out of range
File 3B-32H-K268 - Hz - FINAL						Out of range
File 3B-32H-K268 - Hz - Plan #4						Out of range
File 3C-32H-K268 - Hz - FINAL						Out of range
File 3C-32H-K268 - Hz - Plan #4						Out of range
File 3D-32H-K268 - Hz - FINAL						Out of range
File 3D-32H-K268 - Hz - Plan #4						Out of range
File 3E-32H-K268 - Hz - FINAL						Out of range
File 3E-32H-K268 - Hz - Plan #3						Out of range
File 3F-32H-K268 - Hz - FINAL						Out of range
File 3F-32H-K268 - Hz - Plan #3						Out of range
File 3G-32H-K268 - Hz - FINAL						Out of range
File 3G-32H-K268 - Hz - Plan #6						Out of range
File 3H-32H-K268 - Hz - FINAL						Out of range
File 3H-32H-K268 - Hz - Plan #3						Out of range
File 3I-32H-K268 - Hz - FINAL						Out of range
File 3I-32H-K268 - Hz - Plan #5						Out of range
File 3J-32H-K268 - Hz - FINAL						Out of range
File 3J-32H-K268 - Hz - Plan #3						Out of range
File 3K-32H-K268 - Hz - FINAL						Out of range
File 3K-32H-K268 - Hz - Plan #3						Out of range
File 3L-32H-K268 - Hz - FINAL						Out of range
File 3L-32H-K268 - Hz - Plan #4						Out of range
File 3M-32H-K268 - Hz - FINAL						Out of range
File 3M-32H-K268 - Hz - Plan #4						Out of range
File 3N-32H-K268 - Hz - FINAL						Out of range
File 3N-32H-K268 - Hz - Plan #3						Out of range
File 3O-32H-K268 - Hz - FINAL						Out of range
File 3O-32H-K268 - Hz - Plan #3						Out of range
File 3P-32H-K268 - Hz - FINAL						Out of range
File 3P-32H-K268 - Hz - Plan #5						Out of range

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 8470-MWD+HDGM													Offset Well Error:		0.00 usft
Reference				Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
10,700.00	7,435.00	7,315.00	7,315.00	57.30	13.11	-90.00	4,239.16	1,424.43	1,434.20	1,382.10	52.11	27.523			
10,800.00	7,435.00	7,315.00	7,315.00	58.64	13.11	-90.00	4,239.16	1,424.43	1,335.09	1,282.67	52.42	25.470			
10,900.00	7,435.00	7,315.00	7,315.00	59.99	13.11	-90.00	4,239.16	1,424.43	1,236.12	1,183.34	52.78	23.419			
11,000.00	7,435.00	7,315.00	7,315.00	61.35	13.11	-90.00	4,239.16	1,424.43	1,137.33	1,084.11	53.22	21.371			
11,100.00	7,435.00	7,315.00	7,315.00	62.73	13.11	-90.00	4,239.16	1,424.43	1,038.77	985.02	53.75	19.327			
11,200.00	7,435.00	7,315.00	7,315.00	64.11	13.11	-90.00	4,239.16	1,424.43	940.51	886.11	54.41	17.287			
11,300.00	7,435.00	7,315.00	7,315.00	65.50	13.11	-90.00	4,239.16	1,424.43	842.67	787.42	55.24	15.254			
11,400.00	7,435.00	7,315.00	7,315.00	66.90	13.11	-90.00	4,239.16	1,424.43	745.39	689.06	56.33	13.232			
11,500.00	7,435.00	7,315.00	7,315.00	68.31	13.11	-90.00	4,239.16	1,424.43	648.95	591.15	57.80	11.228			
11,600.00	7,435.00	7,315.00	7,315.00	69.73	13.11	-90.00	4,239.16	1,424.43	553.77	493.93	59.84	9.254			
11,700.00	7,435.00	7,315.00	7,315.00	71.15	13.11	-90.00	4,239.16	1,424.43	460.64	397.82	62.82	7.333			
11,800.00	7,435.00	7,315.00	7,315.00	72.58	13.11	-90.00	4,239.16	1,424.43	371.09	303.78	67.32	5.512			
11,900.00	7,435.00	7,315.00	7,315.00	74.02	13.11	-90.00	4,239.16	1,424.43	288.51	214.26	74.24	3.886			
12,000.00	7,435.00	7,315.00	7,315.00	75.46	13.11	-90.00	4,239.16	1,424.43	220.82	137.03	83.79	2.635			
12,100.00	7,435.00	7,315.00	7,315.00	76.91	13.11	-90.00	4,239.16	1,424.43	185.16	95.23	89.93	2.059			
12,122.38	7,435.00	7,315.00	7,315.00	77.24	13.11	-90.00	4,239.16	1,424.43	183.80	94.39	89.42	2.056 CC, ES, SF			
12,135.65	7,435.00	7,315.00	7,315.00	77.43	13.11	-90.00	4,239.16	1,424.43	184.28	95.59	88.69	2.078			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Anderson 6-4-32 - CPR WELL - SURVEYS													Offset Well Error:	0.00 usft
Survey Program: 71-Geolink MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
9,100.00	7,435.00	7,607.97	7,364.80	39.03	30.31	-89.08	2,197.79	480.69	1,497.34	1,430.48	66.86	22.396		
9,200.00	7,435.00	7,608.05	7,364.88	39.84	30.31	-89.08	2,197.79	480.69	1,433.73	1,365.55	68.18	21.028		
9,300.00	7,435.00	7,608.13	7,364.96	40.73	30.31	-89.09	2,197.79	480.69	1,374.46	1,304.90	69.56	19.759		
9,400.00	7,435.00	7,608.21	7,365.04	41.69	30.31	-89.09	2,197.79	480.69	1,320.12	1,249.15	70.97	18.601		
9,500.00	7,435.00	7,608.29	7,365.12	42.70	30.31	-89.09	2,197.79	480.68	1,271.33	1,198.96	72.37	17.567		
9,600.00	7,435.00	7,608.37	7,365.20	43.77	30.31	-89.10	2,197.79	480.68	1,228.76	1,155.05	73.71	16.670		
9,700.00	7,435.00	7,608.45	7,365.28	44.87	30.31	-89.10	2,197.79	480.68	1,193.07	1,118.14	74.93	15.923		
9,800.00	7,435.00	7,608.53	7,365.36	46.01	30.31	-89.11	2,197.79	480.68	1,164.89	1,088.94	75.95	15.337		
9,900.00	7,435.00	7,608.61	7,365.44	47.17	30.31	-89.11	2,197.79	480.68	1,144.79	1,068.06	76.73	14.920		
10,000.00	7,435.00	7,608.69	7,365.52	48.37	30.31	-89.11	2,197.79	480.68	1,133.18	1,056.00	77.18	14.682		
10,082.17	7,435.00	7,608.75	7,365.58	49.37	30.31	-89.12	2,197.79	480.68	1,130.20	1,052.90	77.30	14.621	CC, ES, SF	
10,100.00	7,435.00	7,608.77	7,365.60	49.59	30.31	-89.12	2,197.79	480.68	1,130.34	1,053.05	77.29	14.625		
10,200.00	7,435.00	7,608.84	7,365.67	50.83	30.31	-89.12	2,197.79	480.68	1,136.33	1,059.30	77.03	14.752		
10,300.00	7,435.00	7,608.92	7,365.75	52.09	30.31	-89.13	2,197.79	480.67	1,151.00	1,074.58	76.42	15.061		
10,400.00	7,435.00	7,609.00	7,365.83	53.37	30.31	-89.13	2,197.79	480.67	1,174.04	1,098.53	75.51	15.549		
10,500.00	7,435.00	7,609.07	7,365.90	54.66	30.31	-89.13	2,197.79	480.67	1,204.96	1,130.61	74.35	16.207		
10,600.00	7,435.00	7,609.15	7,365.98	55.97	30.31	-89.14	2,197.79	480.67	1,243.18	1,170.17	73.01	17.028		
10,700.00	7,435.00	7,609.22	7,366.05	57.30	30.31	-89.14	2,197.79	480.67	1,288.05	1,216.49	71.56	18.001		
10,800.00	7,435.00	7,609.30	7,366.13	58.64	30.31	-89.15	2,197.79	480.67	1,338.89	1,268.84	70.05	19.113		
10,900.00	7,435.00	7,609.37	7,366.20	59.99	30.31	-89.15	2,197.79	480.67	1,395.06	1,326.51	68.55	20.351		
11,000.00	7,435.00	7,609.45	7,366.27	61.35	30.31	-89.15	2,197.79	480.67	1,455.94	1,388.86	67.08	21.704		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Anderson Trust 32-8 - CPR - NO SURVEYS													Offset Well Error:	0.00 usft
Survey Program: 7765-MWD+HDGM														
Reference				Offset			Semi Major Axis			Distance				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
9,200.00	7,435.00	7,393.00	7,393.00	39.84	13.23	-90.00	2,676.04	1,186.45	1,424.05	1,372.59	51.47	27.670		
9,300.00	7,435.00	7,393.00	7,393.00	40.73	13.23	-90.00	2,676.04	1,186.45	1,328.91	1,277.06	51.85	25.629		
9,400.00	7,435.00	7,393.00	7,393.00	41.69	13.23	-90.00	2,676.04	1,186.45	1,234.55	1,182.24	52.31	23.601		
9,500.00	7,435.00	7,393.00	7,393.00	42.70	13.23	-90.00	2,676.04	1,186.45	1,141.14	1,088.28	52.86	21.589		
9,600.00	7,435.00	7,393.00	7,393.00	43.77	13.23	-90.00	2,676.04	1,186.45	1,048.94	995.42	53.52	19.599		
9,700.00	7,435.00	7,393.00	7,393.00	44.87	13.23	-90.00	2,676.04	1,186.45	958.32	903.99	54.33	17.639		
9,800.00	7,435.00	7,393.00	7,393.00	46.01	13.23	-90.00	2,676.04	1,186.45	869.75	814.42	55.33	15.720		
9,900.00	7,435.00	7,393.00	7,393.00	47.17	13.23	-90.00	2,676.04	1,186.45	783.93	727.37	56.56	13.861		
10,000.00	7,435.00	7,393.00	7,393.00	48.37	13.23	-90.00	2,676.04	1,186.45	701.88	643.80	58.08	12.084		
10,100.00	7,435.00	7,393.00	7,393.00	49.59	13.23	-90.00	2,676.04	1,186.45	625.08	565.14	59.94	10.428		
10,200.00	7,435.00	7,393.00	7,393.00	50.83	13.23	-90.00	2,676.04	1,186.45	555.71	493.59	62.12	8.946		
10,300.00	7,435.00	7,393.00	7,393.00	52.09	13.23	-90.00	2,676.04	1,186.45	496.89	432.43	64.46	7.708		
10,400.00	7,435.00	7,393.00	7,393.00	53.37	13.23	-90.00	2,676.04	1,186.45	452.76	386.23	66.53	6.806		
10,500.00	7,435.00	7,393.00	7,393.00	54.66	13.23	-90.00	2,676.04	1,186.45	427.87	360.29	67.58	6.331		
10,559.56	7,435.00	7,393.00	7,393.00	55.44	13.23	-90.00	2,676.04	1,186.45	423.71	356.25	67.46	6.281	CC, ES, SF	
10,600.00	7,435.00	7,393.00	7,393.00	55.97	13.23	-90.00	2,676.04	1,186.45	425.64	358.63	67.01	6.352		
10,700.00	7,435.00	7,393.00	7,393.00	57.30	13.23	-90.00	2,676.04	1,186.45	446.38	381.49	64.88	6.880		
10,800.00	7,435.00	7,393.00	7,393.00	58.64	13.23	-90.00	2,676.04	1,186.45	487.18	425.20	61.98	7.861		
10,900.00	7,435.00	7,393.00	7,393.00	59.99	13.23	-90.00	2,676.04	1,186.45	543.54	484.45	59.08	9.200		
11,000.00	7,435.00	7,393.00	7,393.00	61.35	13.23	-90.00	2,676.04	1,186.45	611.16	554.55	56.62	10.795		
11,100.00	7,435.00	7,393.00	7,393.00	62.73	13.23	-90.00	2,676.04	1,186.45	686.74	632.06	54.67	12.561		
11,200.00	7,435.00	7,393.00	7,393.00	64.11	13.23	-90.00	2,676.04	1,186.45	767.92	714.72	53.20	14.435		
11,300.00	7,435.00	7,393.00	7,393.00	65.50	13.23	-90.00	2,676.04	1,186.45	853.10	801.01	52.10	16.376		
11,400.00	7,435.00	7,393.00	7,393.00	66.90	13.23	-90.00	2,676.04	1,186.45	941.21	889.94	51.27	18.357		
11,500.00	7,435.00	7,393.00	7,393.00	68.31	13.23	-90.00	2,676.04	1,186.45	1,031.49	980.83	50.65	20.363		
11,600.00	7,435.00	7,393.00	7,393.00	69.73	13.23	-90.00	2,676.04	1,186.45	1,123.41	1,073.22	50.19	22.384		
11,700.00	7,435.00	7,393.00	7,393.00	71.15	13.23	-90.00	2,676.04	1,186.45	1,216.61	1,166.77	49.84	24.412		
11,800.00	7,435.00	7,393.00	7,393.00	72.58	13.23	-90.00	2,676.04	1,186.45	1,310.81	1,261.24	49.57	26.444		
11,900.00	7,435.00	7,393.00	7,393.00	74.02	13.23	-90.00	2,676.04	1,186.45	1,405.82	1,356.45	49.36	28.478		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Anderson Trust C 1 - CPR WELL - GYRO													Offset Well Error:	0.00 usft
Survey Program: 100- GyroFlex														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
10,400.00	7,435.00	7,371.27	7,369.63	53.37	8.07	-90.24	3,721.57	747.88	1,481.51	1,428.05	53.46	27.712		
10,500.00	7,435.00	7,370.14	7,368.50	54.66	8.07	-90.17	3,721.59	747.89	1,401.33	1,346.31	55.02	25.470		
10,600.00	7,435.00	7,368.99	7,367.36	55.97	8.07	-90.09	3,721.60	747.91	1,323.86	1,267.10	56.76	23.324		
10,700.00	7,435.00	7,367.83	7,366.19	57.30	8.07	-90.01	3,721.62	747.92	1,249.59	1,190.90	58.69	21.291		
10,800.00	7,435.00	7,366.65	7,365.02	58.64	8.07	-89.94	3,721.63	747.94	1,179.12	1,118.31	60.81	19.390		
10,900.00	7,435.00	7,365.46	7,363.83	59.99	8.06	-89.86	3,721.65	747.95	1,113.19	1,050.08	63.11	17.639		
11,000.00	7,435.00	7,364.26	7,362.62	61.35	8.06	-89.78	3,721.66	747.97	1,052.64	987.10	65.54	16.061		
11,100.00	7,435.00	7,363.04	7,361.40	62.73	8.06	-89.69	3,721.68	747.98	998.45	930.41	68.04	14.674		
11,200.00	7,435.00	7,361.80	7,360.16	64.11	8.06	-89.61	3,721.69	748.00	951.72	881.21	70.50	13.499		
11,300.00	7,435.00	7,360.54	7,358.91	65.50	8.06	-89.53	3,721.71	748.01	913.57	840.80	72.77	12.554		
11,400.00	7,435.00	7,359.27	7,357.64	66.90	8.06	-89.44	3,721.72	748.03	885.13	810.45	74.68	11.852		
11,500.00	7,435.00	7,357.99	7,356.35	68.31	8.05	-89.36	3,721.74	748.05	867.35	791.31	76.04	11.406		
11,600.00	7,435.00	7,356.68	7,355.05	69.73	8.05	-89.27	3,721.76	748.06	860.90	784.17	76.72	11.221		
11,605.81	7,435.00	7,356.61	7,354.97	69.81	8.05	-89.27	3,721.76	748.06	860.88	784.14	76.74	11.218	CC, ES, SF	
11,700.00	7,435.00	7,355.36	7,353.73	71.15	8.05	-89.18	3,721.77	748.08	866.01	789.36	76.66	11.297		
11,800.00	7,435.00	7,354.02	7,352.39	72.58	8.05	-89.09	3,721.79	748.10	882.50	806.63	75.87	11.632		
11,900.00	7,435.00	7,352.66	7,351.03	74.02	8.05	-89.00	3,721.81	748.11	909.75	835.27	74.48	12.214		
12,000.00	7,435.00	7,351.28	7,349.65	75.46	8.05	-88.91	3,721.83	748.13	946.82	874.17	72.65	13.032		
12,100.00	7,435.00	7,349.89	7,348.26	76.91	8.04	-88.82	3,721.85	748.15	992.62	922.07	70.55	14.069		
12,135.65	7,435.00	7,349.38	7,347.75	77.43	8.04	-88.79	3,721.85	748.16	1,010.84	941.07	69.77	14.488		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 41-Geolink MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	49.03	202.90	233.62	310.14						
100.00	100.00	76.94	76.94	0.14	0.11	49.09	202.86	234.11	309.78	309.53	0.25	1,230.194			
200.00	200.00	176.53	176.52	0.50	0.28	49.21	202.84	235.11	310.53	309.75	0.78	397.459			
300.00	300.00	277.56	277.55	0.85	0.46	49.39	202.59	236.25	311.22	309.90	1.31	236.670			
400.00	399.98	386.39	386.36	1.20	0.65	-61.39	200.73	236.63	309.54	307.68	1.86	166.010			
500.00	499.84	494.67	494.45	1.55	0.86	-61.61	194.67	236.35	303.20	300.76	2.44	124.457			
600.00	599.45	603.22	602.39	1.91	1.12	-61.69	183.23	236.73	292.44	289.39	3.05	95.782			
700.00	698.70	708.97	706.80	2.29	1.43	-61.55	166.55	237.64	277.01	273.29	3.71	74.614			
800.00	797.47	804.53	800.80	2.69	1.74	-61.62	149.46	239.49	259.41	255.06	4.35	59.594			
900.00	895.62	901.74	896.25	3.11	2.09	-62.00	131.41	243.16	241.13	236.07	5.06	47.679			
1,000.00	993.06	1,002.79	995.12	3.56	2.48	-62.80	111.15	247.83	220.92	215.08	5.84	37.810			
1,014.60	1,007.22	1,017.66	1,009.60	3.63	2.55	-62.92	107.81	248.62	217.69	211.72	5.97	36.493			
1,100.00	1,089.97	1,103.02	1,092.14	4.05	2.95	-62.70	86.78	254.03	198.11	191.40	6.71	29.513			
1,200.00	1,186.87	1,196.44	1,181.82	4.54	3.41	-61.43	61.94	262.18	175.74	168.12	7.62	23.072			
1,300.00	1,283.78	1,290.64	1,271.78	5.05	3.91	-58.93	36.35	273.38	155.55	146.95	8.60	18.084			
1,400.00	1,380.68	1,384.12	1,360.79	5.56	4.40	-55.23	11.41	287.31	138.49	128.87	9.62	14.397			
1,500.00	1,477.59	1,479.28	1,451.08	6.07	4.93	-50.12	-13.25	304.44	125.24	114.59	10.65	11.757			
1,600.00	1,574.49	1,576.28	1,542.64	6.59	5.48	-43.21	-38.88	323.65	114.80	103.17	11.63	9.874			
1,700.00	1,671.40	1,672.62	1,633.46	7.11	6.05	-35.37	-63.55	344.22	108.09	95.65	12.44	8.689			
1,798.94	1,767.27	1,768.16	1,722.82	7.63	6.65	-26.20	-88.90	366.58	105.83	92.81	13.02	8.129 CC			
1,800.00	1,768.30	1,769.19	1,723.78	7.64	6.66	-26.10	-89.18	366.83	105.83	92.80	13.02	8.126 ES			
1,900.00	1,865.21	1,867.95	1,815.25	8.17	7.32	-15.24	-117.74	390.73	107.76	94.46	13.31	8.098 SF			
2,000.00	1,962.11	1,965.18	1,905.24	8.69	7.97	-4.76	-146.65	413.51	112.97	99.67	13.30	8.495			
2,100.00	2,059.02	2,065.00	1,998.28	9.22	8.59	3.35	-173.40	437.81	121.15	107.82	13.33	9.088			
2,200.00	2,155.92	2,161.32	2,088.08	9.75	9.23	10.07	-199.13	461.30	131.40	118.04	13.36	9.835			
2,300.00	2,252.83	2,260.92	2,180.86	10.28	9.87	15.72	-225.45	486.18	143.55	130.04	13.51	10.625			
2,400.00	2,349.73	2,359.86	2,273.37	10.82	10.50	20.04	-250.24	510.99	155.95	142.17	13.78	11.317			
2,500.00	2,446.64	2,459.69	2,366.62	11.35	11.14	24.10	-276.16	535.44	169.37	155.22	14.15	11.966			
2,600.00	2,543.54	2,561.91	2,462.87	11.88	11.76	28.26	-302.48	557.63	181.43	166.77	14.66	12.375			
2,700.00	2,640.45	2,659.19	2,554.71	12.42	12.36	32.07	-327.70	577.41	193.57	178.33	15.24	12.702			
2,800.00	2,737.35	2,747.82	2,637.61	12.95	12.97	35.07	-352.34	596.79	209.04	193.21	15.83	13.205			
2,900.00	2,834.26	2,840.32	2,722.75	13.49	13.64	37.90	-381.33	618.37	229.06	212.48	16.57	13.820			
3,000.00	2,931.16	2,937.22	2,811.52	14.02	14.35	40.19	-412.06	642.14	250.53	233.09	17.44	14.367			
3,100.00	3,028.07	3,040.64	2,906.76	14.56	15.07	42.28	-443.86	666.88	271.12	252.70	18.43	14.714			
3,200.00	3,124.97	3,141.05	3,000.02	15.09	15.75	44.35	-473.97	688.77	290.34	270.91	19.43	14.940			
3,300.00	3,221.88	3,234.57	3,086.91	15.63	16.39	46.08	-502.07	708.92	309.84	289.47	20.38	15.207			
3,400.00	3,318.78	3,323.29	3,168.58	16.16	17.04	47.67	-530.99	728.05	332.08	310.80	21.28	15.608			
3,500.00	3,415.69	3,425.78	3,262.49	16.70	17.77	49.35	-565.62	750.07	355.80	333.40	22.40	15.887			
3,600.00	3,512.59	3,538.76	3,367.66	17.24	18.51	50.95	-599.73	773.25	375.79	352.15	23.64	15.897			
3,700.00	3,609.50	3,658.18	3,480.68	17.77	19.17	52.60	-631.20	795.46	391.65	366.74	24.91	15.722			
3,800.00	3,706.40	3,788.94	3,607.34	18.31	19.71	55.13	-658.96	811.94	401.14	374.80	26.34	15.228			
3,900.00	3,803.31	3,891.02	3,707.53	18.85	20.10	57.36	-676.14	821.25	405.93	378.28	27.65	14.679			
4,000.00	3,900.21	3,997.66	3,812.22	19.38	20.48	59.47	-693.26	832.08	410.73	381.75	28.98	14.173			
4,100.00	3,997.12	4,107.33	3,920.27	19.92	20.85	61.39	-707.55	844.31	413.07	382.79	30.27	13.644			
4,200.00	4,094.02	4,199.62	4,011.18	20.46	21.18	62.89	-719.14	855.23	415.45	383.95	31.49	13.191			
4,300.00	4,190.93	4,288.11	4,097.89	20.99	21.54	64.20	-732.57	866.62	420.82	388.15	32.67	12.881			
4,400.00	4,287.83	4,375.93	4,183.49	21.53	21.94	65.34	-747.68	879.06	428.64	394.85	33.79	12.686			
4,500.00	4,384.74	4,474.30	4,278.74	22.07	22.40	66.41	-767.07	894.17	439.21	404.26	34.94	12.569			
4,600.00	4,481.64	4,583.06	4,384.43	22.61	22.87	67.50	-786.22	911.21	447.79	411.65	36.14	12.389			
4,700.00	4,578.55	4,665.94	4,464.97	23.14	23.27	68.37	-801.32	923.64	457.20	420.02	37.18	12.297			
4,800.00	4,675.45	4,753.87	4,549.57	23.68	23.74	69.09	-820.42	938.09	470.20	432.00	38.20	12.310			
4,900.00	4,772.36	4,838.39	4,630.05	24.22	24.25	69.49	-840.69	954.03	485.60	446.50	39.10	12.420			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Brown 41-5 - CPR WELL - SURVEYS													Offset Well Error:	0.00 usft
Survey Program: 41-Geolink MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
5,000.00	4,869.26	4,921.37	4,708.17	24.76	24.78	69.71	-863.13	970.75	504.12	464.23	39.89	12.638		
5,100.00	4,966.17	5,021.68	4,802.47	25.29	25.39	70.16	-891.96	989.11	524.41	483.47	40.94	12.809		
5,200.00	5,063.07	5,115.75	4,891.45	25.83	25.95	70.79	-918.51	1,004.22	544.27	502.31	41.96	12.972		
5,300.00	5,159.98	5,224.83	4,994.97	26.37	26.57	71.57	-948.68	1,020.70	563.65	520.43	43.21	13.044		
5,400.00	5,256.88	5,323.89	5,089.18	26.91	27.15	72.15	-974.75	1,036.67	581.69	537.38	44.31	13.128		
5,500.00	5,353.79	5,426.39	5,186.16	27.44	27.75	72.55	-1,002.58	1,054.73	600.57	555.18	45.39	13.231		
5,600.00	5,450.69	5,541.79	5,296.66	27.98	28.35	73.21	-1,030.40	1,072.95	616.42	569.76	46.66	13.211		
5,700.00	5,547.60	5,654.92	5,405.86	28.52	28.88	74.03	-1,055.28	1,088.87	630.44	582.54	47.90	13.162		
5,800.00	5,644.50	5,766.52	5,514.68	29.06	29.33	75.10	-1,076.50	1,101.60	641.77	592.60	49.17	13.053		
5,900.00	5,741.41	5,860.32	5,606.35	29.60	29.71	76.11	-1,094.08	1,110.82	653.27	602.98	50.29	12.991		
6,000.00	5,838.31	5,954.02	5,698.09	30.13	30.05	77.28	-1,111.90	1,117.54	665.67	614.25	51.42	12.946		
6,100.00	5,935.22	6,039.78	5,782.12	30.67	30.37	78.54	-1,128.64	1,121.00	679.46	626.95	52.51	12.940		
6,200.00	6,032.12	6,157.39	5,897.19	31.21	30.78	80.17	-1,152.46	1,125.85	694.55	640.62	53.93	12.879		
6,300.00	6,129.03	6,301.63	6,039.57	31.75	31.20	82.04	-1,173.81	1,134.13	704.19	648.70	55.49	12.691		
6,400.00	6,225.93	6,416.00	6,153.25	32.29	31.46	83.64	-1,184.76	1,140.22	709.15	652.40	56.75	12.496		
6,500.00	6,322.84	6,520.77	6,257.46	32.83	31.71	85.09	-1,193.75	1,145.96	713.63	655.66	57.98	12.309		
6,600.00	6,419.74	6,623.64	6,359.58	33.36	31.97	86.28	-1,202.99	1,154.25	718.16	659.02	59.14	12.144		
6,700.00	6,516.65	6,746.57	6,481.85	33.90	32.23	87.75	-1,210.39	1,164.55	719.94	659.63	60.31	11.937		
6,800.00	6,613.55	6,835.84	6,570.71	34.44	32.41	88.86	-1,214.91	1,171.73	721.43	660.01	61.42	11.746		
6,865.63	6,677.15	6,893.94	6,628.56	34.79	32.53	89.61	-1,218.61	1,175.70	723.61	661.48	62.13	11.646		
6,900.00	6,710.52	6,926.68	6,661.16	34.98	32.60	100.80	-1,220.75	1,177.75	725.73	663.23	62.50	11.612		
6,950.00	6,759.15	6,976.43	6,710.73	35.22	32.70	118.20	-1,223.97	1,180.61	731.67	668.68	62.99	11.615		
7,000.00	6,807.67	7,028.64	6,762.78	35.45	32.79	134.52	-1,227.00	1,183.27	740.72	677.28	63.44	11.676		
7,050.00	6,855.86	7,080.11	6,814.12	35.66	32.87	147.94	-1,229.64	1,185.61	752.76	688.93	63.84	11.792		
7,100.00	6,903.48	7,130.69	6,864.61	35.84	32.95	158.30	-1,231.95	1,187.81	767.73	703.56	64.18	11.963		
7,150.00	6,950.29	7,178.82	6,912.66	36.01	33.03	166.19	-1,233.96	1,189.80	785.60	721.14	64.46	12.188		
7,200.00	6,996.07	7,225.78	6,959.59	36.16	33.10	172.32	-1,235.78	1,191.65	806.32	741.63	64.69	12.465		
7,250.00	7,040.60	7,271.27	7,004.97	36.29	33.16	177.21	-1,237.42	1,193.35	829.79	764.92	64.87	12.791		
7,300.00	7,083.65	7,314.88	7,048.53	36.40	33.22	-178.74	-1,238.90	1,194.92	855.93	790.92	65.01	13.166		
7,350.00	7,125.01	7,355.99	7,089.59	36.50	33.28	-175.25	-1,240.22	1,196.32	884.64	819.53	65.10	13.588		
7,400.00	7,164.50	7,395.30	7,128.86	36.58	33.33	-172.12	-1,241.44	1,197.57	915.82	850.66	65.16	14.055		
7,450.00	7,201.91	7,433.38	7,166.91	36.65	33.38	-169.21	-1,242.54	1,198.71	949.31	884.13	65.18	14.564		
7,500.00	7,237.05	7,469.17	7,202.67	36.70	33.42	-166.37	-1,243.49	1,199.72	984.96	919.79	65.17	15.113		
7,550.00	7,269.77	7,502.05	7,235.53	36.74	33.46	-163.46	-1,244.31	1,200.59	1,022.63	957.50	65.13	15.701		
7,600.00	7,299.90	7,532.16	7,265.62	36.77	33.50	-160.37	-1,245.02	1,201.37	1,062.18	997.11	65.06	16.326		
7,650.00	7,327.30	7,559.47	7,292.92	36.79	33.53	-156.95	-1,245.64	1,202.05	1,103.44	1,038.47	64.97	16.984		
7,700.00	7,351.82	7,582.76	7,316.20	36.80	33.56	-152.95	-1,246.15	1,202.62	1,146.25	1,081.41	64.85	17.676		
7,750.00	7,373.35	7,602.85	7,336.27	36.80	33.58	-148.16	-1,246.60	1,203.08	1,190.45	1,125.74	64.71	18.397		
7,800.00	7,391.79	7,619.86	7,353.28	36.79	33.60	-142.27	-1,246.98	1,203.46	1,235.82	1,171.27	64.55	19.144		
7,850.00	7,407.05	7,633.72	7,367.13	36.77	33.62	-134.89	-1,247.29	1,203.75	1,282.17	1,217.79	64.38	19.915		
7,900.00	7,419.05	7,644.38	7,377.78	36.75	33.63	-125.65	-1,247.52	1,203.96	1,329.28	1,265.08	64.20	20.705		
7,950.00	7,427.73	7,651.91	7,385.31	36.73	33.64	-114.33	-1,247.69	1,204.11	1,376.92	1,312.92	64.01	21.512		
8,000.00	7,433.05	7,656.76	7,390.16	36.70	33.64	-101.38	-1,247.80	1,204.20	1,424.89	1,361.08	63.81	22.331		
8,053.55	7,435.00	7,657.66	7,391.06	36.67	33.64	-86.81	-1,247.82	1,204.22	1,476.35	1,412.77	63.58	23.219		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - Canino 1-X - HUGHES CW - NO SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 5034-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	83.02	152.32	1,243.64	1,253.86					
100.00	100.00	52.00	52.00	0.14	0.09	83.02	152.32	1,243.64	1,252.94	1,252.70	0.23	5,414.304		
200.00	200.00	152.00	152.00	0.50	0.27	83.02	152.32	1,243.64	1,252.94	1,252.17	0.77	1,629.061		
300.00	300.00	252.00	252.00	0.85	0.45	83.02	152.32	1,243.64	1,252.94	1,251.63	1.31	958.768		
400.00	399.98	351.98	351.98	1.20	0.63	-27.78	152.32	1,243.64	1,251.39	1,249.56	1.83	682.057		
500.00	499.84	451.84	451.84	1.55	0.81	-27.94	152.32	1,243.64	1,246.76	1,244.40	2.36	527.530		
600.00	599.45	551.45	551.45	1.91	0.99	-28.20	152.32	1,243.64	1,239.07	1,236.17	2.90	427.222		
700.00	698.70	650.70	650.70	2.29	1.17	-28.57	152.32	1,243.64	1,228.33	1,224.88	3.44	356.648		
800.00	797.47	749.47	749.47	2.69	1.34	-29.06	152.32	1,243.64	1,214.58	1,210.59	4.00	304.001		
900.00	895.62	847.62	847.62	3.11	1.52	-29.66	152.32	1,243.64	1,197.88	1,193.32	4.56	262.955		
1,000.00	993.06	945.06	945.06	3.56	1.69	-30.40	152.32	1,243.64	1,178.28	1,173.15	5.13	229.830		
1,014.60	1,007.22	959.22	959.22	3.63	1.72	-30.52	152.32	1,243.64	1,175.18	1,169.96	5.22	225.332		
1,100.00	1,089.97	1,041.97	1,041.97	4.05	1.87	-31.05	152.32	1,243.64	1,156.92	1,151.21	5.71	202.733		
1,200.00	1,186.87	1,138.87	1,138.87	4.54	2.04	-31.69	152.32	1,243.64	1,135.67	1,129.38	6.29	180.546		
1,300.00	1,283.78	1,235.78	1,235.78	5.05	2.22	-32.35	152.32	1,243.64	1,114.55	1,107.67	6.88	161.949		
1,400.00	1,380.68	1,332.68	1,332.68	5.56	2.39	-33.03	152.32	1,243.64	1,093.59	1,086.11	7.48	146.173		
1,500.00	1,477.59	1,429.59	1,429.59	6.07	2.56	-33.75	152.32	1,243.64	1,072.78	1,064.70	8.09	132.645		
1,600.00	1,574.49	1,526.49	1,526.49	6.59	2.74	-34.49	152.32	1,243.64	1,052.15	1,043.45	8.70	120.932		
1,700.00	1,671.40	1,623.40	1,623.40	7.11	2.91	-35.25	152.32	1,243.64	1,031.69	1,022.37	9.32	110.705		
1,800.00	1,768.30	1,720.30	1,720.30	7.64	3.08	-36.05	152.32	1,243.64	1,011.42	1,001.47	9.94	101.708		
1,900.00	1,865.21	1,817.21	1,817.21	8.17	3.26	-36.88	152.32	1,243.64	991.35	980.77	10.58	93.738		
2,000.00	1,962.11	1,914.11	1,914.11	8.69	3.43	-37.75	152.32	1,243.64	971.49	960.28	11.21	86.636		
2,100.00	2,059.02	2,011.02	2,011.02	9.22	3.60	-38.65	152.32	1,243.64	951.86	940.00	11.86	80.273		
2,200.00	2,155.92	2,107.92	2,107.92	9.75	3.78	-39.58	152.32	1,243.64	932.47	919.96	12.51	74.545		
2,300.00	2,252.83	2,204.83	2,204.83	10.28	3.95	-40.55	152.32	1,243.64	913.33	900.16	13.17	69.366		
2,400.00	2,349.73	2,301.73	2,301.73	10.82	4.13	-41.57	152.32	1,243.64	894.47	880.63	13.83	64.666		
2,500.00	2,446.64	2,398.64	2,398.64	11.35	4.30	-42.63	152.32	1,243.64	875.89	861.39	14.50	60.387		
2,600.00	2,543.54	2,495.54	2,495.54	11.88	4.47	-43.73	152.32	1,243.64	857.62	842.44	15.19	56.478		
2,700.00	2,640.45	2,592.45	2,592.45	12.42	4.65	-44.87	152.32	1,243.64	839.69	823.81	15.87	52.898		
2,800.00	2,737.35	2,689.35	2,689.35	12.95	4.82	-46.07	152.32	1,243.64	822.10	805.53	16.57	49.612		
2,900.00	2,834.26	2,786.26	2,786.26	13.49	4.99	-47.31	152.32	1,243.64	804.88	787.61	17.28	46.590		
3,000.00	2,931.16	2,883.16	2,883.16	14.02	5.17	-48.61	152.32	1,243.64	788.07	770.08	17.99	43.805		
3,100.00	3,028.07	2,980.07	2,980.07	14.56	5.34	-49.96	152.32	1,243.64	771.67	752.96	18.71	41.236		
3,200.00	3,124.97	3,076.97	3,076.97	15.09	5.52	-51.36	152.32	1,243.64	755.73	736.28	19.45	38.864		
3,300.00	3,221.88	3,173.88	3,173.88	15.63	5.69	-52.83	152.32	1,243.64	740.27	720.08	20.19	36.671		
3,400.00	3,318.78	3,270.78	3,270.78	16.16	5.86	-54.35	152.32	1,243.64	725.32	704.38	20.94	34.643		
3,500.00	3,415.69	3,367.69	3,367.69	16.70	6.04	-55.93	152.32	1,243.64	710.91	689.21	21.70	32.767		
3,600.00	3,512.59	3,464.59	3,464.59	17.24	6.21	-57.58	152.32	1,243.64	697.07	674.61	22.46	31.033		
3,700.00	3,609.50	3,561.50	3,561.50	17.77	6.38	-59.28	152.32	1,243.64	683.85	660.61	23.24	29.429		
3,800.00	3,706.40	3,658.40	3,658.40	18.31	6.56	-61.05	152.32	1,243.64	671.28	647.26	24.02	27.947		
3,900.00	3,803.31	3,755.31	3,755.31	18.85	6.73	-62.88	152.32	1,243.64	659.39	634.58	24.81	26.580		
4,000.00	3,900.21	3,852.21	3,852.21	19.38	6.90	-64.78	152.32	1,243.64	648.22	622.62	25.60	25.321		
4,100.00	3,997.12	3,949.12	3,949.12	19.92	7.08	-66.73	152.32	1,243.64	637.82	611.42	26.40	24.163		
4,200.00	4,094.02	4,046.02	4,046.02	20.46	7.25	-68.75	152.32	1,243.64	628.21	601.02	27.19	23.100		
4,300.00	4,190.93	4,142.93	4,142.93	20.99	7.43	-70.82	152.32	1,243.64	619.44	591.45	27.99	22.128		
4,400.00	4,287.83	4,239.83	4,239.83	21.53	7.60	-72.94	152.32	1,243.64	611.54	582.75	28.79	21.242		
4,500.00	4,384.74	4,336.74	4,336.74	22.07	7.77	-75.11	152.32	1,243.64	604.54	574.96	29.58	20.437		
4,600.00	4,481.64	4,433.64	4,433.64	22.61	7.95	-77.33	152.32	1,243.64	598.49	568.12	30.37	19.709		
4,700.00	4,578.55	4,530.55	4,530.55	23.14	8.12	-79.59	152.32	1,243.64	593.40	562.25	31.14	19.054		
4,800.00	4,675.45	4,627.45	4,627.45	23.68	8.29	-81.88	152.32	1,243.64	589.29	557.39	31.91	18.469		
4,900.00	4,772.36	4,724.36	4,724.36	24.22	8.47	-84.19	152.32	1,243.64	586.21	553.55	32.66	17.950		
5,000.00	4,869.26	4,821.26	4,821.26	24.76	8.64	-86.53	152.32	1,243.64	584.14	550.75	33.39	17.494		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 5034-MWD+HDGM													Offset Well Error:		0.00 usft
Reference				Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
5,100.00	4,966.17	4,918.17	4,918.17	25.29	8.82	-88.87	152.32	1,243.64	583.12	549.01	34.11	17.096			
5,147.91	5,012.60	4,964.60	4,964.60	25.55	8.90	-90.00	152.32	1,243.64	583.00	548.56	34.44	16.926	CC		
5,200.00	5,063.07	5,015.07	5,015.07	25.83	8.99	-91.22	152.32	1,243.64	583.14	548.34	34.80	16.755	ES, SF		
5,300.00	5,159.98	5,034.00	5,034.00	26.37	9.02	-91.68	152.32	1,243.64	589.39	554.36	35.03	16.827			
5,400.00	5,256.88	5,034.00	5,034.00	26.91	9.02	-91.68	152.32	1,243.64	611.84	577.52	34.32	17.829			
5,500.00	5,353.79	5,034.00	5,034.00	27.44	9.02	-91.68	152.32	1,243.64	649.09	616.16	32.92	19.715			
5,600.00	5,450.69	5,034.00	5,034.00	27.98	9.02	-91.68	152.32	1,243.64	698.77	667.62	31.15	22.433			
5,700.00	5,547.60	5,034.00	5,034.00	28.52	9.02	-91.68	152.32	1,243.64	758.45	729.20	29.25	25.930			
5,800.00	5,644.50	5,034.00	5,034.00	29.06	9.02	-91.68	152.32	1,243.64	825.96	798.57	27.39	30.153			
5,900.00	5,741.41	5,034.00	5,034.00	29.60	9.02	-91.68	152.32	1,243.64	899.55	873.88	25.67	35.049			
6,000.00	5,838.31	5,034.00	5,034.00	30.13	9.02	-91.68	152.32	1,243.64	977.83	953.72	24.10	40.566			
6,100.00	5,935.22	5,034.00	5,034.00	30.67	9.02	-91.68	152.32	1,243.64	1,059.77	1,037.05	22.72	46.649			
6,200.00	6,032.12	5,034.00	5,034.00	31.21	9.02	-91.68	152.32	1,243.64	1,144.59	1,123.09	21.49	53.250			
6,300.00	6,129.03	5,034.00	5,034.00	31.75	9.02	-91.68	152.32	1,243.64	1,231.69	1,211.27	20.42	60.316			
6,400.00	6,225.93	5,034.00	5,034.00	32.29	9.02	-91.68	152.32	1,243.64	1,320.61	1,301.13	19.48	67.800			
6,500.00	6,322.84	5,034.00	5,034.00	32.83	9.02	-91.68	152.32	1,243.64	1,411.02	1,392.37	18.65	75.653			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft					
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft					
Reference													Semi Major Axis		Distance		Total	Separation	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Factor							
0.00	0.00	0.00	0.00	0.00	0.00	-89.70	1.11	-209.84	209.84										
100.00	100.00	100.00	100.00	0.14	0.14	-89.70	1.11	-209.84	209.84	209.57	0.28	760.236							
200.00	200.00	200.00	200.00	0.50	0.50	-89.70	1.11	-209.84	209.84	208.85	0.99	211.329	CC, ES						
300.00	300.00	296.23	296.21	0.85	0.84	-89.32	2.49	-210.69	210.74	209.03	1.71	123.450							
400.00	399.98	392.13	391.99	1.20	1.19	161.14	6.60	-213.22	215.12	212.70	2.42	88.754							
500.00	499.84	487.14	486.66	1.55	1.54	163.19	13.35	-217.39	224.86	221.71	3.15	71.361							
600.00	599.45	581.12	580.00	1.91	1.89	165.82	22.65	-223.12	240.26	236.37	3.89	61.814							
700.00	698.70	678.28	676.34	2.29	2.26	168.60	33.36	-229.74	260.40	255.79	4.60	56.572							
800.00	797.47	774.61	771.86	2.69	2.64	171.08	43.98	-236.29	284.44	279.12	5.32	53.496							
900.00	895.62	869.98	866.42	3.11	3.02	173.25	54.50	-242.78	312.29	306.26	6.03	51.790							
1,000.00	993.06	964.28	959.93	3.56	3.39	175.12	64.90	-249.19	343.83	337.09	6.74	51.014							
1,014.60	1,007.22	977.95	973.49	3.63	3.44	175.37	66.40	-250.12	348.74	341.89	6.85	50.907							
1,100.00	1,089.97	1,057.85	1,052.71	4.05	3.76	176.74	75.21	-255.56	377.76	370.32	7.44	50.754							
1,200.00	1,186.87	1,151.40	1,145.47	4.54	4.13	178.10	85.53	-261.92	411.96	403.82	8.14	50.612							
1,300.00	1,283.78	1,244.95	1,238.24	5.05	4.50	179.26	95.84	-268.29	446.33	437.49	8.84	50.491							
1,400.00	1,380.68	1,338.51	1,331.00	5.56	4.88	-179.75	106.16	-274.65	480.83	471.29	9.54	50.384							
1,500.00	1,477.59	1,432.06	1,423.76	6.07	5.25	-178.89	116.48	-281.02	515.45	505.20	10.25	50.289							
1,600.00	1,574.49	1,525.61	1,516.53	6.59	5.63	-178.14	126.79	-287.38	550.16	539.20	10.96	50.203							
1,700.00	1,671.40	1,619.17	1,609.29	7.11	6.00	-177.48	137.11	-293.75	584.94	573.27	11.67	50.125							
1,800.00	1,768.30	1,712.72	1,702.06	7.64	6.37	-176.89	147.42	-300.11	619.79	607.40	12.38	50.053							
1,900.00	1,865.21	1,806.27	1,794.82	8.17	6.75	-176.36	157.74	-306.48	654.68	641.58	13.10	49.987							
2,000.00	1,962.11	1,899.83	1,887.59	8.69	7.12	-175.89	168.05	-312.84	689.62	675.81	13.81	49.926							
2,100.00	2,059.02	1,993.38	1,980.35	9.22	7.50	-175.46	178.37	-319.21	724.59	710.06	14.53	49.869							
2,200.00	2,155.92	2,086.93	2,073.12	9.75	7.87	-175.07	188.69	-325.57	759.60	744.35	15.25	49.816							
2,300.00	2,252.83	2,180.49	2,165.88	10.28	8.25	-174.72	199.00	-331.94	794.64	778.67	15.97	49.767							
2,400.00	2,349.73	2,274.04	2,258.65	10.82	8.62	-174.39	209.32	-338.30	829.70	813.01	16.69	49.720							
2,500.00	2,446.64	2,367.59	2,351.41	11.35	9.00	-174.10	219.63	-344.67	864.78	847.37	17.41	49.677							
2,600.00	2,543.54	2,461.14	2,444.18	11.88	9.37	-173.82	229.95	-351.03	899.88	881.75	18.13	49.636							
2,700.00	2,640.45	2,554.70	2,536.94	12.42	9.75	-173.57	240.26	-357.39	935.00	916.15	18.85	49.597							
2,800.00	2,737.35	2,648.25	2,629.71	12.95	10.12	-173.33	250.58	-363.76	970.13	950.56	19.57	49.561							
2,900.00	2,834.26	2,741.80	2,722.47	13.49	10.50	-173.11	260.90	-370.12	1,005.28	984.98	20.30	49.527							
3,000.00	2,931.16	2,835.36	2,815.24	14.02	10.87	-172.91	271.21	-376.49	1,040.44	1,019.42	21.02	49.494							
3,100.00	3,028.07	2,928.91	2,908.00	14.56	11.25	-172.72	281.53	-382.85	1,075.61	1,053.86	21.75	49.463							
3,200.00	3,124.97	3,022.46	3,000.76	15.09	11.63	-172.54	291.84	-389.22	1,110.78	1,088.31	22.47	49.434							
3,300.00	3,221.88	3,116.02	3,093.53	15.63	12.00	-172.37	302.16	-395.58	1,145.97	1,122.78	23.20	49.406							
3,400.00	3,318.78	3,209.57	3,186.29	16.16	12.38	-172.21	312.47	-401.95	1,181.17	1,157.25	23.92	49.379							
3,500.00	3,415.69	3,303.12	3,279.06	16.70	12.75	-172.06	322.79	-408.31	1,216.37	1,191.73	24.65	49.354							
3,600.00	3,512.59	3,396.68	3,371.82	17.24	13.13	-171.92	333.11	-414.68	1,251.58	1,226.21	25.37	49.329							
3,700.00	3,609.50	3,490.23	3,464.59	17.77	13.50	-171.79	343.42	-421.04	1,286.80	1,260.70	26.10	49.306							
3,800.00	3,706.40	3,583.78	3,557.35	18.31	13.88	-171.66	353.74	-427.41	1,322.02	1,295.20	26.82	49.284							
3,900.00	3,803.31	3,677.34	3,650.12	18.85	14.25	-171.54	364.05	-433.77	1,357.25	1,329.70	27.55	49.263							
4,000.00	3,900.21	3,770.89	3,742.88	19.38	14.63	-171.43	374.37	-440.14	1,392.48	1,364.20	28.28	49.242							
4,100.00	3,997.12	3,864.44	3,835.65	19.92	15.01	-171.32	384.68	-446.50	1,427.72	1,398.71	29.01	49.223							
4,200.00	4,094.02	3,958.00	3,928.41	20.46	15.38	-171.22	395.00	-452.87	1,462.96	1,433.23	29.73	49.204							
4,300.00	4,190.93	4,051.55	4,021.18	20.99	15.76	-171.12	405.32	-459.23	1,498.20	1,467.74	30.46	49.186	SF						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft				
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft				
Reference													Semi Major Axis		Distance			Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor						
0.00	0.00	0.00	0.00	0.00	0.00	-89.69	1.10	-200.05	200.05									
100.00	100.00	100.00	100.00	0.14	0.14	-89.69	1.10	-200.05	200.05	199.77	0.28	724.759						
200.00	200.00	200.00	200.00	0.50	0.50	-89.69	1.10	-200.05	200.05	199.06	0.99	201.467						
300.00	300.00	300.00	300.00	0.85	0.85	-89.69	1.10	-200.05	200.05	198.34	1.71	116.995 CC, ES						
400.00	399.98	398.50	398.48	1.20	1.21	160.19	2.76	-200.38	202.05	199.64	2.41	83.737						
500.00	499.84	496.47	496.31	1.55	1.57	161.99	7.70	-201.39	208.19	205.07	3.12	66.739						
600.00	599.45	593.36	592.85	1.91	1.92	164.73	15.80	-203.03	218.86	215.02	3.84	57.021						
700.00	698.70	690.82	689.73	2.29	2.28	167.94	26.20	-205.14	234.18	229.62	4.56	51.306						
800.00	797.47	788.08	786.40	2.69	2.64	170.90	36.64	-207.26	253.61	248.32	5.29	47.920						
900.00	895.62	884.53	882.27	3.11	3.01	173.52	47.00	-209.37	277.02	271.00	6.02	46.024						
1,000.00	993.06	980.06	977.23	3.56	3.37	175.79	57.26	-211.45	304.28	297.54	6.74	45.118						
1,014.60	1,007.22	993.93	991.01	3.63	3.42	176.09	58.75	-211.75	308.58	301.72	6.86	45.007						
1,100.00	1,089.97	1,074.95	1,071.55	4.05	3.73	177.74	67.45	-213.52	334.06	326.60	7.46	44.761						
1,200.00	1,186.87	1,169.83	1,165.85	4.54	4.10	179.38	77.64	-215.59	364.17	355.99	8.18	44.541						
1,300.00	1,283.78	1,264.71	1,260.16	5.05	4.46	-179.23	87.82	-217.66	394.51	385.62	8.89	44.365						
1,400.00	1,380.68	1,359.59	1,354.47	5.56	4.83	-178.04	98.01	-219.73	425.04	415.43	9.61	44.222						
1,500.00	1,477.59	1,454.47	1,448.78	6.07	5.19	-177.01	108.20	-221.80	455.71	445.38	10.33	44.101						
1,600.00	1,574.49	1,549.34	1,543.08	6.59	5.56	-176.11	118.39	-223.86	486.50	475.44	11.06	43.998						
1,700.00	1,671.40	1,644.22	1,637.39	7.11	5.92	-175.31	128.58	-225.93	517.38	505.60	11.78	43.908						
1,800.00	1,768.30	1,739.10	1,731.70	7.64	6.29	-174.61	138.77	-228.00	548.35	535.84	12.51	43.829						
1,900.00	1,865.21	1,833.98	1,826.01	8.17	6.66	-173.98	148.96	-230.07	579.38	566.14	13.24	43.758						
2,000.00	1,962.11	1,928.86	1,920.31	8.69	7.02	-173.41	159.15	-232.14	610.47	596.50	13.97	43.695						
2,100.00	2,059.02	2,023.74	2,014.62	9.22	7.39	-172.90	169.34	-234.21	641.61	626.91	14.70	43.637						
2,200.00	2,155.92	2,118.62	2,108.93	9.75	7.76	-172.43	179.53	-236.28	672.80	657.36	15.44	43.585						
2,300.00	2,252.83	2,213.50	2,203.24	10.28	8.12	-172.01	189.72	-238.35	704.01	687.84	16.17	43.537						
2,400.00	2,349.73	2,308.38	2,297.54	10.82	8.49	-171.62	199.90	-240.42	735.26	718.36	16.91	43.493						
2,500.00	2,446.64	2,403.25	2,391.85	11.35	8.86	-171.26	210.09	-242.49	766.54	748.90	17.64	43.452						
2,600.00	2,543.54	2,498.13	2,486.16	11.88	9.22	-170.94	220.28	-244.55	797.84	779.47	18.38	43.414						
2,700.00	2,640.45	2,593.01	2,580.47	12.42	9.59	-170.63	230.47	-246.62	829.17	810.05	19.11	43.378						
2,800.00	2,737.35	2,687.89	2,674.77	12.95	9.96	-170.35	240.66	-248.69	860.51	840.66	19.85	43.345						
2,900.00	2,834.26	2,782.77	2,769.08	13.49	10.33	-170.09	250.85	-250.76	891.87	871.28	20.59	43.314						
3,000.00	2,931.16	2,877.65	2,863.39	14.02	10.69	-169.85	261.04	-252.83	923.25	901.92	21.33	43.285						
3,100.00	3,028.07	2,972.53	2,957.70	14.56	11.06	-169.62	271.23	-254.90	954.64	932.57	22.07	43.257						
3,200.00	3,124.97	3,067.41	3,052.00	15.09	11.43	-169.40	281.42	-256.97	986.05	963.24	22.81	43.231						
3,300.00	3,221.88	3,162.28	3,146.31	15.63	11.80	-169.20	291.61	-259.04	1,017.46	993.91	23.55	43.206						
3,400.00	3,318.78	3,257.16	3,240.62	16.16	12.16	-169.02	301.79	-261.11	1,048.89	1,024.60	24.29	43.183						
3,500.00	3,415.69	3,352.04	3,334.93	16.70	12.53	-168.84	311.98	-263.17	1,080.32	1,055.29	25.03	43.161						
3,600.00	3,512.59	3,446.92	3,429.23	17.24	12.90	-168.67	322.17	-265.24	1,111.77	1,086.00	25.77	43.140						
3,700.00	3,609.50	3,541.80	3,523.54	17.77	13.27	-168.51	332.36	-267.31	1,143.22	1,116.71	26.51	43.120						
3,800.00	3,706.40	3,636.68	3,617.85	18.31	13.63	-168.36	342.55	-269.38	1,174.68	1,147.43	27.25	43.101						
3,900.00	3,803.31	3,731.56	3,712.16	18.85	14.00	-168.22	352.74	-271.45	1,206.15	1,178.15	28.00	43.083						
4,000.00	3,900.21	3,826.44	3,806.46	19.38	14.37	-168.09	362.93	-273.52	1,237.62	1,208.88	28.74	43.066						
4,100.00	3,997.12	3,921.32	3,900.77	19.92	14.74	-167.96	373.12	-275.59	1,269.10	1,239.62	29.48	43.049						
4,200.00	4,094.02	4,016.19	3,995.08	20.46	15.10	-167.84	383.31	-277.66	1,300.59	1,270.36	30.22	43.033						
4,300.00	4,190.93	4,111.07	4,089.39	20.99	15.47	-167.72	393.50	-279.73	1,332.08	1,301.11	30.97	43.018						
4,400.00	4,287.83	4,205.95	4,183.69	21.53	15.84	-167.61	403.69	-281.79	1,363.57	1,331.86	31.71	43.003						
4,500.00	4,384.74	4,300.83	4,278.00	22.07	16.21	-167.50	413.87	-283.86	1,395.07	1,362.62	32.45	42.989						
4,600.00	4,481.64	4,395.71	4,372.31	22.61	16.57	-167.40	424.06	-285.93	1,426.57	1,393.38	33.19	42.976						
4,700.00	4,578.55	4,490.59	4,466.61	23.14	16.94	-167.31	434.25	-288.00	1,458.08	1,424.14	33.94	42.963						
4,800.00	4,675.45	4,585.47	4,560.92	23.68	17.31	-167.21	444.44	-290.07	1,489.59	1,454.91	34.68	42.950 SF						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft				
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft				
Reference													Semi Major Axis		Distance			Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor						
0.00	0.00	0.00	0.00	0.00	0.00	-89.67	1.08	-189.98	189.98									
100.00	100.00	100.00	100.00	0.14	0.14	-89.67	1.08	-189.98	189.98	189.70	0.28	688.268						
200.00	200.00	200.00	200.00	0.50	0.50	-89.67	1.08	-189.98	189.98	188.99	0.99	191.324						
300.00	300.00	300.00	300.00	0.85	0.85	-89.67	1.08	-189.98	189.98	188.27	1.71	111.104	CC, ES					
400.00	399.98	399.98	399.98	1.20	1.21	159.75	1.08	-189.98	191.61	189.20	2.42	79.275						
500.00	499.84	499.16	499.14	1.55	1.57	160.74	2.79	-190.11	196.70	193.58	3.12	62.996						
600.00	599.45	597.60	597.44	1.91	1.93	162.89	7.87	-190.49	205.62	201.79	3.83	53.620						
700.00	698.70	694.83	694.30	2.29	2.28	165.93	16.19	-191.13	218.81	214.25	4.55	48.053						
800.00	797.47	791.85	790.74	2.69	2.63	169.35	26.88	-191.95	236.56	231.28	5.28	44.809						
900.00	895.62	888.49	886.77	3.11	2.99	172.42	37.63	-192.77	258.49	252.48	6.01	43.028						
1,000.00	993.06	984.25	981.93	3.56	3.35	175.08	48.29	-193.59	284.42	277.69	6.73	42.232						
1,014.60	1,007.22	998.15	995.75	3.63	3.41	175.43	49.84	-193.71	288.53	281.69	6.85	42.140						
1,100.00	1,089.97	1,079.39	1,076.48	4.05	3.72	177.36	58.88	-194.40	312.99	305.53	7.46	41.971						
1,200.00	1,186.87	1,174.52	1,171.01	4.54	4.08	179.26	69.46	-195.21	341.98	333.81	8.17	41.837						
1,300.00	1,283.78	1,269.65	1,265.55	5.05	4.44	-179.13	80.05	-196.02	371.27	362.38	8.89	41.741						
1,400.00	1,380.68	1,364.78	1,360.08	5.56	4.81	-177.75	90.63	-196.83	400.79	391.17	9.62	41.670						
1,500.00	1,477.59	1,459.91	1,454.62	6.07	5.17	-176.56	101.22	-197.64	430.49	420.15	10.34	41.615						
1,600.00	1,574.49	1,555.04	1,549.15	6.59	5.54	-175.53	111.81	-198.45	460.34	449.27	11.07	41.571						
1,700.00	1,671.40	1,650.17	1,643.69	7.11	5.90	-174.62	122.39	-199.26	490.31	478.51	11.80	41.535						
1,800.00	1,768.30	1,745.30	1,738.23	7.64	6.27	-173.81	132.98	-200.07	520.39	507.85	12.54	41.505						
1,900.00	1,865.21	1,840.43	1,832.76	8.17	6.64	-173.10	143.56	-200.88	550.54	537.27	13.27	41.479						
2,000.00	1,962.11	1,935.56	1,927.30	8.69	7.01	-172.45	154.15	-201.69	580.77	566.76	14.01	41.456						
2,100.00	2,059.02	2,030.69	2,021.83	9.22	7.37	-171.87	164.74	-202.50	611.05	596.30	14.75	41.436						
2,200.00	2,155.92	2,125.81	2,116.37	9.75	7.74	-171.35	175.32	-203.31	641.39	625.90	15.49	41.417						
2,300.00	2,252.83	2,220.94	2,210.90	10.28	8.11	-170.87	185.91	-204.12	671.77	655.54	16.23	41.400						
2,400.00	2,349.73	2,316.07	2,305.44	10.82	8.48	-170.43	196.49	-204.93	702.19	685.22	16.97	41.385						
2,500.00	2,446.64	2,411.20	2,399.97	11.35	8.85	-170.03	207.08	-205.74	732.65	714.94	17.71	41.370						
2,600.00	2,543.54	2,506.33	2,494.51	11.88	9.21	-169.67	217.67	-206.55	763.13	744.68	18.45	41.357						
2,700.00	2,640.45	2,601.46	2,589.04	12.42	9.58	-169.33	228.25	-207.36	793.64	774.45	19.20	41.344						
2,800.00	2,737.35	2,696.59	2,683.58	12.95	9.95	-169.01	238.84	-208.17	824.18	804.24	19.94	41.332						
2,900.00	2,834.26	2,791.72	2,778.12	13.49	10.32	-168.72	249.42	-208.98	854.73	834.05	20.69	41.321						
3,000.00	2,931.16	2,886.85	2,872.65	14.02	10.69	-168.45	260.01	-209.79	885.31	863.88	21.43	41.311						
3,100.00	3,028.07	2,981.98	2,967.19	14.56	11.06	-168.19	270.60	-210.60	915.90	893.72	22.18	41.300						
3,200.00	3,124.97	3,077.11	3,061.72	15.09	11.43	-167.95	281.18	-211.41	946.51	923.58	22.92	41.291						
3,300.00	3,221.88	3,172.24	3,156.26	15.63	11.80	-167.73	291.77	-212.22	977.13	953.46	23.67	41.282						
3,400.00	3,318.78	3,267.37	3,250.79	16.16	12.16	-167.52	302.35	-213.03	1,007.76	983.34	24.42	41.273						
3,500.00	3,415.69	3,362.50	3,345.33	16.70	12.53	-167.32	312.94	-213.85	1,038.40	1,013.24	25.16	41.264						
3,600.00	3,512.59	3,457.63	3,439.86	17.24	12.90	-167.14	323.53	-214.66	1,069.06	1,043.15	25.91	41.256						
3,700.00	3,609.50	3,552.76	3,534.40	17.77	13.27	-166.96	334.11	-215.47	1,099.72	1,073.06	26.66	41.249						
3,800.00	3,706.40	3,647.89	3,628.93	18.31	13.64	-166.80	344.70	-216.28	1,130.40	1,102.99	27.41	41.241						
3,900.00	3,803.31	3,743.02	3,723.47	18.85	14.01	-166.64	355.28	-217.09	1,161.08	1,132.92	28.16	41.234						
4,000.00	3,900.21	3,838.15	3,818.01	19.38	14.38	-166.49	365.87	-217.90	1,191.77	1,162.86	28.91	41.227						
4,100.00	3,997.12	3,933.28	3,912.54	19.92	14.75	-166.35	376.46	-218.71	1,222.47	1,192.81	29.66	41.221						
4,200.00	4,094.02	4,028.41	4,007.08	20.46	15.12	-166.22	387.04	-219.52	1,253.17	1,222.76	30.41	41.214						
4,300.00	4,190.93	4,123.54	4,101.61	20.99	15.49	-166.09	397.63	-220.33	1,283.88	1,252.72	31.16	41.208						
4,400.00	4,287.83	4,218.67	4,196.15	21.53	15.86	-165.96	408.21	-221.14	1,314.59	1,282.68	31.91	41.202						
4,500.00	4,384.74	4,313.80	4,290.68	22.07	16.23	-165.85	418.80	-221.95	1,345.31	1,312.65	32.66	41.196						
4,600.00	4,481.64	4,408.93	4,385.22	22.61	16.60	-165.74	429.39	-222.76	1,376.03	1,342.63	33.41	41.191						
4,700.00	4,578.55	4,504.06	4,479.75	23.14	16.97	-165.63	439.97	-223.57	1,406.76	1,372.61	34.16	41.185						
4,800.00	4,675.45	4,599.19	4,574.29	23.68	17.33	-165.53	450.56	-224.38	1,437.50	1,402.59	34.91	41.180						
4,900.00	4,772.36	4,694.32	4,668.82	24.22	17.70	-165.43	461.15	-225.19	1,468.23	1,432.57	35.66	41.175						
5,000.00	4,869.26	4,789.45	4,763.36	24.76	18.07	-165.34	471.73	-226.00	1,498.97	1,462.56	36.41	41.170	SF					

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4D-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance			Total	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis		Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-89.66	1.06	-179.90	179.91					
100.00	100.00	100.00	100.00	0.14	0.14	-89.66	1.06	-179.90	179.91	179.63	0.28	651.778		
200.00	200.00	200.00	200.00	0.50	0.50	-89.66	1.06	-179.90	179.91	178.91	0.99	181.180		
300.00	300.00	300.00	300.00	0.85	0.85	-89.66	1.06	-179.90	179.91	178.20	1.71	105.214 CC, ES		
400.00	399.98	399.98	399.98	1.20	1.21	159.77	1.06	-179.90	181.54	179.13	2.42	75.108		
500.00	499.84	499.84	499.84	1.55	1.57	160.29	1.06	-179.90	186.46	183.34	3.12	59.669		
600.00	599.45	599.18	599.16	1.91	1.93	161.61	2.78	-179.90	194.76	190.92	3.84	50.740		
700.00	698.70	700.50	700.34	2.29	2.30	164.07	7.92	-179.56	206.41	201.85	4.56	45.230		
800.00	797.47	804.23	803.73	2.69	2.67	167.28	15.73	-176.73	219.74	214.43	5.31	41.395		
900.00	895.62	907.34	906.18	3.11	3.04	170.96	25.88	-171.07	234.83	228.77	6.06	38.739		
1,000.00	993.06	1,004.64	1,002.66	3.56	3.41	174.45	36.62	-164.33	253.07	246.27	6.79	37.244		
1,014.60	1,007.22	1,018.78	1,016.67	3.63	3.46	174.92	38.18	-163.35	256.09	249.18	6.91	37.075		
1,100.00	1,089.97	1,101.36	1,098.55	4.05	3.77	177.52	47.30	-157.63	274.30	266.77	7.53	36.422		
1,200.00	1,186.87	1,198.07	1,194.44	4.54	4.14	-179.85	57.98	-150.94	296.22	287.95	8.27	35.826		
1,300.00	1,283.78	1,294.79	1,290.32	5.05	4.52	-177.58	68.66	-144.24	318.67	309.65	9.01	35.358		
1,400.00	1,380.68	1,391.50	1,386.21	5.56	4.89	-175.60	79.35	-137.54	341.53	331.77	9.76	34.983		
1,500.00	1,477.59	1,488.21	1,482.09	6.07	5.27	-173.88	90.03	-130.84	364.74	354.22	10.52	34.676		
1,600.00	1,574.49	1,584.92	1,577.98	6.59	5.65	-172.35	100.71	-124.14	388.22	376.94	11.28	34.420		
1,700.00	1,671.40	1,681.63	1,673.87	7.11	6.03	-171.00	111.39	-117.44	411.94	399.90	12.04	34.204		
1,800.00	1,768.30	1,778.34	1,769.75	7.64	6.41	-169.80	122.07	-110.75	435.85	423.04	12.81	34.019		
1,900.00	1,865.21	1,875.05	1,865.64	8.17	6.79	-168.72	132.75	-104.05	459.92	446.34	13.58	33.858		
2,000.00	1,962.11	1,971.76	1,961.52	8.69	7.17	-167.75	143.43	-97.35	484.14	469.78	14.36	33.718		
2,100.00	2,059.02	2,068.47	2,057.41	9.22	7.56	-166.87	154.11	-90.65	508.47	493.33	15.14	33.594		
2,200.00	2,155.92	2,165.19	2,153.30	9.75	7.94	-166.07	164.79	-83.95	532.91	516.99	15.92	33.484		
2,300.00	2,252.83	2,261.90	2,249.18	10.28	8.32	-165.34	175.47	-77.25	557.43	540.73	16.70	33.385		
2,400.00	2,349.73	2,358.61	2,345.07	10.82	8.71	-164.67	186.15	-70.55	582.03	564.55	17.48	33.296		
2,500.00	2,446.64	2,455.32	2,440.95	11.35	9.09	-164.06	196.84	-63.86	606.71	588.44	18.27	33.215		
2,600.00	2,543.54	2,552.03	2,536.84	11.88	9.48	-163.49	207.52	-57.16	631.44	612.39	19.05	33.141		
2,700.00	2,640.45	2,648.74	2,632.72	12.42	9.86	-162.97	218.20	-50.46	656.22	636.38	19.84	33.074		
2,800.00	2,737.35	2,745.45	2,728.61	12.95	10.25	-162.49	228.88	-43.76	681.06	660.43	20.63	33.012		
2,900.00	2,834.26	2,842.16	2,824.50	13.49	10.63	-162.03	239.56	-37.06	705.94	684.51	21.42	32.955		
3,000.00	2,931.16	2,938.88	2,920.38	14.02	11.02	-161.61	250.24	-30.36	730.85	708.64	22.21	32.903		
3,100.00	3,028.07	3,035.59	3,016.27	14.56	11.40	-161.22	260.92	-23.67	755.80	732.80	23.00	32.854		
3,200.00	3,124.97	3,132.30	3,112.15	15.09	11.79	-160.85	271.60	-16.97	780.78	756.98	23.80	32.808		
3,300.00	3,221.88	3,229.01	3,208.04	15.63	12.17	-160.51	282.28	-10.27	805.79	781.20	24.59	32.766		
3,400.00	3,318.78	3,325.72	3,303.93	16.16	12.56	-160.18	292.96	-3.57	830.83	805.44	25.39	32.726		
3,500.00	3,415.69	3,422.43	3,399.81	16.70	12.94	-159.88	303.64	3.13	855.89	829.70	26.18	32.689		
3,600.00	3,512.59	3,519.14	3,495.70	17.24	13.33	-159.59	314.32	9.83	880.97	853.99	26.98	32.654		
3,700.00	3,609.50	3,615.85	3,591.58	17.77	13.72	-159.32	325.01	16.52	906.07	878.29	27.78	32.622		
3,800.00	3,706.40	3,712.56	3,687.47	18.31	14.10	-159.06	335.69	23.22	931.19	902.61	28.57	32.591		
3,900.00	3,803.31	3,809.28	3,783.36	18.85	14.49	-158.81	346.37	29.92	956.32	926.95	29.37	32.562		
4,000.00	3,900.21	3,905.99	3,879.24	19.38	14.88	-158.58	357.05	36.62	981.47	951.30	30.17	32.534		
4,100.00	3,997.12	4,002.70	3,975.13	19.92	15.26	-158.36	367.73	43.32	1,006.64	975.67	30.97	32.508		
4,200.00	4,094.02	4,099.41	4,071.01	20.46	15.65	-158.15	378.41	50.02	1,031.82	1,000.05	31.76	32.483		
4,300.00	4,190.93	4,196.12	4,166.90	20.99	16.03	-157.95	389.09	56.72	1,057.01	1,024.44	32.56	32.459		
4,400.00	4,287.83	4,292.83	4,262.78	21.53	16.42	-157.76	399.77	63.41	1,082.21	1,048.84	33.36	32.437		
4,500.00	4,384.74	4,389.54	4,358.67	22.07	16.81	-157.58	410.45	70.11	1,107.42	1,073.26	34.16	32.415		
4,600.00	4,481.64	4,486.25	4,454.56	22.61	17.19	-157.41	421.13	76.81	1,132.64	1,097.68	34.96	32.395		
4,700.00	4,578.55	4,582.96	4,550.44	23.14	17.58	-157.24	431.81	83.51	1,157.88	1,122.11	35.76	32.376		
4,800.00	4,675.45	4,679.68	4,646.33	23.68	17.97	-157.08	442.49	90.21	1,183.12	1,146.55	36.56	32.357		
4,900.00	4,772.36	4,776.39	4,742.21	24.22	18.35	-156.93	453.18	96.91	1,208.37	1,171.00	37.37	32.339		
5,000.00	4,869.26	4,873.10	4,838.10	24.76	18.74	-156.79	463.86	103.60	1,233.62	1,195.46	38.17	32.322		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4D-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft	
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft	
Reference				Offset				Semi Major Axis			Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,100.00	4,966.17	4,969.81	4,933.99	25.29	19.13	-156.65	474.54	110.30	1,258.89	1,219.92	38.97	32.306			
5,200.00	5,063.07	5,066.52	5,029.87	25.83	19.51	-156.51	485.22	117.00	1,284.16	1,244.39	39.77	32.290			
5,300.00	5,159.98	5,163.23	5,125.76	26.37	19.90	-156.38	495.90	123.70	1,309.43	1,268.86	40.57	32.275			
5,400.00	5,256.88	5,259.94	5,221.64	26.91	20.29	-156.26	506.58	130.40	1,334.72	1,293.34	41.37	32.260			
5,500.00	5,353.79	5,356.65	5,317.53	27.44	20.68	-156.14	517.26	137.10	1,360.00	1,317.83	42.18	32.246			
5,600.00	5,450.69	5,453.37	5,413.42	27.98	21.06	-156.02	527.94	143.80	1,385.30	1,342.32	42.98	32.233			
5,700.00	5,547.60	5,550.08	5,509.30	28.52	21.45	-155.91	538.62	150.49	1,410.60	1,366.82	43.78	32.220			
5,800.00	5,644.50	5,646.79	5,605.19	29.06	21.84	-155.80	549.30	157.19	1,435.90	1,391.32	44.58	32.207			
5,900.00	5,741.41	5,743.50	5,701.07	29.60	22.22	-155.70	559.98	163.89	1,461.21	1,415.82	45.39	32.195			
6,000.00	5,838.31	5,840.21	5,796.96	30.13	22.61	-155.60	570.67	170.59	1,486.52	1,440.33	46.19	32.183			
6,950.00	6,759.15	6,662.09	7,685.00	35.22	31.17	-173.06	-533.31	288.71	1,487.74	1,435.97	51.76	28.740			
7,000.00	6,807.67	6,658.72	7,685.00	35.45	31.14	-159.18	-529.94	288.75	1,467.24	1,414.52	52.73	27.826			
7,050.00	6,855.86	6,651.87	7,685.00	35.66	31.10	-147.90	-523.09	288.82	1,448.28	1,394.64	53.63	27.003			
7,100.00	6,903.48	6,641.59	7,685.00	35.84	31.03	-139.40	-512.81	288.93	1,430.94	1,376.47	54.47	26.271			
7,150.00	6,950.29	6,627.92	7,685.00	36.01	30.94	-133.08	-499.14	289.07	1,415.30	1,360.07	55.23	25.627			
7,200.00	6,996.07	6,610.93	7,685.00	36.16	30.83	-128.28	-482.15	289.25	1,401.39	1,345.49	55.90	25.067			
7,250.00	7,040.60	6,590.70	7,685.00	36.29	30.70	-124.50	-461.92	289.46	1,389.22	1,332.72	56.50	24.587			
7,300.00	7,083.65	6,567.33	7,685.00	36.40	30.56	-121.38	-438.55	289.70	1,378.76	1,321.74	57.02	24.181			
7,350.00	7,125.01	6,540.94	7,685.00	36.50	30.40	-118.71	-412.16	289.98	1,369.93	1,312.48	57.45	23.847			
7,400.00	7,164.50	6,511.65	7,685.00	36.58	30.22	-116.35	-382.87	290.29	1,362.63	1,304.84	57.79	23.578			
7,450.00	7,201.91	6,479.60	7,685.00	36.65	30.04	-114.20	-350.83	290.62	1,356.76	1,298.69	58.07	23.365			
7,500.00	7,237.05	6,444.96	7,685.00	36.70	29.86	-112.23	-316.19	290.99	1,352.16	1,293.88	58.28	23.202			
7,550.00	7,269.77	6,407.89	7,685.00	36.74	29.66	-110.39	-279.12	291.38	1,348.67	1,290.25	58.42	23.086			
7,600.00	7,299.90	6,368.57	7,685.00	36.77	29.48	-108.68	-239.80	291.79	1,346.13	1,287.61	58.52	23.002			
7,650.00	7,327.30	6,327.19	7,685.00	36.79	29.29	-107.11	-198.42	292.22	1,344.37	1,285.79	58.58	22.948			
7,700.00	7,351.82	6,283.96	7,685.00	36.80	29.11	-105.68	-155.19	292.67	1,343.22	1,284.61	58.62	22.915			
7,750.00	7,373.35	6,239.08	7,685.00	36.80	28.95	-104.40	-110.32	293.14	1,342.52	1,283.88	58.64	22.894			
7,800.00	7,391.79	6,192.77	7,685.00	36.79	28.79	-103.29	-64.02	293.63	1,342.12	1,283.47	58.65	22.885			
7,850.00	7,407.05	6,144.12	7,684.99	36.77	28.65	-102.35	-15.37	294.14	1,341.88	1,283.22	58.66	22.875			
7,900.00	7,419.05	6,080.25	7,681.76	36.75	28.52	-101.36	48.40	294.58	1,341.37	1,282.74	58.63	22.880			
7,950.00	7,427.73	6,018.48	7,673.26	36.73	28.42	-100.46	109.57	294.64	1,340.35	1,281.71	58.63	22.860			
8,000.00	7,433.05	5,958.74	7,660.07	36.70	28.35	-99.65	167.81	294.35	1,338.86	1,280.18	58.67	22.818			
8,053.55	7,435.00	5,896.94	7,641.37	36.67	28.31	-98.89	226.69	293.68	1,336.78	1,278.03	58.75	22.755			
8,100.00	7,435.00	5,845.75	7,622.10	36.64	28.29	-98.07	274.10	292.85	1,334.74	1,275.91	58.83	22.689			
8,200.00	7,435.00	5,746.14	7,575.18	36.61	28.28	-96.05	361.84	290.55	1,330.67	1,271.64	59.03	22.541			
8,300.00	7,435.00	5,661.29	7,525.95	36.60	28.27	-93.93	430.84	287.89	1,328.23	1,269.01	59.23	22.426			
8,336.51	7,435.00	5,633.79	7,508.28	36.61	28.26	-93.16	451.89	286.90	1,328.02	1,268.72	59.30	22.396			
8,400.00	7,435.00	5,590.02	7,478.55	36.63	28.25	-91.88	483.95	285.19	1,328.75	1,269.36	59.38	22.376 SF			
8,500.00	7,435.00	5,530.43	7,435.04	36.70	28.22	-90.00	524.56	282.63	1,333.27	1,273.76	59.51	22.405			
8,600.00	7,435.00	5,480.52	7,396.10	36.82	28.19	-88.33	555.69	280.28	1,342.58	1,282.96	59.62	22.520			
8,700.00	7,435.00	5,438.48	7,361.70	37.02	28.15	-86.86	579.75	278.17	1,357.19	1,297.46	59.72	22.724			
8,800.00	7,435.00	5,400.00	7,329.03	37.33	28.11	-85.47	599.97	276.14	1,377.36	1,317.55	59.81	23.028			
8,900.00	7,435.00	5,372.33	7,304.89	37.77	28.08	-84.45	613.40	274.62	1,403.19	1,343.23	59.96	23.402			
9,000.00	7,435.00	5,350.00	7,285.05	38.34	28.05	-83.61	623.56	273.36	1,434.62	1,374.48	60.14	23.855			
9,100.00	7,435.00	5,323.24	7,260.86	39.03	28.02	-82.60	634.90	271.82	1,471.44	1,411.19	60.24	24.426			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft		
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft		
Reference																
Offset				Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	-89.65	1.05	-170.11	170.11							
100.00	100.00	100.00	100.00	0.14	0.14	-89.65	1.05	-170.11	170.11	169.84	0.28	616.301				
200.00	200.00	200.00	200.00	0.50	0.50	-89.65	1.05	-170.11	170.11	169.12	0.99	171.318				
300.00	300.00	300.00	300.00	0.85	0.85	-89.65	1.05	-170.11	170.11	168.40	1.71	99.487	CC, ES			
400.00	399.98	399.98	399.98	1.20	1.21	159.80	1.05	-170.11	171.75	169.33	2.42	71.057				
500.00	499.84	499.84	499.84	1.55	1.57	160.35	1.05	-170.11	176.67	173.55	3.12	56.536				
600.00	599.45	599.45	599.45	1.91	1.93	161.20	1.05	-170.11	184.90	181.06	3.84	48.155				
700.00	698.70	702.70	702.67	2.29	2.30	162.77	2.49	-168.97	195.48	190.90	4.57	42.749				
800.00	797.47	805.54	805.36	2.69	2.67	165.29	6.84	-165.56	207.61	202.29	5.31	39.082				
900.00	895.62	907.69	907.10	3.11	3.04	168.54	14.03	-159.91	221.73	215.68	6.06	36.615				
1,000.00	993.06	1,008.89	1,007.51	3.56	3.41	172.28	23.96	-152.12	238.37	231.56	6.80	35.038				
1,014.60	1,007.22	1,023.58	1,022.04	3.63	3.46	172.86	25.63	-150.80	241.03	234.12	6.92	34.848				
1,100.00	1,089.97	1,106.47	1,104.01	4.05	3.77	175.97	35.31	-143.20	257.16	249.63	7.54	34.114				
1,200.00	1,186.87	1,203.40	1,199.86	4.54	4.15	179.16	46.63	-134.31	276.88	268.61	8.28	33.459				
1,300.00	1,283.78	1,300.32	1,295.71	5.05	4.53	-178.08	57.94	-125.42	297.33	288.31	9.02	32.954				
1,400.00	1,380.68	1,397.25	1,391.57	5.56	4.91	-175.67	69.26	-116.53	318.37	308.59	9.78	32.557				
1,500.00	1,477.59	1,494.18	1,487.42	6.07	5.29	-173.56	80.58	-107.64	339.89	329.34	10.54	32.238				
1,600.00	1,574.49	1,591.10	1,583.27	6.59	5.68	-171.70	91.90	-98.75	361.80	350.48	11.31	31.977				
1,700.00	1,671.40	1,688.03	1,679.12	7.11	6.07	-170.05	103.22	-89.86	384.03	371.94	12.09	31.761				
1,800.00	1,768.30	1,784.96	1,774.98	7.64	6.46	-168.58	114.54	-80.97	406.54	393.66	12.87	31.578				
1,900.00	1,865.21	1,881.89	1,870.83	8.17	6.85	-167.26	125.86	-72.08	429.28	415.61	13.66	31.423				
2,000.00	1,962.11	1,978.81	1,966.68	8.69	7.24	-166.08	137.18	-63.19	452.21	437.76	14.45	31.289				
2,100.00	2,059.02	2,075.74	2,062.53	9.22	7.64	-165.00	148.50	-54.30	475.31	460.06	15.25	31.172				
2,200.00	2,155.92	2,172.67	2,158.39	9.75	8.03	-164.03	159.81	-45.41	498.55	482.50	16.05	31.069				
2,300.00	2,252.83	2,269.59	2,254.24	10.28	8.42	-163.15	171.13	-36.52	521.92	505.07	16.85	30.979				
2,400.00	2,349.73	2,366.52	2,350.09	10.82	8.82	-162.34	182.45	-27.63	545.39	527.74	17.65	30.898				
2,500.00	2,446.64	2,463.45	2,445.94	11.35	9.22	-161.59	193.77	-18.74	568.97	550.51	18.46	30.826				
2,600.00	2,543.54	2,560.37	2,541.79	11.88	9.61	-160.91	205.09	-9.85	592.62	573.35	19.27	30.761				
2,700.00	2,640.45	2,657.30	2,637.65	12.42	10.01	-160.28	216.41	-0.96	616.35	596.27	20.08	30.702				
2,800.00	2,737.35	2,754.23	2,733.50	12.95	10.41	-159.69	227.73	7.94	640.14	619.26	20.89	30.648				
2,900.00	2,834.26	2,851.15	2,829.35	13.49	10.80	-159.15	239.05	16.83	664.00	642.30	21.70	30.599				
3,000.00	2,931.16	2,948.08	2,925.20	14.02	11.20	-158.64	250.37	25.72	687.90	665.39	22.51	30.554				
3,100.00	3,028.07	3,045.01	3,021.06	14.56	11.60	-158.17	261.68	34.61	711.86	688.53	23.33	30.513				
3,200.00	3,124.97	3,141.93	3,116.91	15.09	12.00	-157.73	273.00	43.50	735.85	711.71	24.15	30.475				
3,300.00	3,221.88	3,238.86	3,212.76	15.63	12.40	-157.32	284.32	52.39	759.89	734.92	24.96	30.440				
3,400.00	3,318.78	3,335.79	3,308.61	16.16	12.80	-156.93	295.64	61.28	783.96	758.17	25.78	30.407				
3,500.00	3,415.69	3,432.72	3,404.47	16.70	13.19	-156.56	306.96	70.17	808.06	781.46	26.60	30.377				
3,600.00	3,512.59	3,529.64	3,500.32	17.24	13.59	-156.22	318.28	79.06	832.19	804.77	27.42	30.349				
3,700.00	3,609.50	3,626.57	3,596.17	17.77	13.99	-155.89	329.60	87.95	856.35	828.10	28.24	30.322				
3,800.00	3,706.40	3,723.50	3,692.02	18.31	14.39	-155.59	340.92	96.84	880.53	851.47	29.06	30.298				
3,900.00	3,803.31	3,820.42	3,787.87	18.85	14.79	-155.30	352.24	105.73	904.73	874.85	29.88	30.274				
4,000.00	3,900.21	3,917.35	3,883.73	19.38	15.19	-155.02	363.55	114.62	928.96	898.25	30.71	30.253				
4,100.00	3,997.12	4,014.28	3,979.58	19.92	15.59	-154.76	374.87	123.51	953.20	921.67	31.53	30.232				
4,200.00	4,094.02	4,111.20	4,075.43	20.46	15.99	-154.51	386.19	132.40	977.46	945.11	32.35	30.213				
4,300.00	4,190.93	4,208.13	4,171.28	20.99	16.39	-154.28	397.51	141.29	1,001.74	968.57	33.18	30.194				
4,400.00	4,287.83	4,305.06	4,267.14	21.53	16.79	-154.05	408.83	150.18	1,026.04	992.04	34.00	30.177				
4,500.00	4,384.74	4,401.98	4,362.99	22.07	17.19	-153.84	420.15	159.07	1,050.35	1,015.52	34.83	30.160				
4,600.00	4,481.64	4,498.91	4,458.84	22.61	17.59	-153.63	431.47	167.96	1,074.67	1,039.02	35.65	30.145				
4,700.00	4,578.55	4,595.84	4,554.69	23.14	17.99	-153.43	442.79	176.85	1,099.00	1,062.53	36.48	30.130				
4,800.00	4,675.45	4,692.76	4,650.55	23.68	18.39	-153.25	454.11	185.74	1,123.35	1,086.05	37.30	30.116				
4,900.00	4,772.36	4,789.69	4,746.40	24.22	18.79	-153.07	465.42	194.63	1,147.70	1,109.58	38.13	30.102				
5,000.00	4,869.26	4,886.62	4,842.25	24.76	19.19	-152.89	476.74	203.52	1,172.07	1,133.12	38.95	30.090				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4E-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,966.17	4,983.55	4,938.10	25.29	19.59	-152.73	488.06	212.41	1,196.45	1,156.67	39.78	30.077		
5,200.00	5,063.07	5,080.47	5,033.95	25.83	19.99	-152.57	499.38	221.30	1,220.83	1,180.23	40.61	30.066		
5,300.00	5,159.98	5,177.40	5,129.81	26.37	20.39	-152.42	510.70	230.19	1,245.23	1,203.79	41.43	30.054		
5,400.00	5,256.88	5,274.33	5,225.66	26.91	20.79	-152.27	522.02	239.08	1,269.63	1,227.37	42.26	30.044		
5,500.00	5,353.79	5,371.25	5,321.51	27.44	21.19	-152.13	533.34	247.97	1,294.04	1,250.95	43.09	30.033		
5,600.00	5,450.69	5,468.18	5,417.36	27.98	21.59	-152.00	544.66	256.86	1,318.45	1,274.54	43.91	30.023		
5,700.00	5,547.60	5,565.11	5,513.22	28.52	21.99	-151.86	555.97	265.76	1,342.88	1,298.14	44.74	30.014		
5,800.00	5,644.50	5,662.03	5,609.07	29.06	22.39	-151.74	567.29	274.65	1,367.31	1,321.74	45.57	30.005		
5,900.00	5,741.41	5,758.96	5,704.92	29.60	22.79	-151.62	578.61	283.54	1,391.74	1,345.35	46.40	29.996		
6,000.00	5,838.31	5,855.89	5,800.77	30.13	23.19	-151.50	589.93	292.43	1,416.18	1,368.96	47.23	29.988		
6,100.00	5,935.22	5,952.81	5,896.62	30.67	23.59	-151.39	601.25	301.32	1,440.63	1,392.58	48.05	29.979		
6,200.00	6,032.12	6,049.74	5,992.48	31.21	23.99	-151.28	612.57	310.21	1,465.08	1,416.20	48.88	29.971		
6,300.00	6,129.03	6,146.67	6,088.33	31.75	24.39	-151.17	623.89	319.10	1,489.54	1,439.83	49.71	29.964		
6,500.00	6,322.84	8,408.14	7,455.00	32.83	30.32	164.35	-497.18	426.47	1,460.65	1,417.41	43.24	33.779		
6,600.00	6,419.74	8,416.54	7,455.00	33.36	30.38	163.94	-505.57	426.35	1,402.45	1,356.93	45.52	30.809		
6,700.00	6,516.65	8,424.93	7,455.00	33.90	30.44	163.53	-513.96	426.22	1,349.10	1,301.25	47.85	28.195		
6,800.00	6,613.55	8,433.33	7,455.00	34.44	30.50	163.12	-522.36	426.09	1,301.21	1,251.02	50.18	25.929		
6,865.63	6,677.15	8,438.84	7,455.00	34.79	30.54	162.85	-527.87	426.01	1,273.04	1,221.35	51.69	24.627		
6,900.00	6,710.52	8,440.90	7,455.00	34.98	30.55	172.28	-529.93	425.98	1,259.36	1,206.90	52.46	24.005		
6,950.00	6,759.15	8,440.96	7,455.00	35.22	30.55	-172.65	-529.99	425.98	1,240.81	1,187.29	53.52	23.182		
7,000.00	6,807.67	8,437.53	7,455.00	35.45	30.53	-158.38	-526.56	426.03	1,224.01	1,169.50	54.51	22.456		
7,050.00	6,855.86	8,430.63	7,455.00	35.66	30.48	-146.67	-519.66	426.13	1,209.07	1,153.68	55.40	21.825		
7,100.00	6,903.48	8,420.30	7,455.00	35.84	30.41	-137.69	-509.33	426.29	1,196.10	1,139.91	56.19	21.287		
7,150.00	6,950.29	8,406.58	7,455.00	36.01	30.31	-130.86	-495.61	426.50	1,185.13	1,128.26	56.87	20.840		
7,200.00	6,996.07	8,389.54	7,455.00	36.16	30.20	-125.53	-478.57	426.76	1,176.14	1,118.70	57.44	20.478		
7,250.00	7,040.60	8,369.26	7,455.00	36.29	30.07	-121.18	-458.30	427.06	1,169.09	1,111.20	57.89	20.195		
7,300.00	7,083.65	8,345.85	7,455.00	36.40	29.92	-117.48	-434.89	427.42	1,163.88	1,105.65	58.23	19.988		
7,350.00	7,125.01	8,319.41	7,455.00	36.50	29.75	-114.21	-408.45	427.82	1,160.38	1,101.92	58.46	19.850		
7,400.00	7,164.50	8,290.08	7,455.00	36.58	29.57	-111.24	-379.12	428.26	1,158.41	1,099.83	58.58	19.773		
7,450.00	7,201.91	8,257.99	7,455.00	36.65	29.39	-108.50	-347.04	428.74	1,157.78	1,099.15	58.63	19.747		
7,451.44	7,202.95	8,257.03	7,455.00	36.65	29.39	-108.42	-346.08	428.76	1,157.78	1,099.15	58.63	19.747 SF		
7,500.00	7,237.05	8,223.31	7,455.00	36.70	29.19	-105.93	-312.37	429.27	1,158.27	1,099.67	58.60	19.767		
7,550.00	7,269.77	8,186.21	7,455.00	36.74	29.00	-103.53	-275.27	429.83	1,159.66	1,101.15	58.50	19.822		
7,600.00	7,299.90	8,146.86	7,455.00	36.77	28.80	-101.29	-235.92	430.42	1,161.70	1,103.33	58.37	19.901		
7,650.00	7,327.30	8,105.45	7,455.00	36.79	28.60	-99.23	-194.52	431.05	1,164.17	1,105.97	58.20	20.002		
7,700.00	7,351.82	8,062.19	7,455.00	36.80	28.42	-97.35	-151.26	431.70	1,166.85	1,108.81	58.04	20.104		
7,750.00	7,373.35	8,017.29	7,455.00	36.80	28.25	-95.69	-106.37	432.38	1,169.53	1,111.66	57.87	20.211		
7,800.00	7,391.79	7,970.97	7,455.00	36.79	28.10	-94.25	-60.05	433.08	1,172.01	1,114.30	57.71	20.308		
7,850.00	7,407.05	7,924.10	7,454.96	36.77	27.98	-93.06	-13.19	433.79	1,174.15	1,116.56	57.59	20.388		
7,900.00	7,419.05	7,880.18	7,453.13	36.75	27.92	-92.08	30.68	434.28	1,175.91	1,118.39	57.51	20.446		
7,950.00	7,427.73	7,836.92	7,448.72	36.73	27.88	-91.23	73.71	434.53	1,177.31	1,119.86	57.45	20.493		
8,000.00	7,433.05	7,794.28	7,441.85	36.70	27.87	-90.50	115.79	434.54	1,178.33	1,120.93	57.40	20.527		
8,053.55	7,435.00	7,750.00	7,432.09	36.67	27.87	-89.86	158.97	434.31	1,178.99	1,121.61	57.38	20.547		
8,100.00	7,435.00	7,711.00	7,421.31	36.64	27.88	-89.33	196.44	433.89	1,179.55	1,122.18	57.36	20.562		
8,200.00	7,435.00	7,633.10	7,393.78	36.61	27.92	-88.00	269.26	432.49	1,182.25	1,124.92	57.33	20.620		
8,300.00	7,435.00	7,562.01	7,361.92	36.60	27.95	-86.46	332.75	430.55	1,187.63	1,130.34	57.29	20.730		
8,400.00	7,435.00	7,500.00	7,329.13	36.63	27.97	-84.89	385.31	428.36	1,196.44	1,139.20	57.24	20.900		
8,500.00	7,435.00	7,441.15	7,293.94	36.70	27.98	-83.22	432.39	425.87	1,209.34	1,152.18	57.16	21.157		
8,600.00	7,435.00	7,390.75	7,260.82	36.82	27.98	-81.67	470.30	423.43	1,226.88	1,169.79	57.10	21.488		
8,700.00	7,435.00	7,350.00	7,232.17	37.02	27.98	-80.34	499.18	421.26	1,249.43	1,192.33	57.09	21.884		
8,800.00	7,435.00	7,300.00	7,194.85	37.33	27.96	-78.63	532.31	418.37	1,277.18	1,220.23	56.94	22.429		
8,900.00	7,435.00	7,272.10	7,173.05	37.77	27.95	-77.65	549.64	416.65	1,310.11	1,253.06	57.05	22.962		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
9,000.00	7,435.00	7,250.00	7,155.32	38.34	27.94	-76.85	562.76	415.23	1,348.28	1,291.04	57.24	23.556			
9,100.00	7,435.00	7,213.78	7,125.42	39.03	27.91	-75.53	583.04	412.82	1,391.29	1,334.07	57.21	24.317			
9,200.00	7,435.00	7,200.00	7,113.77	39.84	27.90	-75.02	590.36	411.87	1,439.13	1,381.64	57.50	25.029			
9,300.00	7,435.00	7,167.28	7,085.59	40.73	27.87	-73.81	606.82	409.56	1,491.19	1,433.69	57.50	25.933			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.00 usft
Reference													Warning		
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor			
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-89.63	1.03	-160.04	160.04						
100.00	100.00	100.00	100.00	0.14	0.14	-89.63	1.03	-160.04	160.04	159.77	0.28	579.810			
200.00	200.00	200.00	200.00	0.50	0.50	-89.63	1.03	-160.04	160.04	159.05	0.99	161.175	CC		
300.00	300.00	299.92	299.90	0.85	0.86	-89.01	2.77	-160.04	160.06	158.35	1.71	93.648	ES		
400.00	399.98	402.34	402.19	1.20	1.23	162.27	7.88	-159.60	161.47	159.04	2.43	66.449			
500.00	499.84	507.24	506.79	1.55	1.61	165.35	14.87	-156.07	163.67	160.48	3.18	51.423			
600.00	599.45	611.77	610.74	1.91	1.99	169.28	23.33	-149.05	166.63	162.68	3.95	42.197			
700.00	698.70	715.82	713.78	2.29	2.39	173.93	33.20	-138.59	170.87	166.15	4.72	36.190			
800.00	797.47	816.21	812.79	2.69	2.79	178.83	43.82	-125.88	177.46	172.00	5.47	32.454			
900.00	895.62	914.56	909.76	3.11	3.19	-176.72	54.32	-113.22	188.56	182.35	6.22	30.337			
1,000.00	993.06	1,012.48	1,006.30	3.56	3.60	-172.88	64.76	-100.63	204.10	197.12	6.98	29.223			
1,014.60	1,007.22	1,026.74	1,020.36	3.63	3.66	-172.37	66.29	-98.79	206.72	199.62	7.10	29.109			
1,100.00	1,089.97	1,110.07	1,102.51	4.05	4.01	-169.70	75.18	-88.07	222.56	214.79	7.76	28.665			
1,200.00	1,186.87	1,207.64	1,198.72	4.54	4.42	-167.01	85.59	-75.51	241.62	233.07	8.55	28.255			
1,300.00	1,283.78	1,305.22	1,294.93	5.05	4.83	-164.72	96.00	-62.96	261.12	251.77	9.35	27.928			
1,400.00	1,380.68	1,402.80	1,391.13	5.56	5.24	-162.75	106.41	-50.40	280.97	270.81	10.16	27.663			
1,500.00	1,477.59	1,500.38	1,487.34	6.07	5.66	-161.03	116.82	-37.85	301.10	290.13	10.97	27.442			
1,600.00	1,574.49	1,597.96	1,583.54	6.59	6.07	-159.53	127.23	-25.29	321.45	309.66	11.79	27.256			
1,700.00	1,671.40	1,695.54	1,679.75	7.11	6.49	-158.21	137.64	-12.74	342.00	329.38	12.62	27.097			
1,800.00	1,768.30	1,793.12	1,775.96	7.64	6.90	-157.04	148.06	-0.18	362.70	349.25	13.45	26.960			
1,900.00	1,865.21	1,890.70	1,872.16	8.17	7.32	-156.00	158.47	12.37	383.53	369.24	14.29	26.840			
2,000.00	1,962.11	1,988.28	1,968.37	8.69	7.74	-155.06	168.88	24.93	404.47	389.34	15.13	26.735			
2,100.00	2,059.02	2,085.85	2,064.57	9.22	8.15	-154.21	179.29	37.48	425.50	409.53	15.97	26.641			
2,200.00	2,155.92	2,183.43	2,160.78	9.75	8.57	-153.45	189.70	50.04	446.62	429.80	16.82	26.558			
2,300.00	2,252.83	2,281.01	2,256.99	10.28	8.99	-152.75	200.11	62.59	467.80	450.14	17.66	26.483			
2,400.00	2,349.73	2,378.59	2,353.19	10.82	9.41	-152.11	210.52	75.15	489.04	470.53	18.51	26.415			
2,500.00	2,446.64	2,476.17	2,449.40	11.35	9.83	-151.53	220.94	87.71	510.34	490.98	19.37	26.354			
2,600.00	2,543.54	2,573.75	2,545.60	11.88	10.25	-150.99	231.35	100.26	531.68	511.47	20.22	26.298			
2,700.00	2,640.45	2,671.33	2,641.81	12.42	10.67	-150.50	241.76	112.82	553.07	532.00	21.07	26.246			
2,800.00	2,737.35	2,768.91	2,738.02	12.95	11.08	-150.04	252.17	125.37	574.49	552.56	21.93	26.199			
2,900.00	2,834.26	2,866.49	2,834.22	13.49	11.50	-149.61	262.58	137.93	595.95	573.16	22.78	26.156			
3,000.00	2,931.16	2,964.07	2,930.43	14.02	11.92	-149.22	272.99	150.48	617.43	593.79	23.64	26.116			
3,100.00	3,028.07	3,061.64	3,026.64	14.56	12.34	-148.85	283.40	163.04	638.94	614.44	24.50	26.079			
3,200.00	3,124.97	3,159.22	3,122.84	15.09	12.76	-148.50	293.82	175.59	660.47	635.11	25.36	26.044			
3,300.00	3,221.88	3,256.80	3,219.05	15.63	13.18	-148.18	304.23	188.15	682.03	655.81	26.22	26.012			
3,400.00	3,318.78	3,354.38	3,315.25	16.16	13.60	-147.87	314.64	200.70	703.60	676.52	27.08	25.982			
3,500.00	3,415.69	3,451.96	3,411.46	16.70	14.02	-147.59	325.05	213.26	725.19	697.25	27.94	25.954			
3,600.00	3,512.59	3,549.54	3,507.67	17.24	14.44	-147.32	335.46	225.81	746.80	718.00	28.80	25.928			
3,700.00	3,609.50	3,647.12	3,603.87	17.77	14.86	-147.07	345.87	238.37	768.43	738.76	29.67	25.903			
3,800.00	3,706.40	3,744.70	3,700.08	18.31	15.28	-146.83	356.28	250.92	790.06	759.53	30.53	25.880			
3,900.00	3,803.31	3,842.28	3,796.28	18.85	15.70	-146.60	366.70	263.48	811.71	780.32	31.39	25.858			
4,000.00	3,900.21	3,939.85	3,892.49	19.38	16.12	-146.38	377.11	276.04	833.37	801.12	32.26	25.837			
4,100.00	3,997.12	4,037.43	3,988.70	19.92	16.54	-146.18	387.52	288.59	855.05	821.93	33.12	25.817			
4,200.00	4,094.02	4,135.01	4,084.90	20.46	16.96	-145.98	397.93	301.15	876.73	842.74	33.98	25.799			
4,300.00	4,190.93	4,232.59	4,181.11	20.99	17.38	-145.80	408.34	313.70	898.42	863.57	34.85	25.781			
4,400.00	4,287.83	4,330.17	4,277.31	21.53	17.80	-145.62	418.75	326.26	920.12	884.41	35.71	25.764			
4,500.00	4,384.74	4,427.75	4,373.52	22.07	18.22	-145.45	429.16	338.81	941.83	905.25	36.58	25.748			
4,600.00	4,481.64	4,525.33	4,469.73	22.61	18.64	-145.29	439.58	351.37	963.54	926.10	37.44	25.733			
4,700.00	4,578.55	4,622.91	4,565.93	23.14	19.06	-145.14	449.99	363.92	985.26	946.95	38.31	25.719			
4,800.00	4,675.45	4,720.49	4,662.14	23.68	19.48	-144.99	460.40	376.48	1,006.99	967.82	39.18	25.705			
4,900.00	4,772.36	4,818.06	4,758.35	24.22	19.90	-144.85	470.81	389.03	1,028.73	988.68	40.04	25.692			
5,000.00	4,869.26	4,915.64	4,854.55	24.76	20.32	-144.71	481.22	401.59	1,050.47	1,009.56	40.91	25.679			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4F-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)				Between Ellipses (usft)	
5,100.00	4,966.17	5,013.22	4,950.76	25.29	20.74	-144.59	491.63	414.14	1,072.21	1,030.44	41.77	25.667		
5,200.00	5,063.07	5,110.80	5,046.96	25.83	21.16	-144.46	502.04	426.70	1,093.96	1,051.32	42.64	25.655		
5,300.00	5,159.98	5,208.38	5,143.17	26.37	21.58	-144.34	512.46	439.26	1,115.72	1,072.21	43.51	25.644		
5,400.00	5,256.88	5,305.96	5,239.38	26.91	22.00	-144.23	522.87	451.81	1,137.48	1,093.10	44.37	25.633		
5,500.00	5,353.79	5,403.54	5,335.58	27.44	22.42	-144.12	533.28	464.37	1,159.24	1,114.00	45.24	25.623		
5,600.00	5,450.69	5,501.12	5,431.79	27.98	22.84	-144.01	543.69	476.92	1,181.01	1,134.90	46.11	25.613		
5,700.00	5,547.60	5,598.70	5,527.99	28.52	23.27	-143.91	554.10	489.48	1,202.78	1,155.80	46.98	25.604		
5,800.00	5,644.50	5,696.28	5,624.20	29.06	23.69	-143.81	564.51	502.03	1,224.55	1,176.71	47.84	25.594		
5,900.00	5,741.41	5,793.85	5,720.41	29.60	24.11	-143.71	574.92	514.59	1,246.33	1,197.62	48.71	25.585		
6,000.00	5,838.31	5,891.43	5,816.61	30.13	24.53	-143.62	585.34	527.14	1,268.11	1,218.53	49.58	25.577		
6,100.00	5,935.22	5,989.01	5,912.82	30.67	24.95	-143.53	595.75	539.70	1,289.90	1,239.45	50.45	25.569		
6,200.00	6,032.12	6,086.59	6,009.02	31.21	25.37	-143.44	606.16	552.25	1,311.69	1,260.37	51.32	25.561		
6,300.00	6,129.03	6,184.17	6,105.23	31.75	25.79	-143.36	616.57	564.81	1,333.48	1,281.29	52.18	25.553		
6,400.00	6,225.93	6,281.75	6,201.44	32.29	26.21	-143.28	626.98	577.36	1,355.27	1,302.22	53.05	25.546		
6,500.00	6,322.84	6,381.24	6,300.00	32.83	26.63	-143.20	637.39	590.24	1,377.06	1,323.15	53.92	25.539		
6,600.00	6,419.74	6,480.00	6,400.00	33.36	27.05	-143.12	647.80	603.12	1,398.85	1,344.08	54.79	25.532		
6,700.00	6,516.65	6,568.68	6,500.00	33.90	27.47	-143.04	658.21	616.00	1,420.64	1,365.01	55.66	25.525		
6,800.00	6,613.55	6,672.40	6,600.00	34.44	27.89	-142.96	668.62	628.88	1,442.43	1,385.94	56.53	25.518		
6,865.63	6,677.15	6,733.12	6,660.00	34.79	28.14	-142.92	675.00	635.00	1,454.00	1,397.00	56.80	25.515		
6,900.00	6,710.52	6,768.30	6,700.00	34.98	28.30	-142.88	679.00	639.00	1,463.00	1,406.00	57.00	25.512		
6,950.00	6,759.15	6,818.52	6,750.00	35.22	28.47	-142.84	683.00	643.00	1,471.00	1,414.00	57.24	25.509		
7,000.00	6,807.67	6,869.25	6,800.00	35.45	28.64	-142.80	687.00	647.00	1,479.00	1,422.00	57.48	25.506		
7,050.00	6,855.86	6,921.51	6,850.00	35.66	28.81	-142.76	691.00	651.00	1,487.00	1,430.00	57.72	25.503		
7,100.00	6,903.48	6,974.33	6,900.00	35.84	28.98	-142.72	695.00	655.00	1,495.00	1,438.00	57.96	25.500		
7,150.00	6,950.29	7,026.76	6,950.00	36.01	29.15	-142.68	699.00	659.00	1,503.00	1,446.00	58.20	25.497		
7,200.00	6,996.07	7,078.87	6,996.00	36.16	29.31	-142.64	703.00	663.00	1,511.00	1,454.00	58.44	25.494		
7,250.00	7,040.60	7,130.74	7,040.00	36.29	29.47	-142.60	707.00	667.00	1,519.00	1,462.00	58.68	25.491		
7,300.00	7,083.65	7,182.41	7,083.00	36.40	29.63	-142.56	711.00	671.00	1,527.00	1,470.00	58.92	25.488		
7,350.00	7,125.01	7,233.16	7,125.00	36.50	29.79	-142.52	715.00	675.00	1,535.00	1,478.00	59.16	25.485		
7,400.00	7,164.50	7,283.96	7,164.00	36.58	29.95	-142.48	719.00	679.00	1,543.00	1,486.00	59.40	25.482		
7,450.00	7,201.91	7,334.00	7,201.00	36.65	30.11	-142.44	723.00	683.00	1,551.00	1,494.00	59.64	25.479		
7,500.00	7,237.05	7,383.43	7,237.00	36.70	30.27	-142.40	727.00	687.00	1,559.00	1,502.00	59.88	25.476		
7,550.00	7,269.77	7,432.43	7,269.00	36.74	30.43	-142.36	731.00	691.00	1,567.00	1,510.00	60.12	25.473		
7,600.00	7,299.90	7,480.17	7,299.00	36.77	30.59	-142.32	735.00	695.00	1,575.00	1,518.00	60.36	25.470		
7,650.00	7,327.30	7,525.85	7,327.00	36.79	30.75	-142.28	739.00	699.00	1,583.00	1,526.00	60.60	25.467		
7,700.00	7,351.82	7,570.67	7,351.00	36.80	30.91	-142.24	743.00	703.00	1,591.00	1,534.00	60.84	25.464		
7,726.16	7,363.46	7,581.41	7,363.00	36.80	30.95	-142.24	743.00	703.00	1,591.00	1,534.00	60.84	25.464		
7,750.00	7,373.35	7,590.84	7,373.00	36.80	31.00	-142.24	743.00	703.00	1,591.00	1,534.00	60.84	25.464		
7,800.00	7,391.79	7,617.57	7,391.00	36.79	31.16	-142.20	747.00	707.00	1,600.00	1,542.00	61.08	25.461		
7,850.00	7,407.05	7,642.09	7,407.00	36.77	31.32	-142.16	751.00	711.00	1,609.00	1,550.00	61.32	25.458		
7,900.00	7,419.05	7,665.65	7,419.00	36.75	31.48	-142.12	755.00	715.00	1,618.00	1,558.00	61.56	25.455		
7,950.00	7,427.73	7,677.32	7,427.00	36.73	31.64	-142.08	759.00	719.00	1,627.00	1,566.00	61.80	25.452		
8,000.00	7,433.05	7,721.68	7,433.00	36.70	31.80	-142.04	763.00	723.00	1,636.00	1,574.00	62.04	25.449		
8,053.55	7,435.00	7,750.55	7,435.00	36.67	31.96	-142.00	767.00	727.00	1,645.00	1,582.00	62.28	25.446		
8,100.00	7,435.00	7,827.40	7,435.00	36.64	32.12	-141.96	771.00	731.00	1,654.00	1,590.00	62.52	25.443		
8,200.00	7,435.00	7,740.52	7,488.75	36.61	32.28	-141.92	775.00	735.00	1,663.00	1,598.00	62.76	25.440		
8,300.00	7,435.00	7,662.75	7,451.38	36.60	32.44	-141.88	779.00	739.00	1,672.00	1,606.00	63.00	25.437		
8,400.00	7,435.00	7,594.27	7,412.60	36.63	32.60	-141.84	783.00	743.00	1,681.00	1,614.00	63.24	25.434		
8,500.00	7,435.00	7,534.55	7,374.56	36.70	32.76	-141.80	787.00	747.00	1,690.00	1,622.00	63.48	25.431		
8,600.00	7,435.00	7,482.69	7,338.57	36.82	32.92	-141.76	791.00	751.00	1,699.00	1,630.00	63.72	25.428		
8,700.00	7,435.00	7,437.70	7,305.26	37.02	33.08	-141.72	795.00	755.00	1,708.00	1,638.00	63.96	25.425		
8,800.00	7,435.00	7,400.00	7,275.96	37.33	33.24	-141.68	799.00	759.00	1,717.00	1,646.00	64.20	25.422		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4F-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
8,900.00	7,435.00	7,364.43	7,247.23	37.77	29.92	-78.20	570.33	713.65	1,020.87	963.29	57.58	17.730		
9,000.00	7,435.00	7,334.51	7,222.30	38.34	29.90	-76.74	586.56	710.42	1,067.52	1,009.96	57.56	18.545		
9,100.00	7,435.00	7,300.00	7,192.74	39.03	29.86	-75.03	603.94	706.58	1,119.92	1,062.45	57.47	19.486		
9,200.00	7,435.00	7,284.83	7,179.50	39.84	29.84	-74.28	611.13	704.87	1,177.34	1,119.57	57.77	20.381		
9,300.00	7,435.00	7,264.08	7,161.14	40.73	29.82	-73.25	620.50	702.48	1,239.40	1,181.45	57.95	21.386		
9,400.00	7,435.00	7,250.00	7,148.53	41.69	29.80	-72.56	626.55	700.85	1,305.54	1,247.29	58.25	22.413		
9,500.00	7,435.00	7,228.88	7,129.40	42.70	29.76	-71.52	635.15	698.36	1,375.20	1,316.79	58.41	23.545		
9,600.00	7,435.00	7,200.00	7,102.85	43.77	29.72	-70.10	645.98	694.91	1,448.19	1,389.75	58.43	24.784		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4G-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance			Total		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis			
0.00	0.00	0.00	0.00	0.00	0.00	-89.72	0.75	-149.97	149.97					
100.00	100.00	100.00	100.00	0.14	0.14	-89.72	0.75	-149.97	149.97	149.69	0.28	543.314		
200.00	200.00	200.00	200.00	0.50	0.50	-89.72	0.75	-149.97	149.97	148.97	0.99	151.030		
300.00	300.00	300.00	300.00	0.85	0.85	-89.72	0.75	-149.97	149.97	148.26	1.71	87.705 CC, ES		
400.00	399.98	399.98	399.98	1.20	1.21	159.76	0.75	-149.97	151.60	149.19	2.42	62.722		
500.00	499.84	499.84	499.84	1.55	1.57	160.39	0.75	-149.97	156.52	153.40	3.12	50.089		
600.00	599.45	599.45	599.45	1.91	1.93	161.35	0.75	-149.97	164.76	160.92	3.84	42.909		
700.00	698.70	698.70	698.70	2.29	2.28	162.55	0.75	-149.97	176.36	171.80	4.56	38.683		
800.00	797.47	802.66	802.64	2.69	2.65	164.30	1.81	-148.46	190.02	184.72	5.30	35.856		
900.00	895.62	906.60	906.42	3.11	3.02	166.78	5.05	-143.89	204.54	198.49	6.05	33.815		
1,000.00	993.06	1,010.26	1,009.65	3.56	3.40	169.79	10.45	-136.27	220.26	213.46	6.81	32.366		
1,014.60	1,007.22	1,025.36	1,024.66	3.63	3.45	170.27	11.42	-134.91	222.68	215.76	6.92	32.178		
1,100.00	1,089.97	1,113.71	1,112.27	4.05	3.78	173.19	17.99	-125.64	236.30	228.73	7.56	31.238		
1,200.00	1,186.87	1,217.13	1,214.32	4.54	4.17	176.81	27.66	-111.99	250.85	242.52	8.33	30.126		
1,300.00	1,283.78	1,317.53	1,312.85	5.05	4.57	-179.51	38.83	-96.22	264.47	255.39	9.09	29.105		
1,400.00	1,380.68	1,415.25	1,408.66	5.56	4.97	-176.22	49.95	-80.54	278.82	268.97	9.85	28.306		
1,500.00	1,477.59	1,512.97	1,504.47	6.07	5.38	-173.25	61.07	-64.85	294.00	283.37	10.63	27.655		
1,600.00	1,574.49	1,610.70	1,600.28	6.59	5.79	-170.57	72.19	-49.16	309.89	298.46	11.43	27.115		
1,700.00	1,671.40	1,708.42	1,696.10	7.11	6.21	-168.16	83.30	-33.48	326.39	314.15	12.24	26.664		
1,800.00	1,768.30	1,806.14	1,791.91	7.64	6.63	-165.97	94.42	-17.79	343.41	330.34	13.07	26.283		
1,900.00	1,865.21	1,903.86	1,887.72	8.17	7.06	-163.99	105.54	-2.10	360.87	346.97	13.90	25.958		
2,000.00	1,962.11	2,001.58	1,983.53	8.69	7.49	-162.20	116.66	13.58	378.72	363.97	14.75	25.679		
2,100.00	2,059.02	2,099.30	2,079.34	9.22	7.92	-160.56	127.77	29.27	396.90	381.30	15.60	25.438		
2,200.00	2,155.92	2,197.03	2,175.15	9.75	8.35	-159.07	138.89	44.95	415.37	398.91	16.46	25.228		
2,300.00	2,252.83	2,294.75	2,270.96	10.28	8.79	-157.70	150.01	60.64	434.09	416.76	17.33	25.045		
2,400.00	2,349.73	2,392.47	2,366.78	10.82	9.22	-156.45	161.13	76.33	453.03	434.83	18.21	24.883		
2,500.00	2,446.64	2,490.19	2,462.59	11.35	9.66	-155.29	172.24	92.01	472.17	453.09	19.08	24.740		
2,600.00	2,543.54	2,587.91	2,558.40	11.88	10.10	-154.23	183.36	107.70	491.48	471.51	19.97	24.614		
2,700.00	2,640.45	2,685.63	2,654.21	12.42	10.54	-153.25	194.48	123.39	510.94	490.08	20.85	24.501		
2,800.00	2,737.35	2,783.36	2,750.02	12.95	10.98	-152.33	205.60	139.07	530.53	508.79	21.74	24.400		
2,900.00	2,834.26	2,881.08	2,845.83	13.49	11.42	-151.49	216.71	154.76	550.25	527.61	22.64	24.310		
3,000.00	2,931.16	2,978.80	2,941.65	14.02	11.86	-150.70	227.83	170.45	570.07	546.54	23.53	24.228		
3,100.00	3,028.07	3,076.52	3,037.46	14.56	12.30	-149.96	238.95	186.13	590.00	565.57	24.43	24.154		
3,200.00	3,124.97	3,174.24	3,133.27	15.09	12.75	-149.27	250.07	201.82	610.01	584.68	25.32	24.087		
3,300.00	3,221.88	3,271.96	3,229.08	15.63	13.19	-148.63	261.18	217.51	630.10	603.87	26.23	24.026		
3,400.00	3,318.78	3,369.69	3,324.89	16.16	13.63	-148.02	272.30	233.19	650.26	623.13	27.13	23.971		
3,500.00	3,415.69	3,467.41	3,420.70	16.70	14.08	-147.46	283.42	248.88	670.48	642.45	28.03	23.920		
3,600.00	3,512.59	3,565.13	3,516.52	17.24	14.52	-146.92	294.54	264.57	690.77	661.84	28.93	23.874		
3,700.00	3,609.50	3,662.85	3,612.33	17.77	14.97	-146.42	305.65	280.25	711.11	681.27	29.84	23.831		
3,800.00	3,706.40	3,760.57	3,708.14	18.31	15.41	-145.94	316.77	295.94	731.50	700.76	30.75	23.792		
3,900.00	3,803.31	3,858.30	3,803.95	18.85	15.86	-145.49	327.89	311.63	751.94	720.29	31.65	23.756		
4,000.00	3,900.21	3,956.02	3,899.76	19.38	16.30	-145.06	339.01	327.31	772.42	739.86	32.56	23.722		
4,100.00	3,997.12	4,053.74	3,995.57	19.92	16.75	-144.66	350.12	343.00	792.94	759.47	33.47	23.691		
4,200.00	4,094.02	4,151.46	4,091.38	20.46	17.20	-144.27	361.24	358.69	813.50	779.12	34.38	23.663		
4,300.00	4,190.93	4,249.18	4,187.20	20.99	17.64	-143.91	372.36	374.37	834.09	798.80	35.29	23.636		
4,400.00	4,287.83	4,346.90	4,283.01	21.53	18.09	-143.56	383.48	390.06	854.71	818.51	36.20	23.611		
4,500.00	4,384.74	4,444.63	4,378.82	22.07	18.54	-143.23	394.59	405.75	875.35	838.24	37.11	23.588		
4,600.00	4,481.64	4,542.35	4,474.63	22.61	18.98	-142.91	405.71	421.43	896.03	858.01	38.02	23.566		
4,700.00	4,578.55	4,640.07	4,570.44	23.14	19.43	-142.61	416.83	437.12	916.73	877.80	38.93	23.546		
4,800.00	4,675.45	4,737.79	4,666.25	23.68	19.88	-142.32	427.95	452.81	937.46	897.61	39.85	23.527		
4,900.00	4,772.36	4,835.51	4,762.07	24.22	20.32	-142.04	439.07	468.49	958.20	917.44	40.76	23.509		
5,000.00	4,869.26	4,933.23	4,857.88	24.76	20.77	-141.78	450.18	484.18	978.97	937.30	41.67	23.493		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4G-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,966.17	5,030.96	4,953.69	25.29	21.22	-141.52	461.30	499.87	999.75	957.17	42.58	23.477		
5,200.00	5,063.07	5,128.68	5,049.50	25.83	21.67	-141.28	472.42	515.55	1,020.56	977.06	43.50	23.462		
5,300.00	5,159.98	5,226.40	5,145.31	26.37	22.11	-141.04	483.54	531.24	1,041.38	996.97	44.41	23.448		
5,400.00	5,256.88	5,324.12	5,241.12	26.91	22.56	-140.82	494.65	546.93	1,062.22	1,016.89	45.33	23.435		
5,500.00	5,353.79	5,421.84	5,336.94	27.44	23.01	-140.60	505.77	562.61	1,083.07	1,036.83	46.24	23.423		
5,600.00	5,450.69	5,519.56	5,432.75	27.98	23.46	-140.40	516.89	578.30	1,103.93	1,056.78	47.15	23.411		
5,700.00	5,547.60	5,617.29	5,528.56	28.52	23.91	-140.20	528.01	593.99	1,124.81	1,076.74	48.07	23.400		
5,800.00	5,644.50	5,715.01	5,624.37	29.06	24.35	-140.00	539.12	609.67	1,145.71	1,096.72	48.98	23.389		
5,900.00	5,741.41	5,812.73	5,720.18	29.60	24.80	-139.82	550.24	625.36	1,166.61	1,116.71	49.90	23.379		
6,000.00	5,838.31	5,910.45	5,815.99	30.13	25.25	-139.64	561.36	641.05	1,187.53	1,136.71	50.81	23.370		
6,100.00	5,935.22	6,008.17	5,911.80	30.67	25.70	-139.46	572.48	656.73	1,208.45	1,156.72	51.73	23.361		
6,200.00	6,032.12	6,105.89	6,007.62	31.21	26.15	-139.30	583.59	672.42	1,229.39	1,176.74	52.65	23.352		
6,300.00	6,129.03	6,203.62	6,103.43	31.75	26.60	-139.14	594.71	688.10	1,250.34	1,196.77	53.56	23.344		
6,400.00	6,225.93	6,301.34	6,199.24	32.29	27.04	-138.98	605.83	703.79	1,271.29	1,216.81	54.48	23.336		
6,500.00	6,322.84	6,399.06	6,295.05	32.83	27.49	-138.83	616.95	719.48	1,292.25	1,236.86	55.39	23.329		
6,600.00	6,419.74	6,496.78	6,390.86	33.36	27.94	-138.68	628.06	735.16	1,313.23	1,256.92	56.31	23.322		
6,700.00	6,516.65	6,724.43	7,685.00	33.90	32.85	167.12	-528.61	947.04	1,251.44	1,217.20	34.24	36.553		
6,800.00	6,613.55	6,733.18	7,685.00	34.44	32.90	166.43	-537.35	947.04	1,170.59	1,133.97	36.62	31.963		
6,865.63	6,677.15	6,738.92	7,685.00	34.79	32.94	165.97	-543.09	947.04	1,119.18	1,080.84	38.34	29.191		
6,900.00	6,710.52	6,741.10	7,685.00	34.98	32.95	173.24	-545.28	947.04	1,092.80	1,053.52	39.28	27.819		
6,950.00	6,759.15	6,741.33	7,685.00	35.22	32.95	-174.68	-545.51	947.04	1,055.17	1,014.48	40.69	25.930		
7,000.00	6,807.67	6,738.08	7,685.00	35.45	32.93	-163.15	-542.26	947.04	1,018.68	976.54	42.14	24.173		
7,050.00	6,855.86	6,731.35	7,685.00	35.66	32.89	-153.90	-535.53	947.04	983.61	939.99	43.62	22.550		
7,100.00	6,903.48	6,721.19	7,685.00	35.84	32.83	-147.10	-525.37	947.04	950.21	905.10	45.11	21.062		
7,150.00	6,950.29	6,707.63	7,685.00	36.01	32.75	-142.18	-511.81	947.04	918.74	872.13	46.61	19.711		
7,200.00	6,996.07	6,690.76	7,685.00	36.16	32.65	-138.50	-494.93	947.04	889.40	841.30	48.09	18.493		
7,250.00	7,040.60	6,670.64	7,685.00	36.29	32.54	-135.59	-474.81	947.04	862.37	812.82	49.54	17.406		
7,300.00	7,083.65	6,647.37	7,685.00	36.40	32.42	-133.12	-451.55	947.04	837.78	786.84	50.93	16.449		
7,350.00	7,125.01	6,621.08	7,685.00	36.50	32.29	-130.92	-425.26	947.04	815.71	763.47	52.24	15.615		
7,400.00	7,164.50	6,591.89	7,685.00	36.58	32.15	-128.84	-396.07	947.04	796.19	742.74	53.45	14.897		
7,450.00	7,201.91	6,559.93	7,685.00	36.65	32.02	-126.83	-364.11	947.04	779.19	724.64	54.55	14.285		
7,500.00	7,237.05	6,525.38	7,685.00	36.70	31.88	-124.85	-329.55	947.04	764.63	709.12	55.51	13.774		
7,550.00	7,269.77	6,488.38	7,685.00	36.74	31.76	-122.90	-292.56	947.04	752.38	696.04	56.34	13.353		
7,600.00	7,299.90	6,449.14	7,685.00	36.77	31.65	-120.98	-253.31	947.04	742.26	685.21	57.05	13.010		
7,650.00	7,327.30	6,407.82	7,685.00	36.79	31.57	-119.12	-212.00	947.04	734.07	676.45	57.63	12.738		
7,700.00	7,351.82	6,364.65	7,685.00	36.80	31.50	-117.36	-168.83	947.04	727.58	669.48	58.10	12.523		
7,750.00	7,373.35	6,319.82	7,685.00	36.80	31.46	-115.72	-124.00	947.04	722.55	664.08	58.46	12.359		
7,800.00	7,391.79	6,273.56	7,685.00	36.79	31.43	-114.26	-77.74	947.04	718.74	659.99	58.75	12.233		
7,850.00	7,407.05	6,226.09	7,685.00	36.77	31.43	-112.99	-30.27	947.04	715.95	656.97	58.98	12.139		
7,900.00	7,419.05	6,165.87	7,682.95	36.75	31.45	-111.61	29.90	946.70	713.61	654.50	59.11	12.073		
7,950.00	7,427.73	6,105.77	7,675.95	36.73	31.49	-110.24	89.56	945.56	711.17	651.88	59.29	11.994		
8,000.00	7,433.05	6,047.45	7,664.47	36.70	31.54	-108.92	146.70	943.68	708.67	649.15	59.51	11.908		
8,053.55	7,435.00	5,986.87	7,647.73	36.67	31.59	-107.56	204.83	940.94	705.98	646.22	59.77	11.813		
8,100.00	7,435.00	5,936.46	7,630.14	36.64	31.63	-106.12	251.98	938.06	703.63	643.64	59.99	11.729		
8,200.00	7,435.00	5,837.63	7,586.40	36.61	31.69	-102.51	340.22	930.90	699.14	638.73	60.41	11.572		
8,284.91	7,435.00	5,764.58	7,546.57	36.60	31.72	-99.20	401.07	924.38	697.56	636.96	60.60	11.512 SF		
8,300.00	7,435.00	5,752.62	7,539.47	36.60	31.73	-98.61	410.63	923.22	697.61	637.01	60.60	11.512		
8,400.00	7,435.00	5,680.62	7,493.53	36.63	31.73	-94.80	465.51	915.70	701.46	640.97	60.50	11.595		
8,500.00	7,435.00	5,620.03	7,450.81	36.70	31.72	-91.29	507.88	908.70	712.57	652.40	60.17	11.842		
8,600.00	7,435.00	5,569.01	7,412.21	36.82	31.70	-88.16	540.61	902.38	732.12	672.36	59.76	12.251		
8,700.00	7,435.00	5,525.88	7,377.85	37.02	31.66	-85.44	566.06	896.76	760.56	701.19	59.37	12.811		
8,800.00	7,435.00	5,489.19	7,347.47	37.33	31.63	-83.08	586.02	891.78	797.74	738.65	59.09	13.501		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4G-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
8,900.00	7,435.00	7,450.00	7,313.96	37.77	31.58	-80.54	605.57	886.30	843.13	784.36	58.77	14.346		
9,000.00	7,435.00	7,430.60	7,296.99	38.34	31.55	-79.28	614.55	883.52	895.71	836.76	58.95	15.195		
9,100.00	7,435.00	7,400.00	7,269.75	39.03	31.51	-77.31	627.77	879.06	954.80	895.90	58.90	16.209		
9,200.00	7,435.00	7,386.32	7,257.40	39.84	31.48	-76.43	633.29	877.04	1,019.28	960.02	59.26	17.201		
9,300.00	7,435.00	7,368.09	7,240.79	40.73	31.45	-75.26	640.28	874.32	1,088.47	1,028.97	59.50	18.293		
9,400.00	7,435.00	7,350.00	7,224.13	41.69	31.41	-74.12	646.79	871.59	1,161.61	1,101.88	59.73	19.446		
9,500.00	7,435.00	7,350.00	7,224.13	42.70	31.41	-74.12	646.79	871.59	1,238.23	1,177.95	60.27	20.543		
9,600.00	7,435.00	7,324.53	7,200.42	43.77	31.36	-72.52	655.22	867.71	1,317.35	1,257.02	60.33	21.836		
9,700.00	7,435.00	7,300.00	7,177.31	44.87	31.31	-71.01	662.53	863.92	1,399.16	1,338.77	60.39	23.168		
9,800.00	7,435.00	7,300.00	7,177.31	46.01	31.31	-71.01	662.53	863.92	1,482.69	1,421.87	60.82	24.380		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft						
Survey Program: O-MWD+HDGM													Offset Well Error:		0.00 usft					
Reference													Semi Major Axis		Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning							
0.00	0.00	0.00	0.00	0.00	0.00	-89.70	0.73	-139.89	139.90	139.62	0.28	506.824								
100.00	100.00	100.00	100.00	0.14	0.14	-89.70	0.73	-139.89	139.90	138.90	0.99	140.886								
200.00	200.00	200.00	200.00	0.50	0.50	-89.70	0.73	-139.89	139.90	138.19	1.71	81.814	CC, ES							
300.00	300.00	300.00	300.00	0.85	0.85	-89.70	0.73	-139.89	139.90	137.48	2.42	58.554								
400.00	399.98	399.98	399.98	1.20	1.21	159.79	0.73	-139.89	141.53	139.11	3.12	46.866								
500.00	499.84	499.84	499.84	1.55	1.57	160.46	0.73	-139.89	146.45	143.33	3.84	40.288								
600.00	599.45	599.45	599.45	1.91	1.93	161.49	0.73	-139.89	154.70	150.86	4.58	35.984								
700.00	698.70	703.90	703.88	2.29	2.30	163.15	1.55	-138.20	164.75	160.17	5.33	32.866								
800.00	797.47	808.41	808.23	2.69	2.67	165.59	4.05	-133.08	175.20	169.87	6.09	30.586								
900.00	895.62	912.83	912.21	3.11	3.05	168.64	8.21	-124.56	186.34	180.25	6.86	28.942								
1,000.00	993.06	1,017.02	1,015.55	3.56	3.43	172.17	14.01	-112.66	198.52	191.66	6.97	28.733								
1,014.60	1,007.22	1,032.21	1,030.57	3.63	3.49	172.72	14.99	-110.64	200.41	193.44	7.63	27.632								
1,100.00	1,089.97	1,121.04	1,118.17	4.05	3.83	176.04	21.44	-97.42	210.84	203.21	8.41	26.331								
1,200.00	1,186.87	1,224.99	1,220.05	4.54	4.25	-179.85	30.50	-78.86	221.48	213.07	9.20	25.125								
1,300.00	1,283.78	1,326.00	1,318.35	5.05	4.69	-175.64	40.67	-58.00	231.04	221.84	9.99	24.165								
1,400.00	1,380.68	1,424.17	1,413.78	5.56	5.13	-171.80	50.76	-37.32	241.43	231.44	10.79	23.456								
1,500.00	1,477.59	1,518.87	1,505.86	6.07	5.56	-168.38	60.71	-17.55	253.13	242.34	11.64	22.931								
1,600.00	1,574.49	1,616.49	1,600.85	6.59	6.01	-165.10	71.87	2.02	266.89	255.25	12.51	22.498								
1,700.00	1,671.40	1,714.41	1,696.12	7.11	6.46	-162.14	83.06	21.64	281.44	268.93	13.40	22.142								
1,800.00	1,768.30	1,812.33	1,791.40	7.64	6.92	-159.47	94.26	41.27	296.67	283.28	14.30	21.846								
1,900.00	1,865.21	1,910.25	1,886.67	8.17	7.39	-157.07	105.45	60.90	312.48	298.18	15.22	21.601								
2,000.00	1,962.11	2,008.16	1,981.95	8.69	7.86	-154.89	116.65	80.53	328.78	313.56	16.15	21.396								
2,100.00	2,059.02	2,106.08	2,077.22	9.22	8.33	-152.92	127.84	100.15	345.51	329.36	17.08	21.224								
2,200.00	2,155.92	2,204.00	2,172.50	9.75	8.80	-151.13	139.03	119.78	362.60	345.52	18.03	21.080								
2,300.00	2,252.83	2,301.91	2,267.77	10.28	9.27	-149.50	150.23	139.41	380.01	361.98	18.98	20.957								
2,400.00	2,349.73	2,399.83	2,363.05	10.82	9.75	-148.01	161.42	159.04	397.69	378.72	19.93	20.854								
2,500.00	2,446.64	2,497.75	2,458.32	11.35	10.23	-146.65	172.62	178.66	415.61	395.69	20.89	20.766								
2,600.00	2,543.54	2,595.67	2,553.60	11.88	10.71	-145.41	183.81	198.29	433.75	412.86	21.85	20.692								
2,700.00	2,640.45	2,693.58	2,648.87	12.42	11.19	-144.26	195.01	217.92	452.06	430.22	22.81	20.628								
2,800.00	2,737.35	2,791.50	2,744.15	12.95	11.67	-143.20	206.20	237.55	470.54	447.73	23.78	20.574								
2,900.00	2,834.26	2,889.42	2,839.42	13.49	12.15	-142.22	217.40	257.17	489.17	465.39	24.74	20.527								
3,000.00	2,931.16	2,987.34	2,934.69	14.02	12.63	-141.31	228.59	276.80	507.92	483.18	25.71	20.488								
3,100.00	3,028.07	3,085.25	3,029.97	14.56	13.11	-140.47	239.78	296.43	526.79	501.08	26.68	20.454								
3,200.00	3,124.97	3,183.17	3,125.24	15.09	13.60	-139.68	250.98	316.05	545.76	519.08	27.65	20.425								
3,300.00	3,221.88	3,281.09	3,220.52	15.63	14.08	-138.95	262.17	335.68	564.82	537.17	28.63	20.400								
3,400.00	3,318.78	3,379.00	3,315.79	16.16	14.56	-138.27	273.37	355.31	583.97	555.34	29.60	20.379								
3,500.00	3,415.69	3,476.92	3,411.07	16.70	15.05	-137.62	284.56	374.94	603.19	573.59	30.57	20.361								
3,600.00	3,512.59	3,574.84	3,506.34	17.24	15.53	-137.02	295.76	394.56	622.48	591.91	31.55	20.346								
3,700.00	3,609.50	3,672.76	3,601.62	17.77	16.02	-136.46	306.95	414.19	641.84	610.29	32.52	20.333								
3,800.00	3,706.40	3,770.67	3,696.89	18.31	16.51	-135.92	318.14	433.82	661.25	628.73	33.50	20.322								
3,900.00	3,803.31	3,868.59	3,792.17	18.85	16.99	-135.42	329.34	453.45	680.71	647.21	34.47	20.313								
4,000.00	3,900.21	3,966.51	3,887.44	19.38	17.48	-134.95	340.53	473.07	700.22	665.75	35.45	20.305								
4,100.00	3,997.12	4,064.43	3,982.72	19.92	17.96	-134.50	351.73	492.70	719.77	684.33	36.42	20.299								
4,200.00	4,094.02	4,162.34	4,077.99	20.46	18.45	-134.07	362.92	512.33	739.37	702.94	37.40	20.294								
4,300.00	4,190.93	4,260.26	4,173.26	20.99	18.94	-133.67	374.12	531.95	759.00	721.60	38.38	20.290								
4,400.00	4,287.83	4,358.18	4,268.54	21.53	19.42	-133.29	385.31	551.58	778.67	740.29	39.35	20.287								
4,500.00	4,384.74	4,456.09	4,363.81	22.07	19.91	-132.92	396.51	571.21	798.36	759.01	40.33	20.285								
4,600.00	4,481.64	4,554.01	4,459.09	22.61	20.40	-132.58	407.70	590.84	818.09	777.76	41.31	20.284								
4,700.00	4,578.55	4,651.93	4,554.36	23.14	20.89	-132.25	418.89	610.46	837.85	796.54	42.28	20.283								
4,800.00	4,675.45	4,749.85	4,649.64	23.68	21.37	-131.93	430.09	630.09	857.63	815.34	43.26	20.282								
4,900.00	4,772.36	4,847.76	4,744.91	24.22	21.86	-131.63	441.28	649.72	877.43	834.17										
5,000.00	4,869.26	4,945.68	4,840.19	24.76	22.35	-131.34	452.48	669.35	897.26	853.02										

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4H-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,966.17	5,043.60	4,935.46	25.29	22.84	-131.07	463.67	688.97	917.11	871.89	45.22	20.283		
5,200.00	5,063.07	5,141.52	5,030.74	25.83	23.33	-130.80	474.87	708.60	936.97	890.78	46.19	20.284		
5,300.00	5,159.98	5,239.43	5,126.01	26.37	23.81	-130.55	486.06	728.23	956.86	909.69	47.17	20.285		
5,400.00	5,256.88	5,337.35	5,221.28	26.91	24.30	-130.31	497.25	747.86	976.76	928.61	48.15	20.286		
5,500.00	5,353.79	5,435.27	5,316.56	27.44	24.79	-130.08	508.45	767.48	996.68	947.55	49.13	20.288		
5,600.00	5,450.69	5,533.18	5,411.83	27.98	25.28	-129.85	519.64	787.11	1,016.61	966.51	50.10	20.290		
5,700.00	5,547.60	5,631.10	5,507.11	28.52	25.77	-129.64	530.84	806.74	1,036.56	985.48	51.08	20.292		
5,800.00	5,644.50	5,729.02	5,602.38	29.06	26.26	-129.43	542.03	826.36	1,056.52	1,004.46	52.06	20.295		
5,900.00	5,741.41	5,826.94	5,697.66	29.60	26.75	-129.23	553.23	845.99	1,076.50	1,023.46	53.04	20.297		
6,000.00	5,838.31	5,924.85	5,792.93	30.13	27.23	-129.04	564.42	865.62	1,096.48	1,042.47	54.02	20.300		
6,100.00	5,935.22	6,022.77	5,888.21	30.67	27.72	-128.85	575.61	885.25	1,116.48	1,061.49	54.99	20.302		
6,200.00	6,032.12	6,120.69	5,983.48	31.21	28.21	-128.68	586.81	904.87	1,136.49	1,080.52	55.97	20.305		
6,300.00	6,129.03	6,218.61	6,078.76	31.75	28.70	-128.50	598.00	924.50	1,156.51	1,099.56	56.95	20.308		
6,400.00	6,225.93	6,316.52	6,174.03	32.29	29.19	-128.34	609.20	944.13	1,176.54	1,118.61	57.93	20.311		
6,500.00	6,322.84	6,415.43	6,270.00	32.83	29.68	-128.17	620.40	963.76	1,196.57	1,137.66	58.91	20.314		
6,600.00	6,419.74	6,493.13	6,365.00	33.36	30.17	-128.00	631.60	983.39	1,216.60	1,156.79	59.89	20.317		
6,700.00	6,516.65	6,571.00	6,460.00	33.89	30.66	-127.83	642.80	1,003.02	1,236.63	1,176.02	60.87	20.320		
6,800.00	6,613.55	6,655.86	6,555.00	34.42	31.15	-127.66	654.00	1,022.65	1,256.66	1,195.25	61.85	20.323		
6,865.63	6,677.15	6,722.00	6,650.00	34.95	31.64	-127.49	665.20	1,042.28	1,276.69	1,214.48	62.83	20.326		
6,900.00	6,710.52	6,755.37	6,745.00	35.48	32.13	-127.32	676.40	1,061.91	1,296.72	1,233.71	63.81	20.329		
6,950.00	6,759.15	6,804.22	6,795.00	36.01	32.62	-127.15	687.60	1,081.54	1,316.75	1,252.94	64.79	20.332		
7,000.00	6,807.67	6,853.07	6,845.00	36.54	33.11	-126.98	698.80	1,101.17	1,336.78	1,272.17	65.77	20.335		
7,050.00	6,855.86	6,901.92	6,895.00	37.07	33.60	-126.81	710.00	1,120.80	1,356.81	1,291.40	66.75	20.338		
7,100.00	6,903.48	6,950.77	6,945.00	37.60	34.09	-126.64	721.20	1,140.43	1,376.84	1,310.63	67.73	20.341		
7,150.00	6,950.29	6,999.62	6,990.00	38.13	34.58	-126.47	732.40	1,160.06	1,396.87	1,329.86	68.71	20.344		
7,200.00	6,996.07	7,048.47	7,040.00	38.66	35.07	-126.30	743.60	1,179.69	1,416.90	1,349.09	69.69	20.347		
7,250.00	7,040.60	7,097.32	7,090.00	39.19	35.56	-126.13	754.80	1,199.32	1,436.93	1,368.32	70.67	20.350		
7,300.00	7,083.65	7,146.17	7,140.00	39.72	36.05	-125.96	766.00	1,218.95	1,456.96	1,387.55	71.65	20.353		
7,350.00	7,125.01	7,195.02	7,190.00	40.25	36.54	-125.79	777.20	1,238.58	1,476.99	1,406.78	72.63	20.356		
7,400.00	7,164.50	7,243.87	7,240.00	40.78	37.03	-125.62	788.40	1,258.21	1,497.02	1,426.01	73.61	20.359		
7,450.00	7,201.91	7,292.72	7,290.00	41.31	37.52	-125.45	799.60	1,277.84	1,517.05	1,445.24	74.59	20.362		
7,500.00	7,237.05	7,341.57	7,340.00	41.84	38.01	-125.28	810.80	1,297.47	1,537.08	1,464.47	75.57	20.365		
7,550.00	7,269.77	7,390.42	7,390.00	42.37	38.50	-125.11	822.00	1,317.10	1,557.11	1,483.70	76.55	20.368		
7,600.00	7,299.90	7,439.27	7,440.00	42.90	38.99	-124.94	833.20	1,336.73	1,577.14	1,502.93	77.53	20.371		
7,650.00	7,327.30	7,488.12	7,490.00	43.43	39.48	-124.77	844.40	1,356.36	1,597.17	1,522.16	78.51	20.374		
7,700.00	7,351.82	7,536.97	7,540.00	43.96	39.97	-124.60	855.60	1,375.99	1,617.20	1,541.39	79.49	20.377		
7,750.00	7,373.35	7,585.82	7,590.00	44.49	40.46	-124.43	866.80	1,395.62	1,637.23	1,560.62	80.47	20.380		
7,800.00	7,391.79	7,634.67	7,640.00	45.02	40.95	-124.26	878.00	1,415.25	1,657.26	1,579.85	81.45	20.383		
7,850.00	7,407.05	7,683.52	7,690.00	45.55	41.44	-124.09	889.20	1,434.88	1,677.29	1,599.08	82.43	20.386		
7,900.00	7,419.05	7,732.37	7,740.00	46.08	41.93	-123.92	900.40	1,454.51	1,697.32	1,618.31	83.41	20.389		
7,918.62	7,422.67	7,781.22	7,790.00	46.61	42.42	-123.75	911.60	1,474.14	1,717.35	1,637.54	84.39	20.392		
7,950.00	7,427.73	7,830.07	7,840.00	47.14	42.91	-123.58	922.80	1,493.77	1,737.38	1,656.77	85.37	20.395		
8,000.00	7,433.05	7,878.92	7,890.00	47.67	43.40	-123.41	934.00	1,513.40	1,757.41	1,676.00	86.35	20.398		
8,053.55	7,435.00	7,927.77	7,940.00	48.20	43.89	-123.24	945.20	1,533.03	1,777.44	1,695.23	87.33	20.401		
8,100.00	7,435.00	7,976.62	7,990.00	48.73	44.38	-123.07	956.40	1,552.66	1,797.47	1,714.46	88.31	20.404		
8,200.00	7,435.00	8,025.47	8,040.00	49.26	44.87	-122.90	967.60	1,572.29	1,817.50	1,733.69	89.29	20.407		
8,300.00	7,435.00	8,074.32	8,090.00	49.79	45.36	-122.73	978.80	1,591.92	1,837.53	1,752.92	90.27	20.410		
8,400.00	7,435.00	8,123.17	8,140.00	50.32	45.85	-122.56	990.00	1,611.55	1,857.56	1,772.15	91.25	20.413		
8,500.00	7,435.00	8,172.02	8,190.00	50.85	46.34	-122.39	1,001.20	1,631.18	1,877.59	1,791.38	92.23	20.416		
8,600.00	7,435.00	8,220.87	8,240.00	51.38	46.83	-122.22	1,012.40	1,650.81	1,897.62	1,810.61	93.21	20.419		
8,700.00	7,435.00	8,269.72	8,290.00	51.91	47.32	-122.05	1,023.60	1,670.44	1,917.65	1,829.84	94.19	20.422		
8,800.00	7,435.00	8,318.57	8,340.00	52.44	47.81	-121.88	1,034.80	1,690.07	1,937.68	1,849.07	95.17	20.425		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4H-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
8,900.00	7,435.00	7,350.00	7,156.93	37.77	33.21	-59.71	536.97	1,136.77	730.61	676.58	54.03	13.523		
9,000.00	7,435.00	7,322.91	7,134.92	38.34	33.18	-57.97	552.36	1,133.18	798.89	743.89	55.00	14.525		
9,100.00	7,435.00	7,300.00	7,115.88	39.03	33.16	-56.53	564.70	1,130.02	871.55	815.53	56.02	15.557		
9,200.00	7,435.00	7,273.07	7,093.02	39.84	33.12	-54.90	578.41	1,126.17	947.81	891.05	56.76	16.699		
9,300.00	7,435.00	7,250.00	7,073.06	40.73	33.09	-53.55	589.45	1,122.76	1,027.09	969.57	57.51	17.858		
9,400.00	7,435.00	7,233.03	7,058.16	41.69	33.06	-52.58	597.16	1,120.19	1,108.87	1,050.54	58.33	19.011		
9,500.00	7,435.00	7,215.89	7,042.94	42.70	33.03	-51.63	604.58	1,117.54	1,192.76	1,133.75	59.01	20.212		
9,600.00	7,435.00	7,200.00	7,028.68	43.77	33.00	-50.77	611.13	1,115.03	1,278.43	1,218.81	59.62	21.442		
9,700.00	7,435.00	7,200.00	7,028.68	44.87	33.00	-50.77	611.13	1,115.03	1,365.81	1,305.34	60.48	22.584		
9,800.00	7,435.00	7,173.27	7,004.39	46.01	32.95	-49.38	621.41	1,110.72	1,454.09	1,393.40	60.68	23.962		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference: S32-T2N-R68W - HWY52 4I-32H-O268 - OH - PLAN #2														
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	-89.69	0.71	-130.10	130.10	129.83	0.28	471.347		
100.00	100.00	100.00	100.00	0.14	0.14	-89.69	0.71	-130.10	130.10	129.11	0.99	131.024		
200.00	200.00	200.00	200.00	0.50	0.50	-89.69	0.71	-130.10	130.10	128.39	1.71	76.087 CC		
300.00	300.00	300.00	300.00	0.85	0.85	-89.69	0.71	-130.10	130.10	129.32	2.42	54.503		
400.00	399.98	399.98	399.98	1.20	1.21	159.82	0.71	-130.10	131.74	129.32	3.12	43.733		
500.00	499.84	499.84	499.84	1.55	1.57	160.54	0.71	-130.10	136.66	133.54	3.86	37.131		
600.00	599.45	604.04	604.02	1.91	1.94	162.06	1.54	-128.40	143.33	145.69	4.61	32.592		
700.00	698.70	708.23	708.05	2.29	2.31	164.55	4.01	-123.29	150.30	152.54	5.37	29.394		
800.00	797.47	812.27	811.66	2.69	2.69	167.87	8.13	-114.80	157.91	160.42	6.14	27.142		
900.00	895.62	916.04	914.58	3.11	3.07	171.85	13.86	-102.96	166.56	169.78	6.91	25.579		
1,000.00	993.06	1,019.41	1,016.57	3.56	3.47	176.31	21.19	-87.84	176.69	171.29	7.69	24.384		
1,014.60	1,007.22	1,034.47	1,031.37	3.63	3.54	176.99	22.39	-85.37	178.32	188.65	8.49	23.217		
1,100.00	1,089.97	1,122.41	1,117.52	4.05	3.90	-178.92	30.08	-69.50	187.46	197.50	9.31	22.223		
1,200.00	1,186.87	1,225.07	1,217.36	4.54	4.35	-173.89	40.51	-47.97	197.14	207.66	10.16	21.447		
1,300.00	1,283.78	1,323.88	1,312.87	5.05	4.81	-168.99	51.55	-25.19	206.80	218.98	11.04	20.830		
1,400.00	1,380.68	1,421.89	1,407.60	5.56	5.27	-164.57	62.52	-2.55	217.82	231.27	11.96	20.339		
1,500.00	1,477.59	1,519.90	1,502.32	6.07	5.75	-160.58	73.50	20.09	230.02	244.39	12.90	19.946		
1,600.00	1,574.49	1,617.92	1,597.05	6.59	6.24	-157.00	84.47	42.74	243.23	258.22	13.86	19.631		
1,700.00	1,671.40	1,715.93	1,691.78	7.11	6.73	-153.80	95.44	65.38	257.29	272.64	14.83	19.379		
1,800.00	1,768.30	1,813.94	1,786.50	7.64	7.23	-150.93	106.42	88.02	272.08	287.48	15.82	19.177		
1,900.00	1,865.21	1,911.95	1,881.23	8.17	7.73	-148.35	117.39	110.66	287.48	302.92	16.82	19.014		
2,000.00	1,962.11	2,009.96	1,975.95	8.69	8.23	-146.04	128.36	133.31	303.39	318.65	17.82	18.884		
2,100.00	2,059.02	2,107.97	2,070.68	9.22	8.74	-143.96	139.34	155.95	319.74	334.69	18.82	18.779		
2,200.00	2,155.92	2,205.98	2,165.41	9.75	9.25	-142.07	150.31	178.59	336.47	351.01	19.84	18.696		
2,300.00	2,252.83	2,304.00	2,260.13	10.28	9.76	-140.37	161.28	201.24	353.52	367.57	20.85	18.629		
2,400.00	2,349.73	2,402.01	2,354.86	10.82	10.27	-138.83	172.26	223.88	370.85	384.33	21.87	18.576		
2,500.00	2,446.64	2,500.02	2,449.59	11.35	10.79	-137.42	183.23	246.52	388.42	401.27	22.88	18.534		
2,600.00	2,543.54	2,598.03	2,544.31	11.88	11.30	-136.13	194.20	269.17	406.20	418.38	23.90	18.502		
2,700.00	2,640.45	2,696.04	2,639.04	12.42	11.82	-134.95	205.18	291.81	424.16	435.62	24.92	18.477		
2,800.00	2,737.35	2,794.05	2,733.77	12.95	12.34	-133.87	216.15	314.45	442.28	452.99	25.95	18.459		
2,900.00	2,834.26	2,892.06	2,828.49	13.49	12.85	-132.87	227.12	337.10	460.54	470.47	26.97	18.445		
3,000.00	2,931.16	2,990.08	2,923.22	14.02	13.37	-131.95	238.10	359.74	478.93	488.05	27.99	18.436		
3,100.00	3,028.07	3,088.09	3,017.95	14.56	13.89	-131.09	249.07	382.38	497.44	505.72	29.01	18.431		
3,200.00	3,124.97	3,186.10	3,112.67	15.09	14.41	-130.30	260.04	405.03	516.04	523.46	30.04	18.428		
3,300.00	3,221.88	3,284.11	3,207.40	15.63	14.93	-129.56	271.02	427.67	534.73	541.28	31.06	18.428		
3,400.00	3,318.78	3,382.12	3,302.13	16.16	15.45	-128.87	281.99	450.31	553.50	559.17	32.08	18.429		
3,500.00	3,415.69	3,480.13	3,396.85	16.70	15.97	-128.23	292.96	472.96	572.34	577.12	33.11	18.433		
3,600.00	3,512.59	3,578.14	3,491.58	17.24	16.49	-127.63	303.93	495.60	591.25	595.11	34.13	18.438		
3,700.00	3,609.50	3,676.16	3,586.31	17.77	17.01	-127.06	314.91	518.24	610.22	613.16	35.15	18.443		
3,800.00	3,706.40	3,774.17	3,681.03	18.31	17.54	-126.53	325.88	540.89	629.24	631.26	36.17	18.450		
3,900.00	3,803.31	3,872.18	3,775.76	18.85	18.06	-126.03	336.85	563.53	648.31	649.39	37.20	18.458		
4,000.00	3,900.21	3,970.19	3,870.49	19.38	18.58	-125.56	347.83	586.17	667.43	667.56	38.22	18.466		
4,100.00	3,997.12	4,068.20	3,965.21	19.92	19.10	-125.11	358.80	608.81	686.59	685.77	39.24	18.475		
4,200.00	4,094.02	4,166.21	4,059.94	20.46	19.63	-124.69	369.77	631.46	705.78	704.01	40.27	18.484		
4,300.00	4,190.93	4,264.22	4,154.67	20.99	20.15	-124.29	380.75	654.10	725.02	722.28	41.29	18.493		
4,400.00	4,287.83	4,362.24	4,249.39	21.53	20.67	-123.92	391.72	676.74	744.28	740.58	42.31	18.503		
4,500.00	4,384.74	4,460.25	4,344.12	22.07	21.20	-123.56	402.69	699.39	763.57	758.90	43.33	18.513		
4,600.00	4,481.64	4,558.26	4,438.84	22.61	21.72	-123.22	413.67	722.03	782.89	777.25	44.36	18.523		
4,700.00	4,578.55	4,656.27	4,533.57	23.14	22.24	-122.89	424.64	744.67	802.24	795.62	45.38	18.533		
4,800.00	4,675.45	4,754.28	4,628.30	23.68	22.77	-122.58	435.61	767.32	821.60					
4,900.00	4,772.36	4,852.29	4,723.02	24.22	23.29	-122.28	446.59	789.96	841.00					
5,000.00	4,869.26	4,950.30	4,817.75	24.76	23.81	-122.00	457.56	812.60	860.41	814.01	46.40	18.543		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft		
Survey Program: O-MWD+HDGM													Offset Well Error:		0.00 usft	
Reference: S32-T2N-R68W - HWY52 4I-32H-O268 - OH - PLAN #2																
Reference				Offset				Semi Major Axis			Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning			
5,100.00	4,966.17	5,048.32	4,912.48	25.29	24.34	-121.73	468.53	835.25	879.84	832.42	47.42	18.553				
5,200.00	5,063.07	5,146.33	5,007.20	25.83	24.86	-121.47	479.51	857.89	899.29	850.84	48.45	18.563				
5,300.00	5,159.98	5,244.34	5,101.93	26.37	25.39	-121.23	490.48	880.53	918.75	869.29	49.47	18.572				
5,400.00	5,256.88	5,342.35	5,196.66	26.91	25.91	-120.99	501.45	903.18	938.24	887.75	50.49	18.582				
5,500.00	5,353.79	5,440.36	5,291.38	27.44	26.44	-120.76	512.43	925.82	957.73	906.22	51.51	18.592				
5,600.00	5,450.69	5,538.37	5,386.11	27.98	26.96	-120.54	523.40	948.46	977.24	924.71	52.53	18.602				
5,700.00	5,547.60	5,636.38	5,480.84	28.52	27.48	-120.33	534.37	971.11	996.77	943.21	53.56	18.611				
5,800.00	5,644.50	5,734.40	5,575.56	29.06	28.01	-120.13	545.34	993.75	1,016.30	961.73	54.58	18.621				
5,900.00	5,741.41	5,832.41	5,670.29	29.60	28.53	-119.94	556.32	1,016.39	1,035.85	980.25	55.60	18.630				
6,000.00	5,838.31	5,930.42	5,765.02	30.13	29.06	-119.75	567.29	1,039.04	1,055.41	998.79	56.62	18.639				
6,100.00	5,935.22	6,028.43	5,859.74	30.67	29.58	-119.57	578.26	1,061.68	1,074.98	1,017.34	57.64	18.649				
6,200.00	6,032.12	6,126.44	5,954.47	31.21	30.11	-119.40	589.24	1,084.32	1,094.56	1,035.89	58.67	18.658				
6,300.00	6,129.03	6,224.45	6,049.20	31.75	30.63	-119.23	600.21	1,106.96	1,114.15	1,054.46	59.69	18.666				
6,400.00	6,225.93	6,322.46	6,143.92	32.29	31.16	-119.07	611.18	1,129.61	1,133.75	1,073.04	60.71	18.675				
6,500.00	6,322.84	6,420.48	6,238.65	32.83	31.68	-118.91	622.16	1,152.25	1,153.35	1,091.62	61.73	18.684				
6,600.00	6,419.74	6,518.39	6,333.38	33.36	32.20	-118.76	633.14	1,174.88	1,174.88	1,110.25	62.75	18.693				
6,700.00	6,516.65	6,615.30	6,428.11	33.90	32.72	-118.61	644.12	1,197.49	1,197.49	1,128.86	63.77	18.702				
6,800.00	6,613.55	6,712.21	6,522.84	34.44	33.24	-118.46	655.09	1,220.09	1,220.09	1,147.47	64.79	18.711				
6,865.63	6,677.15	6,776.06	6,587.47	34.97	33.76	-118.31	666.05	1,242.68	1,242.68	1,166.04	65.81	18.720				
6,900.00	6,710.52	6,809.43	6,621.90	35.51	34.28	-118.16	677.01	1,265.27	1,265.27	1,184.61	66.83	18.729				
6,950.00	6,759.15	6,858.34	6,661.43	36.04	34.80	-118.01	687.97	1,287.85	1,287.85	1,203.18	67.85	18.738				
7,000.00	6,807.67	6,907.25	6,701.96	36.58	35.32	-117.86	698.92	1,310.42	1,310.42	1,221.75	68.87	18.747				
7,050.00	6,855.86	6,956.36	6,742.47	37.11	35.84	-117.71	709.87	1,332.98	1,332.98	1,240.32	69.89	18.756				
7,100.00	6,903.48	7,005.47	6,782.98	37.65	36.36	-117.56	720.82	1,355.54	1,355.54	1,258.89	70.91	18.765				
7,150.00	6,950.29	7,054.58	6,823.49	38.18	36.88	-117.41	731.77	1,378.09	1,378.09	1,277.46	71.93	18.774				
7,200.00	6,996.07	7,103.69	6,864.00	38.72	37.40	-117.26	742.72	1,400.65	1,400.65	1,296.03	72.95	18.783				
7,250.00	7,040.60	7,152.80	6,904.51	39.25	37.92	-117.11	753.67	1,423.20	1,423.20	1,314.60	73.97	18.792				
7,300.00	7,083.65	7,201.91	6,945.02	39.79	38.44	-116.96	764.62	1,445.76	1,445.76	1,333.17	74.99	18.801				
7,350.00	7,125.01	7,251.02	6,985.53	40.32	38.96	-116.81	775.57	1,468.31	1,468.31	1,351.74	76.01	18.810				
7,400.00	7,164.50	7,300.13	7,026.04	40.86	39.48	-116.66	786.52	1,490.87	1,490.87	1,370.31	77.03	18.819				
7,450.00	7,201.91	7,349.24	7,066.55	41.39	40.00	-116.51	797.47	1,513.42	1,513.42	1,388.88	78.05	18.828				
7,500.00	7,237.05	7,398.35	7,107.06	41.93	40.52	-116.36	808.42	1,535.97	1,535.97	1,407.45	79.07	18.837				
7,550.00	7,269.77	7,447.46	7,147.57	42.46	41.04	-116.21	819.37	1,558.52	1,558.52	1,426.02	80.09	18.846				
7,600.00	7,299.90	7,496.57	7,188.08	42.99	41.56	-116.06	830.32	1,581.07	1,581.07	1,444.59	81.11	18.855				
7,650.00	7,327.30	7,545.68	7,228.59	43.53	42.08	-115.91	841.27	1,603.62	1,603.62	1,463.16	82.13	18.864				
7,700.00	7,351.82	7,594.79	7,269.10	44.06	42.60	-115.76	852.22	1,626.17	1,626.17	1,481.73	83.15	18.873				
7,750.00	7,373.35	7,643.90	7,310.61	44.59	43.12	-115.61	863.17	1,648.72	1,648.72	1,500.30	84.17	18.882				
7,800.00	7,391.79	7,693.01	7,351.12	45.13	43.64	-115.46	874.12	1,671.27	1,671.27	1,518.87	85.19	18.891				
7,850.00	7,407.05	7,742.12	7,391.63	45.66	44.16	-115.31	885.07	1,693.82	1,693.82	1,537.44	86.21	18.900				
7,900.00	7,419.05	7,791.23	7,432.14	46.19	44.68	-115.16	896.02	1,716.37	1,716.37	1,556.01	87.23	18.909				
7,950.00	7,427.73	7,840.34	7,472.65	46.73	45.20	-115.01	907.07	1,738.92	1,738.92	1,574.58	88.25	18.918				
8,000.00	7,433.05	7,889.45	7,513.16	47.26	45.72	-114.86	918.02	1,761.47	1,761.47	1,593.15	89.27	18.927				
8,053.55	7,435.00	7,938.56	7,553.67	47.79	46.24	-114.71	929.07	1,784.02	1,784.02	1,611.72	90.29	18.936				
8,100.00	7,435.00	7,987.67	7,594.18	48.33	46.76	-114.56	940.02	1,806.57	1,806.57	1,630.29	91.31	18.945				
8,200.00	7,435.00	8,036.78	7,634.69	48.86	47.28	-114.41	951.07	1,829.12	1,829.12	1,648.86	92.33	18.954				
8,204.09	7,435.00	8,085.89	7,675.20	49.39	47.80	-114.26	962.02	1,851.67	1,851.67	1,667.43	93.35	18.963	ES, SF			
8,300.00	7,435.00	8,134.90	7,715.71	49.93	48.32	-114.11	973.07	1,874.22	1,874.22	1,686.00	94.37	18.972				
8,400.00	7,435.00	8,184.01	7,756.22	50.46	48.84	-113.96	984.02	1,896.77	1,896.77	1,704.57	95.39	18.981				
8,500.00	7,435.00	8,233.12	7,796.73	51.00	49.36	-113.81	995.07	1,919.32	1,919.32	1,723.14	96.41	18.990				
8,600.00	7,435.00	8,282.23	7,837.24	51.53	49.88	-113.66	1,006.02	1,941.87	1,941.87	1,741.71	97.43	18.999				
8,700.00	7,435.00	8,331.34	7,877.75	52.07	50.40	-113.51	1,017.07	1,964.42	1,964.42	1,760.28	98.45	19.008				
8,800.00	7,435.00	8,380.45	7,918.26	52.60	50.92	-113.36	1,028.02	1,986.97	1,986.97	1,778.85	99.47	19.017				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4I-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
8,900.00	7,435.00	7,450.00	7,218.88	37.77	36.34	-46.51	588.48	1,384.89	531.05	472.40	58.65	9.055		
9,000.00	7,435.00	7,424.63	7,197.44	38.34	36.29	-44.42	601.10	1,379.94	613.59	553.38	60.21	10.191		
9,100.00	7,435.00	7,400.00	7,176.22	39.03	36.25	-42.56	612.59	1,375.02	698.87	637.49	61.38	11.387		
9,200.00	7,435.00	7,378.11	7,157.04	39.84	36.20	-41.06	622.18	1,370.57	786.29	723.93	62.36	12.609		
9,300.00	7,435.00	7,350.00	7,132.03	40.73	36.14	-39.29	633.60	1,364.76	875.51	812.63	62.88	13.923		
9,400.00	7,435.00	7,350.00	7,132.03	41.69	36.14	-39.29	633.60	1,364.76	965.99	901.80	64.18	15.051		
9,500.00	7,435.00	7,326.31	7,110.62	42.70	36.07	-37.94	642.43	1,359.77	1,057.53	993.00	64.53	16.387		
9,600.00	7,435.00	7,300.00	7,086.53	43.77	36.01	-36.57	651.38	1,354.14	1,150.28	1,085.53	64.75	17.766		
9,700.00	7,435.00	7,300.00	7,086.53	44.87	36.01	-36.57	651.38	1,354.14	1,243.46	1,177.94	65.52	18.978		
9,800.00	7,435.00	7,300.00	7,086.53	46.01	36.01	-36.57	651.38	1,354.14	1,337.63	1,271.48	66.15	20.221		
9,900.00	7,435.00	7,278.38	7,066.51	47.17	35.94	-35.53	658.05	1,349.46	1,432.11	1,365.84	66.27	21.610		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: O-MWD+HDGM													Offset Well Error:		0.00 usft
Reference													Warning		
Reference				Offset				Semi Major Axis			Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-89.67	0.70	-120.03	120.03	119.75	0.28	434.856			
100.00	100.00	100.00	100.00	0.14	0.14	-89.67	0.70	-120.03	120.03	119.04	0.99	120.881			
200.00	200.00	200.00	200.00	0.50	0.50	-89.67	0.70	-120.03	120.03	118.32	1.71	70.197			
300.00	300.00	300.00	300.00	0.85	0.85	-89.67	0.70	-120.03	120.03	119.25	2.42	50.336			
400.00	399.98	399.98	399.98	1.20	1.21	159.86	0.70	-120.03	121.67	119.25	3.15	39.665			
500.00	499.84	504.01	503.99	1.55	1.58	161.03	1.40	-118.28	124.93	121.78	3.90	32.862			
600.00	599.45	608.00	607.82	1.91	1.95	163.35	3.52	-113.03	128.30	127.40	4.67	28.288			
700.00	698.70	711.84	711.22	2.29	2.33	166.70	7.04	-104.31	132.07	131.21	5.43	25.141			
800.00	797.47	815.41	813.96	2.69	2.72	170.95	11.95	-92.15	136.64	136.30	6.21	22.966			
900.00	895.62	918.62	915.79	3.11	3.12	175.93	18.23	-76.62	142.51	143.20	6.98	21.508			
1,000.00	993.06	1,021.36	1,016.50	3.56	3.55	-178.59	25.83	-57.79	150.18	151.48	7.10	21.334			
1,100.00	1,089.97	1,123.64	1,115.97	4.05	4.01	-172.81	34.74	-35.73	158.87	151.08	7.79	20.404			
1,200.00	1,186.87	1,225.42	1,214.04	4.54	4.49	-166.70	44.92	-10.53	166.93	158.30	8.63	19.339			
1,300.00	1,283.78	1,323.75	1,308.24	5.05	5.00	-160.82	55.49	15.64	175.62	166.11	9.51	18.462			
1,400.00	1,380.68	1,421.78	1,402.14	5.56	5.51	-155.54	66.03	41.74	186.00	175.55	10.45	17.803			
1,500.00	1,477.59	1,519.81	1,496.04	6.07	6.04	-150.84	76.57	67.85	197.82	186.39	11.43	17.310			
1,600.00	1,574.49	1,617.84	1,589.94	6.59	6.58	-146.68	87.12	93.95	210.82	198.38	12.44	16.945			
1,700.00	1,671.40	1,715.87	1,683.84	7.11	7.12	-143.01	97.66	120.05	224.81	211.34	13.48	16.681			
1,800.00	1,768.30	1,813.90	1,777.74	7.64	7.66	-139.77	108.20	146.16	239.62	225.09	14.53	16.492			
1,900.00	1,865.21	1,911.93	1,871.64	8.17	8.21	-136.92	118.74	172.26	255.09	239.50	15.59	16.361			
2,000.00	1,962.11	2,009.96	1,965.54	8.69	8.76	-134.39	129.29	198.37	271.13	254.47	16.66	16.274			
2,100.00	2,059.02	2,107.99	2,059.44	9.22	9.32	-132.14	139.83	224.47	287.62	269.89	17.73	16.220			
2,200.00	2,155.92	2,206.02	2,153.34	9.75	9.87	-130.14	150.37	250.57	304.50	285.70	18.81	16.191			
2,300.00	2,252.83	2,304.05	2,247.24	10.28	10.43	-128.34	160.91	276.68	321.71	301.83	19.88	16.181			
2,400.00	2,349.73	2,402.08	2,341.14	10.82	10.99	-126.73	171.46	302.78	339.20	318.24	20.96	16.184			
2,500.00	2,446.64	2,500.11	2,435.04	11.35	11.55	-125.28	182.00	328.88	356.93	334.89	22.03	16.199			
2,600.00	2,543.54	2,598.14	2,528.94	11.88	12.12	-123.96	192.54	354.99	374.85	351.74	23.11	16.221			
2,700.00	2,640.45	2,696.17	2,622.85	12.42	12.68	-122.77	203.09	381.09	392.95	368.77	24.18	16.248			
2,800.00	2,737.35	2,794.20	2,716.75	12.95	13.25	-121.68	213.63	407.19	411.21	385.95	25.26	16.280			
2,900.00	2,834.26	2,892.23	2,810.65	13.49	13.81	-120.68	224.17	433.30	429.59	403.26	26.33	16.315			
3,000.00	2,931.16	2,990.26	2,904.55	14.02	14.38	-119.76	234.71	459.40	448.10	420.69	27.40	16.352			
3,100.00	3,028.07	3,088.29	2,998.45	14.56	14.94	-118.92	245.26	485.50	466.70	438.23	28.48	16.390			
3,200.00	3,124.97	3,186.32	3,092.35	15.09	15.51	-118.14	255.80	511.61	485.40	455.85	29.55	16.429			
3,300.00	3,221.88	3,284.35	3,186.25	15.63	16.08	-117.42	266.34	537.71	504.17	473.56	30.62	16.468			
3,400.00	3,318.78	3,382.38	3,280.15	16.16	16.65	-116.75	276.88	563.81	523.02	491.34	31.69	16.507			
3,500.00	3,415.69	3,480.40	3,374.05	16.70	17.21	-116.12	287.43	589.92	541.93	509.18	32.75	16.545			
3,600.00	3,512.59	3,578.43	3,467.95	17.24	17.78	-115.54	297.97	616.02	560.90	527.08	33.82	16.584			
3,700.00	3,609.50	3,676.46	3,561.85	17.77	18.35	-115.00	308.51	642.12	579.93	545.04	34.89	16.621			
3,800.00	3,706.40	3,774.49	3,655.75	18.31	18.92	-114.49	319.05	668.23	599.00	563.04	35.96	16.658			
3,900.00	3,803.31	3,872.52	3,749.65	18.85	19.49	-114.01	329.60	694.33	618.11	581.08	37.02	16.694			
4,000.00	3,900.21	3,970.55	3,843.55	19.38	20.06	-113.56	340.14	720.43	637.26	599.17	38.09	16.730			
4,100.00	3,997.12	4,068.58	3,937.45	19.92	20.63	-113.14	350.68	746.54	656.45	617.29	39.16	16.764			
4,200.00	4,094.02	4,166.61	4,031.35	20.46	21.20	-112.74	361.22	772.64	675.67	635.44	40.22	16.798			
4,300.00	4,190.93	4,264.64	4,125.25	20.99	21.77	-112.36	371.77	798.75	694.92	653.63	41.29	16.831			
4,400.00	4,287.83	4,362.67	4,219.15	21.53	22.34	-112.01	382.31	824.85	714.19	671.84	42.35	16.863			
4,500.00	4,384.74	4,460.70	4,313.05	22.07	22.91	-111.67	392.85	850.95	733.50	690.08	43.42	16.894			
4,600.00	4,481.64	4,558.73	4,406.95	22.61	23.48	-111.35	403.39	877.06	752.82	708.34	44.48	16.924			
4,700.00	4,578.55	4,656.76	4,500.86	23.14	24.05	-111.04	413.94	903.16	772.17	726.62	45.55	16.953			
4,800.00	4,675.45	4,754.79	4,594.76	23.68	24.62	-110.75	424.48	929.26	791.54	744.93	46.61	16.982			
4,900.00	4,772.36	4,852.82	4,688.66	24.22	25.20	-110.48	435.02	955.37	810.92	763.25	47.67	17.009			
5,000.00	4,869.26	4,950.85	4,782.56	24.76	25.77	-110.22	445.56	981.47	830.33	781.59	48.74	17.036			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,966.17	5,048.88	4,876.46	25.29	26.34	-109.96	456.11	1,007.57	849.75	799.94	49.80	17.063		
5,200.00	5,063.07	5,146.91	4,970.36	25.83	26.91	-109.72	466.65	1,033.68	869.18	818.32	50.87	17.088		
5,300.00	5,159.98	5,244.94	5,064.26	26.37	27.48	-109.50	477.19	1,059.78	888.63	836.70	51.93	17.113		
5,400.00	5,256.88	5,342.97	5,158.16	26.91	28.05	-109.28	487.74	1,085.88	908.09	855.10	52.99	17.137		
5,500.00	5,353.79	5,441.00	5,252.06	27.44	28.62	-109.07	498.28	1,111.99	927.56	873.51	54.05	17.160		
5,600.00	5,450.69	5,539.03	5,345.96	27.98	29.20	-108.86	508.82	1,138.09	947.05	891.93	55.12	17.183		
5,700.00	5,547.60	5,637.06	5,439.86	28.52	29.77	-108.67	519.36	1,164.19	966.55	910.37	56.18	17.205		
5,800.00	5,644.50	5,735.09	5,533.76	29.06	30.34	-108.48	529.91	1,190.30	986.05	928.81	57.24	17.226		
5,900.00	5,741.41	5,833.12	5,627.66	29.60	30.91	-108.31	540.45	1,216.40	1,005.57	947.26	58.30	17.247		
6,000.00	5,838.31	5,931.15	5,721.56	30.13	31.48	-108.13	550.99	1,242.50	1,025.09	965.73	59.37	17.267		
6,100.00	5,935.22	6,029.18	5,815.46	30.67	32.06	-107.97	561.53	1,268.61	1,044.63	984.20	60.43	17.287		
6,200.00	6,032.12	6,127.21	5,909.36	31.21	32.63	-107.81	572.08	1,294.71	1,064.17	1,002.68	61.49	17.306		
6,300.00	6,129.03	6,225.24	6,003.26	31.75	33.20	-107.66	582.62	1,320.82	1,083.72	1,021.17	62.55	17.325		
6,400.00	6,225.93	6,323.27	6,097.16	32.29	33.77	-107.51	593.16	1,346.92	1,103.27	1,039.66	63.61	17.343		
6,500.00	6,322.84	6,421.30	6,191.06	32.83	34.34	-107.36	603.70	1,373.02	1,122.84	1,058.16	64.68	17.361		
6,600.00	6,419.74	6,519.33	6,284.97	33.36	34.92	-107.23	614.25	1,399.13	1,142.41	1,076.67	65.74	17.378		
6,700.00	6,516.65	6,617.36	6,378.87	33.90	35.49	-107.09	624.79	1,425.23	1,161.98	1,095.18	66.80	17.395		
6,800.00	6,613.55	6,715.27	6,472.78	34.44	36.06	-106.94	635.32	1,451.36	1,173.83	1,113.00	67.87	17.412		
6,865.63	6,677.15	6,785.00	6,537.69	34.79	36.41	-106.83	645.85	1,477.49	1,185.68	1,124.81	68.94	17.429		
6,900.00	6,710.52	6,818.06	6,571.16	34.98	36.60	-106.75	656.38	1,503.62	1,197.53	1,136.62	69.99	17.446		
6,950.00	6,759.15	6,866.69	6,610.71	35.22	36.76	-106.70	666.91	1,529.75	1,209.36	1,148.43	71.04	17.463		
7,000.00	6,807.67	6,915.32	6,655.26	35.45	36.91	-106.67	677.44	1,555.88	1,221.19	1,160.24	72.09	17.480		
7,050.00	6,855.86	6,963.45	6,703.81	35.66	37.06	-106.66	687.97	1,582.01	1,233.02	1,172.05	73.14	17.497		
7,100.00	6,903.48	7,011.58	6,752.36	35.84	37.21	-106.66	698.50	1,608.14	1,244.85	1,183.86	74.19	17.514		
7,150.00	6,950.29	7,059.71	6,800.91	36.01	37.36	-106.67	709.03	1,634.27	1,256.68	1,195.67	75.24	17.531		
7,200.00	6,996.07	7,107.84	6,849.46	36.16	37.51	-106.68	719.56	1,660.40	1,268.51	1,207.48	76.29	17.548		
7,250.00	7,040.60	7,155.97	6,898.01	36.29	37.66	-106.69	730.09	1,686.53	1,280.34	1,219.29	77.34	17.565		
7,300.00	7,083.65	7,204.10	6,946.56	36.40	37.81	-106.70	740.62	1,712.66	1,292.17	1,231.10	78.39	17.582		
7,350.00	7,125.01	7,252.23	6,995.11	36.50	37.96	-106.71	751.15	1,738.99	1,304.00	1,242.91	79.44	17.599		
7,400.00	7,164.50	7,300.36	7,043.66	36.58	38.11	-106.72	761.68	1,765.32	1,315.83	1,254.72	80.49	17.616		
7,450.00	7,201.91	7,348.49	7,092.21	36.65	38.26	-106.73	772.21	1,791.65	1,327.66	1,266.53	81.54	17.633		
7,500.00	7,237.05	7,396.62	7,140.76	36.70	38.41	-106.73	782.74	1,817.98	1,339.49	1,278.34	82.59	17.650		
7,550.00	7,269.77	7,444.75	7,189.31	36.74	38.56	-106.74	793.27	1,844.31	1,351.32	1,289.15	83.64	17.667		
7,600.00	7,299.90	7,492.88	7,237.86	36.77	38.71	-106.74	803.80	1,870.64	1,363.15	1,300.96	84.69	17.684		
7,650.00	7,327.30	7,541.01	7,286.41	36.79	38.86	-106.75	814.33	1,896.97	1,374.98	1,312.77	85.74	17.701		
7,700.00	7,351.82	7,589.14	7,334.96	36.80	39.01	-106.75	824.86	1,923.30	1,386.81	1,324.58	86.79	17.718		
7,750.00	7,373.35	7,637.27	7,383.51	36.80	39.16	-106.75	835.39	1,949.63	1,398.64	1,336.39	87.84	17.735		
7,800.00	7,391.79	7,685.40	7,432.06	36.79	39.31	-106.75	845.92	1,975.96	1,410.47	1,348.20	88.89	17.752		
7,850.00	7,407.05	7,733.53	7,480.61	36.77	39.46	-106.75	856.45	2,002.29	1,422.30	1,359.01	89.94	17.769		
7,900.00	7,419.05	7,781.66	7,529.16	36.75	39.61	-106.75	866.98	2,028.62	1,434.13	1,370.82	90.99	17.786		
7,950.00	7,427.73	7,829.79	7,577.71	36.73	39.76	-106.75	877.51	2,054.95	1,445.96	1,382.63	92.04	17.803		
8,000.00	7,433.05	7,877.92	7,626.26	36.70	39.91	-106.75	888.04	2,081.28	1,457.79	1,394.44	93.09	17.820		
8,053.55	7,435.00	7,926.05	7,674.81	36.67	40.06	-106.75	898.57	2,107.61	1,469.62	1,406.25	94.14	17.837		
8,100.00	7,435.00	7,974.18	7,723.36	36.64	40.21	-106.75	909.10	2,133.94	1,481.45	1,418.06	95.19	17.854		
8,200.00	7,435.00	8,022.31	7,771.91	36.61	40.36	-106.75	919.63	2,160.27	1,493.28	1,429.87	96.24	17.871		
8,300.00	7,435.00	8,070.44	7,820.46	36.60	40.51	-106.75	930.16	2,186.60	1,505.11	1,441.68	97.29	17.888		
8,400.00	7,435.00	8,118.57	7,869.01	36.63	40.66	-106.75	940.69	2,212.93	1,516.94	1,453.49	98.34	17.905		
8,424.68	7,435.00	8,166.70	7,917.56	36.64	40.81	-106.75	951.22	2,239.26	1,528.77	1,465.30	99.39	17.922		
8,500.00	7,435.00	8,214.83	7,966.11	36.70	40.96	-106.75	961.75	2,265.59	1,540.60	1,477.11	100.44	17.939		
8,600.00	7,435.00	8,262.96	8,014.66	36.82	41.11	-106.75	972.28	2,291.92	1,552.43	1,488.92	101.49	17.956		
8,700.00	7,435.00	8,311.09	8,063.21	37.02	41.26	-106.75	982.81	2,318.25	1,564.26	1,500.73	102.54	17.973		
8,800.00	7,435.00	8,359.22	8,111.76	37.33	41.41	-106.75	993.34	2,344.58	1,576.09	1,512.54	103.59	17.990		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4J-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
8,900.00	7,435.00	7,537.64	7,255.79	37.77	40.36	16.84	634.30	1,666.92	426.12	354.91	71.21	5.984		
9,000.00	7,435.00	7,515.09	7,235.54	38.34	40.29	13.77	642.63	1,661.54	516.97	445.13	71.84	7.196		
9,100.00	7,435.00	7,500.00	7,221.85	39.03	40.24	11.98	647.84	1,657.90	609.50	536.95	72.55	8.401		
9,200.00	7,435.00	7,479.00	7,202.63	39.84	40.17	9.80	654.59	1,652.76	703.19	630.42	72.77	9.663		
9,300.00	7,435.00	7,464.36	7,189.14	40.73	40.12	8.45	658.94	1,649.15	797.82	724.71	73.11	10.912		
9,400.00	7,435.00	7,450.00	7,175.81	41.69	40.07	7.24	662.94	1,645.57	893.18	819.83	73.36	12.176		
9,500.00	7,435.00	7,450.00	7,175.81	42.70	40.07	7.24	662.94	1,645.57	989.24	915.35	73.89	13.388		
9,600.00	7,435.00	7,429.86	7,157.00	43.77	39.99	5.73	668.07	1,640.51	1,085.54	1,011.71	73.84	14.702		
9,700.00	7,435.00	7,420.71	7,148.42	44.87	39.96	5.10	670.22	1,638.20	1,182.36	1,108.35	74.01	15.976		
9,800.00	7,435.00	7,400.00	7,128.89	46.01	39.88	3.80	674.67	1,632.93	1,279.68	1,205.76	73.92	17.312		
9,900.00	7,435.00	7,400.00	7,128.89	47.17	39.88	3.80	674.67	1,632.93	1,376.97	1,302.77	74.20	18.558		
10,000.00	7,435.00	7,400.00	7,128.89	48.37	39.88	3.80	674.67	1,632.93	1,474.63	1,400.20	74.43	19.812		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference: S32-T2N-R68W - HWY52 4K-32H-O268 - OH - PLAN #2														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-89.65	0.68	-109.96	109.96					
100.00	100.00	100.00	100.00	0.14	0.14	-89.65	0.68	-109.96	109.96	109.68	0.28	398.365		
200.00	200.00	200.00	200.00	0.50	0.50	-89.65	0.68	-109.96	109.96	108.97	0.99	110.737		
300.00	300.00	300.00	300.00	0.85	0.85	-89.65	0.68	-109.96	109.96	108.25	1.71	64.306		
400.00	399.98	403.69	403.67	1.20	1.22	160.29	1.35	-108.20	109.91	107.46	2.45	44.855		
484.13	484.01	490.86	490.71	1.50	1.53	161.92	2.94	-104.02	109.87	106.78	3.09	35.582	CC	
500.00	499.84	507.28	507.10	1.55	1.59	162.34	3.35	-102.95	109.87	106.67	3.21	34.250		
600.00	599.45	610.66	610.05	1.91	1.97	165.73	6.68	-94.23	110.11	106.13	3.97	27.700	ES	
700.00	698.70	713.74	712.30	2.29	2.36	170.41	11.31	-82.09	111.06	106.32	4.74	23.426		
800.00	797.47	816.40	813.61	2.69	2.77	176.22	17.23	-66.59	113.31	107.80	5.51	20.577		
900.00	895.62	918.57	913.77	3.11	3.20	-177.13	24.40	-47.81	117.51	111.24	6.28	18.727		
1,000.00	993.06	1,020.14	1,012.58	3.56	3.66	-170.00	32.79	-25.84	124.32	117.24	7.08	17.571		
1,014.60	1,007.22	1,034.92	1,026.89	3.63	3.73	-168.95	34.11	-22.37	125.56	118.36	7.20	17.443		
1,100.00	1,089.97	1,121.10	1,109.90	4.05	4.15	-162.73	42.36	-0.77	133.00	125.07	7.93	16.778		
1,200.00	1,186.87	1,220.74	1,205.01	4.54	4.68	-155.32	52.94	26.96	142.11	133.26	8.85	16.064		
1,300.00	1,283.78	1,318.64	1,298.21	5.05	5.22	-148.68	63.63	54.96	153.02	143.19	9.83	15.570		
1,400.00	1,380.68	1,416.54	1,391.41	5.56	5.78	-142.97	74.32	82.97	165.72	154.86	10.86	15.259		
1,500.00	1,477.59	1,514.44	1,484.61	6.07	6.34	-138.09	85.01	110.97	179.85	167.92	11.93	15.081		
1,600.00	1,574.49	1,612.34	1,577.80	6.59	6.91	-133.94	95.70	138.98	195.08	182.08	13.01	14.998		
1,700.00	1,671.40	1,710.24	1,671.00	7.11	7.49	-130.39	106.39	166.99	211.19	197.09	14.10	14.979		
1,800.00	1,768.30	1,808.14	1,764.20	7.64	8.07	-127.35	117.08	194.99	227.99	212.79	15.19	15.005		
1,900.00	1,865.21	1,906.03	1,857.40	8.17	8.65	-124.73	127.77	223.00	245.32	229.03	16.29	15.060		
2,000.00	1,962.11	2,003.93	1,950.59	8.69	9.24	-122.45	138.46	251.00	263.10	245.72	17.39	15.133		
2,100.00	2,059.02	2,101.83	2,043.79	9.22	9.83	-120.46	149.15	279.01	281.23	262.75	18.48	15.218		
2,200.00	2,155.92	2,199.73	2,136.99	9.75	10.42	-118.72	159.84	307.01	299.65	280.08	19.57	15.309		
2,300.00	2,252.83	2,297.63	2,230.18	10.28	11.01	-117.17	170.54	335.02	318.32	297.65	20.66	15.404		
2,400.00	2,349.73	2,395.53	2,323.38	10.82	11.60	-115.80	181.23	363.02	337.18	315.42	21.75	15.499		
2,500.00	2,446.64	2,493.43	2,416.58	11.35	12.19	-114.57	191.92	391.03	356.21	333.37	22.84	15.594		
2,600.00	2,543.54	2,591.33	2,509.78	11.88	12.79	-113.46	202.61	419.03	375.38	351.45	23.93	15.687		
2,700.00	2,640.45	2,689.23	2,602.97	12.42	13.39	-112.47	213.30	447.04	394.68	369.66	25.02	15.777		
2,800.00	2,737.35	2,787.13	2,696.17	12.95	13.98	-111.56	223.99	475.04	414.07	387.98	26.10	15.865		
2,900.00	2,834.26	2,885.03	2,789.37	13.49	14.58	-110.74	234.68	503.05	433.57	406.38	27.18	15.950		
3,000.00	2,931.16	2,982.93	2,882.57	14.02	15.18	-109.99	245.37	531.05	453.13	424.87	28.27	16.031		
3,100.00	3,028.07	3,080.83	2,975.76	14.56	15.77	-109.29	256.06	559.06	472.77	443.42	29.35	16.109		
3,200.00	3,124.97	3,178.73	3,068.96	15.09	16.37	-108.66	266.75	587.06	492.47	462.04	30.43	16.184		
3,300.00	3,221.88	3,276.63	3,162.16	15.63	16.97	-108.07	277.44	615.07	512.23	480.72	31.51	16.256		
3,400.00	3,318.78	3,374.53	3,255.35	16.16	17.57	-107.53	288.13	643.08	532.03	499.44	32.59	16.325		
3,500.00	3,415.69	3,472.43	3,348.55	16.70	18.17	-107.02	298.82	671.08	551.87	518.20	33.67	16.390		
3,600.00	3,512.59	3,570.33	3,441.75	17.24	18.77	-106.56	309.51	699.09	571.75	537.00	34.75	16.454		
3,700.00	3,609.50	3,668.23	3,534.95	17.77	19.37	-106.12	320.20	727.09	591.67	555.84	35.83	16.514		
3,800.00	3,706.40	3,766.13	3,628.14	18.31	19.97	-105.71	330.89	755.10	611.62	574.71	36.91	16.572		
3,900.00	3,803.31	3,864.02	3,721.34	18.85	20.57	-105.32	341.58	783.10	631.59	593.61	37.99	16.627		
4,000.00	3,900.21	3,961.92	3,814.54	19.38	21.17	-104.96	352.27	811.11	651.60	612.53	39.06	16.680		
4,100.00	3,997.12	4,059.82	3,907.74	19.92	21.77	-104.63	362.96	839.11	671.62	631.48	40.14	16.731		
4,200.00	4,094.02	4,157.72	4,000.93	20.46	22.37	-104.31	373.65	867.12	691.67	650.45	41.22	16.780		
4,300.00	4,190.93	4,255.62	4,094.13	20.99	22.98	-104.01	384.34	895.12	711.73	669.44	42.30	16.827		
4,400.00	4,287.83	4,353.52	4,187.33	21.53	23.58	-103.72	395.03	923.13	731.82	688.44	43.37	16.872		
4,500.00	4,384.74	4,451.42	4,280.52	22.07	24.18	-103.45	405.72	951.13	751.92	707.47	44.45	16.916		
4,600.00	4,481.64	4,549.32	4,373.72	22.61	24.78	-103.20	416.41	979.14	772.03	726.50	45.53	16.957		
4,700.00	4,578.55	4,647.22	4,466.92	23.14	25.38	-102.95	427.10	1,007.14	792.16	745.56	46.60	16.998		
4,800.00	4,675.45	4,745.12	4,560.12	23.68	25.98	-102.72	437.79	1,035.15	812.30	764.62	47.68	17.036		
4,900.00	4,772.36	4,843.02	4,653.31	24.22	26.59	-102.50	448.48	1,063.15	832.46	783.70	48.76	17.073		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft		
Survey Program: O-MWD+HDGM													Offset Well Error:		0.00 usft	
Reference: S32-T2N-R68W - HWY52 4K-32H-O268 - OH - PLAN #2																
Reference				Offset				Semi Major Axis			Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning			
5,000.00	4,869.26	4,940.92	4,746.51	24.76	27.19	-102.30	459.17	1,091.16	852.62	802.79	49.83	17.109				
5,100.00	4,966.17	5,038.82	4,839.71	25.29	27.79	-102.10	469.86	1,119.17	872.80	821.89	50.91	17.144				
5,200.00	5,063.07	5,136.72	4,932.91	25.83	28.39	-101.91	480.55	1,147.17	892.98	840.99	51.99	17.177				
5,300.00	5,159.98	5,234.62	5,026.10	26.37	28.99	-101.72	491.24	1,175.18	913.18	860.11	53.06	17.209				
5,400.00	5,256.88	5,332.52	5,119.30	26.91	29.60	-101.55	501.93	1,203.18	933.38	879.24	54.14	17.240				
5,500.00	5,353.79	5,430.42	5,212.50	27.44	30.20	-101.38	512.62	1,231.19	953.59	898.37	55.22	17.270				
5,600.00	5,450.69	5,528.32	5,305.69	27.98	30.80	-101.22	523.31	1,259.19	973.81	917.52	56.29	17.299				
5,700.00	5,547.60	5,626.22	5,398.89	28.52	31.40	-101.07	534.01	1,287.20	994.03	936.66	57.37	17.328				
5,800.00	5,644.50	5,724.11	5,492.09	29.06	32.01	-100.92	544.70	1,315.20	1,014.26	955.82	58.44	17.355				
5,900.00	5,741.41	5,822.01	5,585.29	29.60	32.61	-100.78	555.39	1,343.21	1,034.50	974.98	59.52	17.381				
6,000.00	5,838.31	5,919.91	5,678.48	30.13	33.21	-100.65	566.08	1,371.21	1,054.74	994.15	60.59	17.407				
6,100.00	5,935.22	6,017.81	5,771.68	30.67	33.82	-100.52	576.77	1,399.22	1,074.99	1,013.32	61.67	17.431				
6,200.00	6,032.12	6,115.71	5,864.88	31.21	34.42	-100.39	587.46	1,427.22	1,095.25	1,032.50	62.75	17.455				
6,300.00	6,129.03	6,213.61	5,958.08	31.75	35.02	-100.27	598.15	1,455.23	1,115.51	1,051.68	63.82	17.478				
6,400.00	6,225.93	6,311.51	6,051.27	32.29	35.62	-100.15	608.84	1,483.23	1,135.77	1,070.87	64.90	17.501				
6,500.00	6,322.84	6,409.41	6,144.47	32.83	36.23	-100.04	619.53	1,511.24	1,156.04	1,090.06	65.97	17.523				
6,600.00	6,419.74	6,507.31	6,237.67	33.36	36.84	-99.92	630.22	1,539.24	1,176.31	1,109.25	67.04	17.545				
6,700.00	6,516.65	6,605.21	6,330.87	33.90	37.45	-99.81	640.91	1,567.24	1,196.58	1,128.44	68.11	17.567				
6,800.00	6,613.55	6,703.11	6,424.07	34.44	38.06	-99.70	651.60	1,595.24	1,216.85	1,147.63	69.18	17.589				
6,865.63	6,677.15	6,767.71	6,488.67	34.79	38.41	-99.65	658.84	1,605.04	1,224.00	1,154.00	69.52	17.595				
6,900.00	6,710.52	6,801.08	6,522.04	34.98	38.59	-99.61	662.11	1,609.04	1,227.00	1,157.00	69.70	17.598				
6,950.00	6,759.15	6,850.71	6,571.67	35.22	38.82	-99.58	665.38	1,613.04	1,230.00	1,160.00	69.88	17.601				
7,000.00	6,807.67	6,900.31	6,621.31	35.45	39.05	-99.55	668.65	1,617.04	1,233.00	1,163.00	69.99	17.604				
7,050.00	6,855.86	6,949.91	6,671.91	35.66	39.28	-99.52	671.92	1,621.04	1,236.00	1,166.00	70.11	17.607				
7,100.00	6,903.48	7,000.51	6,723.51	35.84	39.51	-99.49	675.80	1,625.04	1,239.00	1,169.00	70.22	17.610				
7,150.00	6,950.29	7,051.11	6,775.11	36.01	39.74	-99.46	679.68	1,629.04	1,242.00	1,172.00	70.33	17.613				
7,200.00	6,996.07	7,101.71	6,826.71	36.16	39.97	-99.43	683.56	1,633.04	1,245.00	1,175.00	70.44	17.616				
7,250.00	7,040.60	7,152.31	6,878.31	36.29	40.20	-99.40	687.44	1,637.04	1,248.00	1,178.00	70.55	17.619				
7,300.00	7,083.65	7,202.91	6,929.91	36.40	40.43	-99.37	691.32	1,641.04	1,251.00	1,181.00	70.66	17.622				
7,350.00	7,125.01	7,253.51	6,981.51	36.50	40.66	-99.34	695.20	1,645.04	1,254.00	1,184.00	70.77	17.625				
7,400.00	7,164.50	7,304.11	7,033.11	36.58	40.89	-99.31	699.08	1,649.04	1,257.00	1,187.00	70.88	17.628				
7,450.00	7,201.91	7,354.71	7,084.71	36.65	41.12	-99.28	702.96	1,653.04	1,260.00	1,190.00	70.99	17.631				
7,500.00	7,237.05	7,405.31	7,136.31	36.70	41.35	-99.25	706.84	1,657.04	1,263.00	1,193.00	71.10	17.634				
7,550.00	7,269.77	7,455.91	7,187.91	36.74	41.58	-99.22	710.72	1,661.04	1,266.00	1,196.00	71.21	17.637				
7,600.00	7,299.90	7,506.51	7,239.51	36.77	41.81	-99.19	714.60	1,665.04	1,269.00	1,199.00	71.32	17.640				
7,650.00	7,327.30	7,557.11	7,291.11	36.79	42.04	-99.16	718.48	1,669.04	1,272.00	1,202.00	71.43	17.643				
7,700.00	7,351.82	7,607.71	7,342.71	36.80	42.27	-99.13	722.36	1,673.04	1,275.00	1,205.00	71.54	17.646				
7,750.00	7,373.35	7,658.31	7,394.31	36.80	42.50	-99.10	726.24	1,677.04	1,278.00	1,208.00	71.65	17.649				
7,800.00	7,391.79	7,708.91	7,445.91	36.79	42.73	-99.07	730.12	1,681.04	1,281.00	1,211.00	71.76	17.652				
7,850.00	7,407.05	7,759.51	7,497.51	36.77	42.96	-99.04	734.00	1,685.04	1,284.00	1,214.00	71.87	17.655				
7,900.00	7,419.05	7,809.11	7,549.11	36.75	43.19	-99.01	737.88	1,689.04	1,287.00	1,217.00	71.98	17.658				
7,950.00	7,427.73	7,859.71	7,600.71	36.73	43.42	-98.98	741.76	1,693.04	1,290.00	1,220.00	72.09	17.661				
8,000.00	7,433.05	7,910.31	7,652.31	36.70	43.65	-98.95	745.64	1,697.04	1,293.00	1,223.00	72.20	17.664				
8,053.55	7,435.00	7,960.91	7,703.91	36.67	43.88	-98.92	749.52	1,701.04	1,296.00	1,226.00	72.31	17.667				
8,100.00	7,435.00	7,960.91	7,703.91	36.64	44.11	-98.89	753.40	1,705.04	1,299.00	1,229.00	72.42	17.670				
8,200.00	7,435.00	7,960.91	7,703.91	36.61	44.34	-98.86	757.28	1,709.04	1,302.00	1,232.00	72.53	17.673				
8,222.80	7,435.00	7,960.91	7,703.91	36.60	44.57	-98.83	761.16	1,713.04	1,305.00	1,235.00	72.64	17.676				
8,300.00	7,435.00	7,960.91	7,703.91	36.60	44.80	-98.80	765.04	1,717.04	1,308.00	1,238.00	72.75	17.679				
8,400.00	7,435.00	7,960.91	7,703.91	36.63	45.03	-98.77	768.92	1,721.04	1,311.00	1,241.00	72.86	17.682				
8,500.00	7,435.00	7,960.91	7,703.91	36.70	45.26	-98.74	772.80	1,725.04	1,314.00	1,244.00	72.97	17.685				
8,600.00	7,435.00	7,960.91	7,703.91	36.82	45.49	-98.71	776.68	1,729.04	1,317.00	1,247.00	73.08	17.688				
8,700.00	7,435.00	7,960.91	7,703.91	37.02	45.72	-98.68	780.56	1,733.04	1,320.00	1,250.00	73.19	17.691				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4K-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
8,800.00	7,435.00	7,476.81	7,141.92	37.33	41.89	34.07	571.83	1,810.97	494.47	426.18	68.30	7.240		
8,900.00	7,435.00	7,450.00	7,120.11	37.77	41.83	31.33	585.98	1,804.41	567.35	497.34	70.01	8.104		
9,000.00	7,435.00	7,416.81	7,092.43	38.34	41.74	28.16	602.30	1,796.10	645.09	574.26	70.83	9.107		
9,100.00	7,435.00	7,400.00	7,078.15	39.03	41.69	26.65	610.05	1,791.81	726.70	654.52	72.18	10.068		
9,200.00	7,435.00	7,371.10	7,053.19	39.84	41.60	24.20	622.55	1,784.31	811.05	738.42	72.63	11.167		
9,300.00	7,435.00	7,350.00	7,034.68	40.73	41.54	22.53	631.00	1,778.74	897.76	824.53	73.22	12.261		
9,400.00	7,435.00	7,335.38	7,021.72	41.69	41.48	21.43	636.52	1,774.85	986.26	912.39	73.87	13.352		
9,500.00	7,435.00	7,320.35	7,008.28	42.70	41.43	20.34	641.91	1,770.81	1,076.24	1,001.90	74.34	14.478		
9,600.00	7,435.00	7,300.00	6,989.92	43.77	41.36	18.93	648.74	1,765.29	1,167.48	1,092.92	74.55	15.660		
9,700.00	7,435.00	7,300.00	6,989.92	44.87	41.36	18.93	648.74	1,765.29	1,259.64	1,184.43	75.21	16.749		
9,800.00	7,435.00	7,283.58	6,974.98	46.01	41.30	17.85	653.84	1,760.80	1,352.63	1,277.27	75.36	17.948		
9,900.00	7,435.00	7,273.51	6,965.75	47.17	41.26	17.22	656.80	1,758.03	1,446.37	1,370.76	75.61	19.129		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft					
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft					
Reference													Semi Major Axis		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)									
0.00	0.00	0.00	0.00	0.00	0.00	-89.62	0.66	-99.88	99.89										
100.00	100.00	100.00	100.00	0.14	0.14	-89.62	0.66	-99.88	99.89	99.61	0.28	361.875							
200.00	200.00	200.00	200.00	0.50	0.50	-89.62	0.66	-99.88	99.89	98.89	0.99	100.594	CC, ES						
300.00	300.00	297.75	297.73	0.85	0.84	-90.34	-0.60	-100.97	101.00	99.29	1.71	59.140							
400.00	399.98	395.21	395.06	1.20	1.18	157.17	-4.37	-104.23	106.04	103.61	2.43	43.613							
500.00	499.84	491.95	491.44	1.55	1.53	155.08	-10.58	-109.60	116.71	113.54	3.17	36.784							
600.00	599.45	590.30	589.24	1.91	1.89	153.29	-18.47	-116.42	132.12	128.24	3.88	34.030							
700.00	698.70	688.55	686.93	2.29	2.27	152.43	-26.37	-123.25	150.69	146.09	4.60	32.789							
800.00	797.47	786.18	784.01	2.69	2.65	152.24	-34.22	-130.03	172.29	166.97	5.32	32.405	SF						
900.00	895.62	883.08	880.37	3.11	3.02	152.51	-42.02	-136.77	196.91	190.86	6.05	32.559							
1,000.00	993.06	979.14	975.88	3.56	3.40	153.05	-49.74	-143.44	224.54	217.75	6.79	33.088							
1,014.60	1,007.22	993.09	989.75	3.63	3.45	153.15	-50.86	-144.41	228.83	221.93	6.90	33.163							
1,100.00	1,089.97	1,074.61	1,070.81	4.05	3.77	153.88	-57.42	-150.08	254.11	246.58	7.53	33.760							
1,200.00	1,186.87	1,170.06	1,165.72	4.54	4.14	154.56	-65.09	-156.71	283.76	275.49	8.27	34.325							
1,300.00	1,283.78	1,265.52	1,260.63	5.05	4.52	155.12	-72.77	-163.35	313.43	304.42	9.01	34.780							
1,400.00	1,380.68	1,360.97	1,355.55	5.56	4.89	155.58	-80.45	-169.98	343.13	333.37	9.76	35.152							
1,500.00	1,477.59	1,456.43	1,450.46	6.07	5.26	155.97	-88.12	-176.61	372.85	362.33	10.51	35.463							
1,600.00	1,574.49	1,551.88	1,545.38	6.59	5.64	156.30	-95.80	-183.25	402.58	391.31	11.27	35.725							
1,700.00	1,671.40	1,647.34	1,640.29	7.11	6.01	156.58	-103.48	-189.88	432.32	420.29	12.03	35.949							
1,800.00	1,768.30	1,742.79	1,735.21	7.64	6.39	156.83	-111.15	-196.52	462.07	449.28	12.78	36.143							
1,900.00	1,865.21	1,838.25	1,830.12	8.17	6.76	157.05	-118.83	-203.15	491.82	478.28	13.54	36.313							
2,000.00	1,962.11	1,933.70	1,925.03	8.69	7.14	157.24	-126.50	-209.79	521.58	507.28	14.30	36.462							
2,100.00	2,059.02	2,029.16	2,019.95	9.22	7.51	157.42	-134.18	-216.42	551.35	536.28	15.07	36.594							
2,200.00	2,155.92	2,124.61	2,114.86	9.75	7.89	157.57	-141.86	-223.05	581.12	565.29	15.83	36.711							
2,300.00	2,252.83	2,220.07	2,209.78	10.28	8.26	157.71	-149.53	-229.69	610.89	594.30	16.59	36.817							
2,400.00	2,349.73	2,315.52	2,304.69	10.82	8.64	157.84	-157.21	-236.32	640.67	623.31	17.36	36.912							
2,500.00	2,446.64	2,410.98	2,399.60	11.35	9.02	157.95	-164.89	-242.96	670.45	652.32	18.12	36.999							
2,600.00	2,543.54	2,506.43	2,494.52	11.88	9.39	158.06	-172.56	-249.59	700.23	681.34	18.89	37.078							
2,700.00	2,640.45	2,601.89	2,589.43	12.42	9.77	158.15	-180.24	-256.22	730.01	710.36	19.65	37.150							
2,800.00	2,737.35	2,697.34	2,684.35	12.95	10.14	158.24	-187.91	-262.86	759.79	739.38	20.42	37.216							
2,900.00	2,834.26	2,792.80	2,779.26	13.49	10.52	158.33	-195.59	-269.49	789.58	768.40	21.18	37.277							
3,000.00	2,931.16	2,888.25	2,874.18	14.02	10.89	158.40	-203.27	-276.13	819.37	797.42	21.95	37.333							
3,100.00	3,028.07	2,983.71	2,969.09	14.56	11.27	158.47	-210.94	-282.76	849.16	826.44	22.71	37.385							
3,200.00	3,124.97	3,079.16	3,064.00	15.09	11.65	158.54	-218.62	-289.39	878.95	855.47	23.48	37.433							
3,300.00	3,221.88	3,174.62	3,158.92	15.63	12.02	158.60	-226.30	-296.03	908.74	884.49	24.25	37.479							
3,400.00	3,318.78	3,270.07	3,253.83	16.16	12.40	158.66	-233.97	-302.66	938.53	913.52	25.01	37.521							
3,500.00	3,415.69	3,365.53	3,348.75	16.70	12.77	158.71	-241.65	-309.30	968.32	942.54	25.78	37.560							
3,600.00	3,512.59	3,460.98	3,443.66	17.24	13.15	158.77	-249.33	-315.93	998.12	971.57	26.55	37.597							
3,700.00	3,609.50	3,556.44	3,538.57	17.77	13.53	158.81	-257.00	-322.57	1,027.91	1,000.60	27.32	37.632							
3,800.00	3,706.40	3,651.89	3,633.49	18.31	13.90	158.86	-264.68	-329.20	1,057.71	1,029.62	28.08	37.664							
3,900.00	3,803.31	3,747.35	3,728.40	18.85	14.28	158.90	-272.35	-335.83	1,087.50	1,058.65	28.85	37.695							
4,000.00	3,900.21	3,842.80	3,823.32	19.38	14.65	158.94	-280.03	-342.47	1,117.30	1,087.68	29.62	37.724							
4,100.00	3,997.12	3,938.26	3,918.23	19.92	15.03	158.98	-287.71	-349.10	1,147.09	1,116.71	30.39	37.752							
4,200.00	4,094.02	4,033.71	4,013.15	20.46	15.41	159.02	-295.38	-355.74	1,176.89	1,145.74	31.15	37.778							
4,300.00	4,190.93	4,129.17	4,108.06	20.99	15.78	159.05	-303.06	-362.37	1,206.69	1,174.77	31.92	37.802							
4,400.00	4,287.83	4,224.62	4,202.97	21.53	16.16	159.09	-310.74	-369.00	1,236.49	1,203.80	32.69	37.826							
4,500.00	4,384.74	4,320.07	4,297.89	22.07	16.53	159.12	-318.41	-375.64	1,266.29	1,232.83	33.46	37.848							
4,600.00	4,481.64	4,415.53	4,392.80	22.61	16.91	159.15	-326.09	-382.27	1,296.08	1,261.86	34.23	37.869							
4,700.00	4,578.55	4,510.98	4,487.72	23.14	17.29	159.18	-333.76	-388.91	1,325.88	1,290.89	34.99	37.889							
4,800.00	4,675.45	4,606.44	4,582.63	23.68	17.66	159.21	-341.44	-395.54	1,355.68	1,319.92	35.76	37.909							
4,900.00	4,772.36	4,701.89	4,677.54	24.22	18.04	159.23	-349.12	-402.17	1,385.48	1,348.95	36.53	37.927							
5,000.00	4,869.26	4,797.35	4,772.46	24.76	18.41	159.26	-356.79	-408.81	1,415.28	1,377.98	37.30	37.944							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - HWY52 4L-32H-O268 - OH - PLAN #2													Offset Well Error:	0.00 usft
Survey Program: 0-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,100.00	4,966.17	4,892.80	4,867.37	25.29	18.79	159.28	-364.47	-415.44	1,445.08	1,407.01	38.07	37.961		
5,200.00	5,063.07	4,988.26	4,962.29	25.83	19.17	159.30	-372.15	-422.08	1,474.88	1,436.04	38.84	37.977		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													S32-T2N-R68W - HWY52 4M-32H-O268 - OH - PLAN #2		Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-89.59	0.64	-90.09	90.09							
100.00	100.00	100.00	100.00	0.14	0.14	-89.59	0.64	-90.09	90.09	89.82	0.28	326.398				
200.00	200.00	200.00	200.00	0.50	0.50	-89.59	0.64	-90.09	90.09	89.10	0.99	90.732 CC, ES				
300.00	300.00	298.34	298.32	0.85	0.84	-90.49	-0.79	-90.99	91.01	89.30	1.70	53.435				
400.00	399.98	396.40	396.25	1.20	1.18	156.54	-5.06	-93.66	95.47	93.05	2.42	39.473				
500.00	499.84	494.17	493.65	1.55	1.53	153.83	-12.11	-98.07	105.22	102.07	3.15	33.428				
600.00	599.45	593.15	592.17	1.91	1.90	151.86	-20.22	-103.15	118.96	115.10	3.86	30.816				
700.00	698.70	691.70	690.26	2.29	2.27	150.96	-28.30	-108.20	135.80	131.21	4.58	29.644				
800.00	797.47	789.71	787.81	2.69	2.65	150.84	-36.33	-113.23	155.65	150.34	5.31	29.314 SF				
900.00	895.62	887.04	884.69	3.11	3.02	151.23	-44.31	-118.22	178.48	172.44	6.05	29.514				
1,000.00	993.06	983.59	980.79	3.56	3.39	151.93	-52.23	-123.18	204.32	197.53	6.79	30.080				
1,014.60	1,007.22	997.62	994.75	3.63	3.44	152.05	-53.38	-123.90	208.35	201.44	6.91	30.163				
1,100.00	1,089.97	1,079.59	1,076.33	4.05	3.76	152.89	-60.09	-128.10	232.11	224.56	7.54	30.780				
1,200.00	1,186.87	1,175.57	1,171.86	4.54	4.13	153.68	-67.96	-133.03	259.97	251.69	8.29	31.370				
1,300.00	1,283.78	1,271.55	1,267.40	5.05	4.50	154.32	-75.83	-137.95	287.88	278.84	9.04	31.848				
1,400.00	1,380.68	1,367.54	1,362.93	5.56	4.87	154.85	-83.70	-142.87	315.81	306.01	9.79	32.244				
1,500.00	1,477.59	1,463.52	1,458.46	6.07	5.24	155.29	-91.57	-147.80	343.76	333.21	10.55	32.577				
1,600.00	1,574.49	1,559.50	1,554.00	6.59	5.62	155.66	-99.43	-152.72	371.73	360.41	11.31	32.860				
1,700.00	1,671.40	1,655.49	1,649.53	7.11	5.99	155.98	-107.30	-157.64	399.70	387.63	12.07	33.104				
1,800.00	1,768.30	1,751.47	1,745.07	7.64	6.36	156.26	-115.17	-162.57	427.69	414.86	12.84	33.316				
1,900.00	1,865.21	1,847.45	1,840.60	8.17	6.73	156.51	-123.04	-167.49	455.69	442.09	13.60	33.502				
2,000.00	1,962.11	1,943.44	1,936.13	8.69	7.10	156.72	-130.91	-172.42	483.70	469.33	14.37	33.666				
2,100.00	2,059.02	2,039.42	2,031.67	9.22	7.48	156.92	-138.78	-177.34	511.71	496.57	15.13	33.813				
2,200.00	2,155.92	2,135.40	2,127.20	9.75	7.85	157.09	-146.64	-182.26	539.72	523.82	15.90	33.944				
2,300.00	2,252.83	2,231.39	2,222.73	10.28	8.22	157.24	-154.51	-187.19	567.74	551.07	16.67	34.062				
2,400.00	2,349.73	2,327.37	2,318.27	10.82	8.59	157.39	-162.38	-192.11	595.77	578.33	17.44	34.169				
2,500.00	2,446.64	2,423.35	2,413.80	11.35	8.96	157.51	-170.25	-197.03	623.79	605.59	18.20	34.267				
2,600.00	2,543.54	2,519.34	2,509.33	11.88	9.34	157.63	-178.12	-201.96	651.82	632.85	18.97	34.356				
2,700.00	2,640.45	2,615.32	2,604.87	12.42	9.71	157.74	-185.98	-206.88	679.85	660.11	19.74	34.437				
2,800.00	2,737.35	2,711.30	2,700.40	12.95	10.08	157.84	-193.85	-211.81	707.88	687.37	20.51	34.512				
2,900.00	2,834.26	2,807.29	2,795.94	13.49	10.45	157.93	-201.72	-216.73	735.92	714.64	21.28	34.582				
3,000.00	2,931.16	2,903.27	2,891.47	14.02	10.83	158.02	-209.59	-221.65	763.95	741.90	22.05	34.646				
3,100.00	3,028.07	2,999.25	2,987.00	14.56	11.20	158.09	-217.46	-226.58	791.99	769.17	22.82	34.706				
3,200.00	3,124.97	3,095.24	3,082.54	15.09	11.57	158.17	-225.32	-231.50	820.03	796.44	23.59	34.761				
3,300.00	3,221.88	3,191.22	3,178.07	15.63	11.95	158.24	-233.19	-236.42	848.07	823.71	24.36	34.813				
3,400.00	3,318.78	3,287.21	3,273.60	16.16	12.32	158.30	-241.06	-241.35	876.11	850.98	25.13	34.861				
3,500.00	3,415.69	3,383.19	3,369.14	16.70	12.69	158.36	-248.93	-246.27	904.16	878.25	25.90	34.907				
3,600.00	3,512.59	3,479.17	3,464.67	17.24	13.06	158.42	-256.80	-251.20	932.20	905.53	26.67	34.949				
3,700.00	3,609.50	3,575.16	3,560.20	17.77	13.44	158.47	-264.67	-256.12	960.24	932.80	27.44	34.990				
3,800.00	3,706.40	3,671.14	3,655.74	18.31	13.81	158.52	-272.53	-261.04	988.29	960.07	28.21	35.027				
3,900.00	3,803.31	3,767.12	3,751.27	18.85	14.18	158.57	-280.40	-265.97	1,016.33	987.35	28.99	35.063				
4,000.00	3,900.21	3,863.11	3,846.81	19.38	14.55	158.61	-288.27	-270.89	1,044.38	1,014.62	29.76	35.097				
4,100.00	3,997.12	3,959.09	3,942.34	19.92	14.93	158.66	-296.14	-275.81	1,072.42	1,041.90	30.53	35.129				
4,200.00	4,094.02	4,055.07	4,037.87	20.46	15.30	158.70	-304.01	-280.74	1,100.47	1,069.17	31.30	35.159				
4,300.00	4,190.93	4,151.06	4,133.41	20.99	15.67	158.74	-311.87	-285.66	1,128.52	1,096.45	32.07	35.188				
4,400.00	4,287.83	4,247.04	4,228.94	21.53	16.05	158.77	-319.74	-290.59	1,156.57	1,123.72	32.84	35.215				
4,500.00	4,384.74	4,343.02	4,324.47	22.07	16.42	158.81	-327.61	-295.51	1,184.61	1,151.00	33.61	35.241				
4,600.00	4,481.64	4,439.01	4,420.01	22.61	16.79	158.84	-335.48	-300.43	1,212.66	1,178.28	34.39	35.266				
4,700.00	4,578.55	4,534.99	4,515.54	23.14	17.16	158.87	-343.35	-305.36	1,240.71	1,205.55	35.16	35.290				
4,800.00	4,675.45	4,630.97	4,611.07	23.68	17.54	158.90	-351.21	-310.28	1,268.76	1,232.83	35.93	35.312				
4,900.00	4,772.36	4,726.96	4,706.61	24.22	17.91	158.93	-359.08	-315.21	1,296.81	1,260.11	36.70	35.334				
5,000.00	4,869.26	4,822.94	4,802.14	24.76	18.28	158.96	-366.95	-320.13	1,324.86	1,287.39	37.47	35.355				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4M-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,100.00	4,966.17	4,918.92	4,897.68	25.29	18.65	158.99	-374.82	-325.05	1,352.91	1,314.67	38.25	35.374		
5,200.00	5,063.07	5,014.91	4,993.21	25.83	19.03	159.01	-382.69	-329.98	1,380.96	1,341.94	39.02	35.393		
5,300.00	5,159.98	5,110.89	5,088.74	26.37	19.40	159.04	-390.55	-334.90	1,409.01	1,369.22	39.79	35.412		
5,400.00	5,256.88	5,206.87	5,184.28	26.91	19.77	159.06	-398.42	-339.82	1,437.06	1,396.50	40.56	35.429		
5,500.00	5,353.79	5,302.86	5,279.81	27.44	20.15	159.08	-406.29	-344.75	1,465.12	1,423.78	41.33	35.446		
5,600.00	5,450.69	5,398.84	5,375.34	27.98	20.52	159.10	-414.16	-349.67	1,493.17	1,451.06	42.11	35.462		

## Cathedral Energy Services

### Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft					
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft					
Reference													Semi Major Axis		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)									
0.00	0.00	0.00	0.00	0.00	0.00	-89.73	0.38	-80.02	80.02	79.74	0.28	289.902							
100.00	100.00	100.00	100.00	0.14	0.14	-89.73	0.38	-80.02	80.02	79.03	0.99	80.587							
200.00	200.00	200.00	200.00	0.50	0.50	-89.73	0.38	-80.02	80.02	78.31	1.71	46.798 CC, ES							
300.00	300.00	300.00	300.00	0.85	0.85	-89.73	0.38	-80.02	80.02	79.55	2.40	34.136							
400.00	399.98	399.50	399.48	1.20	1.20	158.74	-1.32	-80.31	81.95	84.71	3.09	28.399							
500.00	499.84	498.70	498.54	1.55	1.54	156.61	-6.41	-81.18	87.80	93.84	3.80	25.668							
600.00	599.45	597.78	597.29	1.91	1.89	153.86	-14.42	-82.54	97.65	106.31	4.53	24.474							
700.00	698.70	696.86	696.00	2.29	2.24	152.22	-22.82	-83.98	110.84	121.86	5.26	24.151 SF							
800.00	797.47	795.52	794.29	2.69	2.61	151.64	-31.19	-85.41	127.13	140.43	6.01	24.375							
900.00	895.62	893.63	892.04	3.11	2.97	151.79	-39.51	-86.82	146.44	162.02	6.76	24.967							
1,000.00	993.06	991.07	989.12	3.56	3.34	152.40	-47.77	-88.24	168.78	172.30	6.88	25.060							
1,014.60	1,007.22	1,005.24	1,003.23	3.63	3.39	152.52	-48.97	-88.44	172.30	185.56	7.52	25.688							
1,100.00	1,089.97	1,088.03	1,085.72	4.05	3.70	153.31	-55.99	-89.64	193.08	209.17	8.27	26.289							
1,200.00	1,186.87	1,184.98	1,182.31	4.54	4.07	154.04	-64.22	-91.04	217.44	232.80	9.03	26.778							
1,300.00	1,283.78	1,281.94	1,278.91	5.05	4.44	154.63	-72.44	-92.44	241.83	256.44	9.79	27.184							
1,400.00	1,380.68	1,378.89	1,375.50	5.56	4.81	155.11	-80.66	-93.85	266.24	280.10	10.56	27.526							
1,500.00	1,477.59	1,475.84	1,472.09	6.07	5.17	155.50	-88.89	-95.25	290.66	303.77	11.33	27.817							
1,600.00	1,574.49	1,572.80	1,568.69	6.59	5.54	155.84	-97.11	-96.65	315.10	327.45	12.10	28.068							
1,700.00	1,671.40	1,669.75	1,665.28	7.11	5.91	156.13	-105.33	-98.06	339.54	351.13	12.87	28.286							
1,800.00	1,768.30	1,766.70	1,761.88	7.64	6.28	156.38	-113.55	-99.46	363.99	374.81	13.64	28.478							
1,900.00	1,865.21	1,863.66	1,858.47	8.17	6.65	156.60	-121.78	-100.86	388.45	398.50	14.41	28.648							
2,000.00	1,962.11	1,960.61	1,955.06	8.69	7.02	156.79	-130.00	-102.27	412.91	422.19	15.19	28.800							
2,100.00	2,059.02	2,057.56	2,051.66	9.22	7.39	156.96	-138.22	-103.67	437.38	445.89	15.96	28.935							
2,200.00	2,155.92	2,154.52	2,148.25	9.75	7.76	157.11	-146.45	-105.07	461.85	469.58	16.74	29.058							
2,300.00	2,252.83	2,251.47	2,244.84	10.28	8.13	157.25	-154.67	-106.47	486.32	493.28	17.51	29.169							
2,400.00	2,349.73	2,348.42	2,341.44	10.82	8.50	157.37	-162.89	-107.88	510.79	516.98	18.29	29.270							
2,500.00	2,446.64	2,445.38	2,438.03	11.35	8.87	157.49	-171.11	-109.28	535.27	540.68	19.06	29.362							
2,600.00	2,543.54	2,542.33	2,534.63	11.88	9.24	157.59	-179.34	-110.68	559.75	564.38	19.84	29.446							
2,700.00	2,640.45	2,639.28	2,631.22	12.42	9.61	157.68	-187.56	-112.09	584.22	588.09	20.62	29.524							
2,800.00	2,737.35	2,736.24	2,727.81	12.95	9.98	157.77	-195.78	-113.49	608.70	611.79	21.39	29.596							
2,900.00	2,834.26	2,833.19	2,824.41	13.49	10.35	157.85	-204.00	-114.89	633.19	635.50	22.17	29.663							
3,000.00	2,931.16	2,930.14	2,921.00	14.02	10.72	157.92	-212.23	-116.30	657.67	659.20	22.95	29.725							
3,100.00	3,028.07	3,027.10	3,017.59	14.56	11.09	157.99	-220.45	-117.70	682.15	682.91	23.73	29.782							
3,200.00	3,124.97	3,124.05	3,114.19	15.09	11.46	158.06	-228.67	-119.10	706.64	706.62	24.50	29.836							
3,300.00	3,221.88	3,221.00	3,210.78	15.63	11.83	158.12	-236.90	-120.51	731.12	730.33	25.28	29.887							
3,400.00	3,318.78	3,317.96	3,307.38	16.16	12.21	158.17	-245.12	-121.91	755.61	754.04	26.06	29.934							
3,500.00	3,415.69	3,414.91	3,403.97	16.70	12.58	158.22	-253.34	-123.31	780.10	777.74	26.84	29.978							
3,600.00	3,512.59	3,511.86	3,500.56	17.24	12.95	158.27	-261.56	-124.71	804.58	801.45	27.62	30.020							
3,700.00	3,609.50	3,608.82	3,597.16	17.77	13.32	158.32	-269.79	-126.12	829.07	825.16	28.40	30.059							
3,800.00	3,706.40	3,705.77	3,693.75	18.31	13.69	158.36	-278.01	-127.52	853.56	848.87	29.17	30.096							
3,900.00	3,803.31	3,802.72	3,790.34	18.85	14.06	158.40	-286.23	-128.92	878.05	872.58	29.95	30.131							
4,000.00	3,900.21	3,899.68	3,886.94	19.38	14.43	158.44	-294.46	-130.33	902.54	896.30	30.73	30.165							
4,100.00	3,997.12	3,996.63	3,983.53	19.92	14.80	158.48	-302.68	-131.73	927.03	920.01	31.51	30.196							
4,200.00	4,094.02	4,093.58	4,080.13	20.46	15.17	158.51	-310.90	-133.13	951.52	943.72	32.29	30.226							
4,300.00	4,190.93	4,190.54	4,176.72	20.99	15.54	158.55	-319.12	-134.54	976.01	967.43	33.07	30.255							
4,400.00	4,287.83	4,287.49	4,273.31	21.53	15.91	158.58	-327.35	-135.94	1,000.50	991.14	33.85	30.282							
4,500.00	4,384.74	4,384.44	4,369.91	22.07	16.29	158.61	-335.57	-137.34	1,024.99	1,014.85	34.63	30.308							
4,600.00	4,481.64	4,481.40	4,466.50	22.61	16.66	158.64	-343.79	-138.74	1,049.48	1,038.56	35.41	30.333							
4,700.00	4,578.55	4,578.35	4,563.10	23.14	17.03	158.66	-352.01	-140.15	1,073.97	1,062.28	36.19	30.356							
4,800.00	4,675.45	4,675.30	4,659.69	23.68	17.40	158.69	-360.24	-141.55	1,098.46	1,085.99	36.97	30.379							
4,900.00	4,772.36	4,772.26	4,756.28	24.22	17.77	158.72	-368.46	-142.95	1,122.95	1,109.70	37.74	30.400							
5,000.00	4,869.26	4,869.21	4,852.88	24.76	18.14	158.74	-376.68	-144.36	1,147.45										

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
S32-T2N-R68W - HWY52 4N-32H-O268 - OH - PLAN #2														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
5,100.00	4,966.17	4,966.16	4,949.47	25.29	18.51	158.76	-384.91	-145.76	1,171.94	1,133.41	38.52	30.421		
5,200.00	5,063.07	5,063.12	5,046.06	25.83	18.88	158.78	-393.13	-147.16	1,196.43	1,157.13	39.30	30.441		
5,300.00	5,159.98	5,160.07	5,142.66	26.37	19.25	158.81	-401.35	-148.57	1,220.92	1,180.84	40.08	30.460		
5,400.00	5,256.88	5,257.02	5,239.25	26.91	19.63	158.83	-409.57	-149.97	1,245.41	1,204.55	40.86	30.478		
5,500.00	5,353.79	5,353.98	5,335.85	27.44	20.00	158.85	-417.80	-151.37	1,269.91	1,228.26	41.64	30.495		
5,600.00	5,450.69	5,450.93	5,432.44	27.98	20.37	158.86	-426.02	-152.77	1,294.40	1,251.98	42.42	30.512		
5,700.00	5,547.60	5,547.88	5,529.03	28.52	20.74	158.88	-434.24	-154.18	1,318.89	1,275.69	43.20	30.528		
5,800.00	5,644.50	5,644.84	5,625.63	29.06	21.11	158.90	-442.47	-155.58	1,343.39	1,299.40	43.98	30.544		
5,900.00	5,741.41	5,741.79	5,722.22	29.60	21.48	158.92	-450.69	-156.98	1,367.88	1,323.12	44.76	30.559		
6,000.00	5,838.31	5,838.74	5,818.81	30.13	21.85	158.93	-458.91	-158.39	1,392.37	1,346.83	45.54	30.573		
6,100.00	5,935.22	5,935.70	5,915.41	30.67	22.22	158.95	-467.13	-159.79	1,416.87	1,370.54	46.32	30.587		
6,200.00	6,032.12	6,032.65	6,012.00	31.21	22.59	158.96	-475.36	-161.19	1,441.36	1,394.26	47.10	30.601		
6,300.00	6,129.03	6,129.60	6,108.60	31.75	22.97	158.98	-483.58	-162.60	1,465.85	1,417.97	47.88	30.614		
6,400.00	6,225.93	6,226.56	6,205.19	32.29	23.34	158.99	-491.80	-164.00	1,490.35	1,441.68	48.66	30.626		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4O-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft	
Reference				Offset				Semi Major Axis		Distance			Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-89.70	0.36	-69.95	69.95						
100.00	100.00	100.00	100.00	0.14	0.14	-89.70	0.36	-69.95	69.95	69.67		0.28	253.412		
200.00	200.00	200.00	200.00	0.50	0.50	-89.70	0.36	-69.95	69.95	68.95		0.99	70.443		
300.00	300.00	300.00	300.58	0.85	0.84	-91.11	-1.34	-69.49	69.51	67.81		1.70	40.887		
332.07	332.07	332.83	332.79	0.97	0.96	157.15	-2.61	-69.15	69.37	67.45		1.92	36.054 CC, ES		
400.00	399.98	401.01	400.85	1.20	1.20	154.47	-6.45	-68.13	70.01	67.61		2.40	29.211		
500.00	499.84	500.95	500.45	1.55	1.55	149.97	-14.27	-66.04	73.52	70.42		3.11	23.678		
600.00	599.45	600.64	599.79	1.91	1.92	147.07	-22.33	-63.89	80.33	76.50		3.83	20.966		
700.00	698.70	700.13	698.94	2.29	2.29	145.86	-30.38	-61.74	90.17	85.60		4.57	19.728		
800.00	797.47	799.32	797.77	2.69	2.66	145.96	-38.40	-59.60	102.90	97.58		5.32	19.341 SF		
900.00	895.62	898.06	896.17	3.11	3.04	146.92	-46.38	-57.46	118.51	112.43		6.08	19.495		
1,000.00	993.06	996.25	994.02	3.56	3.41	148.38	-54.32	-55.34	137.07	130.23		6.85	20.025		
1,014.60	1,007.22	1,010.53	1,008.25	3.63	3.46	148.62	-55.48	-55.04	140.04	133.08		6.96	20.116		
1,100.00	1,089.97	1,094.03	1,091.45	4.05	3.78	150.03	-62.23	-53.23	157.61	149.99		7.61	20.699		
1,200.00	1,186.87	1,191.80	1,188.88	4.54	4.15	151.32	-70.13	-51.12	178.28	169.89		8.38	21.271		
1,300.00	1,283.78	1,289.57	1,286.31	5.05	4.52	152.35	-78.04	-49.01	199.01	189.86		9.15	21.747		
1,400.00	1,380.68	1,387.34	1,383.73	5.56	4.89	153.18	-85.95	-46.90	219.80	209.87		9.92	22.150		
1,500.00	1,477.59	1,485.11	1,481.16	6.07	5.26	153.87	-93.85	-44.79	240.62	229.92		10.70	22.495		
1,600.00	1,574.49	1,582.88	1,578.59	6.59	5.64	154.45	-101.76	-42.68	261.47	250.00		11.47	22.793		
1,700.00	1,671.40	1,680.65	1,676.02	7.11	6.01	154.95	-109.66	-40.57	282.34	270.10		12.25	23.053		
1,800.00	1,768.30	1,778.42	1,773.44	7.64	6.38	155.37	-117.57	-38.46	303.23	290.21		13.02	23.283		
1,900.00	1,865.21	1,876.19	1,870.87	8.17	6.75	155.74	-125.47	-36.34	324.14	310.33		13.80	23.486		
2,000.00	1,962.11	1,973.96	1,968.30	8.69	7.12	156.07	-133.38	-34.23	345.05	330.47		14.58	23.668		
2,100.00	2,059.02	2,071.73	2,065.73	9.22	7.50	156.36	-141.29	-32.12	365.98	350.62		15.36	23.831		
2,200.00	2,155.92	2,169.50	2,163.16	9.75	7.87	156.62	-149.19	-30.01	386.91	370.77		16.14	23.978		
2,300.00	2,252.83	2,267.27	2,260.58	10.28	8.24	156.85	-157.10	-27.90	407.85	390.93		16.91	24.112		
2,400.00	2,349.73	2,365.04	2,358.01	10.82	8.62	157.06	-165.00	-25.79	428.79	411.10		17.69	24.234		
2,500.00	2,446.64	2,462.82	2,455.44	11.35	8.99	157.25	-172.91	-23.68	449.74	431.27		18.47	24.346		
2,600.00	2,543.54	2,560.59	2,552.87	11.88	9.36	157.42	-180.82	-21.57	470.70	451.44		19.25	24.448		
2,700.00	2,640.45	2,658.36	2,650.29	12.42	9.73	157.58	-188.72	-19.46	491.65	471.62		20.03	24.542		
2,800.00	2,737.35	2,756.13	2,747.72	12.95	10.11	157.72	-196.63	-17.35	512.62	491.80		20.81	24.630		
2,900.00	2,834.26	2,853.90	2,845.15	13.49	10.48	157.85	-204.53	-15.23	533.58	511.99		21.59	24.711		
3,000.00	2,931.16	2,951.67	2,942.58	14.02	10.85	157.98	-212.44	-13.12	554.55	532.17		22.37	24.786		
3,100.00	3,028.07	3,049.44	3,040.00	14.56	11.22	158.09	-220.34	-11.01	575.51	552.36		23.15	24.856		
3,200.00	3,124.97	3,147.21	3,137.43	15.09	11.60	158.20	-228.25	-8.90	596.49	572.55		23.93	24.922		
3,300.00	3,221.88	3,244.98	3,234.86	15.63	11.97	158.30	-236.16	-6.79	617.46	592.74		24.72	24.983		
3,400.00	3,318.78	3,342.75	3,332.29	16.16	12.34	158.39	-244.06	-4.68	638.43	612.94		25.50	25.041		
3,500.00	3,415.69	3,440.52	3,429.71	16.70	12.72	158.48	-251.97	-2.57	659.41	633.13		26.28	25.095		
3,600.00	3,512.59	3,538.29	3,527.14	17.24	13.09	158.56	-259.87	-0.46	680.39	653.33		27.06	25.146		
3,700.00	3,609.50	3,636.06	3,624.57	17.77	13.46	158.63	-267.78	1.65	701.36	673.53		27.84	25.194		
3,800.00	3,706.40	3,733.83	3,722.00	18.31	13.83	158.71	-275.69	3.76	722.34	693.72		28.62	25.239		
3,900.00	3,803.31	3,831.60	3,819.42	18.85	14.21	158.77	-283.59	5.88	743.32	713.92		29.40	25.282		
4,000.00	3,900.21	3,929.37	3,916.85	19.38	14.58	158.84	-291.50	7.99	764.31	734.12		30.18	25.323		
4,100.00	3,997.12	4,027.15	4,014.28	19.92	14.95	158.90	-299.40	10.10	785.29	754.33		30.96	25.362		
4,200.00	4,094.02	4,124.92	4,111.71	20.46	15.33	158.96	-307.31	12.21	806.27	774.53		31.74	25.399		
4,300.00	4,190.93	4,222.69	4,209.13	20.99	15.70	159.01	-315.21	14.32	827.26	794.73		32.53	25.434		
4,400.00	4,287.83	4,320.46	4,306.56	21.53	16.07	159.06	-323.12	16.43	848.24	814.93		33.31	25.467		
4,500.00	4,384.74	4,418.23	4,403.99	22.07	16.44	159.11	-331.03	18.54	869.23	835.14		34.09	25.499		
4,600.00	4,481.64	4,516.00	4,501.42	22.61	16.82	159.16	-338.93	20.65	890.21	855.34		34.87	25.529		
4,700.00	4,578.55	4,613.77	4,598.84	23.14	17.19	159.21	-346.84	22.76	911.20	875.55		35.65	25.558		
4,800.00	4,675.45	4,711.54	4,696.27	23.68	17.56	159.25	-354.74	24.88	932.19	895.75		36.43	25.586		
4,900.00	4,772.36	4,809.31	4,793.70	24.22	17.94	159.29	-362.65	26.99	953.17	915.96		37.22	25.612		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
5,000.00	4,869.26	4,907.08	4,891.13	24.76	18.31	159.33	-370.56	29.10	974.16	936.16	38.00	25.638			
5,100.00	4,966.17	5,004.85	4,988.55	25.29	18.68	159.37	-378.46	31.21	995.15	956.37	38.78	25.662			
5,200.00	5,063.07	5,102.62	5,085.98	25.83	19.06	159.40	-386.37	33.32	1,016.14	976.58	39.56	25.686			
5,300.00	5,159.98	5,200.39	5,183.41	26.37	19.43	159.44	-394.27	35.43	1,037.13	996.78	40.34	25.708			
5,400.00	5,256.88	5,298.16	5,280.84	26.91	19.80	159.47	-402.18	37.54	1,058.12	1,016.99	41.12	25.730			
5,500.00	5,353.79	5,395.93	5,378.27	27.44	20.17	159.50	-410.08	39.65	1,079.11	1,037.20	41.91	25.751			
5,600.00	5,450.69	5,493.70	5,475.69	27.98	20.55	159.53	-417.99	41.76	1,100.10	1,057.41	42.69	25.771			
5,700.00	5,547.60	5,591.47	5,573.12	28.52	20.92	159.56	-425.90	43.87	1,121.09	1,077.62	43.47	25.790			
5,800.00	5,644.50	5,689.25	5,670.55	29.06	21.29	159.59	-433.80	45.99	1,142.08	1,097.83	44.25	25.809			
5,900.00	5,741.41	5,787.02	5,767.98	29.60	21.67	159.62	-441.71	48.10	1,163.07	1,118.03	45.03	25.827			
6,000.00	5,838.31	5,884.79	5,865.40	30.13	22.04	159.65	-449.61	50.21	1,184.06	1,138.24	45.82	25.844			
6,100.00	5,935.22	5,982.56	5,962.83	30.67	22.41	159.67	-457.52	52.32	1,205.05	1,158.45	46.60	25.861			
6,200.00	6,032.12	6,080.33	6,060.26	31.21	22.79	159.70	-465.43	54.43	1,226.04	1,178.66	47.38	25.877			
6,300.00	6,129.03	6,178.10	6,157.69	31.75	23.16	159.72	-473.33	56.54	1,247.03	1,198.87	48.16	25.893			
6,400.00	6,225.93	6,275.87	6,255.11	32.29	23.53	159.74	-481.24	58.65	1,268.03	1,219.08	48.94	25.908			
6,500.00	6,322.84	6,373.64	6,352.54	32.83	23.91	159.77	-489.14	60.76	1,289.02	1,239.29	49.73	25.922			
6,600.00	6,419.74	6,471.41	6,449.97	33.36	24.28	159.79	-497.05	62.87	1,310.01	1,259.50	50.51	25.937			
6,700.00	6,516.65	6,569.18	6,547.40	33.90	24.65	159.81	-504.95	64.98	1,331.00	1,279.71	51.29	25.950			
6,800.00	6,613.55	6,666.95	6,644.82	34.44	25.02	159.83	-512.86	67.10	1,352.00	1,299.92	52.07	25.964			
6,865.63	6,677.15	6,731.12	6,708.77	34.79	25.27	159.84	-518.05	68.48	1,365.77	1,313.19	52.59	25.972			
6,900.00	6,710.52	6,764.71	6,742.24	34.98	25.40	171.13	-520.77	69.21	1,372.98	1,320.13	52.85	25.977			
6,950.00	6,759.15	6,813.44	6,790.80	35.22	25.58	-171.51	-524.71	70.26	1,383.45	1,330.20	53.24	25.984			
7,000.00	6,807.67	6,861.79	6,838.97	35.45	25.77	-155.44	-528.61	71.30	1,393.85	1,340.23	53.63	25.992			
7,050.00	6,855.86	6,909.51	6,886.53	35.66	25.95	-142.40	-532.47	72.33	1,404.21	1,350.20	54.01	26.000			
7,100.00	6,903.48	6,956.93	6,933.87	35.84	26.12	-132.50	-534.71	73.36	1,414.53	1,360.16	54.37	26.017			
7,150.00	6,950.29	7,005.17	6,982.09	36.01	26.28	-125.10	-533.76	74.40	1,424.79	1,370.08	54.70	26.045			
7,200.00	6,996.07	7,054.31	7,031.02	36.16	26.42	-119.50	-529.47	75.45	1,434.94	1,379.92	55.02	26.082			
7,250.00	7,040.60	7,104.41	7,080.48	36.29	26.55	-115.21	-521.64	76.50	1,444.92	1,389.61	55.31	26.122			
7,300.00	7,083.65	7,155.54	7,130.28	36.40	26.68	-111.84	-510.11	77.56	1,454.70	1,399.11	55.59	26.166			
7,350.00	7,125.01	7,207.79	7,180.17	36.50	26.80	-109.16	-494.68	78.62	1,464.23	1,408.37	55.86	26.213			
7,400.00	7,164.50	7,261.20	7,229.88	36.58	26.92	-106.99	-475.20	79.67	1,473.44	1,417.33	56.11	26.260			
7,450.00	7,201.91	7,315.85	7,279.09	36.65	27.04	-105.21	-451.49	80.70	1,482.28	1,425.94	56.34	26.308			
7,500.00	7,237.05	7,371.80	7,327.45	36.70	27.15	-103.75	-423.40	81.71	1,490.72	1,434.15	56.56	26.355			
7,550.00	7,269.77	7,429.07	7,374.52	36.74	27.26	-102.55	-390.83	82.68	1,498.68	1,441.91	56.77	26.398			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4P-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)				Between Ellipses (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	-89.67	0.35	-59.87	59.88	59.60	0.28	216.921		
100.00	100.00	100.00	100.00	0.14	0.14	-89.67	0.35	-59.87	59.88	58.88	0.99	60.299		
200.00	200.00	200.00	200.00	0.50	0.50	-89.67	0.35	-59.87	59.88	58.17	1.71	35.017	CC, ES	
300.00	300.00	300.00	300.00	0.85	0.85	-89.67	0.35	-59.87	59.88	58.17	1.71	35.017	CC, ES	
400.00	399.98	399.98	399.98	1.20	1.21	160.14	0.35	-59.87	61.51	59.10	2.42	25.449		
500.00	499.84	499.84	499.84	1.55	1.57	161.64	0.35	-59.87	66.46	63.34	3.12	21.268		
600.00	599.45	599.45	599.45	1.91	1.93	163.70	0.35	-59.87	74.78	70.94	3.84	19.477		
700.00	698.70	698.70	698.70	2.29	2.28	165.90	0.35	-59.87	86.55	81.99	4.56	18.988		
800.00	797.47	797.47	797.47	2.69	2.64	167.98	0.35	-59.87	101.80	96.52	5.28	19.283		
900.00	895.62	895.62	895.62	3.11	2.99	169.80	0.35	-59.87	120.54	114.54	6.00	20.084		
1,000.00	993.06	995.82	995.80	3.56	3.33	170.84	-1.12	-59.23	141.84	135.12	6.72	21.101		
1,014.60	1,007.22	1,010.49	1,010.46	3.63	3.38	170.88	-1.61	-59.02	145.07	138.24	6.83	21.234		
1,100.00	1,089.97	1,096.59	1,096.44	4.05	3.67	170.74	-5.83	-57.18	163.32	155.88	7.44	21.954		
1,200.00	1,186.87	1,197.86	1,197.33	4.54	4.01	169.75	-13.83	-53.70	182.87	174.70	8.17	22.389		
1,300.00	1,283.78	1,296.02	1,294.97	5.05	4.35	168.62	-22.94	-49.73	201.63	192.74	8.89	22.678		
1,400.00	1,380.68	1,394.17	1,392.62	5.56	4.69	167.68	-32.06	-45.75	220.46	210.83	9.62	22.905		
1,500.00	1,477.59	1,492.32	1,490.27	6.07	5.05	166.89	-41.17	-41.78	239.34	228.97	10.37	23.084		
1,600.00	1,574.49	1,590.47	1,587.92	6.59	5.40	166.22	-50.29	-37.81	258.25	247.13	11.12	23.228		
1,700.00	1,671.40	1,688.63	1,685.57	7.11	5.76	165.63	-59.40	-33.84	277.19	265.32	11.87	23.344		
1,800.00	1,768.30	1,786.78	1,783.21	7.64	6.13	165.12	-68.52	-29.87	296.16	283.53	12.64	23.439		
1,900.00	1,865.21	1,884.93	1,880.86	8.17	6.49	164.68	-77.63	-25.89	315.15	301.75	13.40	23.518		
2,000.00	1,962.11	1,983.09	1,978.51	8.69	6.86	164.28	-86.75	-21.92	334.15	319.98	14.17	23.583		
2,100.00	2,059.02	2,081.24	2,076.16	9.22	7.23	163.92	-95.86	-17.95	353.17	338.23	14.94	23.638		
2,200.00	2,155.92	2,179.39	2,173.81	9.75	7.60	163.61	-104.98	-13.98	372.20	356.48	15.72	23.684		
2,300.00	2,252.83	2,277.54	2,271.45	10.28	7.97	163.32	-114.10	-10.01	391.24	374.75	16.49	23.723		
2,400.00	2,349.73	2,375.70	2,369.10	10.82	8.34	163.06	-123.21	-6.03	410.29	393.02	17.27	23.756		
2,500.00	2,446.64	2,473.85	2,466.75	11.35	8.72	162.82	-132.33	-2.06	429.34	411.29	18.05	23.785		
2,600.00	2,543.54	2,572.00	2,564.40	11.88	9.09	162.61	-141.44	1.91	448.40	429.57	18.83	23.810		
2,700.00	2,640.45	2,670.16	2,662.05	12.42	9.47	162.41	-150.56	5.88	467.47	447.85	19.62	23.831		
2,800.00	2,737.35	2,768.31	2,759.69	12.95	9.84	162.22	-159.67	9.85	486.54	466.14	20.40	23.849		
2,900.00	2,834.26	2,866.46	2,857.34	13.49	10.22	162.05	-168.79	13.83	505.62	484.43	21.19	23.866		
3,000.00	2,931.16	2,964.61	2,954.99	14.02	10.60	161.89	-177.90	17.80	524.70	502.73	21.97	23.880		
3,100.00	3,028.07	3,062.77	3,052.64	14.56	10.97	161.75	-187.02	21.77	543.79	521.03	22.76	23.892		
3,200.00	3,124.97	3,160.92	3,150.29	15.09	11.35	161.61	-196.13	25.74	562.87	539.33	23.55	23.903		
3,300.00	3,221.88	3,259.07	3,247.93	15.63	11.73	161.48	-205.25	29.71	581.96	557.63	24.34	23.913		
3,400.00	3,318.78	3,357.23	3,345.58	16.16	12.11	161.36	-214.36	33.69	601.06	575.93	25.13	23.922		
3,500.00	3,415.69	3,455.38	3,443.23	16.70	12.49	161.25	-223.48	37.66	620.15	594.24	25.92	23.929		
3,600.00	3,512.59	3,553.53	3,540.88	17.24	12.87	161.15	-232.59	41.63	639.25	612.54	26.71	23.936		
3,700.00	3,609.50	3,651.68	3,638.53	17.77	13.25	161.05	-241.71	45.60	658.35	630.85	27.50	23.942		
3,800.00	3,706.40	3,749.84	3,736.17	18.31	13.63	160.95	-250.82	49.57	677.45	649.16	28.29	23.947		
3,900.00	3,803.31	3,847.99	3,833.82	18.85	14.01	160.87	-259.94	53.55	696.56	667.47	29.08	23.952		
4,000.00	3,900.21	3,946.14	3,931.47	19.38	14.39	160.78	-269.05	57.52	715.66	685.79	29.87	23.956		
4,100.00	3,997.12	4,044.30	4,029.12	19.92	14.77	160.70	-278.17	61.49	734.77	704.10	30.67	23.960		
4,200.00	4,094.02	4,142.45	4,126.76	20.46	15.15	160.63	-287.29	65.46	753.87	722.41	31.46	23.964		
4,300.00	4,190.93	4,240.60	4,224.41	20.99	15.53	160.56	-296.40	69.43	772.98	740.73	32.25	23.967		
4,400.00	4,287.83	4,338.75	4,322.06	21.53	15.91	160.49	-305.52	73.41	792.09	759.05	33.05	23.970		
4,500.00	4,384.74	4,436.91	4,419.71	22.07	16.29	160.42	-314.63	77.38	811.20	777.36	33.84	23.972		
4,600.00	4,481.64	4,535.06	4,517.36	22.61	16.67	160.36	-323.75	81.35	830.31	795.68	34.63	23.974		
4,700.00	4,578.55	4,633.21	4,615.00	23.14	17.05	160.30	-332.86	85.32	849.43	814.00	35.43	23.976		
4,800.00	4,675.45	4,731.37	4,712.65	23.68	17.43	160.24	-341.98	89.29	868.54	832.32	36.22	23.978		
4,900.00	4,772.36	4,829.52	4,810.30	24.22	17.82	160.19	-351.09	93.27	887.65	850.64	37.02	23.979		
5,000.00	4,869.26	4,927.67	4,907.95	24.76	18.20	160.14	-360.21	97.24	906.77	868.96	37.81	23.981		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4P-32H-O268 - OH - PLAN #2												Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.00	4,966.17	5,025.82	5,005.60	25.29	18.58	160.09	-369.32	101.21	925.88	887.28	38.61	23.982	
5,200.00	5,063.07	5,123.98	5,103.24	25.83	18.96	160.04	-378.44	105.18	945.00	905.60	39.40	23.983	
5,300.00	5,159.98	5,222.13	5,200.89	26.37	19.34	159.99	-387.55	109.16	964.12	923.92	40.20	23.984	
5,400.00	5,256.88	5,320.28	5,298.54	26.91	19.72	159.95	-396.67	113.13	983.23	942.24	40.99	23.985	
5,500.00	5,353.79	5,418.44	5,396.19	27.44	20.11	159.91	-405.78	117.10	1,002.35	960.56	41.79	23.986	
5,600.00	5,450.69	5,516.59	5,493.84	27.98	20.49	159.87	-414.90	121.07	1,021.47	978.89	42.59	23.986	
5,700.00	5,547.60	5,614.74	5,591.48	28.52	20.87	159.83	-424.01	125.04	1,040.59	997.21	43.38	23.987	
5,800.00	5,644.50	5,712.89	5,689.13	29.06	21.25	159.79	-433.13	129.02	1,059.71	1,015.53	44.18	23.987	
5,900.00	5,741.41	5,811.05	5,786.78	29.60	21.64	159.75	-442.24	132.99	1,078.83	1,033.86	44.97	23.988	
6,000.00	5,838.31	5,909.20	5,884.43	30.13	22.02	159.72	-451.36	136.96	1,097.95	1,052.18	45.77	23.988	
6,100.00	5,935.22	6,007.35	5,982.08	30.67	22.40	159.68	-460.48	140.93	1,117.07	1,070.50	46.57	23.989	
6,200.00	6,032.12	6,105.51	6,079.72	31.21	22.78	159.65	-469.59	144.90	1,136.19	1,088.83	47.36	23.989	
6,300.00	6,129.03	6,203.66	6,177.37	31.75	23.17	159.62	-478.71	148.88	1,155.31	1,107.15	48.16	23.989	
6,400.00	6,225.93	6,301.81	6,275.02	32.29	23.55	159.59	-487.82	152.85	1,174.43	1,125.48	48.96	23.989	
6,500.00	6,322.84	6,399.96	6,372.67	32.83	23.93	159.56	-496.94	156.82	1,193.56	1,143.80	49.75	23.989	
6,600.00	6,419.74	6,498.12	6,470.32	33.36	24.31	159.53	-506.05	160.79	1,212.68	1,162.13	50.55	23.989	
6,700.00	6,516.65	6,596.27	6,567.96	33.90	24.70	159.50	-515.17	164.76	1,231.80	1,180.45	51.35	23.989	
6,800.00	6,613.55	6,694.42	6,665.61	34.44	25.08	159.47	-524.28	168.74	1,250.92	1,198.78	52.15	23.989	
6,865.63	6,677.15	6,758.84	6,729.70	34.79	25.33	159.46	-530.26	171.34	1,263.48	1,210.81	52.67	23.989	
6,900.00	6,710.52	6,792.36	6,763.05	34.98	25.46	170.68	-533.31	172.70	1,270.05	1,217.11	52.94	23.990	
6,950.00	6,759.15	6,840.54	6,811.14	35.22	25.63	-171.97	-535.48	174.65	1,279.63	1,226.32	53.31	24.005	
7,000.00	6,807.67	6,888.86	6,859.39	35.45	25.79	-155.76	-534.40	176.61	1,289.19	1,235.55	53.64	24.035	
7,050.00	6,855.86	6,937.33	6,907.62	35.66	25.93	-142.46	-530.06	178.56	1,298.69	1,244.75	53.94	24.077	
7,100.00	6,903.48	6,985.97	6,955.61	35.84	26.07	-132.26	-522.42	180.50	1,308.08	1,253.86	54.22	24.127	
7,150.00	6,950.29	7,034.81	7,003.16	36.01	26.19	-124.55	-511.50	182.41	1,317.31	1,262.84	54.47	24.183	
7,200.00	6,996.07	7,083.87	7,050.06	36.16	26.31	-118.66	-497.28	184.30	1,326.35	1,271.63	54.71	24.243	
7,250.00	7,040.60	7,133.15	7,096.10	36.29	26.42	-114.06	-479.80	186.14	1,335.14	1,280.21	54.93	24.305	
7,300.00	7,083.65	7,182.69	7,141.05	36.40	26.52	-110.40	-459.08	187.94	1,343.65	1,288.51	55.14	24.369	
7,350.00	7,125.01	7,232.49	7,184.68	36.50	26.61	-107.43	-435.17	189.68	1,351.83	1,296.50	55.33	24.431	
7,400.00	7,164.50	7,282.56	7,226.77	36.58	26.71	-104.98	-408.12	191.35	1,359.65	1,304.13	55.52	24.490	
7,450.00	7,201.91	7,332.91	7,267.09	36.65	26.79	-102.93	-378.03	192.95	1,367.07	1,311.37	55.70	24.545	
7,500.00	7,237.05	7,383.54	7,305.41	36.70	26.88	-101.21	-344.98	194.46	1,374.04	1,318.17	55.87	24.592	
7,550.00	7,269.77	7,434.47	7,341.50	36.74	26.97	-99.75	-309.09	195.88	1,380.54	1,324.49	56.05	24.631	
7,600.00	7,299.90	7,485.68	7,375.13	36.77	27.05	-98.51	-270.50	197.20	1,386.54	1,330.31	56.23	24.658	
7,650.00	7,327.30	7,537.18	7,406.08	36.79	27.15	-97.47	-229.38	198.40	1,392.00	1,335.58	56.42	24.671	
7,700.00	7,351.82	7,588.95	7,434.14	36.80	27.25	-96.59	-185.90	199.49	1,396.89	1,340.27	56.62	24.670	
7,750.00	7,373.35	7,640.97	7,459.11	36.80	27.36	-95.86	-140.28	200.44	1,401.20	1,344.36	56.84	24.651	
7,800.00	7,391.79	7,693.24	7,480.79	36.79	27.48	-95.26	-92.74	201.26	1,404.89	1,347.81	57.08	24.614	
7,850.00	7,407.05	7,745.73	7,499.02	36.77	27.61	-94.79	-43.54	201.94	1,407.96	1,350.62	57.34	24.556	
7,900.00	7,419.05	7,798.41	7,513.65	36.75	27.76	-94.44	7.06	202.47	1,410.37	1,352.76	57.62	24.478	
7,950.00	7,427.73	7,851.27	7,524.55	36.73	27.93	-94.20	58.77	202.85	1,412.13	1,354.21	57.93	24.378	
8,000.00	7,433.05	7,904.27	7,531.63	36.70	28.11	-94.07	111.28	203.07	1,413.22	1,354.96	58.26	24.256	
8,053.55	7,435.00	7,961.15	7,534.89	36.67	28.33	-94.05	168.06	203.13	1,413.64	1,354.99	58.65	24.103	
8,100.00	7,435.00	8,008.36	7,535.00	36.64	28.52	-94.06	215.26	203.08	1,413.64	1,354.64	59.01	23.957	
8,200.00	7,435.00	8,108.36	7,535.00	36.61	28.99	-94.06	315.26	202.96	1,413.64	1,353.76	59.88	23.607	
8,300.00	7,435.00	8,208.36	7,535.00	36.60	29.54	-94.06	415.26	202.83	1,413.64	1,352.73	60.91	23.208	
8,400.00	7,435.00	8,308.36	7,535.00	36.63	30.16	-94.06	515.26	202.71	1,413.65	1,351.56	62.09	22.769	
8,500.00	7,435.00	8,408.36	7,535.00	36.70	30.85	-94.06	615.26	202.58	1,413.65	1,350.25	63.40	22.298	
8,600.00	7,435.00	8,508.36	7,535.00	36.82	31.61	-94.06	715.26	202.46	1,413.65	1,348.81	64.84	21.803	
8,700.00	7,435.00	8,608.36	7,535.00	37.02	32.43	-94.06	815.26	202.34	1,413.65	1,347.25	66.40	21.291	
8,800.00	7,435.00	8,708.36	7,535.00	37.33	33.31	-94.06	915.26	202.21	1,413.65	1,345.58	68.07	20.768	
8,900.00	7,435.00	8,808.36	7,535.00	37.77	34.23	-94.06	1,015.26	202.09	1,413.65	1,343.81	69.84	20.240	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4P-32H-O268 - OH - PLAN #2														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
9,000.00	7,435.00	8,908.36	7,535.00	38.34	35.21	-94.06	1,115.26	201.96	1,413.65	1,341.94	71.72	19.712			
9,100.00	7,435.00	9,008.36	7,535.00	39.03	36.22	-94.06	1,215.26	201.84	1,413.65	1,339.98	73.68	19.187			
9,200.00	7,435.00	9,108.36	7,535.00	39.84	37.28	-94.06	1,315.26	201.72	1,413.66	1,337.94	75.72	18.670			
9,300.00	7,435.00	9,208.36	7,535.00	40.73	38.38	-94.06	1,415.26	201.59	1,413.66	1,335.82	77.84	18.162			
9,400.00	7,435.00	9,308.36	7,535.00	41.69	39.50	-94.06	1,515.26	201.47	1,413.66	1,333.63	80.03	17.665			
9,500.00	7,435.00	9,408.36	7,535.00	42.70	40.66	-94.06	1,615.26	201.34	1,413.66	1,331.38	82.28	17.182			
9,600.00	7,435.00	9,508.36	7,535.00	43.77	41.85	-94.06	1,715.26	201.22	1,413.66	1,329.07	84.59	16.712			
9,700.00	7,435.00	9,608.36	7,535.00	44.87	43.06	-94.06	1,815.26	201.09	1,413.66	1,326.71	86.95	16.258			
9,800.00	7,435.00	9,708.36	7,535.00	46.01	44.29	-94.06	1,915.26	200.97	1,413.66	1,324.29	89.37	15.818			
9,900.00	7,435.00	9,808.36	7,535.00	47.17	45.55	-94.06	2,015.26	200.85	1,413.66	1,321.83	91.83	15.394			
10,000.00	7,435.00	9,908.36	7,535.00	48.37	46.83	-94.06	2,115.26	200.72	1,413.66	1,319.33	94.33	14.986			
10,100.00	7,435.00	10,008.36	7,535.00	49.59	48.13	-94.06	2,215.26	200.60	1,413.67	1,316.79	96.87	14.593			
10,200.00	7,435.00	10,108.36	7,535.00	50.83	49.44	-94.06	2,315.26	200.47	1,413.67	1,314.21	99.45	14.214			
10,300.00	7,435.00	10,208.36	7,535.00	52.09	50.77	-94.06	2,415.26	200.35	1,413.67	1,311.60	102.07	13.851			
10,400.00	7,435.00	10,308.36	7,535.00	53.37	52.11	-94.06	2,515.26	200.23	1,413.67	1,308.96	104.71	13.501			
10,500.00	7,435.00	10,408.36	7,535.00	54.66	53.47	-94.06	2,615.26	200.10	1,413.67	1,306.29	107.38	13.165			
10,600.00	7,435.00	10,508.36	7,535.00	55.97	54.84	-94.06	2,715.26	199.98	1,413.67	1,303.59	110.08	12.843			
10,700.00	7,435.00	10,608.36	7,535.00	57.30	56.22	-94.06	2,815.26	199.85	1,413.67	1,300.87	112.80	12.533			
10,800.00	7,435.00	10,708.36	7,535.00	58.64	57.61	-94.06	2,915.26	199.73	1,413.67	1,298.13	115.55	12.235			
10,900.00	7,435.00	10,808.36	7,535.00	59.99	59.01	-94.06	3,015.26	199.61	1,413.67	1,295.36	118.31	11.949			
11,000.00	7,435.00	10,908.36	7,535.00	61.35	60.42	-94.06	3,115.26	199.48	1,413.68	1,292.58	121.10	11.674			
11,100.00	7,435.00	11,008.36	7,535.00	62.73	61.84	-94.06	3,215.26	199.36	1,413.68	1,289.77	123.90	11.409			
11,200.00	7,435.00	11,108.36	7,535.00	64.11	63.27	-94.06	3,315.26	199.23	1,413.68	1,286.95	126.73	11.155			
11,300.00	7,435.00	11,208.36	7,535.00	65.50	64.70	-94.06	3,415.26	199.11	1,413.68	1,284.11	129.56	10.911			
11,400.00	7,435.00	11,308.36	7,535.00	66.90	66.14	-94.06	3,515.26	198.98	1,413.68	1,281.26	132.42	10.676			
11,500.00	7,435.00	11,408.36	7,535.00	68.31	67.59	-94.06	3,615.26	198.86	1,413.68	1,278.40	135.29	10.450			
11,600.00	7,435.00	11,508.36	7,535.00	69.73	69.05	-94.06	3,715.26	198.74	1,413.68	1,275.52	138.17	10.232			
11,700.00	7,435.00	11,608.36	7,535.00	71.15	70.51	-94.06	3,815.26	198.61	1,413.68	1,272.62	141.06	10.022			
11,800.00	7,435.00	11,708.36	7,535.00	72.58	71.97	-94.06	3,915.26	198.49	1,413.68	1,269.72	143.96	9.820			
11,900.00	7,435.00	11,808.36	7,535.00	74.02	73.44	-94.06	4,015.26	198.36	1,413.69	1,266.80	146.88	9.625			
12,000.00	7,435.00	11,908.36	7,535.00	75.46	74.92	-94.06	4,115.26	198.24	1,413.69	1,263.88	149.81	9.437			
12,100.00	7,435.00	12,008.36	7,535.00	76.91	76.40	-94.06	4,215.26	198.12	1,413.69	1,260.94	152.74	9.255			
12,135.65	7,435.00	12,044.01	7,535.00	77.43	76.93	-94.06	4,250.91	198.07	1,413.69	1,259.90	153.79	9.192 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	-89.62	0.33	-50.08	50.08					
100.00	100.00	100.00	100.00	0.14	0.14	-89.62	0.33	-50.08	50.08	49.81	0.28	181.444		
200.00	200.00	200.00	200.00	0.50	0.50	-89.62	0.33	-50.08	50.08	49.09	0.99	50.438		
300.00	300.00	300.00	300.00	0.85	0.85	-89.62	0.33	-50.08	50.08	48.37	1.71	29.290	CC, ES	
400.00	399.98	399.98	399.98	1.20	1.21	160.29	0.33	-50.08	51.72	49.31	2.42	21.399		
500.00	499.84	499.84	499.84	1.55	1.57	162.05	0.33	-50.08	56.68	53.55	3.12	18.137		
600.00	599.45	599.45	599.45	1.91	1.93	164.37	0.33	-50.08	65.03	61.19	3.84	16.935		
700.00	698.70	698.70	698.70	2.29	2.28	166.76	0.33	-50.08	76.83	72.28	4.56	16.857		
800.00	797.47	797.47	797.47	2.69	2.64	168.93	0.33	-50.08	92.14	86.86	5.28	17.454		
900.00	895.62	898.69	898.67	3.11	2.99	170.29	-0.92	-48.93	109.60	103.60	6.00	18.262		
1,000.00	993.06	1,000.45	1,000.29	3.56	3.33	170.56	-4.83	-45.34	127.66	120.93	6.73	18.970		
1,014.60	1,007.22	1,015.35	1,015.15	3.63	3.38	170.54	-5.62	-44.61	130.34	123.50	6.84	19.050		
1,100.00	1,089.97	1,102.87	1,102.30	4.05	3.68	170.10	-11.44	-39.25	145.04	137.56	7.47	19.405		
1,200.00	1,186.87	1,204.26	1,202.96	4.54	4.04	169.04	-20.42	-31.00	159.87	151.65	8.22	19.453		
1,300.00	1,283.78	1,303.18	1,301.08	5.05	4.40	168.06	-29.63	-22.53	174.27	165.31	8.95	19.461		
1,400.00	1,380.68	1,402.10	1,399.20	5.56	4.77	167.22	-38.84	-14.06	188.70	179.00	9.70	19.451		
1,500.00	1,477.59	1,501.01	1,497.33	6.07	5.14	166.51	-48.05	-5.59	203.17	192.72	10.46	19.429		
1,600.00	1,574.49	1,599.93	1,595.45	6.59	5.51	165.88	-57.26	2.89	217.67	206.45	11.22	19.401		
1,700.00	1,671.40	1,698.85	1,693.57	7.11	5.89	165.34	-66.47	11.36	232.19	220.20	11.99	19.369		
1,800.00	1,768.30	1,797.77	1,791.70	7.64	6.28	164.86	-75.68	19.83	246.73	233.97	12.76	19.335		
1,900.00	1,865.21	1,896.69	1,889.82	8.17	6.66	164.44	-84.89	28.30	261.28	247.74	13.54	19.300		
2,000.00	1,962.11	1,995.60	1,987.94	8.69	7.05	164.05	-94.10	36.77	275.85	261.53	14.32	19.265		
2,100.00	2,059.02	2,094.52	2,086.07	9.22	7.44	163.71	-103.31	45.24	290.42	275.32	15.10	19.230		
2,200.00	2,155.92	2,193.44	2,184.19	9.75	7.83	163.40	-112.53	53.72	305.01	289.12	15.89	19.197		
2,300.00	2,252.83	2,292.36	2,282.31	10.28	8.22	163.12	-121.74	62.19	319.60	302.92	16.68	19.164		
2,400.00	2,349.73	2,391.27	2,380.43	10.82	8.61	162.86	-130.95	70.66	334.20	316.73	17.47	19.133		
2,500.00	2,446.64	2,490.19	2,478.56	11.35	9.01	162.63	-140.16	79.13	348.81	330.55	18.26	19.103		
2,600.00	2,543.54	2,589.11	2,576.68	11.88	9.40	162.41	-149.37	87.60	363.42	344.36	19.05	19.074		
2,700.00	2,640.45	2,688.03	2,674.80	12.42	9.80	162.21	-158.58	96.07	378.03	358.19	19.85	19.046		
2,800.00	2,737.35	2,786.95	2,772.93	12.95	10.19	162.02	-167.79	104.55	392.65	372.01	20.64	19.020		
2,900.00	2,834.26	2,885.86	2,871.05	13.49	10.59	161.85	-177.00	113.02	407.28	385.84	21.44	18.995		
3,000.00	2,931.16	2,984.78	2,969.17	14.02	10.99	161.69	-186.21	121.49	421.90	399.66	22.24	18.971		
3,100.00	3,028.07	3,083.70	3,067.30	14.56	11.38	161.54	-195.42	129.96	436.54	413.50	23.04	18.948		
3,200.00	3,124.97	3,182.62	3,165.42	15.09	11.78	161.40	-204.64	138.43	451.17	427.33	23.84	18.926		
3,300.00	3,221.88	3,281.53	3,263.54	15.63	12.18	161.27	-213.85	146.90	465.80	441.16	24.64	18.905		
3,400.00	3,318.78	3,380.45	3,361.66	16.16	12.58	161.15	-223.06	155.37	480.44	455.00	25.44	18.885		
3,500.00	3,415.69	3,479.37	3,459.79	16.70	12.98	161.04	-232.27	163.85	495.08	468.84	26.24	18.866		
3,600.00	3,512.59	3,578.29	3,557.91	17.24	13.37	160.93	-241.48	172.32	509.72	482.68	27.04	18.847		
3,700.00	3,609.50	3,677.21	3,656.03	17.77	13.77	160.82	-250.69	180.79	524.37	496.52	27.85	18.830		
3,800.00	3,706.40	3,776.12	3,754.16	18.31	14.17	160.73	-259.90	189.26	539.01	510.36	28.65	18.813		
3,900.00	3,803.31	3,875.04	3,852.28	18.85	14.57	160.63	-269.11	197.73	553.66	524.20	29.46	18.797		
4,000.00	3,900.21	3,973.96	3,950.40	19.38	14.97	160.55	-278.32	206.20	568.30	538.05	30.26	18.781		
4,100.00	3,997.12	4,072.88	4,048.53	19.92	15.37	160.46	-287.53	214.68	582.95	551.89	31.06	18.766		
4,200.00	4,094.02	4,171.79	4,146.65	20.46	15.77	160.38	-296.75	223.15	597.60	565.73	31.87	18.752		
4,300.00	4,190.93	4,270.71	4,244.77	20.99	16.17	160.31	-305.96	231.62	612.25	579.58	32.67	18.738		
4,400.00	4,287.83	4,369.63	4,342.89	21.53	16.57	160.24	-315.17	240.09	626.91	593.43	33.48	18.725		
4,500.00	4,384.74	4,468.55	4,441.02	22.07	16.97	160.17	-324.38	248.56	641.56	607.27	34.29	18.712		
4,600.00	4,481.64	4,567.47	4,539.14	22.61	17.37	160.10	-333.59	257.03	656.21	621.12	35.09	18.700		
4,700.00	4,578.55	4,666.38	4,637.26	23.14	17.77	160.04	-342.80	265.51	670.87	634.97	35.90	18.688		
4,800.00	4,675.45	4,765.30	4,735.39	23.68	18.17	159.98	-352.01	273.98	685.52	648.82	36.70	18.677		
4,900.00	4,772.36	4,864.22	4,833.51	24.22	18.58	159.93	-361.22	282.45	700.18	662.67	37.51	18.666		
5,000.00	4,869.26	4,963.14	4,931.63	24.76	18.98	159.87	-370.43	290.92	714.84	676.52	38.32	18.656		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4Q-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,966.17	5,062.05	5,029.76	25.29	19.38	159.82	-379.64	299.39	729.49	690.37	39.12	18.645		
5,200.00	5,063.07	5,160.97	5,127.88	25.83	19.78	159.77	-388.86	307.86	744.15	704.22	39.93	18.636		
5,300.00	5,159.98	5,259.89	5,226.00	26.37	20.18	159.72	-398.07	316.34	758.81	718.07	40.74	18.626		
5,400.00	5,256.88	5,358.81	5,324.12	26.91	20.58	159.67	-407.28	324.81	773.47	731.92	41.55	18.617		
5,500.00	5,353.79	5,457.73	5,422.25	27.44	20.98	159.63	-416.49	333.28	788.13	745.77	42.35	18.608		
5,600.00	5,450.69	5,556.64	5,520.37	27.98	21.38	159.58	-425.70	341.75	802.79	759.63	43.16	18.599		
5,700.00	5,547.60	5,655.56	5,618.49	28.52	21.79	159.54	-434.91	350.22	817.45	773.48	43.97	18.591		
5,800.00	5,644.50	5,754.48	5,716.62	29.06	22.19	159.50	-444.12	358.69	832.11	787.33	44.78	18.583		
5,900.00	5,741.41	5,853.40	5,814.74	29.60	22.59	159.46	-453.33	367.17	846.77	801.18	45.59	18.575		
6,000.00	5,838.31	5,952.32	5,912.86	30.13	22.99	159.42	-462.54	375.64	861.43	815.04	46.40	18.567		
6,100.00	5,935.22	6,051.23	6,010.99	30.67	23.39	159.39	-471.75	384.11	876.09	828.89	47.20	18.560		
6,200.00	6,032.12	6,150.15	6,109.11	31.21	23.79	159.35	-480.96	392.58	890.76	842.74	48.01	18.553		
6,300.00	6,129.03	6,249.07	6,207.23	31.75	24.20	159.32	-490.18	401.05	905.42	856.60	48.82	18.546		
6,400.00	6,225.93	6,347.99	6,305.35	32.29	24.60	159.29	-499.39	409.52	920.08	870.45	49.63	18.539		
6,500.00	6,322.84	6,446.90	6,403.48	32.83	25.00	159.25	-508.60	417.99	934.74	884.31	50.44	18.532		
6,600.00	6,419.74	6,545.82	6,501.60	33.36	25.40	159.22	-517.81	426.47	949.41	898.16	51.25	18.526		
6,700.00	6,516.65	6,644.74	6,599.72	33.90	25.80	159.19	-527.02	434.94	964.07	912.01	52.06	18.519		
6,800.00	6,613.55	6,743.67	6,699.74	34.44	26.20	159.16	-536.23	443.41	978.70	925.84	52.86	18.514		
6,865.63	6,677.15	6,812.64	6,766.60	34.79	26.44	159.64	-534.24	449.63	988.13	934.82	53.31	18.536		
6,900.00	6,710.52	6,847.32	6,801.01	34.98	26.55	171.05	-531.32	452.80	993.04	939.53	53.51	18.557		
6,950.00	6,759.15	6,897.36	6,850.31	35.22	26.69	-171.28	-524.17	457.45	1,000.13	946.36	53.78	18.598		
7,000.00	6,807.67	6,946.93	6,898.53	35.45	26.82	-154.78	-513.70	462.10	1,007.15	953.13	54.01	18.647		
7,050.00	6,855.86	6,996.05	6,945.47	35.66	26.94	-141.19	-500.05	466.76	1,014.04	959.82	54.22	18.702		
7,100.00	6,903.48	7,044.74	6,990.97	35.84	27.04	-130.72	-483.36	471.38	1,020.78	966.37	54.41	18.762		
7,150.00	6,950.29	7,093.02	7,034.85	36.01	27.14	-122.75	-463.77	475.95	1,027.32	972.74	54.58	18.823		
7,200.00	6,996.07	7,140.92	7,076.98	36.16	27.22	-116.61	-441.46	480.46	1,033.64	978.91	54.73	18.885		
7,250.00	7,040.60	7,188.45	7,117.22	36.29	27.29	-111.78	-416.56	484.88	1,039.70	984.82	54.88	18.945		
7,300.00	7,083.65	7,235.64	7,155.45	36.40	27.35	-107.91	-389.25	489.20	1,045.47	990.45	55.02	19.002		
7,350.00	7,125.01	7,282.51	7,191.55	36.50	27.41	-104.73	-359.68	493.41	1,050.91	995.76	55.15	19.055		
7,400.00	7,164.50	7,329.07	7,225.43	36.58	27.45	-102.09	-328.01	497.49	1,055.99	1,000.71	55.28	19.102		
7,450.00	7,201.91	7,375.34	7,256.98	36.65	27.49	-99.86	-294.41	501.43	1,060.69	1,005.28	55.41	19.142		
7,500.00	7,237.05	7,421.35	7,286.14	36.70	27.52	-97.98	-259.03	505.20	1,064.99	1,009.44	55.55	19.172		
7,550.00	7,269.77	7,467.10	7,312.84	36.74	27.55	-96.37	-222.06	508.82	1,068.85	1,013.16	55.69	19.193		
7,600.00	7,299.90	7,512.62	7,337.00	36.77	27.58	-95.00	-183.64	512.25	1,072.25	1,016.41	55.84	19.203		
7,650.00	7,327.30	7,557.92	7,358.57	36.79	27.60	-93.83	-143.96	515.49	1,075.18	1,019.18	56.00	19.201		
7,700.00	7,351.82	7,603.01	7,377.53	36.80	27.63	-92.85	-103.16	518.54	1,077.62	1,021.45	56.17	19.185		
7,750.00	7,373.35	7,650.00	7,394.51	36.80	27.66	-92.02	-59.46	521.50	1,079.56	1,023.19	56.36	19.154		
7,800.00	7,391.79	7,692.64	7,407.41	36.79	27.70	-91.35	-18.90	524.00	1,080.97	1,024.41	56.57	19.110		
7,850.00	7,407.05	7,737.21	7,418.30	36.77	27.75	-90.82	24.25	526.40	1,081.86	1,025.07	56.79	19.049		
7,900.00	7,419.05	7,781.63	7,426.47	36.75	27.82	-90.42	67.85	528.58	1,082.22	1,025.18	57.04	18.973		
7,950.00	7,427.73	7,825.92	7,431.92	36.73	27.91	-90.15	111.75	530.52	1,082.04	1,024.73	57.31	18.881		
8,000.00	7,433.05	7,870.09	7,434.65	36.70	28.03	-90.00	155.79	532.22	1,081.32	1,023.72	57.60	18.773		
8,053.55	7,435.00	7,920.61	7,435.00	36.67	28.19	-90.00	206.28	533.92	1,079.91	1,021.95	57.96	18.633		
8,100.00	7,435.00	7,967.04	7,435.00	36.64	28.36	-90.00	252.68	535.46	1,078.32	1,020.00	58.31	18.492		
8,200.00	7,435.00	8,066.98	7,435.00	36.61	28.82	-90.00	352.57	538.76	1,074.88	1,015.70	59.19	18.160		
8,300.00	7,435.00	8,166.92	7,435.00	36.60	29.37	-90.00	452.45	542.07	1,071.45	1,011.23	60.22	17.792		
8,400.00	7,435.00	8,266.86	7,435.00	36.63	30.00	-90.00	552.34	545.37	1,068.02	1,006.63	61.40	17.396		
8,500.00	7,435.00	8,366.80	7,435.00	36.70	30.70	-90.00	652.23	548.68	1,064.59	1,001.88	62.71	16.977		
8,600.00	7,435.00	8,466.74	7,435.00	36.82	31.46	-90.00	752.11	551.99	1,061.16	997.01	64.15	16.542		
8,700.00	7,435.00	8,566.68	7,435.00	37.02	32.28	-90.00	852.00	555.29	1,057.73	992.02	65.71	16.098		
8,800.00	7,435.00	8,666.62	7,435.00	37.33	33.15	-90.00	951.89	558.60	1,054.30	986.92	67.38	15.648		
8,900.00	7,435.00	8,766.56	7,435.00	37.77	34.07	-90.00	1,051.77	561.91	1,050.87	981.72	69.15	15.197		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - HWY52 4Q-32H-O268 - OH - PLAN #2													Offset Well Error:	0.00 usft
Survey Program: 0-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
9,000.00	7,435.00	8,866.51	7,435.00	38.34	35.03	-90.00	1,151.66	565.21	1,047.44	976.41	71.02	14.748		
9,100.00	7,435.00	8,966.45	7,435.00	39.03	36.04	-90.00	1,251.55	568.52	1,044.00	971.03	72.98	14.306		
9,200.00	7,435.00	9,066.39	7,435.00	39.84	37.08	-90.00	1,351.43	571.82	1,040.57	965.56	75.02	13.871		
9,300.00	7,435.00	9,166.33	7,435.00	40.73	38.16	-90.00	1,451.32	575.13	1,037.14	960.01	77.13	13.447		
9,400.00	7,435.00	9,266.27	7,435.00	41.69	39.27	-90.00	1,551.21	578.44	1,033.71	954.40	79.31	13.033		
9,500.00	7,435.00	9,366.21	7,435.00	42.70	40.41	-90.00	1,651.09	581.74	1,030.28	948.72	81.56	12.632		
9,600.00	7,435.00	9,466.15	7,435.00	43.77	41.57	-90.00	1,750.98	585.05	1,026.85	942.99	83.86	12.244		
9,700.00	7,435.00	9,566.09	7,435.00	44.87	42.76	-90.00	1,850.86	588.36	1,023.42	937.20	86.22	11.870		
9,800.00	7,435.00	9,666.03	7,435.00	46.01	43.98	-90.00	1,950.75	591.66	1,019.99	931.36	88.63	11.509		
9,900.00	7,435.00	9,765.98	7,435.00	47.17	45.21	-90.00	2,050.64	594.97	1,016.56	925.47	91.08	11.161		
10,000.00	7,435.00	9,865.92	7,435.00	48.37	46.47	-90.00	2,150.52	598.27	1,013.12	919.55	93.57	10.827		
10,100.00	7,435.00	9,952.80	7,435.00	49.59	47.58	-90.00	2,237.36	600.91	1,010.02	914.21	95.81	10.542		
10,182.86	7,435.00	10,014.06	7,435.00	50.61	48.37	-90.00	2,298.62	601.49	1,009.13	911.72	97.41	10.359		
10,200.00	7,435.00	10,026.74	7,435.00	50.83	48.54	-90.00	2,311.30	601.44	1,009.17	911.43	97.74	10.325		
10,300.00	7,435.00	10,100.00	7,435.00	52.09	49.50	-90.00	2,384.55	600.09	1,010.90	911.26	99.64	10.145		
10,400.00	7,435.00	10,193.62	7,435.00	53.37	50.75	-90.00	2,478.10	596.58	1,014.52	912.41	102.11	9.935		
10,500.00	7,435.00	10,293.55	7,435.00	54.66	52.11	-90.00	2,577.96	592.74	1,018.23	913.45	104.79	9.717		
10,600.00	7,435.00	10,393.49	7,435.00	55.97	53.48	-90.00	2,677.82	588.91	1,021.94	914.46	107.49	9.507		
10,700.00	7,435.00	10,493.42	7,435.00	57.30	54.86	-90.00	2,777.68	585.08	1,025.66	915.44	110.22	9.305		
10,800.00	7,435.00	10,593.35	7,435.00	58.64	56.25	-90.00	2,877.54	581.25	1,029.37	916.39	112.98	9.111		
10,900.00	7,435.00	10,693.28	7,435.00	59.99	57.66	-90.00	2,977.39	577.42	1,033.08	917.32	115.76	8.925		
11,000.00	7,435.00	10,793.21	7,435.00	61.35	59.07	-90.00	3,077.25	573.58	1,036.79	918.24	118.56	8.745		
11,100.00	7,435.00	10,893.14	7,435.00	62.73	60.50	-90.00	3,177.11	569.75	1,040.50	919.13	121.38	8.573		
11,200.00	7,435.00	10,993.07	7,435.00	64.11	61.94	-90.00	3,276.97	565.92	1,044.21	920.00	124.22	8.406		
11,300.00	7,435.00	11,093.00	7,435.00	65.50	63.38	-90.00	3,376.82	562.09	1,047.93	920.85	127.07	8.247		
11,400.00	7,435.00	11,192.93	7,435.00	66.90	64.83	-90.00	3,476.68	558.26	1,051.64	921.69	129.95	8.093		
11,500.00	7,435.00	11,292.87	7,435.00	68.31	66.29	-90.00	3,576.54	554.43	1,055.35	922.51	132.84	7.945		
11,600.00	7,435.00	11,392.80	7,435.00	69.73	67.76	-90.00	3,676.40	550.59	1,059.06	923.32	135.74	7.802		
11,700.00	7,435.00	11,492.73	7,435.00	71.15	69.24	-90.00	3,776.25	546.76	1,062.77	924.12	138.65	7.665		
11,800.00	7,435.00	11,592.66	7,435.00	72.58	70.72	-90.00	3,876.11	542.93	1,066.48	924.90	141.58	7.533		
11,900.00	7,435.00	11,692.59	7,435.00	74.02	72.20	-90.00	3,975.97	539.10	1,070.20	925.67	144.52	7.405		
12,000.00	7,435.00	11,792.52	7,435.00	75.46	73.70	-90.00	4,075.83	535.27	1,073.91	926.43	147.48	7.282		
12,100.00	7,435.00	11,892.45	7,435.00	76.91	75.19	-90.00	4,175.68	531.43	1,077.62	927.18	150.44	7.163		
12,135.65	7,435.00	11,928.08	7,435.00	77.43	75.65	-90.00	4,211.28	530.07	1,078.94	927.54	151.41	7.126 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.00 usft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning		
0.00	0.00	0.00	0.00	0.00	0.00	-89.55	0.31	-40.01	40.01						
100.00	100.00	100.00	100.00	0.14	0.14	-89.55	0.31	-40.01	40.01	39.73	0.28	144.954			
200.00	200.00	200.00	200.00	0.50	0.50	-89.55	0.31	-40.01	40.01	39.02	0.99	40.294			
300.00	300.00	300.00	300.00	0.85	0.85	-89.55	0.31	-40.01	40.01	38.30	1.71	23.399	CC, ES		
400.00	399.98	399.98	399.98	1.20	1.21	160.52	0.31	-40.01	41.65	39.23	2.42	17.232			
500.00	499.84	499.84	499.84	1.55	1.57	162.64	0.31	-40.01	46.62	43.49	3.12	14.918			
600.00	599.45	599.45	599.45	1.91	1.93	165.31	0.31	-40.01	55.00	51.16	3.84	14.324			
700.00	698.70	698.70	698.70	2.29	2.28	167.90	0.31	-40.01	66.86	62.30	4.56	14.669			
800.00	797.47	800.07	800.05	2.69	2.63	169.70	-0.67	-38.56	80.67	75.39	5.28	15.278			
900.00	895.62	901.94	901.77	3.11	2.98	170.46	-3.68	-34.12	94.69	88.68	6.01	15.752			
1,000.00	993.06	1,004.28	1,003.71	3.56	3.34	170.59	-8.75	-26.65	108.89	102.12	6.76	16.100			
1,014.60	1,007.22	1,019.26	1,018.60	3.63	3.39	170.56	-9.67	-25.31	110.97	104.09	6.88	16.135			
1,100.00	1,089.97	1,107.24	1,105.87	4.05	3.71	170.22	-15.92	-16.10	121.97	114.45	7.53	16.203			
1,200.00	1,186.87	1,209.07	1,206.45	4.54	4.09	169.36	-24.85	-2.95	132.12	123.84	8.28	15.951			
1,300.00	1,283.78	1,308.59	1,304.65	5.05	4.48	168.54	-33.90	10.39	141.77	132.74	9.03	15.705			
1,400.00	1,380.68	1,408.10	1,402.85	5.56	4.87	167.83	-42.96	23.72	151.44	141.66	9.78	15.484			
1,500.00	1,477.59	1,507.61	1,501.05	6.07	5.27	167.21	-52.01	37.06	161.13	150.59	10.54	15.283			
1,600.00	1,574.49	1,607.13	1,599.25	6.59	5.68	166.65	-61.07	50.40	170.84	159.53	11.31	15.102			
1,700.00	1,671.40	1,706.64	1,697.45	7.11	6.09	166.16	-70.13	63.74	180.56	168.47	12.09	14.937			
1,800.00	1,768.30	1,806.16	1,795.65	7.64	6.50	165.71	-79.18	77.07	190.30	177.43	12.87	14.788			
1,900.00	1,865.21	1,905.67	1,893.85	8.17	6.92	165.31	-88.24	90.41	200.04	186.39	13.65	14.652			
2,000.00	1,962.11	2,005.19	1,992.05	8.69	7.34	164.95	-97.29	103.75	209.79	195.35	14.44	14.527			
2,100.00	2,059.02	2,104.70	2,090.25	9.22	7.76	164.61	-106.35	117.09	219.55	204.32	15.23	14.413			
2,200.00	2,155.92	2,204.22	2,188.45	9.75	8.18	164.31	-115.40	130.42	229.32	213.29	16.03	14.308			
2,300.00	2,252.83	2,303.73	2,286.65	10.28	8.60	164.03	-124.46	143.76	239.10	222.27	16.82	14.212			
2,400.00	2,349.73	2,403.25	2,384.85	10.82	9.02	163.78	-133.51	157.10	248.87	231.25	17.62	14.122			
2,500.00	2,446.64	2,502.76	2,483.05	11.35	9.45	163.54	-142.57	170.43	258.66	240.23	18.42	14.040			
2,600.00	2,543.54	2,602.28	2,581.25	11.88	9.87	163.32	-151.62	183.77	268.44	249.22	19.23	13.963			
2,700.00	2,640.45	2,701.79	2,679.45	12.42	10.30	163.11	-160.68	197.11	278.23	258.21	20.03	13.891			
2,800.00	2,737.35	2,801.31	2,777.66	12.95	10.73	162.92	-169.74	210.45	288.03	267.19	20.83	13.824			
2,900.00	2,834.26	2,900.82	2,875.86	13.49	11.16	162.74	-178.79	223.78	297.83	276.19	21.64	13.762			
3,000.00	2,931.16	3,000.34	2,974.06	14.02	11.58	162.58	-187.85	237.12	307.63	285.18	22.45	13.704			
3,100.00	3,028.07	3,099.85	3,072.26	14.56	12.01	162.42	-196.90	250.46	317.43	294.17	23.26	13.649			
3,200.00	3,124.97	3,199.37	3,170.46	15.09	12.44	162.27	-205.96	263.79	327.23	303.17	24.07	13.597			
3,300.00	3,221.88	3,298.88	3,268.66	15.63	12.87	162.14	-215.01	277.13	337.04	312.16	24.88	13.548			
3,400.00	3,318.78	3,398.40	3,366.86	16.16	13.30	162.00	-224.07	290.47	346.85	321.16	25.69	13.503			
3,500.00	3,415.69	3,497.91	3,465.06	16.70	13.73	161.88	-233.12	303.81	356.66	330.16	26.50	13.459			
3,600.00	3,512.59	3,597.43	3,563.26	17.24	14.16	161.76	-242.18	317.14	366.47	339.16	27.31	13.418			
3,700.00	3,609.50	3,696.94	3,661.46	17.77	14.59	161.65	-251.23	330.48	376.28	348.16	28.12	13.379			
3,800.00	3,706.40	3,796.46	3,759.66	18.31	15.02	161.55	-260.29	343.82	386.10	357.16	28.94	13.343			
3,900.00	3,803.31	3,895.97	3,857.86	18.85	15.45	161.45	-269.35	357.15	395.91	366.16	29.75	13.308			
4,000.00	3,900.21	3,995.48	3,956.06	19.38	15.89	161.35	-278.40	370.49	405.73	375.16	30.57	13.274			
4,100.00	3,997.12	4,095.00	4,054.26	19.92	16.32	161.26	-287.46	383.83	415.55	384.17	31.38	13.243			
4,200.00	4,094.02	4,194.51	4,152.46	20.46	16.75	161.18	-296.51	397.17	425.36	393.17	32.19	13.212			
4,300.00	4,190.93	4,294.03	4,250.66	20.99	17.18	161.09	-305.57	410.50	435.18	402.17	33.01	13.183			
4,400.00	4,287.83	4,393.54	4,348.86	21.53	17.61	161.01	-314.62	423.84	445.00	411.18	33.83	13.156			
4,500.00	4,384.74	4,493.06	4,447.06	22.07	18.05	160.94	-323.68	437.18	454.83	420.18	34.64	13.129			
4,600.00	4,481.64	4,592.57	4,545.26	22.61	18.48	160.87	-332.73	450.52	464.65	429.19	35.46	13.104			
4,700.00	4,578.55	4,692.09	4,643.46	23.14	18.91	160.80	-341.79	463.85	474.47	438.20	36.27	13.080			
4,800.00	4,675.45	4,791.60	4,741.66	23.68	19.34	160.73	-350.84	477.19	484.29	447.20	37.09	13.057			
4,900.00	4,772.36	4,891.12	4,839.86	24.22	19.78	160.67	-359.90	490.53	494.12	456.21	37.91	13.034			
5,000.00	4,869.26	4,990.63	4,938.06	24.76	20.21	160.61	-368.96	503.86	503.94	465.22	38.73	13.013			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft						
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft						
Reference													Semi Major Axis		Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning							
5,100.00	4,966.17	5,090.15	5,036.26	25.29	20.64	160.55	-378.01	517.20	513.77	474.22	39.54	12.992								
5,200.00	5,063.07	5,189.66	5,134.46	25.83	21.07	160.49	-387.07	530.54	523.59	483.23	40.36	12.973								
5,300.00	5,159.98	5,289.18	5,232.66	26.37	21.51	160.44	-396.12	543.88	533.42	492.24	41.18	12.954								
5,400.00	5,256.88	5,388.69	5,330.86	26.91	21.94	160.38	-405.18	557.21	543.25	501.25	42.00	12.935								
5,500.00	5,353.79	5,488.21	5,429.07	27.44	22.37	160.33	-414.23	570.55	553.07	510.26	42.82	12.917								
5,600.00	5,450.69	5,587.72	5,527.27	27.98	22.81	160.28	-423.29	583.89	562.90	519.27	43.63	12.900								
5,700.00	5,547.60	5,687.24	5,625.47	28.52	23.24	160.24	-432.34	597.22	572.73	528.28	44.45	12.884								
5,800.00	5,644.50	5,786.75	5,723.67	29.06	23.67	160.19	-441.40	610.56	582.56	537.28	45.27	12.868								
5,900.00	5,741.41	5,886.27	5,821.87	29.60	24.11	160.14	-450.45	623.90	592.38	546.29	46.09	12.853								
6,000.00	5,838.31	5,985.78	5,920.07	30.13	24.54	160.10	-459.51	637.24	602.21	555.30	46.91	12.838								
6,100.00	5,935.22	6,085.30	6,018.27	30.67	24.97	160.06	-468.57	650.57	612.04	564.31	47.73	12.823								
6,200.00	6,032.12	6,184.81	6,116.47	31.21	25.41	160.02	-477.62	663.91	621.87	573.32	48.55	12.809								
6,300.00	6,129.03	6,284.33	6,214.67	31.75	25.84	159.98	-486.68	677.25	631.70	582.33	49.37	12.796								
6,400.00	6,225.93	6,383.84	6,312.87	32.29	26.27	159.94	-495.73	690.59	641.53	591.35	50.19	12.783								
6,500.00	6,322.84	6,483.35	6,411.07	32.83	26.71	159.91	-504.79	703.92	651.36	600.36	51.01	12.770								
6,600.00	6,419.74	6,582.87	6,509.27	33.36	27.14	159.87	-513.84	717.26	661.19	609.37	51.83	12.758								
6,700.00	6,516.65	6,682.38	6,607.47	33.90	27.57	159.84	-522.90	730.60	671.02	618.38	52.65	12.746								
6,800.00	6,613.55	6,781.90	6,705.67	34.44	28.01	159.80	-531.95	743.93	680.86	627.39	53.47	12.734								
6,865.63	6,677.15	6,847.16	6,770.08	34.79	28.29	159.79	-537.83	752.68	687.31	633.31	54.00	12.727								
6,900.00	6,710.52	6,881.17	6,803.72	34.98	28.43	170.81	-539.68	757.25	690.69	636.43	54.27	12.728								
6,950.00	6,759.15	6,930.61	6,852.70	35.22	28.62	-172.09	-539.50	763.92	695.62	641.00	54.62	12.736								
7,000.00	6,807.67	6,980.04	6,901.53	35.45	28.79	-156.14	-535.90	770.56	700.52	645.58	54.94	12.751								
7,050.00	6,855.86	7,029.44	6,949.99	35.66	28.95	-143.10	-528.92	777.17	705.38	650.15	55.23	12.773								
7,100.00	6,903.48	7,078.83	6,997.83	35.84	29.08	-133.15	-518.59	783.69	710.17	654.68	55.49	12.799								
7,150.00	6,950.29	7,128.22	7,044.85	36.01	29.21	-125.68	-504.95	790.11	714.86	659.14	55.73	12.828								
7,200.00	6,996.07	7,177.61	7,090.83	36.16	29.32	-120.03	-488.08	796.40	719.44	663.50	55.94	12.860								
7,250.00	7,040.60	7,227.00	7,135.55	36.29	29.41	-115.66	-468.05	802.52	723.88	667.74	56.15	12.893								
7,300.00	7,083.65	7,276.41	7,178.81	36.40	29.49	-112.22	-444.95	808.45	728.17	671.83	56.34	12.926								
7,350.00	7,125.01	7,325.82	7,220.40	36.50	29.57	-109.46	-418.89	814.16	732.27	675.76	56.51	12.958								
7,400.00	7,164.50	7,375.26	7,260.12	36.58	29.62	-107.20	-389.99	819.61	736.17	679.49	56.68	12.987								
7,450.00	7,201.91	7,424.72	7,297.78	36.65	29.67	-105.34	-358.37	824.80	739.86	683.01	56.85	13.014								
7,500.00	7,237.05	7,474.21	7,333.22	36.70	29.70	-103.79	-324.18	829.68	743.30	686.29	57.02	13.037								
7,550.00	7,269.77	7,523.72	7,366.24	36.74	29.73	-102.48	-287.59	834.25	746.49	689.31	57.18	13.054								
7,600.00	7,299.90	7,573.26	7,396.70	36.77	29.74	-101.39	-248.76	838.46	749.42	692.06	57.36	13.066								
7,650.00	7,327.30	7,622.84	7,424.45	36.79	29.74	-100.47	-207.87	842.32	752.06	694.52	57.54	13.070								
7,700.00	7,351.82	7,672.44	7,449.34	36.80	29.74	-99.71	-165.11	845.78	754.40	696.67	57.74	13.066								
7,750.00	7,373.35	7,722.08	7,471.24	36.80	29.72	-99.07	-120.68	848.85	756.44	698.49	57.95	13.054								
7,800.00	7,391.79	7,771.75	7,490.06	36.79	29.70	-98.56	-74.81	851.50	758.16	699.98	58.18	13.032								
7,850.00	7,407.05	7,821.45	7,505.70	36.77	29.67	-98.16	-27.69	853.72	759.55	701.13	58.42	13.001								
7,900.00	7,419.05	7,871.18	7,518.06	36.75	29.64	-97.87	20.43	855.49	760.61	701.92	58.69	12.959								
7,950.00	7,427.73	7,920.93	7,527.09	36.73	29.60	-97.66	69.33	856.82	761.33	702.35	58.99	12.907								
8,000.00	7,433.05	7,970.71	7,532.73	36.70	29.56	-97.56	118.77	857.68	761.71	702.41	59.30	12.844								
8,053.55	7,435.00	8,024.05	7,534.99	36.67	29.51	-97.54	172.05	858.09	761.74	702.07	59.67	12.767								
8,100.00	7,435.00	8,070.48	7,535.00	36.64	29.47	-97.54	218.48	858.18	761.59	701.58	60.01	12.690								
8,200.00	7,435.00	8,170.48	7,535.00	36.61	29.41	-97.55	318.48	858.38	761.28	700.41	60.87	12.507								
8,300.00	7,435.00	8,270.48	7,535.00	36.60	29.86	-97.55	418.48	858.57	760.96	699.09	61.87	12.300								
8,400.00	7,435.00	8,370.48	7,535.00	36.63	30.50	-97.55	518.48	858.77	760.65	697.64	63.01	12.072								
8,500.00	7,435.00	8,470.48	7,535.00	36.70	31.19	-97.56	618.48	858.96	760.33	696.04	64.29	11.827								
8,600.00	7,435.00	8,570.48	7,535.00	36.82	31.95	-97.56	718.48	859.16	760.02	694.33	65.69	11.569								
8,700.00	7,435.00	8,670.48	7,535.00	37.02	32.75	-97.56	818.48	859.35	759.70	692.49	67.22	11.302								
8,800.00	7,435.00	8,770.48	7,535.00	37.33	33.61	-97.57	918.48	859.55	759.39	690.54	68.85	11.030								
8,900.00	7,435.00	8,870.48	7,535.00	37.77	34.52	-97.57	1,018.48	859.74	759.07	688.49	70.59	10.754								

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - HWY52 4R-32H-O268 - OH - PLAN #2													Offset Well Error:	0.00 usft
Survey Program: 0-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
9,000.00	7,435.00	8,970.48	7,535.00	38.34	35.47	-97.57	1,118.47	859.94	758.76	686.34	72.42	10.477		
9,100.00	7,435.00	9,070.48	7,535.00	39.03	36.46	-97.58	1,218.47	860.13	758.44	684.10	74.34	10.202		
9,200.00	7,435.00	9,170.48	7,535.00	39.84	37.49	-97.58	1,318.47	860.33	758.13	681.78	76.35	9.930		
9,300.00	7,435.00	9,270.48	7,535.00	40.73	38.56	-97.58	1,418.47	860.52	757.81	679.39	78.42	9.663		
9,400.00	7,435.00	9,370.47	7,535.00	41.69	39.66	-97.59	1,518.47	860.72	757.50	676.92	80.57	9.401		
9,500.00	7,435.00	9,470.47	7,535.00	42.70	40.79	-97.59	1,618.47	860.91	757.18	674.40	82.79	9.146		
9,600.00	7,435.00	9,570.47	7,535.00	43.77	41.95	-97.59	1,718.47	861.11	756.87	671.81	85.06	8.898		
9,700.00	7,435.00	9,670.47	7,535.00	44.87	43.14	-97.60	1,818.47	861.30	756.55	669.17	87.39	8.657		
9,800.00	7,435.00	9,770.47	7,535.00	46.01	44.35	-97.60	1,918.47	861.49	756.24	666.47	89.77	8.425		
9,900.00	7,435.00	9,870.47	7,535.00	47.17	45.58	-97.60	2,018.47	861.69	755.92	663.73	92.19	8.200		
10,000.00	7,435.00	9,970.47	7,535.00	48.37	46.83	-97.61	2,118.47	861.88	755.61	660.95	94.66	7.983		
10,100.00	7,435.00	10,070.47	7,535.00	49.59	48.11	-97.61	2,218.47	862.08	755.29	658.13	97.16	7.773		
10,200.00	7,435.00	10,170.47	7,535.00	50.83	49.40	-97.61	2,318.47	862.27	754.98	655.27	99.71	7.572		
10,300.00	7,435.00	10,270.47	7,535.00	52.09	50.70	-97.61	2,418.47	862.47	754.66	652.38	102.29	7.378		
10,400.00	7,435.00	10,370.47	7,535.00	53.37	52.02	-97.62	2,518.46	862.66	754.35	649.45	104.90	7.191		
10,500.00	7,435.00	10,470.47	7,535.00	54.66	53.36	-97.62	2,618.46	862.86	754.03	646.50	107.53	7.012		
10,600.00	7,435.00	10,570.47	7,535.00	55.97	54.71	-97.62	2,718.46	863.05	753.72	643.52	110.20	6.840		
10,700.00	7,435.00	10,670.47	7,535.00	57.30	56.07	-97.63	2,818.46	863.25	753.40	640.51	112.89	6.674		
10,800.00	7,435.00	10,770.47	7,535.00	58.64	57.44	-97.63	2,918.46	863.44	753.09	637.48	115.60	6.514		
10,900.00	7,435.00	10,870.47	7,535.00	59.99	58.82	-97.63	3,018.46	863.64	752.77	634.43	118.34	6.361		
11,000.00	7,435.00	10,970.47	7,535.00	61.35	60.22	-97.64	3,118.46	863.83	752.46	631.36	121.10	6.214		
11,100.00	7,435.00	11,070.47	7,535.00	62.73	61.62	-97.64	3,218.46	864.03	752.14	628.27	123.87	6.072		
11,200.00	7,435.00	11,170.47	7,535.00	64.11	63.03	-97.64	3,318.46	864.22	751.83	625.16	126.66	5.936		
11,300.00	7,435.00	11,270.47	7,535.00	65.50	64.45	-97.65	3,418.46	864.42	751.51	622.04	129.47	5.804		
11,400.00	7,435.00	11,370.46	7,535.00	66.90	65.87	-97.65	3,518.46	864.61	751.20	618.90	132.30	5.678		
11,500.00	7,435.00	11,470.46	7,535.00	68.31	67.30	-97.65	3,618.46	864.81	750.88	615.74	135.14	5.556		
11,600.00	7,435.00	11,567.32	7,535.00	69.73	68.70	-97.66	3,715.31	865.00	750.57	612.70	137.88	5.444		
11,608.33	7,435.00	11,576.43	7,535.00	69.85	68.83	-97.66	3,724.42	865.00	750.56	612.41	138.14	5.433		
11,700.00	7,435.00	11,651.60	7,535.00	71.15	69.92	-97.65	3,799.58	863.94	751.69	611.53	140.16	5.363		
11,800.00	7,435.00	11,751.58	7,535.00	72.58	71.39	-97.62	3,899.53	861.61	753.89	610.84	143.05	5.270		
11,900.00	7,435.00	11,851.55	7,535.00	74.02	72.86	-97.60	3,999.48	859.27	756.09	610.13	145.96	5.180		
12,000.00	7,435.00	11,951.53	7,535.00	75.46	74.33	-97.58	4,099.43	856.93	758.28	609.41	148.87	5.094		
12,100.00	7,435.00	12,051.50	7,535.00	76.91	75.82	-97.56	4,199.38	854.59	760.48	608.68	151.80	5.010		
12,135.65	7,435.00	12,087.14	7,535.00	77.43	76.35	-97.55	4,235.01	853.76	761.26	608.42	152.84	4.981 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft	
Reference: S32-T2N-R68W - HWY52 4S-32H-O268 - OH - PLAN #2															
Reference				Offset				Semi Major Axis			Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-89.43	0.30	-29.94	29.94						
100.00	100.00	100.00	100.00	0.14	0.14	-89.43	0.30	-29.94	29.94	29.66	0.28	108.464			
200.00	200.00	200.00	200.00	0.50	0.50	-89.43	0.30	-29.94	29.94	28.95	0.99	30.151			
300.00	300.00	300.00	300.00	0.85	0.85	-89.43	0.30	-29.94	29.94	28.23	1.71	17.509	CC, ES		
400.00	399.98	399.98	399.98	1.20	1.21	160.90	0.30	-29.94	31.58	29.17	2.42	13.066			
500.00	499.84	499.84	499.84	1.55	1.57	163.56	0.30	-29.94	36.57	33.44	3.12	11.702			
600.00	599.45	599.45	599.45	1.91	1.93	166.66	0.30	-29.94	45.00	41.16	3.84	11.719			
700.00	698.70	700.54	700.52	2.29	2.28	168.87	-0.59	-28.41	55.30	50.74	4.56	12.132			
800.00	797.47	802.00	801.83	2.69	2.62	169.87	-3.28	-23.78	65.76	60.47	5.29	12.431			
900.00	895.62	903.82	903.25	3.11	2.98	170.16	-7.80	-16.03	76.32	70.28	6.04	12.634			
1,000.00	993.06	1,006.00	1,004.65	3.56	3.35	169.98	-14.15	-5.11	86.97	80.16	6.81	12.775			
1,014.60	1,007.22	1,020.96	1,019.44	3.63	3.41	169.92	-15.23	-3.26	88.53	81.60	6.92	12.786			
1,100.00	1,089.97	1,108.48	1,105.81	4.05	3.74	169.38	-22.34	8.95	96.43	88.85	7.58	12.720			
1,200.00	1,186.87	1,208.14	1,203.95	4.54	4.14	168.60	-31.10	24.00	104.45	96.13	8.32	12.556			
1,300.00	1,283.78	1,307.81	1,302.08	5.05	4.55	167.93	-39.86	39.05	112.48	103.41	9.07	12.403			
1,400.00	1,380.68	1,407.48	1,400.22	5.56	4.96	167.35	-48.62	54.10	120.53	110.70	9.83	12.263			
1,500.00	1,477.59	1,507.15	1,498.35	6.07	5.38	166.85	-57.38	69.15	128.58	117.99	10.60	12.135			
1,600.00	1,574.49	1,606.82	1,596.49	6.59	5.80	166.40	-66.14	84.20	136.65	125.28	11.37	12.018			
1,700.00	1,671.40	1,706.49	1,694.63	7.11	6.23	166.00	-74.90	99.25	144.72	132.57	12.15	11.911			
1,800.00	1,768.30	1,806.16	1,792.76	7.64	6.66	165.65	-83.66	114.30	152.80	139.86	12.93	11.814			
1,900.00	1,865.21	1,905.83	1,890.90	8.17	7.09	165.33	-92.43	129.35	160.88	147.16	13.72	11.725			
2,000.00	1,962.11	2,005.50	1,989.03	8.69	7.52	165.04	-101.19	144.40	168.97	154.46	14.51	11.643			
2,100.00	2,059.02	2,105.16	2,087.17	9.22	7.96	164.78	-109.95	159.45	177.06	161.75	15.31	11.568			
2,200.00	2,155.92	2,204.83	2,185.31	9.75	8.39	164.54	-118.71	174.50	185.16	169.05	16.10	11.499			
2,300.00	2,252.83	2,304.50	2,283.44	10.28	8.83	164.32	-127.47	189.55	193.25	176.35	16.90	11.435			
2,400.00	2,349.73	2,404.17	2,381.58	10.82	9.27	164.12	-136.23	204.59	201.35	183.65	17.70	11.376			
2,500.00	2,446.64	2,503.84	2,479.71	11.35	9.71	163.93	-144.99	219.64	209.46	190.95	18.50	11.321			
2,600.00	2,543.54	2,603.51	2,577.85	11.88	10.15	163.76	-153.75	234.69	217.56	198.26	19.31	11.269			
2,700.00	2,640.45	2,703.18	2,675.99	12.42	10.59	163.60	-162.51	249.74	225.67	205.56	20.11	11.222			
2,800.00	2,737.35	2,802.85	2,774.12	12.95	11.03	163.45	-171.27	264.79	233.78	212.86	20.92	11.177			
2,900.00	2,834.26	2,902.52	2,872.26	13.49	11.47	163.31	-180.03	279.84	241.89	220.16	21.72	11.135			
3,000.00	2,931.16	3,002.19	2,970.39	14.02	11.92	163.19	-188.79	294.89	250.00	227.47	22.53	11.096			
3,100.00	3,028.07	3,101.85	3,068.53	14.56	12.36	163.06	-197.55	309.94	258.11	234.77	23.34	11.059			
3,200.00	3,124.97	3,201.52	3,166.67	15.09	12.80	162.95	-206.31	324.99	266.22	242.08	24.15	11.025			
3,300.00	3,221.88	3,301.19	3,264.80	15.63	13.25	162.84	-215.07	340.04	274.34	249.38	24.96	10.992			
3,400.00	3,318.78	3,400.86	3,362.94	16.16	13.69	162.74	-223.83	355.09	282.45	256.69	25.77	10.961			
3,500.00	3,415.69	3,500.53	3,461.07	16.70	14.13	162.65	-232.59	370.14	290.57	263.99	26.58	10.932			
3,600.00	3,512.59	3,600.20	3,559.21	17.24	14.58	162.56	-241.35	385.19	298.69	271.30	27.39	10.905			
3,700.00	3,609.50	3,699.87	3,657.35	17.77	15.02	162.47	-250.11	400.23	306.80	278.60	28.20	10.879			
3,800.00	3,706.40	3,799.54	3,755.48	18.31	15.47	162.39	-258.87	415.28	314.92	285.91	29.02	10.854			
3,900.00	3,803.31	3,899.21	3,853.62	18.85	15.91	162.31	-267.63	430.33	323.04	293.21	29.83	10.830			
4,000.00	3,900.21	3,998.87	3,951.76	19.38	16.36	162.24	-276.39	445.38	331.16	300.52	30.64	10.808			
4,100.00	3,997.12	4,098.54	4,049.89	19.92	16.80	162.17	-285.15	460.43	339.28	307.83	31.46	10.786			
4,200.00	4,094.02	4,198.21	4,148.03	20.46	17.25	162.10	-293.91	475.48	347.40	315.13	32.27	10.766			
4,300.00	4,190.93	4,297.88	4,246.16	20.99	17.69	162.04	-302.67	490.53	355.52	322.44	33.08	10.746			
4,400.00	4,287.83	4,397.55	4,344.30	21.53	18.14	161.98	-311.43	505.58	363.64	329.75	33.90	10.728			
4,500.00	4,384.74	4,497.22	4,442.44	22.07	18.58	161.92	-320.19	520.63	371.77	337.05	34.71	10.710			
4,600.00	4,481.64	4,596.89	4,540.57	22.61	19.03	161.86	-328.95	535.68	379.89	344.36	35.53	10.693			
4,700.00	4,578.55	4,696.56	4,638.71	23.14	19.48	161.81	-337.72	550.73	388.01	351.67	36.34	10.676			
4,800.00	4,675.45	4,796.23	4,736.84	23.68	19.92	161.76	-346.48	565.78	396.13	358.97	37.16	10.660			
4,900.00	4,772.36	4,895.90	4,834.98	24.22	20.37	161.71	-355.24	580.82	404.26	366.28	37.97	10.645			
5,000.00	4,869.26	4,995.56	4,933.12	24.76	20.81	161.66	-364.00	595.87	412.38	373.59	38.79	10.631			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: O-MWD+HDGM													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning		
5,100.00	4,966.17	5,095.23	5,031.25	25.29	21.26	161.62	-372.76	610.92	420.50	380.90	39.61	10.617			
5,200.00	5,063.07	5,194.90	5,129.39	25.83	21.71	161.58	-381.52	625.97	428.63	388.20	40.42	10.603			
5,300.00	5,159.98	5,294.57	5,227.52	26.37	22.15	161.53	-390.28	641.02	436.75	395.51	41.24	10.591			
5,400.00	5,256.88	5,394.24	5,325.66	26.91	22.60	161.49	-399.04	656.07	444.87	402.82	42.06	10.578			
5,500.00	5,353.79	5,493.91	5,423.80	27.44	23.05	161.45	-407.80	671.12	453.00	410.13	42.87	10.566			
5,600.00	5,450.69	5,593.58	5,521.93	27.98	23.49	161.42	-416.56	686.17	461.12	417.43	43.69	10.554			
5,700.00	5,547.60	5,693.25	5,620.07	28.52	23.94	161.38	-425.32	701.22	469.25	424.74	44.51	10.543			
5,800.00	5,644.50	5,792.92	5,718.20	29.06	24.39	161.35	-434.08	716.27	477.37	432.05	45.32	10.532			
5,900.00	5,741.41	5,892.59	5,816.34	29.60	24.83	161.31	-442.84	731.32	485.50	439.36	46.14	10.522			
6,000.00	5,838.31	5,992.25	5,914.48	30.13	25.28	161.28	-451.60	746.37	493.62	446.66	46.96	10.512			
6,100.00	5,935.22	6,091.92	6,012.61	30.67	25.73	161.25	-460.36	761.42	501.75	453.97	47.78	10.502			
6,200.00	6,032.12	6,191.59	6,110.75	31.21	26.17	161.22	-469.12	776.46	509.87	461.28	48.59	10.493			
6,300.00	6,129.03	6,291.26	6,208.88	31.75	26.62	161.19	-477.88	791.51	518.00	468.59	49.41	10.483			
6,400.00	6,225.93	6,390.93	6,307.02	32.29	27.07	161.16	-486.64	806.56	526.13	475.90	50.23	10.474			
6,500.00	6,322.84	6,490.60	6,405.16	32.83	27.51	161.13	-495.40	821.61	534.25	483.21	51.05	10.466			
6,600.00	6,419.74	6,590.27	6,503.29	33.36	27.96	161.10	-504.16	836.66	542.38	490.51	51.87	10.457			
6,700.00	6,516.65	6,689.94	6,601.43	33.90	28.41	161.08	-512.92	851.71	550.51	497.82	52.68	10.449			
6,800.00	6,613.55	6,789.61	6,699.56	34.44	28.85	161.05	-521.68	866.76	558.63	505.13	53.50	10.441			
6,865.63	6,677.15	6,855.02	6,763.97	34.79	29.15	161.03	-527.43	876.64	563.97	509.93	54.04	10.436			
6,900.00	6,710.52	6,889.26	6,797.69	34.98	29.30	171.89	-530.44	881.81	566.74	512.41	54.33	10.432			
6,950.00	6,759.15	6,938.91	6,846.57	35.22	29.52	-171.55	-534.81	889.30	570.72	515.93	54.79	10.417			
7,000.00	6,807.67	6,988.12	6,895.03	35.45	29.74	-156.45	-539.11	896.73	574.69	519.41	55.28	10.395			
7,050.00	6,855.86	7,037.18	6,943.46	35.66	29.95	-144.38	-541.38	904.16	578.74	522.97	55.78	10.376			
7,100.00	6,903.48	7,086.87	6,992.55	35.84	30.15	-135.39	-540.25	911.68	582.89	526.65	56.24	10.364			
7,150.00	6,950.29	7,137.20	7,042.08	36.01	30.32	-128.86	-535.60	919.26	587.10	530.43	56.67	10.360			
7,200.00	6,996.07	7,188.21	7,091.82	36.16	30.48	-124.12	-527.31	926.88	591.36	534.30	57.07	10.363			
7,250.00	7,040.60	7,239.91	7,141.52	36.29	30.62	-120.64	-515.27	934.48	595.65	538.22	57.42	10.373			
7,300.00	7,083.65	7,292.34	7,190.90	36.40	30.75	-118.06	-499.40	942.03	599.92	542.18	57.74	10.390			
7,350.00	7,125.01	7,345.51	7,239.67	36.50	30.87	-116.13	-479.61	949.48	604.16	546.14	58.01	10.414			
7,400.00	7,164.50	7,399.43	7,287.50	36.58	30.97	-114.66	-455.87	956.78	608.32	550.08	58.24	10.445			
7,450.00	7,201.91	7,454.10	7,334.07	36.65	31.06	-113.55	-428.14	963.88	612.38	553.96	58.42	10.482			
7,500.00	7,237.05	7,509.53	7,379.01	36.70	31.13	-112.71	-396.45	970.73	616.30	557.74	58.56	10.524			
7,550.00	7,269.77	7,565.70	7,421.95	36.74	31.18	-112.07	-360.84	977.27	620.05	561.38	58.67	10.569			
7,600.00	7,299.90	7,622.62	7,462.50	36.77	31.22	-111.59	-321.41	983.43	623.59	564.85	58.74	10.616			
7,650.00	7,327.30	7,680.23	7,500.27	36.79	31.24	-111.23	-278.30	989.17	626.89	568.09	58.79	10.663			
7,700.00	7,351.82	7,738.52	7,534.87	36.80	31.26	-110.97	-231.70	994.41	629.91	571.07	58.84	10.706			
7,750.00	7,373.35	7,797.44	7,565.92	36.80	31.25	-110.78	-181.87	999.11	632.61	573.73	58.88	10.744			
7,800.00	7,391.79	7,856.93	7,593.06	36.79	31.24	-110.65	-129.11	1,003.21	634.98	576.03	58.95	10.772			
7,850.00	7,407.05	7,916.92	7,615.96	36.77	31.21	-110.57	-73.79	1,006.65	636.99	577.94	59.05	10.788			
7,900.00	7,419.05	7,977.35	7,634.31	36.75	31.17	-110.53	-16.30	1,009.39	638.60	579.40	59.19	10.788			
7,950.00	7,427.73	8,038.12	7,647.87	36.73	31.12	-110.51	42.89	1,011.40	639.80	580.40	59.40	10.771			
8,000.00	7,433.05	8,099.15	7,656.45	36.70	31.07	-110.52	103.28	1,012.64	640.57	580.90	59.67	10.735			
8,053.55	7,435.00	8,164.69	7,659.97	36.67	31.01	-110.55	168.70	1,013.10	640.92	580.88	60.04	10.674			
8,100.00	7,435.00	8,212.28	7,660.00	36.64	30.97	-110.55	216.29	1,013.05	640.92	580.50	60.42	10.608			
8,200.00	7,435.00	8,312.28	7,660.00	36.61	30.91	-110.55	316.29	1,012.93	640.92	579.60	61.32	10.452			
8,300.00	7,435.00	8,412.28	7,660.00	36.60	30.92	-110.55	416.29	1,012.81	640.92	578.56	62.35	10.279			
8,400.00	7,435.00	8,512.28	7,660.00	36.63	31.28	-110.55	516.29	1,012.69	640.92	577.40	63.52	10.091			
8,500.00	7,435.00	8,612.28	7,660.00	36.70	31.92	-110.55	616.29	1,012.57	640.91	576.11	64.80	9.891			
8,600.00	7,435.00	8,712.28	7,660.00	36.82	32.64	-110.55	716.29	1,012.45	640.91	574.72	66.20	9.682			
8,700.00	7,435.00	8,812.28	7,660.00	37.02	33.43	-110.55	816.29	1,012.33	640.91	573.21	67.70	9.467			
8,800.00	7,435.00	8,912.28	7,660.00	37.33	34.27	-110.55	916.29	1,012.21	640.91	571.61	69.30	9.248			
8,900.00	7,435.00	9,012.28	7,660.00	37.77	35.16	-110.55	1,016.29	1,012.09	640.91	569.91	71.00	9.027			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft				
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft				
Reference													Semi Major Axis		Distance			Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor						
9,000.00	7,435.00	9,112.28	7,660.00	38.34	36.09	-110.55	1,116.29	1,011.96	640.90	568.12	72.78	8.806						
9,100.00	7,435.00	9,212.28	7,660.00	39.03	37.07	-110.55	1,216.29	1,011.84	640.90	566.26	74.64	8.586						
9,200.00	7,435.00	9,312.28	7,660.00	39.84	38.08	-110.55	1,316.28	1,011.72	640.90	564.32	76.58	8.369						
9,300.00	7,435.00	9,412.28	7,660.00	40.73	39.14	-110.55	1,416.28	1,011.60	640.90	562.31	78.58	8.156						
9,400.00	7,435.00	9,512.28	7,660.00	41.69	40.22	-110.55	1,516.28	1,011.48	640.89	560.24	80.65	7.946						
9,500.00	7,435.00	9,612.28	7,660.00	42.70	41.34	-110.55	1,616.28	1,011.36	640.89	558.11	82.78	7.742						
9,600.00	7,435.00	9,712.28	7,660.00	43.77	42.48	-110.55	1,716.28	1,011.24	640.89	555.92	84.96	7.543						
9,700.00	7,435.00	9,812.28	7,660.00	44.87	43.66	-110.55	1,816.28	1,011.12	640.89	553.69	87.20	7.350						
9,800.00	7,435.00	9,912.28	7,660.00	46.01	44.85	-110.55	1,916.28	1,011.00	640.88	551.41	89.48	7.163						
9,900.00	7,435.00	10,012.28	7,660.00	47.17	46.07	-110.55	2,016.28	1,010.88	640.88	549.08	91.80	6.981						
10,000.00	7,435.00	10,112.28	7,660.00	48.37	47.32	-110.55	2,116.28	1,010.76	640.88	546.72	94.16	6.806						
10,100.00	7,435.00	10,212.28	7,660.00	49.59	48.58	-110.55	2,216.28	1,010.64	640.88	544.31	96.56	6.637						
10,200.00	7,435.00	10,312.28	7,660.00	50.83	49.85	-110.55	2,316.28	1,010.52	640.88	541.88	99.00	6.474						
10,300.00	7,435.00	10,412.28	7,660.00	52.09	51.15	-110.55	2,416.28	1,010.40	640.87	539.41	101.46	6.316						
10,400.00	7,435.00	10,512.28	7,660.00	53.37	52.46	-110.55	2,516.28	1,010.28	640.87	536.91	103.96	6.165						
10,500.00	7,435.00	10,612.28	7,660.00	54.66	53.79	-110.55	2,616.28	1,010.16	640.87	534.39	106.48	6.018						
10,600.00	7,435.00	10,712.28	7,660.00	55.97	55.13	-110.55	2,716.28	1,010.04	640.87	531.83	109.03	5.878						
10,700.00	7,435.00	10,812.28	7,660.00	57.30	56.48	-110.55	2,816.28	1,009.92	640.86	529.26	111.61	5.742						
10,800.00	7,435.00	10,912.28	7,660.00	58.64	57.84	-110.55	2,916.28	1,009.79	640.86	526.66	114.20	5.612						
10,900.00	7,435.00	11,012.28	7,660.00	59.99	59.22	-110.55	3,016.28	1,009.67	640.86	524.04	116.82	5.486						
11,000.00	7,435.00	11,112.28	7,660.00	61.35	60.60	-110.55	3,116.28	1,009.55	640.86	521.41	119.45	5.365						
11,100.00	7,435.00	11,212.28	7,660.00	62.73	62.00	-110.55	3,216.28	1,009.43	640.85	518.75	122.10	5.248						
11,200.00	7,435.00	11,312.28	7,660.00	64.11	63.40	-110.55	3,316.28	1,009.31	640.85	516.08	124.77	5.136						
11,300.00	7,435.00	11,412.28	7,660.00	65.50	64.81	-110.55	3,416.28	1,009.19	640.85	513.39	127.46	5.028						
11,400.00	7,435.00	11,512.28	7,660.00	66.90	66.23	-110.55	3,516.28	1,009.07	640.85	510.69	130.16	4.923						
11,500.00	7,435.00	11,612.28	7,660.00	68.31	67.66	-110.55	3,616.28	1,008.95	640.85	507.97	132.88	4.823						
11,600.00	7,435.00	11,712.28	7,660.00	69.73	69.09	-110.55	3,716.28	1,008.83	640.84	505.24	135.61	4.726						
11,700.00	7,435.00	11,812.28	7,660.00	71.15	70.53	-110.55	3,816.28	1,008.71	640.84	502.49	138.35	4.632						
11,800.00	7,435.00	11,912.28	7,660.00	72.58	71.98	-110.55	3,916.28	1,008.59	640.84	499.74	141.10	4.542						
11,900.00	7,435.00	12,012.28	7,660.00	74.02	73.43	-110.55	4,016.28	1,008.47	640.84	496.97	143.86	4.455						
12,000.00	7,435.00	12,112.28	7,660.00	75.46	74.89	-110.55	4,116.28	1,008.35	640.83	494.20	146.64	4.370						
12,100.00	7,435.00	12,212.28	7,660.00	76.91	76.35	-110.55	4,216.28	1,008.23	640.83	491.41	149.42	4.289						
12,135.65	7,435.00	12,247.93	7,660.00	77.43	76.87	-110.56	4,251.93	1,008.18	640.83	490.42	150.41	4.260 SF						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4T-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	-89.19	0.28	-19.86	19.87	19.59	0.28	71.975		
100.00	100.00	100.00	100.00	0.14	0.14	-89.19	0.28	-19.86	19.87	18.87	0.99	20.008		
200.00	200.00	200.00	200.00	0.50	0.50	-89.19	0.28	-19.86	19.87	18.16	1.71	11.619	CC, ES	
300.00	300.00	300.00	300.00	0.85	0.85	-89.19	0.28	-19.86	19.87	19.10	2.42	8.901		
400.00	399.98	399.98	399.98	1.20	1.21	161.64	0.28	-19.86	21.52	23.41	3.13	8.491		
500.00	499.84	499.84	499.84	1.55	1.57	165.17	0.28	-19.86	26.53	29.54	3.84	8.691		
600.00	599.45	600.58	600.56	1.91	1.92	167.85	-0.56	-18.31	33.38	35.79	4.57	8.825		
700.00	698.70	701.56	701.39	2.29	2.27	168.97	-3.08	-13.62	40.36	42.11	5.33	8.906		
800.00	797.47	802.78	802.22	2.69	2.62	169.19	-7.29	-5.79	47.43	48.48	6.09	8.959		
900.00	895.62	904.24	902.90	3.11	3.00	168.87	-13.21	5.21	54.57	54.91	6.87	8.995		
1,000.00	993.06	1,005.93	1,003.30	3.56	3.39	168.18	-20.83	19.37	61.78	55.85	6.98	8.996		
1,014.60	1,007.22	1,020.80	1,017.94	3.63	3.45	168.06	-22.09	21.71	62.83	60.79	7.62	8.973		
1,100.00	1,089.97	1,106.56	1,102.16	4.05	3.80	167.23	-29.74	35.94	68.41	66.45	8.37	8.937		
1,200.00	1,186.87	1,206.35	1,200.13	4.54	4.22	166.39	-38.72	52.61	74.83	72.12	9.13	8.896		
1,300.00	1,283.78	1,306.13	1,298.11	5.05	4.65	165.68	-47.69	69.29	81.26	77.79	9.91	8.853		
1,400.00	1,380.68	1,405.92	1,396.08	5.56	5.08	165.08	-56.66	85.97	87.70	83.46	10.69	8.811		
1,500.00	1,477.59	1,505.71	1,494.06	6.07	5.52	164.56	-65.64	102.64	94.15	89.13	11.47	8.769		
1,600.00	1,574.49	1,605.50	1,592.03	6.59	5.96	164.10	-74.61	119.32	100.60	94.80	12.26	8.730		
1,700.00	1,671.40	1,705.29	1,690.01	7.11	6.41	163.70	-83.58	136.00	107.06	100.47	13.06	8.693		
1,800.00	1,768.30	1,805.08	1,787.98	7.64	6.86	163.35	-92.56	152.67	113.53	106.14	13.86	8.658		
1,900.00	1,865.21	1,904.87	1,885.96	8.17	7.31	163.03	-101.53	169.35	120.00	111.81	14.66	8.624		
2,000.00	1,962.11	2,004.65	1,983.93	8.69	7.76	162.74	-110.50	186.03	126.47	117.48	15.47	8.593		
2,100.00	2,059.02	2,104.44	2,081.91	9.22	8.21	162.49	-119.48	202.70	132.95	123.14	16.28	8.564		
2,200.00	2,155.92	2,204.23	2,179.88	9.75	8.67	162.26	-128.45	219.38	139.42	128.81	17.09	8.537		
2,300.00	2,252.83	2,304.02	2,277.86	10.28	9.13	162.04	-137.42	236.06	145.90	134.48	17.90	8.512		
2,400.00	2,349.73	2,403.81	2,375.83	10.82	9.58	161.85	-146.40	252.73	152.39	140.15	18.72	8.488		
2,500.00	2,446.64	2,503.60	2,473.81	11.35	10.04	161.67	-155.37	269.41	158.87	145.82	19.53	8.465		
2,600.00	2,543.54	2,603.38	2,571.78	11.88	10.50	161.51	-164.34	286.09	165.35	151.49	20.35	8.444		
2,700.00	2,640.45	2,703.17	2,669.76	12.42	10.96	161.36	-173.32	302.76	171.84	157.16	21.17	8.424		
2,800.00	2,737.35	2,802.96	2,767.73	12.95	11.41	161.21	-182.29	319.44	178.33	162.83	21.99	8.405		
2,900.00	2,834.26	2,902.75	2,865.71	13.49	11.87	161.08	-191.26	336.12	184.82	168.50	22.81	8.388		
3,000.00	2,931.16	3,002.54	2,963.68	14.02	12.33	160.96	-200.24	352.79	191.31	174.17	23.63	8.371		
3,100.00	3,028.07	3,102.33	3,061.66	14.56	12.79	160.85	-209.21	369.47	197.80	179.84	24.45	8.355		
3,200.00	3,124.97	3,202.11	3,159.63	15.09	13.25	160.74	-218.18	386.15	204.29	185.51	25.27	8.340		
3,300.00	3,221.88	3,301.90	3,257.61	15.63	13.71	160.64	-227.16	402.83	210.78	191.17	26.10	8.326		
3,400.00	3,318.78	3,401.69	3,355.58	16.16	14.18	160.55	-236.13	419.50	217.27	196.84	26.92	8.312		
3,500.00	3,415.69	3,501.48	3,453.56	16.70	14.64	160.46	-245.10	436.18	223.76	202.51	27.74	8.299		
3,600.00	3,512.59	3,601.27	3,551.53	17.24	15.10	160.37	-254.08	452.86	230.26	208.18	28.57	8.287		
3,700.00	3,609.50	3,701.06	3,649.51	17.77	15.56	160.30	-263.05	469.53	236.75	213.85	29.39	8.276		
3,800.00	3,706.40	3,800.85	3,747.48	18.31	16.02	160.22	-272.02	486.21	243.24	219.52	30.22	8.264		
3,900.00	3,803.31	3,900.63	3,845.46	18.85	16.48	160.15	-280.99	502.89	249.74	225.19	31.04	8.254		
4,000.00	3,900.21	4,000.42	3,943.43	19.38	16.94	160.08	-289.97	519.56	256.23	230.86	31.87	8.244		
4,100.00	3,997.12	4,100.21	4,041.41	19.92	17.41	160.02	-298.94	536.24	262.73	236.53	32.70	8.234		
4,200.00	4,094.02	4,200.00	4,139.38	20.46	17.87	159.96	-307.91	552.92	269.22	242.20	33.52	8.225		
4,300.00	4,190.93	4,299.79	4,237.36	20.99	18.33	159.90	-316.89	569.59	275.72	247.87	34.35	8.216		
4,400.00	4,287.83	4,399.58	4,335.33	21.53	18.79	159.84	-325.86	586.27	282.21	253.53	35.18	8.207		
4,500.00	4,384.74	4,499.36	4,433.31	22.07	19.26	159.79	-334.83	602.95	288.71	259.20	36.00	8.199		
4,600.00	4,481.64	4,599.15	4,531.28	22.61	19.72	159.74	-343.81	619.62	295.21	264.87	36.83	8.191		
4,700.00	4,578.55	4,698.94	4,629.26	23.14	20.18	159.69	-352.78	636.30	301.70	270.54	37.66	8.184		
4,800.00	4,675.45	4,798.73	4,727.23	23.68	20.64	159.65	-361.75	652.98	308.20	276.21	38.49	8.177		
4,900.00	4,772.36	4,898.52	4,825.21	24.22	21.11	159.60	-370.73	669.65	314.70	281.88	39.32	8.170		
5,000.00	4,869.26	4,998.31	4,923.18	24.76	21.57	159.56	-379.70	686.33	321.20	288.88	40.15	8.163		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,100.00	4,966.17	5,098.10	5,021.16	25.29	22.03	159.52	-388.67	703.01	327.69	287.55	40.14	8.163			
5,200.00	5,063.07	5,197.88	5,119.13	25.83	22.50	159.48	-397.65	719.68	334.19	293.22	40.97	8.156			
5,300.00	5,159.98	5,297.67	5,217.11	26.37	22.96	159.44	-406.62	736.36	340.69	298.89	41.80	8.150			
5,400.00	5,256.88	5,397.46	5,315.08	26.91	23.42	159.40	-415.59	753.04	347.19	304.56	42.63	8.144			
5,500.00	5,353.79	5,497.25	5,413.06	27.44	23.89	159.37	-424.57	769.71	353.68	310.22	43.46	8.138			
5,600.00	5,450.69	5,597.04	5,511.03	27.98	24.35	159.33	-433.54	786.39	360.18	315.89	44.29	8.133			
5,700.00	5,547.60	5,696.83	5,609.01	28.52	24.81	159.30	-442.51	803.07	366.68	321.56	45.12	8.127			
5,800.00	5,644.50	5,796.61	5,706.98	29.06	25.28	159.27	-451.49	819.74	373.18	327.23	45.95	8.122			
5,900.00	5,741.41	5,896.40	5,804.96	29.60	25.74	159.24	-460.46	836.42	379.68	332.90	46.78	8.117			
6,000.00	5,838.31	5,996.19	5,902.93	30.13	26.20	159.21	-469.43	853.10	386.18	338.57	47.61	8.112			
6,100.00	5,935.22	6,095.98	6,000.91	30.67	26.67	159.18	-478.41	869.77	392.67	344.24	48.44	8.107			
6,200.00	6,032.12	6,195.77	6,098.88	31.21	27.13	159.15	-487.38	886.45	399.17	349.91	49.26	8.103			
6,300.00	6,129.03	6,295.56	6,196.86	31.75	27.59	159.13	-496.35	903.13	405.67	355.58	50.09	8.098			
6,400.00	6,225.93	6,395.34	6,294.83	32.29	28.06	159.10	-505.33	919.80	412.17	361.25	50.92	8.094			
6,500.00	6,322.84	6,495.13	6,392.81	32.83	28.52	159.08	-514.30	936.48	418.67	366.92	51.75	8.090			
6,600.00	6,419.74	6,594.92	6,490.78	33.36	28.98	159.05	-523.27	953.16	425.17	372.58	52.58	8.085			
6,700.00	6,516.65	6,694.71	6,588.76	33.90	29.45	159.03	-532.25	969.83	431.67	378.25	53.41	8.081			
6,800.00	6,613.55	6,794.60	6,686.85	34.44	29.91	159.05	-540.89	986.53	438.16	383.93	54.23	8.079			
6,865.63	6,677.15	6,859.99	6,751.29	34.79	30.18	159.68	-541.80	997.49	442.42	387.79	54.63	8.098			
6,900.00	6,710.52	6,893.86	6,784.63	34.98	30.32	171.11	-539.92	1,003.16	444.69	389.91	54.79	8.117			
6,950.00	6,759.15	6,942.80	6,832.56	35.22	30.49	-171.22	-534.39	1,011.31	448.07	393.08	54.99	8.148			
7,000.00	6,807.67	6,991.36	6,879.64	35.45	30.64	-154.71	-525.63	1,019.31	451.51	396.34	55.17	8.184			
7,050.00	6,855.86	7,039.57	6,925.69	35.66	30.77	-141.12	-513.75	1,027.13	454.99	399.66	55.33	8.223			
7,100.00	6,903.48	7,087.42	6,970.53	35.84	30.89	-130.65	-498.88	1,034.74	458.49	403.01	55.48	8.264			
7,150.00	6,950.29	7,134.95	7,013.99	36.01	31.00	-122.68	-481.15	1,042.11	461.99	406.37	55.62	8.307			
7,200.00	6,996.07	7,182.17	7,055.93	36.16	31.09	-116.55	-460.66	1,049.22	465.46	409.71	55.74	8.350			
7,250.00	7,040.60	7,229.09	7,096.20	36.29	31.17	-111.73	-437.58	1,056.05	468.87	413.01	55.86	8.393			
7,300.00	7,083.65	7,275.75	7,134.67	36.40	31.23	-107.86	-412.02	1,062.56	472.21	416.23	55.98	8.435			
7,350.00	7,125.01	7,322.15	7,171.23	36.50	31.29	-104.69	-384.14	1,068.75	475.45	419.36	56.09	8.476			
7,400.00	7,164.50	7,368.32	7,205.77	36.58	31.33	-102.06	-354.07	1,074.59	478.57	422.37	56.20	8.515			
7,450.00	7,201.91	7,414.27	7,238.17	36.65	31.36	-99.85	-321.97	1,080.07	481.55	425.23	56.31	8.551			
7,500.00	7,237.05	7,460.02	7,268.36	36.70	31.38	-97.98	-287.97	1,085.16	484.36	427.93	56.43	8.584			
7,550.00	7,269.77	7,505.60	7,296.24	36.74	31.39	-96.38	-252.24	1,089.86	486.99	430.45	56.54	8.613			
7,600.00	7,299.90	7,550.00	7,321.19	36.77	31.40	-95.02	-215.76	1,094.07	489.43	432.76	56.67	8.637			
7,650.00	7,327.30	7,596.28	7,344.78	36.79	31.39	-93.86	-176.15	1,098.04	491.65	434.84	56.81	8.655			
7,700.00	7,351.82	7,641.43	7,365.31	36.80	31.38	-92.88	-136.10	1,101.48	493.64	436.68	56.96	8.667			
7,750.00	7,373.35	7,686.46	7,383.27	36.80	31.36	-92.06	-94.92	1,104.49	495.38	438.26	57.13	8.672			
7,800.00	7,391.79	7,731.41	7,398.62	36.79	31.33	-91.40	-52.76	1,107.05	496.88	439.56	57.31	8.669			
7,850.00	7,407.05	7,776.29	7,411.32	36.77	31.30	-90.87	-9.78	1,109.16	498.11	440.58	57.53	8.659			
7,900.00	7,419.05	7,821.10	7,421.32	36.75	31.27	-90.47	33.87	1,110.82	499.06	441.30	57.76	8.640			
7,950.00	7,427.73	7,865.88	7,428.61	36.73	31.24	-90.19	78.03	1,112.01	499.74	441.72	58.03	8.612			
8,000.00	7,433.05	7,910.64	7,433.16	36.70	31.20	-90.03	122.54	1,112.73	500.14	441.82	58.32	8.576			
8,053.55	7,435.00	7,958.57	7,434.99	36.67	31.16	-90.00	170.43	1,112.99	500.25	441.59	58.66	8.527			
8,073.60	7,435.00	7,978.18	7,435.00	36.66	31.14	-90.00	190.03	1,112.96	500.25	441.45	58.80	8.507			
8,100.00	7,435.00	8,004.58	7,435.00	36.64	31.13	-90.00	216.44	1,112.93	500.25	441.26	58.98	8.481			
8,200.00	7,435.00	8,104.58	7,435.00	36.61	31.07	-90.00	316.44	1,112.82	500.24	440.46	59.78	8.368			
8,300.00	7,435.00	8,204.58	7,435.00	36.60	31.08	-90.00	416.44	1,112.71	500.23	439.50	60.73	8.237			
8,400.00	7,435.00	8,304.58	7,435.00	36.63	31.23	-90.00	516.44	1,112.59	500.22	438.38	61.83	8.090			
8,500.00	7,435.00	8,404.58	7,435.00	36.70	31.67	-90.00	616.44	1,112.48	500.21	437.13	63.08	7.930			
8,600.00	7,435.00	8,504.58	7,435.00	36.82	32.32	-90.00	716.44	1,112.36	500.20	435.75	64.45	7.761			
8,700.00	7,435.00	8,604.58	7,435.00	37.02	33.08	-90.00	816.44	1,112.25	500.19	434.24	65.95	7.584			
8,800.00	7,435.00	8,704.58	7,435.00	37.33	33.91	-90.00	916.44	1,112.14	500.18	432.61	67.57	7.403			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
S32-T2N-R68W - HWY52 4T-32H-O268 - OH - PLAN #2														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
8,900.00	7,435.00	8,804.58	7,435.00	37.77	34.80	-90.00	1,016.44	1,112.02	500.18	430.88	69.29	7.218		
9,000.00	7,435.00	8,904.58	7,435.00	38.34	35.74	-90.00	1,116.44	1,111.91	500.17	429.05	71.12	7.033		
9,100.00	7,435.00	9,004.58	7,435.00	39.03	36.72	-90.00	1,216.44	1,111.79	500.16	427.12	73.04	6.848		
9,200.00	7,435.00	9,104.58	7,435.00	39.84	37.74	-90.00	1,316.44	1,111.68	500.15	425.11	75.04	6.665		
9,300.00	7,435.00	9,204.58	7,435.00	40.73	38.80	-90.00	1,416.44	1,111.57	500.14	423.02	77.12	6.485		
9,400.00	7,435.00	9,304.58	7,435.00	41.69	39.90	-90.00	1,516.44	1,111.45	500.13	420.86	79.27	6.309		
9,500.00	7,435.00	9,404.58	7,435.00	42.70	41.02	-90.00	1,616.44	1,111.34	500.12	418.63	81.49	6.137		
9,600.00	7,435.00	9,504.58	7,435.00	43.77	42.17	-90.00	1,716.44	1,111.22	500.11	416.34	83.78	5.970		
9,700.00	7,435.00	9,604.58	7,435.00	44.87	43.35	-90.00	1,816.44	1,111.11	500.10	413.99	86.12	5.807		
9,800.00	7,435.00	9,704.58	7,435.00	46.01	44.56	-90.00	1,916.44	1,110.99	500.10	411.59	88.51	5.650		
9,900.00	7,435.00	9,804.58	7,435.00	47.17	45.79	-90.00	2,016.44	1,110.88	500.09	409.14	90.95	5.499		
10,000.00	7,435.00	9,904.58	7,435.00	48.37	47.03	-90.00	2,116.44	1,110.77	500.08	406.65	93.43	5.352		
10,100.00	7,435.00	10,004.58	7,435.00	49.59	48.30	-90.00	2,216.44	1,110.65	500.07	404.11	95.96	5.211		
10,200.00	7,435.00	10,104.58	7,435.00	50.83	49.59	-90.00	2,316.44	1,110.54	500.06	401.54	98.52	5.076		
10,300.00	7,435.00	10,204.58	7,435.00	52.09	50.89	-90.00	2,416.44	1,110.42	500.05	398.93	101.12	4.945		
10,400.00	7,435.00	10,304.58	7,435.00	53.37	52.21	-90.00	2,516.44	1,110.31	500.04	396.29	103.75	4.820		
10,500.00	7,435.00	10,404.58	7,435.00	54.66	53.54	-90.00	2,616.44	1,110.20	500.03	393.63	106.41	4.699		
10,600.00	7,435.00	10,504.58	7,435.00	55.97	54.88	-90.00	2,716.44	1,110.08	500.02	390.93	109.09	4.583		
10,700.00	7,435.00	10,604.58	7,435.00	57.30	56.24	-90.00	2,816.44	1,109.97	500.02	388.21	111.81	4.472		
10,800.00	7,435.00	10,704.58	7,435.00	58.64	57.61	-90.00	2,916.44	1,109.85	500.01	385.46	114.54	4.365		
10,900.00	7,435.00	10,804.58	7,435.00	59.99	58.99	-90.00	3,016.44	1,109.74	500.00	382.69	117.30	4.262		
11,000.00	7,435.00	10,904.58	7,435.00	61.35	60.38	-90.00	3,116.44	1,109.63	499.99	379.91	120.08	4.164		
11,100.00	7,435.00	11,004.58	7,435.00	62.73	61.78	-90.00	3,216.44	1,109.51	499.98	377.10	122.88	4.069		
11,200.00	7,435.00	11,104.58	7,435.00	64.11	63.18	-90.00	3,316.44	1,109.40	499.97	374.27	125.70	3.978		
11,300.00	7,435.00	11,204.58	7,435.00	65.50	64.60	-90.00	3,416.44	1,109.28	499.96	371.43	128.53	3.890		
11,400.00	7,435.00	11,304.58	7,435.00	66.90	66.02	-90.00	3,516.44	1,109.17	499.95	368.57	131.38	3.805		
11,500.00	7,435.00	11,404.58	7,435.00	68.31	67.45	-90.00	3,616.44	1,109.05	499.94	365.70	134.25	3.724		
11,600.00	7,435.00	11,504.58	7,435.00	69.73	68.89	-90.00	3,716.44	1,108.94	499.94	362.81	137.13	3.646		
11,700.00	7,435.00	11,604.58	7,435.00	71.15	70.33	-90.00	3,816.44	1,108.83	499.93	359.91	140.02	3.570		
11,800.00	7,435.00	11,704.58	7,435.00	72.58	71.78	-90.00	3,916.44	1,108.71	499.92	357.00	142.92	3.498		
11,900.00	7,435.00	11,804.58	7,435.00	74.02	73.24	-90.00	4,016.44	1,108.60	499.91	354.08	145.83	3.428		
12,000.00	7,435.00	11,904.58	7,435.00	75.46	74.70	-90.00	4,116.44	1,108.48	499.90	351.14	148.76	3.360		
12,100.00	7,435.00	12,004.58	7,435.00	76.91	76.17	-90.00	4,216.44	1,108.37	499.89	348.20	151.69	3.295		
12,135.65	7,435.00	12,040.23	7,435.00	77.43	76.69	-90.00	4,252.09	1,108.33	499.89	347.15	152.74	3.273 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)				Between Ellipses (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	-89.90	0.02	-10.07	10.07					
100.00	100.00	100.00	100.00	0.14	0.14	-89.90	0.02	-10.07	10.07	9.80	0.28	36.491		
200.00	200.00	200.00	200.00	0.50	0.50	-89.90	0.02	-10.07	10.07	9.08	0.99	10.144		
300.00	300.00	300.00	300.00	0.85	0.85	-89.90	0.02	-10.07	10.07	8.36	1.71	5.891	CC, ES	
400.00	399.98	399.98	399.98	1.20	1.21	162.35	0.02	-10.07	11.72	9.30	2.42	4.849		
500.00	499.84	500.24	500.22	1.55	1.56	163.48	-1.33	-8.95	15.52	12.40	3.12	4.975		
600.00	599.45	600.54	600.37	1.91	1.90	159.82	-5.36	-5.56	20.26	16.43	3.83	5.289		
700.00	698.70	701.03	700.49	2.29	2.26	155.20	-11.71	0.25	25.95	21.39	4.57	5.682		
800.00	797.47	801.89	800.71	2.69	2.63	154.21	-18.24	9.45	31.54	26.20	5.34	5.907		
900.00	895.62	902.95	900.76	3.11	3.02	155.74	-24.55	22.21	36.77	30.64	6.13	5.998		
1,000.00	993.06	1,004.19	1,000.49	3.56	3.42	158.89	-30.65	38.53	41.72	34.79	6.93	6.023		
1,014.60	1,007.22	1,018.99	1,015.01	3.63	3.49	159.45	-31.52	41.21	42.43	35.39	7.04	6.024		
1,100.00	1,089.97	1,105.62	1,099.78	4.05	3.85	162.73	-36.52	58.40	45.37	37.65	7.72	5.878		
1,200.00	1,186.87	1,206.18	1,197.62	4.54	4.31	166.61	-42.14	80.91	46.40	37.94	8.46	5.483		
1,300.00	1,283.78	1,306.13	1,294.81	5.05	4.77	170.35	-47.72	103.54	47.38	38.19	9.19	5.156		
1,400.00	1,380.68	1,406.08	1,392.01	5.56	5.25	173.93	-53.29	126.17	48.56	38.64	9.92	4.895		
1,500.00	1,477.59	1,506.03	1,489.20	6.07	5.73	177.32	-58.86	148.80	49.91	39.25	10.66	4.683		
1,600.00	1,574.49	1,605.98	1,586.39	6.59	6.22	-179.47	-64.44	171.44	51.43	40.02	11.41	4.509		
1,700.00	1,671.40	1,705.93	1,683.58	7.11	6.72	-176.46	-70.01	194.07	53.10	40.93	12.17	4.363		
1,800.00	1,768.30	1,805.87	1,780.78	7.64	7.21	-173.64	-75.58	216.70	54.91	41.96	12.95	4.239		
1,900.00	1,865.21	1,905.82	1,877.97	8.17	7.72	-171.00	-81.16	239.33	56.85	43.10	13.75	4.134		
2,000.00	1,962.11	2,005.77	1,975.16	8.69	8.22	-168.55	-86.73	261.96	58.89	44.32	14.57	4.042		
2,100.00	2,059.02	2,105.72	2,072.36	9.22	8.72	-166.26	-92.30	284.59	61.04	45.64	15.41	3.963		
2,200.00	2,155.92	2,205.67	2,169.55	9.75	9.23	-164.13	-97.88	307.22	63.28	47.02	16.26	3.892		
2,300.00	2,252.83	2,305.61	2,266.74	10.28	9.74	-162.14	-103.45	329.85	65.60	48.48	17.13	3.831		
2,400.00	2,349.73	2,405.56	2,363.93	10.82	10.25	-160.30	-109.02	352.49	67.99	49.99	18.01	3.776		
2,500.00	2,446.64	2,505.51	2,461.13	11.35	10.76	-158.58	-114.60	375.12	70.45	51.55	18.90	3.727		
2,600.00	2,543.54	2,605.46	2,558.32	11.88	11.27	-156.98	-120.17	397.75	72.97	53.16	19.81	3.683		
2,700.00	2,640.45	2,705.41	2,655.51	12.42	11.78	-155.49	-125.74	420.38	75.54	54.81	20.73	3.644		
2,800.00	2,737.35	2,805.36	2,752.70	12.95	12.29	-154.09	-131.32	443.01	78.16	56.50	21.66	3.609		
2,900.00	2,834.26	2,905.30	2,849.90	13.49	12.80	-152.79	-136.89	465.64	80.82	58.23	22.60	3.577		
3,000.00	2,931.16	3,005.25	2,947.09	14.02	13.32	-151.57	-142.46	488.27	83.52	59.98	23.54	3.548		
3,100.00	3,028.07	3,105.20	3,044.28	14.56	13.83	-150.43	-148.04	510.91	86.26	61.77	24.49	3.522		
3,200.00	3,124.97	3,205.15	3,141.47	15.09	14.34	-149.36	-153.61	533.54	89.03	63.58	25.45	3.498		
3,300.00	3,221.88	3,305.10	3,238.67	15.63	14.86	-148.35	-159.18	556.17	91.83	65.42	26.41	3.477		
3,400.00	3,318.78	3,405.05	3,335.86	16.16	15.37	-147.40	-164.76	578.80	94.65	67.27	27.38	3.457		
3,500.00	3,415.69	3,504.99	3,433.05	16.70	15.89	-146.51	-170.33	601.43	97.50	69.15	28.35	3.439		
3,600.00	3,512.59	3,604.94	3,530.24	17.24	16.40	-145.67	-175.90	624.06	100.37	71.05	29.32	3.423		
3,700.00	3,609.50	3,704.89	3,627.44	17.77	16.92	-144.88	-181.48	646.69	103.26	72.96	30.30	3.408		
3,800.00	3,706.40	3,804.84	3,724.63	18.31	17.44	-144.13	-187.05	669.32	106.17	74.89	31.28	3.394		
3,900.00	3,803.31	3,904.79	3,821.82	18.85	17.95	-143.42	-192.62	691.96	109.10	76.84	32.26	3.381		
4,000.00	3,900.21	4,004.73	3,919.02	19.38	18.47	-142.74	-198.20	714.59	112.04	78.79	33.25	3.370		
4,100.00	3,997.12	4,104.68	4,016.21	19.92	18.98	-142.10	-203.77	737.22	115.00	80.76	34.24	3.359		
4,200.00	4,094.02	4,204.63	4,113.40	20.46	19.50	-141.50	-209.34	759.85	117.97	82.75	35.23	3.349		
4,300.00	4,190.93	4,304.58	4,210.59	20.99	20.02	-140.92	-214.92	782.48	120.96	84.74	36.22	3.340		
4,400.00	4,287.83	4,404.53	4,307.79	21.53	20.53	-140.37	-220.49	805.11	123.95	86.74	37.21	3.331		
4,500.00	4,384.74	4,504.48	4,404.98	22.07	21.05	-139.85	-226.06	827.74	126.96	88.76	38.20	3.323		
4,600.00	4,481.64	4,604.42	4,502.17	22.61	21.57	-139.35	-231.64	850.38	129.98	90.78	39.20	3.316		
4,700.00	4,578.55	4,704.37	4,599.36	23.14	22.09	-138.87	-237.21	873.01	133.00	92.81	40.19	3.309		
4,800.00	4,675.45	4,804.32	4,696.56	23.68	22.60	-138.42	-242.78	895.64	136.04	94.85	41.19	3.303		
4,900.00	4,772.36	4,904.27	4,793.75	24.22	23.12	-137.98	-248.36	918.27	139.08	96.89	42.19	3.297		
5,000.00	4,869.26	5,004.22	4,890.94	24.76	23.64	-137.57	-253.93	940.90	142.13	98.94	43.19	3.291		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4U-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,966.17	5,104.17	4,988.13	25.29	24.15	-137.17	-259.50	963.53	145.19	101.00	44.19	3.286		
5,200.00	5,063.07	5,204.11	5,085.33	25.83	24.67	-136.79	-265.08	986.16	148.25	103.07	45.18	3.281		
5,300.00	5,159.98	5,304.06	5,182.52	26.37	25.19	-136.42	-270.65	1,008.79	151.32	105.14	46.18	3.277		
5,400.00	5,256.88	5,404.01	5,279.71	26.91	25.71	-136.07	-276.22	1,031.43	154.40	107.22	47.19	3.272		
5,500.00	5,353.79	5,503.96	5,376.91	27.44	26.23	-135.73	-281.80	1,054.06	157.48	109.30	48.19	3.268		
5,600.00	5,450.69	5,603.91	5,474.10	27.98	26.74	-135.40	-287.37	1,076.69	160.57	111.38	49.19	3.264		
5,700.00	5,547.60	5,703.85	5,571.29	28.52	27.26	-135.09	-292.94	1,099.32	163.66	113.47	50.19	3.261		
5,800.00	5,644.50	5,803.80	5,668.48	29.06	27.78	-134.79	-298.52	1,121.95	166.76	115.57	51.19	3.258		
5,900.00	5,741.41	5,903.75	5,765.68	29.60	28.30	-134.50	-304.09	1,144.58	169.86	117.67	52.19	3.254		
6,000.00	5,838.31	6,003.70	5,862.87	30.13	28.82	-134.22	-309.67	1,167.21	172.97	119.77	53.20	3.252		
6,100.00	5,935.22	6,103.65	5,960.06	30.67	29.33	-133.95	-315.24	1,189.85	176.08	121.88	54.20	3.249		
6,200.00	6,032.12	6,203.60	6,057.25	31.21	29.85	-133.69	-320.81	1,212.48	179.19	123.99	55.20	3.246		
6,300.00	6,129.03	6,303.54	6,154.45	31.75	30.37	-133.44	-326.39	1,235.11	182.31	126.11	56.21	3.244		
6,400.00	6,225.93	6,403.49	6,251.64	32.29	30.89	-133.19	-331.96	1,257.74	185.43	128.22	57.21	3.241		
6,500.00	6,322.84	6,503.44	6,348.83	32.83	31.41	-132.96	-337.53	1,280.37	188.56	130.34	58.21	3.239		
6,600.00	6,419.74	6,603.39	6,446.02	33.36	31.93	-132.73	-343.11	1,303.00	191.68	132.47	59.22	3.237		
6,700.00	6,516.65	6,703.34	6,543.22	33.90	32.44	-132.51	-348.68	1,325.63	194.81	134.59	60.22	3.235		
6,800.00	6,613.55	6,803.29	6,640.41	34.44	32.96	-132.30	-354.25	1,348.26	197.95	136.72	61.23	3.233		
6,865.63	6,677.15	6,868.88	6,704.20	34.79	33.30	-132.16	-357.91	1,363.12	200.00	138.12	61.89	3.232		
6,900.00	6,710.52	6,903.25	6,737.61	34.98	33.48	-121.44	-359.83	1,370.90	200.32	138.11	62.21	3.220		
6,950.00	6,759.15	6,953.17	6,786.16	35.22	33.74	-105.18	-362.61	1,382.20	198.05	135.45	62.60	3.164		
7,000.00	6,807.67	6,993.85	6,825.76	35.45	33.95	-90.31	-364.00	1,391.38	193.61	130.83	62.78	3.084		
7,050.00	6,855.86	7,033.61	6,864.50	35.66	34.14	-78.47	-363.15	1,400.27	188.56	125.83	62.73	3.006		
7,100.00	6,903.48	7,073.57	6,903.35	35.84	34.32	-69.88	-360.08	1,409.09	182.96	120.49	62.47	2.929		
7,150.00	6,950.29	7,113.76	6,942.21	36.01	34.49	-63.94	-354.76	1,417.81	176.83	114.85	61.99	2.853		
7,200.00	6,996.07	7,150.00	6,976.98	36.16	34.64	-59.88	-348.05	1,425.52	170.29	109.45	60.84	2.799		
7,250.00	7,040.60	7,194.93	7,019.57	36.29	34.80	-57.60	-337.25	1,434.86	163.20	102.80	60.40	2.702		
7,300.00	7,083.65	7,235.97	7,057.86	36.40	34.94	-56.38	-325.02	1,443.15	155.82	96.48	59.34	2.626		
7,350.00	7,125.01	7,277.37	7,095.74	36.50	35.07	-56.16	-310.43	1,451.23	148.16	90.02	58.14	2.548		
7,400.00	7,164.50	7,319.15	7,133.09	36.58	35.19	-56.82	-293.46	1,459.10	140.33	83.46	56.86	2.468		
7,450.00	7,201.91	7,361.35	7,169.80	36.65	35.31	-58.31	-274.09	1,466.71	132.44	76.85	55.60	2.382		
7,500.00	7,237.05	7,404.02	7,205.74	36.70	35.41	-60.65	-252.31	1,474.03	124.66	70.19	54.46	2.289		
7,550.00	7,269.77	7,447.18	7,240.76	36.74	35.50	-63.84	-228.08	1,481.05	117.16	63.53	53.63	2.185		
7,600.00	7,299.90	7,490.90	7,274.74	36.77	35.58	-67.93	-201.41	1,487.71	110.19	56.91	53.28	2.068		
7,650.00	7,327.30	7,535.20	7,307.52	36.79	35.66	-72.95	-172.27	1,493.98	104.02	50.43	53.59	1.941		
7,700.00	7,351.82	7,580.15	7,338.92	36.80	35.72	-78.88	-140.67	1,499.84	98.98	44.35	54.63	1.812		
7,750.00	7,373.35	7,625.79	7,368.79	36.80	35.78	-85.63	-106.59	1,505.23	95.40	39.17	56.23	1.697		
7,800.00	7,391.79	7,672.18	7,396.94	36.79	35.83	-93.00	-70.05	1,510.12	93.59	35.57	58.02	1.613		
7,820.77	7,398.52	7,691.69	7,408.08	36.78	35.84	-96.18	-54.15	1,511.99	93.42	34.72	58.70	1.592		
7,850.00	7,407.05	7,719.38	7,423.17	36.77	35.86	-100.69	-31.07	1,514.46	93.77	34.29	59.48	1.577 SF		
7,900.00	7,419.05	7,767.43	7,447.26	36.75	35.89	-108.34	10.34	1,518.20	96.00	35.86	60.14	1.596		
7,950.00	7,427.73	7,816.42	7,468.98	36.73	35.92	-115.63	54.12	1,521.29	100.19	40.39	59.81	1.675		
8,000.00	7,433.05	7,866.38	7,488.10	36.70	35.93	-122.32	100.21	1,523.69	106.13	47.59	58.53	1.813		
8,053.55	7,435.00	7,921.07	7,505.39	36.67	35.94	-128.70	152.04	1,525.40	114.07	57.67	56.41	2.022		
8,100.00	7,435.00	7,969.92	7,517.55	36.64	35.94	-133.47	199.34	1,526.14	121.25	66.76	54.49	2.225		
8,200.00	7,435.00	8,079.58	7,533.24	36.61	35.94	-138.13	307.76	1,525.02	132.24	79.66	52.58	2.515		
8,300.00	7,435.00	8,184.93	7,535.00	36.60	35.94	-137.35	412.99	1,520.83	136.01	82.02	53.99	2.519		
8,400.00	7,435.00	8,284.84	7,535.00	36.63	35.97	-136.07	512.80	1,516.47	138.92	83.12	55.80	2.490		
8,500.00	7,435.00	8,384.75	7,535.00	36.70	36.03	-134.83	612.62	1,512.12	141.89	84.25	57.65	2.461		
8,600.00	7,435.00	8,484.66	7,535.00	36.82	36.15	-133.65	712.43	1,507.76	144.93	85.40	59.54	2.434		
8,700.00	7,435.00	8,584.57	7,535.00	37.02	36.33	-132.52	812.25	1,503.40	148.03	86.56	61.47	2.408		
8,800.00	7,435.00	8,684.48	7,535.00	37.33	36.60	-131.44	912.06	1,499.04	151.18	87.74	63.44	2.383		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 usft					
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft					
Reference												Semi Major Axis		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)								
8,900.00	7,435.00	8,784.39	7,535.00	37.77	36.98	-130.40	1,011.88	1,494.68	154.39	88.92	65.46	2.358						
9,000.00	7,435.00	8,884.30	7,535.00	38.34	37.49	-129.40	1,111.69	1,490.33	157.64	90.11	67.53	2.334						
9,100.00	7,435.00	8,984.21	7,535.00	39.03	38.12	-128.44	1,211.51	1,485.97	160.94	91.29	69.65	2.311						
9,200.00	7,435.00	9,084.12	7,535.00	39.84	38.86	-127.52	1,311.32	1,481.61	164.28	92.47	71.81	2.288						
9,300.00	7,435.00	9,184.03	7,535.00	40.73	39.71	-126.64	1,411.14	1,477.25	167.67	93.65	74.02	2.265						
9,400.00	7,435.00	9,283.94	7,535.00	41.69	40.63	-125.79	1,510.95	1,472.89	171.09	94.81	76.27	2.243						
9,500.00	7,435.00	9,383.85	7,535.00	42.70	41.62	-124.98	1,610.77	1,468.54	174.54	95.98	78.57	2.222						
9,600.00	7,435.00	9,483.76	7,535.00	43.77	42.66	-124.20	1,710.58	1,464.18	178.04	97.13	80.91	2.200						
9,700.00	7,435.00	9,583.67	7,535.00	44.87	43.75	-123.44	1,810.40	1,459.82	181.56	98.27	83.29	2.180						
9,800.00	7,435.00	9,683.58	7,535.00	46.01	44.88	-122.72	1,910.21	1,455.46	185.11	99.40	85.71	2.160						
9,900.00	7,435.00	9,783.49	7,535.00	47.17	46.04	-122.03	2,010.03	1,451.10	188.69	100.53	88.16	2.140						
10,000.00	7,435.00	9,883.40	7,535.00	48.37	47.24	-121.36	2,109.84	1,446.75	192.30	101.64	90.66	2.121						
10,100.00	7,435.00	9,983.31	7,535.00	49.59	48.47	-120.71	2,209.66	1,442.39	195.93	102.75	93.18	2.103						
10,200.00	7,435.00	10,083.22	7,535.00	50.83	49.72	-120.09	2,309.47	1,438.03	199.59	103.85	95.74	2.085						
10,300.00	7,435.00	10,183.13	7,535.00	52.09	50.99	-119.49	2,409.29	1,433.67	203.27	104.94	98.33	2.067						
10,400.00	7,435.00	10,283.04	7,535.00	53.37	52.28	-118.91	2,509.10	1,429.31	206.97	106.02	100.95	2.050						
10,500.00	7,435.00	10,382.95	7,535.00	54.66	53.59	-118.36	2,608.92	1,424.96	210.69	107.09	103.60	2.034						
10,600.00	7,435.00	10,482.86	7,535.00	55.97	54.92	-117.82	2,708.73	1,420.60	214.43	108.16	106.28	2.018						
10,700.00	7,435.00	10,582.77	7,535.00	57.30	56.27	-117.30	2,808.55	1,416.24	218.19	109.22	108.98	2.002						
10,800.00	7,435.00	10,682.68	7,535.00	58.64	57.63	-116.80	2,908.36	1,411.88	221.97	110.27	111.70	1.987						
10,900.00	7,435.00	10,782.59	7,535.00	59.99	59.00	-116.31	3,008.18	1,407.52	225.76	111.31	114.45	1.973						
11,000.00	7,435.00	10,882.50	7,535.00	61.35	60.39	-115.84	3,107.99	1,403.17	229.57	112.35	117.21	1.959						
11,100.00	7,435.00	10,982.41	7,535.00	62.73	61.79	-115.39	3,207.81	1,398.81	233.39	113.39	120.00	1.945						
11,200.00	7,435.00	11,082.32	7,535.00	64.11	63.20	-114.95	3,307.62	1,394.45	237.23	114.42	122.81	1.932						
11,300.00	7,435.00	11,182.23	7,535.00	65.50	64.62	-114.53	3,407.44	1,390.09	241.08	115.44	125.63	1.919						
11,400.00	7,435.00	11,282.14	7,535.00	66.90	66.05	-114.11	3,507.25	1,385.73	244.94	116.47	128.48	1.907						
11,500.00	7,435.00	11,382.05	7,535.00	68.31	67.49	-113.72	3,607.07	1,381.38	248.82	117.48	131.34	1.895						
11,600.00	7,435.00	11,481.96	7,535.00	69.73	68.93	-113.33	3,706.88	1,377.02	252.71	118.50	134.21	1.883						
11,700.00	7,435.00	11,581.87	7,535.00	71.15	70.39	-112.95	3,806.70	1,372.66	256.60	119.51	137.10	1.872						
11,800.00	7,435.00	11,681.78	7,535.00	72.58	71.85	-112.59	3,906.51	1,368.30	260.51	120.51	140.00	1.861						
11,900.00	7,435.00	11,781.69	7,535.00	74.02	73.32	-112.24	4,006.33	1,363.94	264.43	121.52	142.92	1.850						
12,000.00	7,435.00	11,881.60	7,535.00	75.46	74.79	-111.90	4,106.14	1,359.59	268.36	122.52	145.85	1.840						
12,100.00	7,435.00	11,981.51	7,535.00	76.91	76.27	-111.56	4,205.96	1,355.23	272.30	123.51	148.79	1.830						
12,135.65	7,435.00	12,017.13	7,535.00	77.43	76.80	-111.45	4,241.54	1,353.68	273.71	123.87	149.84	1.827						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft				
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft				
Reference													Semi Major Axis		Distance			Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor						
0.00	0.00	2.00	2.00	0.00	0.00	90.12	-0.02	10.07	10.07									
100.00	100.00	102.00	102.00	0.14	0.15	90.12	-0.02	10.07	10.07	9.79	0.28	35.567						
115.99	115.99	117.99	117.99	0.20	0.20	90.12	-0.02	10.07	10.07	9.67	0.40	25.320	CC					
200.00	200.00	202.00	202.00	0.50	0.50	90.12	-0.02	10.07	10.07	9.07	1.00	10.074	ES					
300.00	300.00	301.78	301.76	0.85	0.85	98.22	-1.59	10.98	11.09	9.37	1.72	6.450						
400.00	399.98	401.36	401.20	1.20	1.20	2.10	-5.76	13.84	13.27	10.80	2.47	5.364						
500.00	499.84	500.86	500.41	1.55	1.56	9.67	-10.37	19.95	15.64	12.41	3.23	4.838						
600.00	599.45	600.33	599.30	1.91	1.93	11.82	-15.06	29.50	17.74	13.75	3.99	4.446						
700.00	698.70	700.00	698.00	2.29	2.32	10.38	-19.84	42.51	19.41	14.69	4.72	4.112						
800.00	797.47	799.13	795.64	2.69	2.73	6.18	-24.68	58.85	20.73	15.20	5.53	3.751						
900.00	895.62	898.40	892.81	3.11	3.16	-0.44	-29.59	78.59	21.91	15.60	6.31	3.472						
1,000.00	993.06	997.58	989.13	3.56	3.63	-9.12	-34.56	101.66	23.29	16.18	7.11	3.277						
1,014.60	1,007.22	1,012.05	1,003.12	3.63	3.70	-10.53	-35.29	105.31	23.53	16.31	7.23	3.257						
1,100.00	1,089.97	1,096.62	1,084.46	4.05	4.14	-18.35	-39.59	128.02	26.49	18.56	7.93	3.340						
1,200.00	1,186.87	1,196.42	1,180.08	4.54	4.68	-25.22	-44.68	156.15	31.81	23.07	8.74	3.641						
1,300.00	1,283.78	1,296.22	1,275.70	5.05	5.23	-30.07	-49.77	184.27	37.46	27.87	9.59	3.905						
1,400.00	1,380.68	1,396.02	1,371.31	5.56	5.79	-33.63	-54.86	212.40	43.31	32.82	10.48	4.131						
1,500.00	1,477.59	1,495.81	1,466.93	6.07	6.36	-36.34	-59.95	240.52	49.28	37.88	11.40	4.323						
1,600.00	1,574.49	1,595.61	1,562.55	6.59	6.93	-38.45	-65.04	268.65	55.34	43.00	12.34	4.486						
1,700.00	1,671.40	1,695.41	1,658.17	7.11	7.51	-40.15	-70.12	296.77	61.46	48.17	13.29	4.626						
1,800.00	1,768.30	1,795.21	1,753.78	7.64	8.09	-41.54	-75.21	324.90	67.62	53.37	14.25	4.746						
1,900.00	1,865.21	1,895.00	1,849.40	8.17	8.68	-42.70	-80.30	353.02	73.82	58.60	15.22	4.851						
2,000.00	1,962.11	1,994.80	1,945.02	8.69	9.26	-43.68	-85.39	381.15	80.04	63.85	16.20	4.942						
2,100.00	2,059.02	2,094.60	2,040.63	9.22	9.85	-44.51	-90.48	409.27	86.28	69.10	17.18	5.023						
2,200.00	2,155.92	2,194.40	2,136.25	9.75	10.44	-45.24	-95.57	437.40	92.54	74.37	18.17	5.094						
2,300.00	2,252.83	2,294.19	2,231.87	10.28	11.03	-45.87	-100.66	465.53	98.81	79.65	19.16	5.158						
2,400.00	2,349.73	2,393.99	2,327.49	10.82	11.63	-46.42	-105.75	493.65	105.09	84.94	20.15	5.215						
2,500.00	2,446.64	2,493.79	2,423.10	11.35	12.22	-46.92	-110.84	521.78	111.38	90.23	21.15	5.266						
2,600.00	2,543.54	2,593.59	2,518.72	11.88	12.81	-47.36	-115.93	549.90	117.68	95.53	22.15	5.313						
2,700.00	2,640.45	2,693.39	2,614.34	12.42	13.41	-47.76	-121.02	578.03	123.98	100.83	23.15	5.355						
2,800.00	2,737.35	2,793.18	2,709.95	12.95	14.00	-48.11	-126.11	606.15	130.29	106.14	24.15	5.394						
2,900.00	2,834.26	2,892.98	2,805.57	13.49	14.60	-48.44	-131.20	634.28	136.60	111.44	25.16	5.430						
3,000.00	2,931.16	2,992.78	2,901.19	14.02	15.19	-48.73	-136.29	662.40	142.92	116.76	26.16	5.462						
3,100.00	3,028.07	3,092.58	2,996.81	14.56	15.79	-49.00	-141.38	690.53	149.24	122.07	27.17	5.492						
3,200.00	3,124.97	3,192.37	3,092.42	15.09	16.38	-49.25	-146.46	718.65	155.56	127.38	28.18	5.520						
3,300.00	3,221.88	3,292.17	3,188.04	15.63	16.98	-49.48	-151.55	746.78	161.89	132.70	29.19	5.546						
3,400.00	3,318.78	3,391.97	3,283.66	16.16	17.58	-49.69	-156.64	774.91	168.22	138.02	30.20	5.570						
3,500.00	3,415.69	3,491.77	3,379.27	16.70	18.17	-49.89	-161.73	803.03	174.55	143.34	31.21	5.593						
3,600.00	3,512.59	3,591.56	3,474.89	17.24	18.77	-50.07	-166.82	831.16	180.88	148.66	32.22	5.614						
3,700.00	3,609.50	3,691.36	3,570.51	17.77	19.37	-50.24	-171.91	859.28	187.22	153.99	33.23	5.634						
3,800.00	3,706.40	3,791.16	3,666.12	18.31	19.97	-50.40	-177.00	887.41	193.55	159.31	34.24	5.652						
3,900.00	3,803.31	3,890.96	3,761.74	18.85	20.56	-50.55	-182.09	915.53	199.89	164.63	35.26	5.670						
4,000.00	3,900.21	3,990.75	3,857.36	19.38	21.16	-50.69	-187.18	943.66	206.23	169.96	36.27	5.686						
4,100.00	3,997.12	4,090.55	3,952.98	19.92	21.76	-50.83	-192.27	971.78	212.57	175.29	37.28	5.701						
4,200.00	4,094.02	4,190.35	4,048.59	20.46	22.36	-50.95	-197.36	999.91	218.91	180.61	38.30	5.716						
4,300.00	4,190.93	4,290.15	4,144.21	20.99	22.96	-51.07	-202.45	1,028.04	225.25	185.94	39.31	5.730						
4,400.00	4,287.83	4,389.95	4,239.83	21.53	23.56	-51.18	-207.54	1,056.16	231.60	191.27	40.33	5.743						
4,500.00	4,384.74	4,489.74	4,335.44	22.07	24.15	-51.28	-212.63	1,084.29	237.94	196.60	41.34	5.755						
4,600.00	4,481.64	4,589.54	4,431.06	22.61	24.75	-51.38	-217.71	1,112.41	244.28	201.93	42.36	5.767						
4,700.00	4,578.55	4,689.34	4,526.68	23.14	25.35	-51.48	-222.80	1,140.54	250.63	207.26	43.37	5.779						
4,800.00	4,675.45	4,789.14	4,622.30	23.68	25.95	-51.57	-227.89	1,168.66	256.97	212.59	44.39	5.789						
4,900.00	4,772.36	4,888.93	4,717.91	24.22	26.55	-51.65	-232.98	1,196.79	263.32	217.92	45.40	5.800						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - HWY52 4W-32H-O268 - OH - PLAN #2													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,000.00	4,869.26	4,988.73	4,813.53	24.76	27.15	-51.73	-238.07	1,224.91	269.67	223.25	46.42	5.809		
5,100.00	4,966.17	5,088.53	4,909.15	25.29	27.75	-51.81	-243.16	1,253.04	276.02	228.58	47.44	5.819		
5,200.00	5,063.07	5,188.33	5,004.76	25.83	28.35	-51.88	-248.25	1,281.16	282.36	233.91	48.45	5.828		
5,300.00	5,159.98	5,288.12	5,100.38	26.37	28.95	-51.95	-253.34	1,309.29	288.71	239.24	49.47	5.836		
5,400.00	5,256.88	5,387.92	5,196.00	26.91	29.55	-52.02	-258.43	1,337.42	295.06	244.58	50.49	5.845		
5,500.00	5,353.79	5,487.72	5,291.62	27.44	30.15	-52.09	-263.52	1,365.54	301.41	249.91	51.50	5.852		
5,600.00	5,450.69	5,587.52	5,387.23	27.98	30.75	-52.15	-268.61	1,393.67	307.76	255.24	52.52	5.860		
5,700.00	5,547.60	5,687.32	5,482.85	28.52	31.34	-52.21	-273.70	1,421.79	314.11	260.57	53.54	5.867		
5,800.00	5,644.50	5,787.11	5,578.47	29.06	31.94	-52.27	-278.79	1,449.92	320.46	265.91	54.55	5.874		
5,900.00	5,741.41	5,886.91	5,674.08	29.60	32.54	-52.32	-283.88	1,478.04	326.81	271.24	55.57	5.881		
6,000.00	5,838.31	5,986.71	5,769.70	30.13	33.14	-52.38	-288.96	1,506.17	333.16	276.57	56.59	5.887		
6,100.00	5,935.22	6,086.51	5,865.32	30.67	33.74	-52.43	-294.05	1,534.29	339.51	281.91	57.61	5.894		
6,200.00	6,032.12	6,186.30	5,960.94	31.21	34.34	-52.48	-299.14	1,562.42	345.86	287.24	58.62	5.900		
6,300.00	6,129.03	6,286.10	6,056.55	31.75	34.94	-52.52	-304.23	1,590.54	352.21	292.57	59.64	5.906		
6,400.00	6,225.93	6,385.90	6,152.17	32.29	35.54	-52.57	-309.32	1,618.67	358.57	297.91	60.66	5.911		
6,500.00	6,322.84	6,485.70	6,247.79	32.83	36.14	-52.61	-314.41	1,646.80	364.92	303.24	61.68	5.917		
6,600.00	6,419.74	6,585.49	6,343.40	33.36	36.74	-52.66	-319.50	1,674.92	371.27	308.58	62.69	5.922		
6,700.00	6,516.65	6,685.29	6,439.02	33.90	37.34	-52.70	-324.59	1,703.05	377.62	313.91	63.71	5.927		
6,800.00	6,613.55	6,785.09	6,534.64	34.44	37.94	-52.74	-329.68	1,731.17	383.98	319.24	64.73	5.932		
6,865.63	6,677.15	6,850.59	6,597.39	34.79	38.33	-52.76	-333.02	1,749.63	388.14	322.75	65.40	5.935		
6,900.00	6,710.52	6,884.90	6,630.27	34.98	38.54	-42.06	-334.77	1,759.30	389.89	324.18	65.71	5.933		
6,950.00	6,759.15	6,934.77	6,678.05	35.22	38.84	-24.97	-337.31	1,773.36	390.85	324.83	66.02	5.920		
7,000.00	6,807.67	6,984.36	6,725.56	35.45	39.14	-8.47	-339.84	1,787.33	390.02	323.87	66.15	5.896		
7,050.00	6,855.86	7,033.42	6,772.56	35.66	39.43	5.68	-342.34	1,801.16	387.55	321.45	66.10	5.863		
7,100.00	6,903.48	7,081.71	6,818.84	35.84	39.72	17.28	-344.81	1,814.77	383.66	317.81	65.85	5.826		
7,150.00	6,950.29	7,129.01	6,864.15	36.01	40.01	26.93	-347.22	1,828.10	378.67	313.27	65.40	5.790		
7,200.00	6,996.07	7,175.08	6,908.29	36.16	40.29	35.27	-349.57	1,841.08	372.98	308.25	64.73	5.762		
7,250.00	7,040.60	7,216.02	6,947.55	36.29	40.53	42.43	-351.14	1,852.59	367.24	303.42	63.83	5.754		
7,300.00	7,083.65	7,255.82	6,985.77	36.40	40.76	48.71	-350.56	1,863.62	362.29	299.44	62.85	5.765		
7,350.00	7,125.01	7,296.51	7,024.82	36.50	40.98	54.45	-347.69	1,874.71	358.31	296.43	61.88	5.791		
7,400.00	7,164.50	7,338.20	7,064.64	36.58	41.18	59.80	-342.37	1,885.82	355.47	294.48	60.99	5.828		
7,450.00	7,201.91	7,381.02	7,105.21	36.65	41.39	64.87	-334.42	1,896.94	353.89	293.64	60.25	5.874		
7,481.82	7,224.55	7,408.92	7,131.39	36.68	41.51	67.97	-327.89	1,904.01	353.60	293.72	59.88	5.905		
7,500.00	7,237.05	7,425.10	7,146.48	36.70	41.58	69.70	-323.63	1,908.04	353.70	294.00	59.70	5.924		
7,550.00	7,269.77	7,470.59	7,188.37	36.74	41.76	74.34	-309.77	1,919.07	354.97	295.61	59.35	5.981		
7,600.00	7,299.90	7,517.69	7,230.82	36.77	41.93	78.81	-292.57	1,929.99	357.73	298.57	59.17	6.046		
7,650.00	7,327.30	7,566.58	7,273.71	36.79	42.09	83.13	-271.71	1,940.74	361.99	302.91	59.08	6.127		
7,700.00	7,351.82	7,617.51	7,316.88	36.80	42.24	87.29	-246.84	1,951.25	367.68	308.69	58.99	6.233		
7,750.00	7,373.35	7,670.74	7,360.13	36.80	42.37	91.30	-217.56	1,961.43	374.70	315.92	58.78	6.375		
7,800.00	7,391.79	7,726.55	7,403.18	36.79	42.50	95.16	-183.42	1,971.16	382.90	324.55	58.35	6.562		
7,850.00	7,407.05	7,785.29	7,445.65	36.77	42.60	98.88	-143.91	1,980.30	392.09	334.50	57.59	6.808		
7,900.00	7,419.05	7,847.30	7,487.03	36.75	42.70	102.45	-98.52	1,988.64	402.02	345.58	56.44	7.123		
7,950.00	7,427.73	7,912.96	7,526.63	36.73	42.77	105.86	-46.68	1,995.95	412.42	357.55	54.87	7.516		
8,000.00	7,433.05	7,982.64	7,563.56	36.70	42.83	109.10	12.08	2,001.92	422.99	370.08	52.90	7.995		
8,053.55	7,435.00	8,062.15	7,598.83	36.67	42.87	112.38	83.14	2,006.43	434.09	383.61	50.47	8.600		
8,100.00	7,435.00	8,136.28	7,624.78	36.64	42.89	115.42	152.53	2,008.37	442.26	393.90	48.36	9.145		
8,200.00	7,435.00	8,310.94	7,657.94	36.61	42.86	119.46	323.51	2,004.22	449.29	403.55	45.74	9.823		
8,300.00	7,435.00	8,435.57	7,660.00	36.60	42.82	120.28	447.74	1,994.83	443.30	397.27	46.03	9.631		
8,400.00	7,435.00	8,535.26	7,660.00	36.63	42.80	120.80	547.10	1,986.83	436.49	390.14	46.35	9.417		
8,500.00	7,435.00	8,634.95	7,660.00	36.70	42.80	121.34	646.47	1,978.84	429.72	382.90	46.82	9.179		
8,600.00	7,435.00	8,734.63	7,660.00	36.82	42.81	121.90	745.84	1,970.84	422.99	375.57	47.42	8.920		
8,700.00	7,435.00	8,834.32	7,660.00	37.02	42.85	122.47	845.20	1,962.85	416.30	368.15	48.15	8.645		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft					
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft					
Reference													Semi Major Axis		Distance				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning						
8,800.00	7,435.00	8,934.01	7,660.00	37.33	42.90	123.06	944.57	1,954.85	409.65	360.65	49.00	8.361							
8,900.00	7,435.00	9,033.70	7,660.00	37.77	43.00	123.67	1,043.93	1,946.86	403.05	353.10	49.95	8.070							
9,000.00	7,435.00	9,133.38	7,660.00	38.34	43.13	124.31	1,143.30	1,938.86	396.50	345.51	50.99	7.776							
9,100.00	7,435.00	9,233.07	7,660.00	39.03	43.31	124.96	1,242.67	1,930.87	389.99	337.89	52.11	7.485							
9,200.00	7,435.00	9,332.76	7,660.00	39.84	43.57	125.64	1,342.03	1,922.87	383.54	330.25	53.29	7.197							
9,300.00	7,435.00	9,432.45	7,660.00	40.73	43.92	126.33	1,441.40	1,914.88	377.14	322.61	54.53	6.916							
9,400.00	7,435.00	9,532.13	7,660.00	41.69	44.39	127.06	1,540.77	1,906.88	370.80	314.99	55.82	6.643							
9,500.00	7,435.00	9,631.82	7,660.00	42.70	44.98	127.80	1,640.13	1,898.89	364.52	307.39	57.14	6.380							
9,600.00	7,435.00	9,731.51	7,660.00	43.77	45.70	128.58	1,739.50	1,890.89	358.31	299.83	58.48	6.127							
9,700.00	7,435.00	9,831.20	7,660.00	44.87	46.53	129.38	1,838.87	1,882.90	352.16	292.33	59.84	5.885							
9,800.00	7,435.00	9,925.42	7,660.00	46.01	47.42	130.09	1,932.84	1,875.95	346.59	285.18	61.42	5.643							
9,900.00	7,435.00	10,016.93	7,660.00	47.17	48.37	130.51	2,024.25	1,871.95	343.35	279.96	63.39	5.416							
10,000.00	7,435.00	10,111.21	7,660.00	48.37	49.40	130.63	2,118.52	1,870.71	342.43	276.82	65.61	5.219							
10,100.00	7,435.00	10,211.21	7,660.00	49.59	50.54	130.68	2,218.52	1,870.13	342.09	274.33	67.75	5.049							
10,200.00	7,435.00	10,311.21	7,660.00	50.83	51.72	130.73	2,318.51	1,869.55	341.74	271.81	69.93	4.887							
10,300.00	7,435.00	10,411.21	7,660.00	52.09	52.92	130.78	2,418.51	1,868.96	341.39	269.27	72.12	4.733							
10,400.00	7,435.00	10,511.21	7,660.00	53.37	54.16	130.83	2,518.51	1,868.38	341.04	266.70	74.34	4.587							
10,500.00	7,435.00	10,611.21	7,660.00	54.66	55.41	130.89	2,618.51	1,867.80	340.70	264.11	76.58	4.449							
10,600.00	7,435.00	10,711.20	7,660.00	55.97	56.69	130.94	2,718.50	1,867.22	340.35	261.51	78.84	4.317							
10,700.00	7,435.00	10,811.20	7,660.00	57.30	57.98	130.99	2,818.50	1,866.64	340.00	258.89	81.12	4.192							
10,800.00	7,435.00	10,911.20	7,660.00	58.64	59.29	131.04	2,918.50	1,866.05	339.66	256.25	83.41	4.072							
10,900.00	7,435.00	11,011.20	7,660.00	59.99	60.61	131.09	3,018.50	1,865.47	339.31	253.60	85.71	3.959							
11,000.00	7,435.00	11,111.20	7,660.00	61.35	61.95	131.14	3,118.49	1,864.89	338.97	250.94	88.03	3.851							
11,100.00	7,435.00	11,211.20	7,660.00	62.73	63.30	131.19	3,218.49	1,864.31	338.62	248.27	90.35	3.748							
11,200.00	7,435.00	11,311.20	7,660.00	64.11	64.66	131.24	3,318.49	1,863.73	338.27	245.59	92.69	3.650							
11,300.00	7,435.00	11,411.20	7,660.00	65.50	66.03	131.29	3,418.48	1,863.14	337.93	242.90	95.03	3.556							
11,400.00	7,435.00	11,511.20	7,660.00	66.90	67.42	131.34	3,518.48	1,862.56	337.58	240.20	97.39	3.466							
11,500.00	7,435.00	11,611.20	7,660.00	68.31	68.81	131.40	3,618.48	1,861.98	337.24	237.49	99.75	3.381							
11,600.00	7,435.00	11,711.19	7,660.00	69.73	70.21	131.45	3,718.48	1,861.40	336.90	234.78	102.12	3.299							
11,700.00	7,435.00	11,811.19	7,660.00	71.15	71.62	131.50	3,818.47	1,860.82	336.55	232.06	104.49	3.221							
11,800.00	7,435.00	11,911.19	7,660.00	72.58	73.03	131.55	3,918.47	1,860.24	336.21	229.34	106.87	3.146							
11,900.00	7,435.00	12,011.19	7,660.00	74.02	74.46	131.60	4,018.47	1,859.65	335.87	226.61	109.25	3.074							
12,000.00	7,435.00	12,111.19	7,660.00	75.46	75.89	131.65	4,118.47	1,859.07	335.52	223.88	111.64	3.005							
12,100.00	7,435.00	12,211.19	7,660.00	76.91	77.32	131.71	4,218.46	1,858.49	335.18	221.15	114.03	2.939							
12,133.16	7,435.00	12,243.21	7,660.00	77.39	77.78	131.72	4,250.49	1,858.30	335.07	220.19	114.88	2.917							
12,135.65	7,435.00	12,243.21	7,660.00	77.43	77.78	131.72	4,250.49	1,858.30	335.08	220.02	115.06	2.912 SF							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - Nelson 1 - TEXAS TEA - NO SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 5000-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-5.00	1,423.24	-124.50	1,429.41					
100.00	100.00	54.00	54.00	0.14	0.10	-5.00	1,423.24	-124.50	1,428.67	1,428.44	0.23	6,088.179		
200.00	200.00	154.00	154.00	0.50	0.28	-5.00	1,423.24	-124.50	1,428.67	1,427.90	0.77	1,850.326		
300.00	300.00	254.00	254.00	0.85	0.45	-5.00	1,423.24	-124.50	1,428.67	1,427.36	1.31	1,090.943	CC, ES	
400.00	399.98	353.98	353.98	1.20	0.63	-115.80	1,423.24	-124.50	1,429.43	1,427.60	1.84	778.067		
500.00	499.84	453.84	453.84	1.55	0.81	-115.94	1,423.24	-124.50	1,431.72	1,429.35	2.36	605.526		
600.00	599.45	553.45	553.45	1.91	0.99	-116.19	1,423.24	-124.50	1,435.56	1,432.66	2.90	494.591		
700.00	698.70	652.70	652.70	2.29	1.17	-116.52	1,423.24	-124.50	1,441.00	1,437.55	3.45	417.352		
800.00	797.47	751.47	751.47	2.69	1.35	-116.94	1,423.24	-124.50	1,448.11	1,444.09	4.02	360.408		
900.00	895.62	849.62	849.62	3.11	1.52	-117.44	1,423.24	-124.50	1,456.96	1,452.36	4.60	316.606		
1,000.00	993.06	947.06	947.06	3.56	1.70	-118.02	1,423.24	-124.50	1,467.64	1,462.43	5.21	281.807		
1,014.60	1,007.22	961.22	961.22	3.63	1.72	-118.11	1,423.24	-124.50	1,469.36	1,464.06	5.30	277.249		
1,100.00	1,089.97	1,043.97	1,043.97	4.05	1.87	-118.81	1,423.24	-124.50	1,479.65	1,473.82	5.83	253.680		
1,200.00	1,186.87	1,140.87	1,140.87	4.54	2.04	-119.62	1,423.24	-124.50	1,491.99	1,485.53	6.46	230.826	SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Nelson E Unit 2 - CPR WELL - GYRO													Offset Well Error:	0.00 usft
Survey Program: 100- GyroFlex														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	44.98	859.35	858.64	1,216.23					
100.00	100.00	41.21	41.21	0.14	0.03	44.98	859.34	858.64	1,214.80	1,214.64	0.15	7,856.938		
200.00	200.00	141.14	141.14	0.50	0.09	44.98	859.26	858.68	1,214.77	1,214.20	0.57	2,139.546		
216.56	216.56	157.55	157.55	0.56	0.10	44.98	859.27	858.67	1,214.76	1,214.13	0.64	1,903.597		
300.00	300.00	240.04	240.04	0.85	0.15	44.97	859.44	858.54	1,214.79	1,213.80	0.99	1,226.265		
400.00	399.98	338.88	338.88	1.20	0.24	-65.88	859.72	858.44	1,214.21	1,212.80	1.41	860.062		
500.00	499.84	437.79	437.79	1.55	0.36	-66.14	860.03	858.42	1,212.29	1,210.43	1.86	652.840		
600.00	599.45	538.87	538.87	1.91	0.48	-66.59	860.28	858.54	1,209.04	1,206.72	2.32	521.314		
700.00	698.70	640.67	640.66	2.29	0.59	-67.23	860.42	858.31	1,204.18	1,201.41	2.76	435.721		
800.00	797.47	738.01	738.01	2.69	0.71	-68.05	860.90	857.81	1,198.16	1,194.95	3.21	373.295		
900.00	895.62	836.76	836.75	3.11	0.86	-69.06	861.36	857.35	1,191.10	1,187.41	3.70	322.325		
1,000.00	993.06	935.02	935.01	3.56	1.00	-70.26	861.96	856.57	1,183.03	1,178.82	4.21	281.023		
1,014.60	1,007.22	949.07	949.06	3.63	1.02	-70.45	862.06	856.44	1,181.79	1,177.50	4.29	275.590		
1,100.00	1,089.97	1,031.45	1,031.43	4.05	1.14	-71.43	862.68	855.64	1,174.66	1,169.91	4.75	247.207		
1,200.00	1,186.87	1,129.47	1,129.44	4.54	1.29	-72.63	863.49	854.57	1,166.77	1,161.46	5.31	219.735		
1,300.00	1,283.78	1,228.50	1,228.46	5.05	1.43	-73.86	864.26	853.14	1,159.17	1,153.29	5.88	197.213		
1,400.00	1,380.68	1,323.94	1,323.88	5.56	1.57	-75.08	865.14	851.56	1,152.10	1,145.65	6.45	178.531		
1,500.00	1,477.59	1,419.55	1,419.47	6.07	1.71	-76.31	866.19	849.88	1,145.69	1,138.65	7.04	162.744		
1,600.00	1,574.49	1,515.59	1,515.49	6.59	1.86	-77.58	867.37	848.06	1,139.89	1,132.25	7.64	149.295		
1,700.00	1,671.40	1,610.04	1,609.90	7.11	2.01	-78.84	868.68	846.22	1,134.81	1,126.57	8.24	137.757		
1,800.00	1,768.30	1,705.65	1,705.49	7.64	2.15	-80.13	870.13	844.38	1,130.46	1,121.61	8.85	127.752		
1,900.00	1,865.21	1,805.20	1,805.01	8.17	2.31	-81.48	871.49	842.49	1,126.61	1,117.15	9.47	119.026		
2,000.00	1,962.11	1,902.43	1,902.23	8.69	2.45	-82.79	872.53	840.78	1,123.22	1,113.14	10.08	111.419		
2,100.00	2,059.02	1,999.69	1,999.46	9.22	2.60	-84.09	873.39	839.27	1,120.38	1,109.68	10.70	104.722		
2,200.00	2,155.92	2,094.96	2,094.72	9.75	2.75	-85.37	874.18	837.93	1,118.17	1,106.85	11.32	98.785		
2,300.00	2,252.83	2,190.49	2,190.24	10.28	2.90	-86.65	875.02	836.69	1,116.66	1,104.72	11.95	93.473		
2,400.00	2,349.73	2,293.01	2,292.76	10.82	3.05	-88.02	875.74	835.30	1,115.58	1,103.01	12.57	88.737		
2,500.00	2,446.64	2,392.40	2,392.12	11.35	3.19	-89.36	876.02	833.79	1,114.68	1,101.50	13.18	84.569		
2,600.00	2,543.54	2,490.01	2,489.73	11.88	3.32	-90.66	876.10	832.40	1,114.24	1,100.46	13.78	80.853		
2,640.19	2,582.49	2,529.47	2,529.19	12.10	3.37	-91.19	876.08	831.88	1,114.20	1,100.18	14.02	79.468		
2,700.00	2,640.45	2,588.30	2,588.01	12.42	3.45	-91.97	876.02	831.05	1,114.28	1,099.90	14.38	77.509		
2,800.00	2,737.35	2,681.45	2,681.15	12.95	3.57	-93.22	876.03	829.69	1,114.97	1,100.00	14.97	74.464		
2,900.00	2,834.26	2,783.14	2,782.83	13.49	3.71	-94.58	876.07	828.19	1,116.30	1,100.73	15.57	71.688		
3,000.00	2,931.16	2,879.50	2,879.17	14.02	3.83	-95.86	875.80	826.59	1,117.89	1,101.73	16.16	69.179		
3,100.00	3,028.07	2,971.67	2,971.33	14.56	3.96	-97.10	875.79	824.98	1,120.31	1,103.56	16.75	66.884		
3,200.00	3,124.97	3,065.81	3,065.45	15.09	4.10	-98.36	876.15	823.23	1,123.70	1,106.35	17.35	64.771		
3,300.00	3,221.88	3,161.77	3,161.39	15.63	4.24	-99.65	876.63	821.33	1,127.78	1,109.83	17.95	62.826		
3,400.00	3,318.78	3,259.31	3,258.91	16.16	4.39	-100.96	877.13	819.22	1,132.46	1,113.91	18.55	61.044		
3,500.00	3,415.69	3,355.77	3,355.35	16.70	4.54	-102.25	877.52	817.07	1,137.65	1,118.50	19.15	59.416		
3,600.00	3,512.59	3,451.22	3,450.77	17.24	4.68	-103.51	877.98	814.94	1,143.51	1,123.77	19.74	57.929		
3,700.00	3,609.50	3,546.34	3,545.87	17.77	4.83	-104.75	878.49	812.99	1,150.04	1,129.70	20.33	56.560		
3,800.00	3,706.40	3,641.99	3,641.49	18.31	4.97	-105.98	879.12	811.03	1,157.27	1,136.34	20.93	55.302		
3,900.00	3,803.31	3,740.15	3,739.62	18.85	5.12	-107.24	879.74	808.61	1,165.02	1,143.50	21.52	54.144		
4,000.00	3,900.21	3,837.58	3,837.01	19.38	5.27	-108.51	880.17	805.76	1,173.15	1,151.05	22.10	53.088		
4,100.00	3,997.12	3,931.14	3,930.53	19.92	5.41	-109.71	880.67	802.90	1,181.96	1,159.28	22.67	52.135		
4,200.00	4,094.02	4,023.47	4,022.81	20.46	5.55	-110.87	881.43	800.21	1,191.61	1,168.37	23.25	51.263		
4,300.00	4,190.93	4,116.70	4,116.00	20.99	5.70	-112.02	882.48	797.67	1,202.10	1,178.28	23.83	50.455		
4,400.00	4,287.83	4,211.43	4,210.70	21.53	5.85	-113.15	883.70	795.46	1,213.27	1,188.85	24.41	49.696		
4,500.00	4,384.74	4,303.29	4,302.52	22.07	5.99	-114.22	885.12	793.37	1,225.18	1,200.18	25.00	49.009		
4,600.00	4,481.64	4,398.46	4,397.66	22.61	6.13	-115.31	886.82	791.44	1,237.79	1,212.19	25.60	48.356		
4,700.00	4,578.55	4,493.81	4,492.98	23.14	6.27	-116.36	888.62	789.67	1,250.93	1,224.73	26.20	47.750		
4,800.00	4,675.45	4,585.86	4,584.99	23.68	6.41	-117.36	890.53	787.92	1,264.70	1,237.92	26.79	47.211		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 100- GyroFlex													Offset Well Error:	0.00 usft	
Reference				Offset				Semi Major Axis			Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
4,900.00	4,772.36	4,682.98	4,682.07	24.22	6.55	-118.39	892.73	786.16	1,279.07	1,251.68	27.39	46.696			
5,000.00	4,869.26	4,775.94	4,774.99	24.76	6.68	-119.36	894.83	784.34	1,293.87	1,265.89	27.98	46.243			
5,100.00	4,966.17	4,869.89	4,868.89	25.29	6.82	-120.30	897.27	782.81	1,309.32	1,280.75	28.57	45.824			
5,200.00	5,063.07	4,972.14	4,971.10	25.83	6.96	-121.31	899.85	781.13	1,325.09	1,295.90	29.19	45.399			
5,300.00	5,159.98	5,069.89	5,068.81	26.37	7.10	-122.25	901.86	779.49	1,340.78	1,311.00	29.78	45.019			
5,400.00	5,256.88	5,165.30	5,164.18	26.91	7.25	-123.15	903.89	777.91	1,356.89	1,326.52	30.37	44.683			
5,500.00	5,353.79	5,261.78	5,260.63	27.44	7.39	-124.04	905.98	776.34	1,373.37	1,342.42	30.95	44.369			
5,600.00	5,450.69	5,358.55	5,357.37	27.98	7.52	-124.90	908.10	774.98	1,390.14	1,358.60	31.54	44.076			
5,700.00	5,547.60	5,455.91	5,454.70	28.52	7.66	-125.73	910.26	773.87	1,407.17	1,375.05	32.13	43.801			
5,800.00	5,644.50	5,554.82	5,553.58	29.06	7.80	-126.57	912.29	772.56	1,424.39	1,391.68	32.71	43.540			
5,900.00	5,741.41	5,653.38	5,652.11	29.60	7.95	-127.38	914.12	771.30	1,441.70	1,408.41	33.30	43.299			
6,000.00	5,838.31	5,750.95	5,749.66	30.13	8.09	-128.18	915.82	770.02	1,459.20	1,425.33	33.87	43.081			
6,100.00	5,935.22	5,846.59	5,845.28	30.67	8.23	-128.94	917.41	768.69	1,476.93	1,442.49	34.43	42.891			
6,200.00	6,032.12	5,940.76	5,939.43	31.21	8.37	-129.66	919.20	767.57	1,495.05	1,460.06	34.99	42.724			
7,550.00	7,269.77	7,169.40	7,167.69	36.74	10.08	-56.11	946.09	755.02	1,485.80	1,444.11	41.69	35.640			
7,600.00	7,299.90	7,200.00	7,198.28	36.77	10.13	-57.90	946.80	754.44	1,458.18	1,416.36	41.82	34.871			
7,650.00	7,327.30	7,225.19	7,223.46	36.79	10.17	-60.02	947.41	753.94	1,428.99	1,387.07	41.92	34.092			
7,700.00	7,351.82	7,250.15	7,248.41	36.80	10.21	-62.62	948.03	753.45	1,398.43	1,356.42	42.01	33.284			
7,750.00	7,373.35	7,272.27	7,270.51	36.80	10.24	-65.57	948.58	753.01	1,366.72	1,324.62	42.10	32.462			
7,800.00	7,391.79	7,291.42	7,289.66	36.79	10.27	-68.84	949.07	752.63	1,334.07	1,291.89	42.18	31.629			
7,850.00	7,407.05	7,307.34	7,305.57	36.77	10.30	-72.34	949.48	752.31	1,300.73	1,258.49	42.24	30.791			
7,900.00	7,419.05	7,320.02	7,318.24	36.75	10.32	-76.01	949.81	752.06	1,266.92	1,224.62	42.30	29.951			
7,950.00	7,427.73	7,329.58	7,327.80	36.73	10.33	-79.77	950.06	751.87	1,232.89	1,190.54	42.35	29.113			
8,000.00	7,433.05	7,335.97	7,334.18	36.70	10.34	-83.52	950.23	751.74	1,198.86	1,156.47	42.39	28.282			
8,053.55	7,435.00	7,339.25	7,337.46	36.67	10.34	-87.44	950.32	751.67	1,162.67	1,120.24	42.43	27.403			
8,100.00	7,435.00	7,340.47	7,338.68	36.64	10.35	-87.52	950.35	751.65	1,132.00	1,089.54	42.46	26.661			
8,200.00	7,435.00	7,343.12	7,341.33	36.61	10.35	-87.69	950.43	751.60	1,069.83	1,027.30	42.53	25.152			
8,300.00	7,435.00	7,345.79	7,344.00	36.60	10.35	-87.87	950.50	751.54	1,013.72	971.10	42.62	23.786			
8,400.00	7,435.00	7,348.49	7,346.69	36.63	10.36	-88.05	950.57	751.49	964.74	922.02	42.71	22.587			
8,500.00	7,435.00	7,351.21	7,349.41	36.70	10.36	-88.23	950.65	751.43	924.00	881.20	42.80	21.587			
8,600.00	7,435.00	7,353.94	7,352.15	36.82	10.37	-88.41	950.73	751.38	892.66	849.77	42.88	20.816			
8,700.00	7,435.00	7,356.71	7,354.91	37.02	10.37	-88.60	950.80	751.32	871.71	828.77	42.93	20.304			
8,800.00	7,435.00	7,359.49	7,357.69	37.33	10.38	-88.78	950.88	751.27	861.91	818.98	42.93	20.076			
8,834.96	7,435.00	7,360.47	7,358.67	37.47	10.38	-88.85	950.91	751.25	861.20	818.28	42.92	20.064	CC, ES, SF		
8,900.00	7,435.00	7,362.30	7,360.49	37.77	10.38	-88.97	950.96	751.21	863.65	820.79	42.87	20.147			
9,000.00	7,435.00	7,365.13	7,363.32	38.34	10.38	-89.16	951.04	751.15	876.86	834.13	42.74	20.517			
9,100.00	7,435.00	7,367.98	7,366.18	39.03	10.39	-89.35	951.12	751.10	901.03	858.48	42.55	21.174			
9,200.00	7,435.00	7,370.86	7,369.05	39.84	10.39	-89.54	951.20	751.04	935.32	892.98	42.34	22.093			
9,300.00	7,435.00	7,373.76	7,371.95	40.73	10.40	-89.73	951.28	750.98	978.65	936.54	42.11	23.239			
9,400.00	7,435.00	7,376.69	7,374.88	41.69	10.40	-89.93	951.37	750.92	1,029.90	987.99	41.91	24.576			
9,500.00	7,435.00	7,379.64	7,377.83	42.70	10.41	-90.12	951.45	750.86	1,087.93	1,046.20	41.73	26.068			
9,600.00	7,435.00	7,382.62	7,380.80	43.77	10.41	-90.32	951.54	750.80	1,151.73	1,110.13	41.60	27.683			
9,700.00	7,435.00	7,385.62	7,383.81	44.87	10.42	-90.52	951.63	750.74	1,220.39	1,178.88	41.51	29.398			
9,800.00	7,435.00	7,388.65	7,386.83	46.01	10.42	-90.72	951.72	750.68	1,293.14	1,251.68	41.46	31.192			
9,900.00	7,435.00	7,391.71	7,389.88	47.17	10.42	-90.92	951.81	750.62	1,369.33	1,327.89	41.43	33.050			
10,000.00	7,435.00	7,394.79	7,392.96	48.37	10.43	-91.13	951.90	750.56	1,448.40	1,406.97	41.43	34.962			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 100- GyroFlex													Offset Well Error:		0.00 usft
Reference				Offset				Semi Major Axis		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
7,300.00	7,083.65	7,044.78	7,042.86	36.40	8.63	41.45	321.35	2,811.05	1,495.89	1,455.95	39.93	37.458			
7,350.00	7,125.01	7,087.32	7,085.40	36.50	8.66	46.37	321.81	2,811.08	1,474.25	1,434.36	39.89	36.955			
7,400.00	7,164.50	7,128.46	7,126.54	36.58	8.69	51.04	322.22	2,811.09	1,451.74	1,411.91	39.83	36.451			
7,450.00	7,201.91	7,167.68	7,165.76	36.65	8.72	55.55	322.60	2,811.07	1,428.57	1,388.83	39.74	35.952			
7,500.00	7,237.05	7,204.49	7,202.56	36.70	8.75	59.93	322.94	2,811.01	1,405.00	1,365.38	39.62	35.460			
7,550.00	7,269.77	7,238.50	7,236.57	36.74	8.79	64.15	323.25	2,810.93	1,381.34	1,341.84	39.50	34.974			
7,600.00	7,299.90	7,269.86	7,267.93	36.77	8.82	68.22	323.54	2,810.84	1,357.87	1,318.51	39.35	34.505			
7,650.00	7,327.30	7,298.42	7,296.49	36.79	8.85	72.07	323.80	2,810.73	1,334.91	1,295.71	39.20	34.056			
7,700.00	7,351.82	7,324.58	7,322.65	36.80	8.88	75.69	324.06	2,810.59	1,312.79	1,273.75	39.04	33.626			
7,750.00	7,373.35	7,347.77	7,345.84	36.80	8.91	79.01	324.32	2,810.44	1,291.82	1,252.93	38.88	33.222			
7,800.00	7,391.79	7,367.84	7,365.90	36.79	8.94	81.98	324.58	2,810.28	1,272.32	1,233.58	38.74	32.845			
7,850.00	7,407.05	7,384.66	7,382.73	36.77	8.96	84.57	324.81	2,810.12	1,254.61	1,216.00	38.61	32.497			
7,900.00	7,419.05	7,398.14	7,396.21	36.75	8.98	86.73	325.01	2,809.98	1,238.98	1,200.48	38.50	32.177			
7,950.00	7,427.73	7,406.65	7,404.71	36.73	8.99	88.38	325.15	2,809.90	1,225.70	1,187.26	38.45	31.882			
8,000.00	7,433.05	7,411.95	7,410.00	36.70	8.99	89.59	325.23	2,809.84	1,215.00	1,176.57	38.43	31.615			
8,053.55	7,435.00	7,414.38	7,412.44	36.67	8.99	90.40	325.27	2,809.82	1,206.57	1,168.10	38.47	31.364			
8,100.00	7,435.00	7,415.04	7,413.09	36.64	8.99	90.44	325.28	2,809.82	1,201.56	1,163.00	38.56	31.160			
8,200.00	7,435.00	7,416.45	7,414.51	36.61	9.00	90.50	325.30	2,809.80	1,196.82	1,157.87	38.95	30.726			
8,206.82	7,435.00	7,416.55	7,414.61	36.61	9.00	90.51	325.30	2,809.80	1,196.80	1,157.81	38.99	30.696 CC, ES			
8,300.00	7,435.00	7,417.88	7,415.94	36.60	9.00	90.57	325.33	2,809.79	1,200.42	1,160.83	39.59	30.318			
8,400.00	7,435.00	7,419.32	7,417.38	36.63	9.00	90.64	325.35	2,809.78	1,212.29	1,171.84	40.45	29.971			
8,500.00	7,435.00	7,420.77	7,418.83	36.70	9.00	90.71	325.37	2,809.77	1,232.18	1,190.72	41.45	29.724			
8,600.00	7,435.00	7,422.23	7,420.29	36.82	9.00	90.78	325.40	2,809.75	1,259.71	1,217.17	42.55	29.609 SF			
8,700.00	7,435.00	7,423.71	7,421.77	37.02	9.00	90.85	325.42	2,809.74	1,294.41	1,250.75	43.66	29.647			
8,800.00	7,435.00	7,425.20	7,423.26	37.33	9.01	90.92	325.45	2,809.73	1,335.70	1,290.95	44.75	29.847			
8,900.00	7,435.00	7,426.70	7,424.76	37.77	9.01	90.99	325.47	2,809.72	1,383.01	1,337.22	45.78	30.208			
9,000.00	7,435.00	7,428.22	7,426.27	38.34	9.01	91.07	325.50	2,809.71	1,435.73	1,388.99	46.74	30.721			
9,100.00	7,435.00	7,429.75	7,427.80	39.03	9.01	91.14	325.52	2,809.69	1,493.29	1,445.69	47.60	31.374			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 153-MWD+HDGM													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
12,000.00	7,435.00	7,571.45	7,436.25	75.46	33.11	-99.26	5,495.01	1,200.41	1,438.65	1,359.36	79.29	18.144			
12,100.00	7,435.00	7,567.21	7,432.02	76.91	33.10	-98.68	5,495.19	1,200.34	1,343.13	1,262.71	80.42	16.702			
12,135.65	7,435.00	7,565.71	7,430.51	77.43	33.10	-98.47	5,495.25	1,200.31	1,309.24	1,228.37	80.86	16.190	CC, ES, SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 15-MWD+HDGM													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
11,500.00	7,435.00	7,522.24	7,383.22	68.31	30.75	-90.83	4,786.67	698.29	1,482.46	1,398.79	83.66	17.720			
11,600.00	7,435.00	7,523.80	7,384.78	69.73	30.76	-90.93	4,786.70	698.35	1,404.82	1,319.04	85.78	16.376			
11,700.00	7,435.00	7,525.34	7,386.32	71.15	30.76	-91.03	4,786.72	698.41	1,330.17	1,242.05	88.12	15.094			
11,800.00	7,435.00	7,526.86	7,387.84	72.58	30.77	-91.12	4,786.75	698.46	1,259.04	1,168.35	90.69	13.883			
11,900.00	7,435.00	7,528.36	7,389.34	74.02	30.77	-91.22	4,786.77	698.51	1,192.06	1,098.60	93.46	12.754			
12,000.00	7,435.00	7,529.84	7,390.82	75.46	30.78	-91.31	4,786.80	698.56	1,129.97	1,033.54	96.43	11.718			
12,100.00	7,435.00	7,531.30	7,392.27	76.91	30.78	-91.40	4,786.82	698.61	1,073.61	974.09	99.52	10.788			
12,135.65	7,435.00	7,531.82	7,392.79	77.43	30.78	-91.44	4,786.83	698.63	1,055.09	954.44	100.64	10.484	CC, ES, SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Ray Nelson 33-32 - CPR WELL - SURVEYS													Offset Well Error:	0.00 usft
Survey Program: 926-Geolink MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	44.22	225.12	219.07	314.76					
100.00	100.00	80.61	80.61	0.14	0.14	44.22	225.07	219.01	314.04	313.77	0.28	1,133.903		
200.00	200.00	181.38	181.38	0.50	0.32	44.21	224.86	218.77	313.72	312.92	0.81	387.947		
300.00	300.00	282.15	282.15	0.85	0.50	44.21	224.48	218.34	313.16	311.82	1.34	233.624		
400.00	399.98	382.89	382.88	1.20	0.67	-66.88	223.93	217.73	311.65	309.79	1.86	167.348		
500.00	499.84	483.48	483.47	1.55	0.85	-67.85	223.23	216.93	308.58	306.20	2.38	129.429		
600.00	599.45	583.78	583.76	1.91	1.03	-69.48	222.36	215.94	304.10	301.18	2.92	104.226		
700.00	698.70	683.66	683.63	2.29	1.20	-71.82	221.33	214.78	298.48	295.02	3.47	86.137		
800.00	797.47	782.98	782.93	2.69	1.38	-74.90	220.15	213.45	292.17	288.14	4.03	72.465		
900.00	895.62	881.61	881.55	3.11	1.55	-78.76	218.82	211.94	285.73	281.11	4.62	61.792		
1,000.00	993.06	975.70	975.60	3.56	1.72	-83.32	217.87	210.14	280.30	275.05	5.25	53.428		
1,014.60	1,007.22	988.85	988.75	3.63	1.74	-84.05	217.95	209.78	279.78	274.44	5.34	52.393		
1,069.52	1,060.43	1,036.70	1,036.57	3.90	1.82	-86.79	218.77	208.34	278.83	273.13	5.70	48.959	CC, ES	
1,100.00	1,089.97	1,062.51	1,062.36	4.05	1.87	-88.28	219.62	207.71	279.14	273.25	5.89	47.383		
1,200.00	1,186.87	1,147.18	1,146.88	4.54	2.01	-93.09	224.43	206.49	284.49	277.95	6.54	43.513		
1,300.00	1,283.78	1,233.26	1,232.57	5.05	2.16	-97.78	232.53	205.94	296.14	288.97	7.17	41.327		
1,400.00	1,380.68	1,320.63	1,319.32	5.56	2.33	-102.09	242.96	206.34	312.74	304.96	7.78	40.216		
1,500.00	1,477.59	1,405.66	1,403.42	6.07	2.51	-106.00	255.46	206.25	333.93	325.58	8.35	39.980	SF	
1,600.00	1,574.49	1,491.73	1,488.14	6.59	2.73	-109.52	270.60	206.22	359.58	350.67	8.91	40.359		
1,700.00	1,671.40	1,576.25	1,571.08	7.11	2.98	-112.63	286.89	205.66	388.30	378.86	9.44	41.126		
1,800.00	1,768.30	1,656.52	1,649.32	7.64	3.24	-115.30	304.70	204.26	421.01	411.08	9.93	42.379		
1,900.00	1,865.21	1,739.95	1,730.20	8.17	3.55	-117.76	325.10	202.21	456.92	446.48	10.44	43.777		
2,000.00	1,962.11	1,824.36	1,811.78	8.69	3.89	-119.95	346.62	199.68	494.70	483.76	10.94	45.200		
2,100.00	2,059.02	1,903.61	1,887.93	9.22	4.24	-121.74	368.38	196.96	534.98	523.57	11.42	46.857		
2,200.00	2,155.92	1,988.61	1,969.34	9.75	4.63	-123.43	392.61	193.69	576.83	564.89	11.94	48.330		
2,300.00	2,252.83	2,061.00	2,038.43	10.28	4.99	-124.80	413.84	189.65	620.38	608.03	12.35	50.215		
2,400.00	2,349.73	2,136.69	2,110.18	10.82	5.40	-126.16	437.29	184.05	666.30	653.50	12.80	52.059		
2,500.00	2,446.64	2,229.95	2,198.20	11.35	5.90	-127.60	467.31	177.11	713.59	700.19	13.40	53.267		
2,600.00	2,543.54	2,321.33	2,284.62	11.88	6.40	-128.66	496.59	172.45	760.21	746.22	14.00	54.306		
2,700.00	2,640.45	2,406.21	2,364.90	12.42	6.87	-129.52	523.84	168.39	806.96	792.41	14.55	55.463		
2,800.00	2,737.35	2,493.68	2,447.66	12.95	7.36	-130.38	551.68	163.16	854.03	838.91	15.13	56.462		
2,900.00	2,834.26	2,577.91	2,527.31	13.49	7.84	-131.14	578.61	158.03	901.39	885.71	15.68	57.481		
3,000.00	2,931.16	2,657.82	2,602.73	14.02	8.30	-131.79	604.52	152.94	949.37	933.16	16.21	58.576		
3,100.00	3,028.07	2,737.19	2,677.42	14.56	8.78	-132.36	630.89	147.85	998.13	981.39	16.74	59.634		
3,200.00	3,124.97	2,826.31	2,761.15	15.09	9.31	-132.93	660.90	142.21	1,047.32	1,029.97	17.35	60.364		
3,300.00	3,221.88	2,918.15	2,847.64	15.63	9.85	-133.51	691.14	135.95	1,096.14	1,078.15	17.99	60.938		
3,400.00	3,318.78	3,016.50	2,940.50	16.16	10.41	-134.09	722.81	129.24	1,144.45	1,125.78	18.68	61.282		
3,500.00	3,415.69	3,109.33	3,028.43	16.70	10.94	-134.62	751.86	122.77	1,192.14	1,172.82	19.32	61.703		
3,600.00	3,512.59	3,200.78	3,115.13	17.24	11.46	-135.09	780.31	116.71	1,239.59	1,219.63	19.96	62.107		
3,700.00	3,609.50	3,316.30	3,225.04	17.77	12.09	-135.64	815.08	109.27	1,286.25	1,265.47	20.78	61.910		
3,800.00	3,706.40	3,443.39	3,347.16	18.31	12.72	-136.27	849.43	101.56	1,330.14	1,308.47	21.66	61.396		
3,900.00	3,803.31	3,558.93	3,458.81	18.85	13.26	-136.80	878.55	95.72	1,372.23	1,349.77	22.46	61.099		
4,000.00	3,900.21	3,663.34	3,560.07	19.38	13.73	-137.24	903.58	91.16	1,413.07	1,389.89	23.18	60.955		
4,100.00	3,997.12	3,756.72	3,650.70	19.92	14.16	-137.57	925.89	88.10	1,453.40	1,429.56	23.84	60.966		
4,200.00	4,094.02	3,840.88	3,732.26	20.46	14.55	-137.83	946.53	85.92	1,493.98	1,469.54	24.44	61.123		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft						
Survey Program: 103-Geolink MWD													Offset Well Error:		0.00 usft					
Reference													Semi Major Axis		Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning							
0.00	0.00	0.00	0.00	0.00	0.00	45.41	224.78	228.02	320.81											
100.00	100.00	78.66	78.66	0.14	0.12	45.43	224.80	228.23	320.35	320.09	0.26	1,243.527								
200.00	200.00	178.20	178.19	0.50	0.29	45.53	224.77	229.00	320.89	320.10	0.78	409.833								
300.00	300.00	279.57	279.56	0.85	0.46	45.70	224.38	229.94	321.28	319.96	1.32	243.732								
400.00	399.98	380.44	380.43	1.20	0.64	-65.16	223.61	230.66	320.52	318.68	1.84	173.859								
500.00	499.84	480.22	480.20	1.55	0.81	-65.88	222.84	231.23	318.21	315.85	2.37	134.436								
600.00	599.45	579.37	579.34	1.91	0.99	-67.25	222.31	231.76	314.72	311.82	2.90	108.479								
700.00	698.70	678.95	678.93	2.29	1.16	-69.30	221.90	232.13	310.13	306.68	3.45	89.878								
800.00	797.47	777.59	777.57	2.69	1.33	-72.07	221.71	232.28	304.85	300.83	4.02	75.878								
900.00	895.62	875.84	875.82	3.11	1.50	-75.59	221.65	232.27	299.39	294.78	4.61	64.947								
1,000.00	993.06	973.73	973.70	3.56	1.68	-79.93	221.79	231.88	294.39	289.15	5.23	56.238								
1,014.60	1,007.22	988.05	988.02	3.63	1.70	-80.62	221.78	231.81	293.73	288.40	5.33	55.115								
1,100.00	1,089.97	1,070.90	1,070.87	4.05	1.84	-84.67	221.70	231.37	290.64	284.76	5.89	49.356								
1,200.00	1,186.87	1,167.58	1,167.55	4.54	2.01	-89.53	221.76	230.59	289.08	282.52	6.55	44.114								
1,220.07	1,206.33	1,186.99	1,186.96	4.64	2.05	-90.52	221.79	230.37	289.03	282.34	6.69	43.221	CC, ES							
1,300.00	1,283.78	1,263.18	1,263.14	5.05	2.18	-94.41	222.07	229.50	289.90	282.68	7.22	40.169								
1,400.00	1,380.68	1,359.20	1,359.15	5.56	2.35	-99.25	222.70	228.51	293.33	285.46	7.88	37.246								
1,500.00	1,477.59	1,455.22	1,455.17	6.07	2.51	-103.99	223.51	227.35	299.14	290.62	8.52	35.103								
1,600.00	1,574.49	1,552.50	1,552.43	6.59	2.68	-108.66	224.33	225.77	307.04	297.88	9.15	33.540								
1,700.00	1,671.40	1,649.02	1,648.93	7.11	2.85	-113.11	224.93	223.91	316.76	306.99	9.77	32.432								
1,800.00	1,768.30	1,743.94	1,743.83	7.64	3.02	-117.13	225.87	222.49	328.65	318.30	10.36	31.732								
1,900.00	1,865.21	1,839.09	1,838.97	8.17	3.19	-120.83	227.15	221.37	342.46	331.53	10.93	31.324								
2,000.00	1,962.11	1,935.20	1,935.05	8.69	3.36	-124.28	228.91	220.11	358.14	346.64	11.50	31.148								
2,100.00	2,059.02	2,034.85	2,034.69	9.22	3.53	-127.51	230.29	219.17	374.52	362.46	12.07	31.037								
2,200.00	2,155.92	2,136.71	2,136.54	9.75	3.71	-130.55	230.66	218.51	390.93	378.29	12.64	30.936								
2,300.00	2,252.83	2,234.98	2,234.81	10.28	3.88	-133.24	230.13	218.29	407.29	394.10	13.19	30.888	SF							
2,400.00	2,349.73	2,330.76	2,330.59	10.82	4.05	-135.68	229.61	217.91	424.53	410.81	13.72	30.943								
2,500.00	2,446.64	2,431.44	2,431.27	11.35	4.22	-138.05	228.67	217.61	442.11	427.85	14.27	30.986								
2,600.00	2,543.54	2,525.75	2,525.55	11.88	4.39	-140.27	226.89	216.32	460.07	445.29	14.78	31.124								
2,700.00	2,640.45	2,617.55	2,617.24	12.42	4.55	-142.56	225.03	212.34	480.11	464.84	15.27	31.442								
2,800.00	2,737.35	2,720.51	2,719.95	12.95	4.74	-145.20	220.93	206.46	500.17	484.37	15.80	31.657								
2,900.00	2,834.26	2,819.23	2,818.33	13.49	4.93	-147.65	215.58	200.36	520.25	503.94	16.31	31.896								
3,000.00	2,931.16	2,911.50	2,910.09	14.02	5.11	-150.01	209.18	193.09	541.11	524.32	16.79	32.233								
3,100.00	3,028.07	3,006.24	3,004.25	14.56	5.31	-152.31	202.68	184.88	563.43	546.15	17.28	32.600								
3,200.00	3,124.97	3,097.50	3,094.57	15.09	5.51	-154.65	194.50	174.80	586.75	568.99	17.77	33.026								
3,300.00	3,221.88	3,192.49	3,188.23	15.63	5.74	-157.12	184.56	162.45	611.44	593.17	18.27	33.463								
3,400.00	3,318.78	3,282.28	3,276.88	16.16	5.96	-159.22	175.76	151.24	637.20	618.44	18.76	33.968								
3,500.00	3,415.69	3,363.60	3,357.22	16.70	6.16	-160.95	168.83	140.65	664.95	645.75	19.20	34.637								
3,600.00	3,512.59	3,449.48	3,441.76	17.24	6.40	-162.76	161.27	127.65	694.84	675.15	19.68	35.302								
3,700.00	3,609.50	3,540.17	3,530.65	17.77	6.66	-164.69	151.97	112.25	726.08	705.87	20.21	35.934								
3,800.00	3,706.40	3,625.87	3,614.50	18.31	6.93	-166.42	142.90	97.10	758.45	737.75	20.71	36.627								
3,900.00	3,803.31	3,736.29	3,722.20	18.85	7.30	-168.63	128.93	77.18	790.83	769.40	21.43	36.903								
4,000.00	3,900.21	3,828.17	3,811.53	19.38	7.62	-170.45	115.27	60.53	823.00	800.98	22.02	37.375								
4,100.00	3,997.12	3,925.14	3,905.65	19.92	7.97	-172.29	99.53	43.30	855.03	832.36	22.67	37.720								
4,200.00	4,094.02	4,003.20	3,981.25	20.46	8.27	-173.71	86.86	28.59	888.66	865.50	23.16	38.367								
4,300.00	4,190.93	4,091.34	4,066.68	20.99	8.61	-175.17	73.41	11.58	923.68	899.93	23.75	38.899								
4,400.00	4,287.83	4,191.05	4,163.51	21.53	8.99	-176.65	58.84	-7.22	959.13	934.69	24.44	39.249								
4,500.00	4,384.74	4,294.09	4,264.06	22.07	9.36	-177.98	44.49	-24.58	993.50	968.34	25.15	39.500								
4,600.00	4,481.64	4,405.53	4,373.22	22.61	9.74	-179.21	30.25	-41.91	1,027.59	1,001.65	25.93	39.624								
4,700.00	4,578.55	4,503.16	4,469.06	23.14	10.08	-179.81	17.52	-55.40	1,060.27	1,033.67	26.60	39.858								
4,800.00	4,675.45	4,591.48	4,555.70	23.68	10.39	-178.96	5.69	-67.87	1,093.36	1,066.15	27.20	40.196								
4,900.00	4,772.36	4,701.45	4,663.76	24.22	10.75	-178.00	-8.50	-82.47	1,126.05	1,098.10	27.96	40.280								

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Ray Nelson 34-32 - CPR WELL - SURVEYS													Offset Well Error:	0.00 usft
Survey Program: 103-Geolink MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
5,000.00	4,869.26	4,813.78	4,774.74	24.76	11.07	177.25	-20.43	-95.08	1,157.80	1,129.10	28.70	40.343		
5,100.00	4,966.17	4,934.84	4,895.06	25.29	11.37	176.74	-29.52	-104.69	1,187.52	1,158.06	29.46	40.307		
5,200.00	5,063.07	5,033.89	4,993.78	25.83	11.58	176.47	-34.87	-110.65	1,216.14	1,186.08	30.06	40.462		
5,300.00	5,159.98	5,142.86	5,102.56	26.37	11.79	176.29	-38.87	-115.80	1,244.07	1,213.38	30.69	40.539		
5,400.00	5,256.88	5,244.01	5,203.63	26.91	11.95	176.25	-40.48	-119.37	1,271.52	1,240.26	31.26	40.681		
5,500.00	5,353.79	5,361.20	5,320.79	27.44	12.12	176.28	-40.79	-121.83	1,298.05	1,266.16	31.89	40.701		
5,600.00	5,450.69	5,455.45	5,415.03	27.98	12.25	176.38	-39.87	-122.44	1,323.56	1,291.16	32.40	40.850		
5,700.00	5,547.60	5,547.57	5,507.13	28.52	12.36	176.51	-38.13	-123.22	1,349.53	1,316.64	32.89	41.031		
5,800.00	5,644.50	5,654.14	5,613.68	29.06	12.50	176.67	-35.80	-123.81	1,375.33	1,341.87	33.46	41.105		
5,900.00	5,741.41	5,756.93	5,716.45	29.60	12.63	176.79	-34.19	-123.78	1,400.40	1,366.39	34.01	41.178		
6,000.00	5,838.31	5,846.90	5,806.41	30.13	12.75	176.90	-32.78	-123.89	1,425.63	1,391.13	34.50	41.328		
6,100.00	5,935.22	5,938.75	5,898.25	30.67	12.88	177.00	-31.22	-124.40	1,451.29	1,416.30	35.00	41.467		
6,200.00	6,032.12	6,034.24	5,993.72	31.21	13.03	177.08	-30.36	-125.33	1,477.12	1,441.59	35.53	41.573		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - Ray Nelson 44-32 - CPR WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 134-Geolink MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	47.31	212.37	230.26	313.95					
100.00	100.00	79.70	79.70	0.14	0.13	47.36	212.11	230.38	313.16	312.89	0.26	1,185.768		
166.31	166.31	145.30	145.30	0.38	0.23	47.48	211.52	230.67	312.97	312.36	0.61	516.362		
200.00	200.00	175.79	175.79	0.50	0.28	47.53	211.42	230.97	313.14	312.36	0.78	399.642		
300.00	300.00	265.93	265.89	0.85	0.45	47.61	212.65	232.98	315.70	314.37	1.33	237.688		
400.00	399.98	358.82	358.64	1.20	0.63	-63.18	215.46	237.20	320.30	318.45	1.86	172.563		
500.00	499.84	450.29	449.84	1.55	0.83	-63.57	218.98	243.31	325.50	323.11	2.39	136.448		
600.00	599.45	542.99	542.02	1.91	1.06	-64.25	223.40	251.97	331.75	328.82	2.92	113.500		
700.00	698.70	636.30	634.59	2.29	1.31	-65.23	228.35	262.61	338.47	334.99	3.48	97.377		
800.00	797.47	727.96	725.22	2.69	1.60	-66.42	233.69	275.19	345.93	341.87	4.06	85.223		
900.00	895.62	824.71	820.49	3.11	1.92	-67.76	238.97	291.18	353.91	349.22	4.68	75.552		
1,000.00	993.06	929.84	923.92	3.56	2.28	-69.41	242.84	309.61	360.21	354.83	5.38	66.986		
1,014.60	1,007.22	944.57	938.42	3.63	2.33	-69.66	243.20	312.21	360.93	355.44	5.49	65.784		
1,100.00	1,089.97	1,029.61	1,021.97	4.05	2.64	-71.01	244.37	328.00	365.00	358.86	6.15	59.391		
1,200.00	1,186.87	1,121.42	1,111.51	4.54	3.03	-71.93	244.41	348.21	371.14	364.18	6.96	53.331		
1,300.00	1,283.78	1,213.87	1,200.96	5.05	3.47	-72.47	244.50	371.54	379.41	371.61	7.81	48.599		
1,400.00	1,380.68	1,309.69	1,293.12	5.56	3.95	-72.75	244.73	397.81	389.20	380.50	8.69	44.767		
1,500.00	1,477.59	1,410.10	1,389.43	6.07	4.48	-72.91	244.70	426.19	399.31	389.69	9.62	41.494		
1,600.00	1,574.49	1,514.95	1,489.88	6.59	5.02	-72.92	243.39	456.22	408.70	398.12	10.58	38.616		
1,700.00	1,671.40	1,610.61	1,581.82	7.11	5.51	-73.04	242.21	482.60	417.45	405.95	11.50	36.304		
1,800.00	1,768.30	1,706.65	1,674.05	7.64	6.02	-73.23	242.40	509.36	427.51	415.08	12.43	34.396		
1,900.00	1,865.21	1,803.72	1,767.04	8.17	6.54	-73.34	242.69	537.22	438.16	424.79	13.37	32.765		
2,000.00	1,962.11	1,911.85	1,870.50	8.69	7.13	-73.32	241.67	568.60	448.01	433.62	14.39	31.127		
2,100.00	2,059.02	2,014.15	1,968.60	9.22	7.67	-73.29	239.57	597.56	456.55	441.18	15.37	29.701		
2,200.00	2,155.92	2,114.81	2,065.34	9.75	8.19	-73.36	237.88	625.33	464.94	448.60	16.34	28.447		
2,300.00	2,252.83	2,217.73	2,164.24	10.28	8.73	-73.39	235.46	653.68	472.77	455.43	17.34	27.257		
2,400.00	2,349.73	2,318.32	2,260.89	10.82	9.24	-73.36	232.48	681.40	480.11	461.80	18.31	26.219		
2,500.00	2,446.64	2,419.14	2,358.09	11.35	9.75	-73.50	230.16	708.08	487.32	468.03	19.29	25.261		
2,600.00	2,543.54	2,520.40	2,455.67	11.88	10.26	-73.58	227.33	735.00	494.20	473.92	20.27	24.375		
2,700.00	2,640.45	2,621.41	2,553.27	12.42	10.75	-73.80	225.13	760.94	501.03	479.78	21.25	23.576		
2,800.00	2,737.35	2,725.01	2,653.48	12.95	11.25	-74.01	222.19	787.06	507.03	484.79	22.24	22.794		
2,900.00	2,834.26	2,827.87	2,753.30	13.49	11.71	-74.36	219.64	811.74	512.62	489.40	23.22	22.077		
3,000.00	2,931.16	2,935.40	2,858.11	14.02	12.17	-74.89	216.98	835.62	517.16	492.94	24.23	21.346		
3,100.00	3,028.07	3,024.00	2,944.54	14.56	12.55	-75.35	214.82	854.96	521.60	496.46	25.14	20.746		
3,200.00	3,124.97	3,114.98	3,032.99	15.09	12.98	-75.77	213.79	876.21	528.02	501.94	26.08	20.246		
3,300.00	3,221.88	3,212.08	3,127.11	15.63	13.44	-76.15	213.64	900.10	535.95	508.91	27.04	19.819		
3,400.00	3,318.78	3,313.63	3,225.47	16.16	13.93	-76.49	213.25	925.36	543.89	515.84	28.04	19.394		
3,500.00	3,415.69	3,421.70	3,330.10	16.70	14.45	-76.80	212.06	952.35	551.32	522.23	29.09	18.954		
3,600.00	3,512.59	3,526.72	3,431.85	17.24	14.95	-76.99	208.67	978.17	556.71	526.61	30.11	18.492		
3,700.00	3,609.50	3,629.69	3,531.65	17.77	15.43	-77.19	205.17	1,003.25	561.88	530.76	31.12	18.057		
3,800.00	3,706.40	3,723.00	3,622.20	18.31	15.86	-77.45	202.88	1,025.62	567.60	535.55	32.06	17.707		
3,900.00	3,803.31	3,813.57	3,710.17	18.85	16.28	-77.80	202.37	1,047.15	574.79	541.80	32.99	17.424		
4,000.00	3,900.21	3,915.61	3,809.39	19.38	16.74	-78.26	202.48	1,071.02	582.42	548.43	33.99	17.137		
4,100.00	3,997.12	4,028.21	3,919.01	19.92	17.24	-78.71	200.58	1,096.62	588.16	553.10	35.06	16.774		
4,200.00	4,094.02	4,122.71	4,010.82	20.46	17.68	-78.96	197.84	1,118.85	593.37	557.33	36.04	16.465		
4,300.00	4,190.93	4,215.26	4,100.29	20.99	18.15	-79.08	195.66	1,142.43	600.06	563.06	37.00	16.216		
4,400.00	4,287.83	4,315.85	4,197.26	21.53	18.65	-79.11	193.29	1,169.05	607.29	569.30	38.00	15.983		
4,500.00	4,384.74	4,421.93	4,300.30	22.07	19.11	-79.44	191.74	1,194.20	613.84	574.83	39.01	15.737		
4,600.00	4,481.64	4,523.11	4,399.29	22.61	19.51	-80.05	191.38	1,215.08	619.77	579.78	39.99	15.498		
4,700.00	4,578.55	4,625.27	4,499.52	23.14	19.89	-80.77	191.24	1,234.91	625.35	584.36	40.99	15.257		
4,800.00	4,675.45	4,723.07	4,595.63	23.68	20.25	-81.54	191.62	1,252.93	630.99	589.04	41.95	15.042		
4,900.00	4,772.36	4,825.34	4,696.44	24.22	20.58	-82.52	193.11	1,270.11	636.94	594.02	42.93	14.838		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 134-Geolink MWD													Offset Well Error:		0.00 usft
Reference				Offset				Semi Major Axis			Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,000.00	4,869.26	4,932.35	4,802.31	24.76	20.89	-83.72	194.67	1,285.60	642.01	598.09	43.91	14.620			
5,100.00	4,966.17	5,036.87	4,906.05	25.29	21.15	-85.07	196.23	1,298.23	646.33	601.46	44.87	14.404			
5,200.00	5,063.07	5,146.20	5,014.91	25.83	21.35	-86.73	197.82	1,308.07	649.70	603.89	45.80	14.185			
5,300.00	5,159.98	5,251.15	5,119.65	26.37	21.50	-88.53	199.09	1,314.70	652.31	605.63	46.68	13.973			
5,400.00	5,256.88	5,354.42	5,222.82	26.91	21.63	-90.43	200.04	1,319.25	654.60	607.07	47.53	13.772			
5,500.00	5,353.79	5,456.55	5,324.89	27.44	21.74	-92.40	200.65	1,322.46	656.87	608.52	48.35	13.587			
5,600.00	5,450.69	5,553.76	5,422.08	27.98	21.84	-94.32	201.12	1,324.67	659.53	610.42	49.11	13.429			
5,700.00	5,547.60	5,650.32	5,518.61	28.52	21.94	-96.24	201.81	1,326.50	663.10	613.26	49.84	13.304			
5,800.00	5,644.50	5,747.90	5,616.17	29.06	22.04	-98.19	202.61	1,328.00	667.48	616.95	50.53	13.210			
5,900.00	5,741.41	5,845.78	5,714.05	29.60	22.12	-100.16	203.43	1,329.14	672.61	621.44	51.17	13.144			
6,000.00	5,838.31	5,944.51	5,812.77	30.13	22.20	-102.16	204.15	1,329.59	678.36	626.59	51.77	13.104			
6,100.00	5,935.22	6,041.16	5,909.42	30.67	22.28	-104.14	204.78	1,329.38	684.78	632.47	52.32	13.089			
6,200.00	6,032.12	6,136.18	6,004.44	31.21	22.36	-106.04	205.58	1,329.32	692.26	639.43	52.83	13.104			
6,300.00	6,129.03	6,231.54	6,099.79	31.75	22.44	-107.90	206.60	1,329.44	700.78	647.47	53.31	13.147			
6,400.00	6,225.93	6,326.97	6,195.21	32.29	22.52	-109.71	207.81	1,329.51	710.26	656.52	53.75	13.215			
6,500.00	6,322.84	6,421.98	6,290.22	32.83	22.60	-111.48	209.22	1,329.44	720.71	666.56	54.15	13.309			
6,600.00	6,419.74	6,516.77	6,384.99	33.36	22.67	-113.22	210.86	1,329.10	732.13	677.61	54.52	13.428			
6,700.00	6,516.65	6,613.26	6,481.46	33.90	22.75	-114.94	212.66	1,328.72	744.41	689.52	54.88	13.563			
6,800.00	6,613.55	6,709.86	6,578.04	34.44	22.84	-116.59	214.50	1,328.56	757.36	702.14	55.22	13.714			
6,865.63	6,677.15	6,773.30	6,641.47	34.79	22.89	-117.65	215.72	1,328.46	766.21	710.77	55.44	13.821			
6,900.00	6,710.52	6,806.58	6,674.75	34.98	22.92	-107.43	216.35	1,328.39	770.14	714.60	55.55	13.865			
6,950.00	6,759.15	6,855.14	6,723.30	35.22	22.96	-91.55	217.27	1,328.27	773.09	717.40	55.69	13.881			
7,000.00	6,807.67	6,908.52	6,776.67	35.45	23.01	-76.97	218.15	1,328.11	772.65	716.80	55.85	13.836			
7,050.00	6,855.86	6,961.25	6,829.39	35.66	23.05	-65.40	218.61	1,327.92	768.60	712.63	55.97	13.732			
7,100.00	6,903.48	7,006.70	6,874.84	35.84	23.09	-56.88	218.97	1,327.76	761.34	705.29	56.05	13.584			
7,150.00	6,950.29	7,052.22	6,920.36	36.01	23.13	-50.99	219.46	1,327.58	751.08	694.98	56.10	13.389			
7,200.00	6,996.07	7,098.95	6,967.09	36.16	23.18	-47.09	219.98	1,327.47	737.78	681.65	56.13	13.143			
7,250.00	7,040.60	7,143.23	7,011.37	36.29	23.22	-44.63	220.46	1,327.45	721.53	665.40	56.13	12.854			
7,300.00	7,083.65	7,184.28	7,052.42	36.40	23.26	-43.25	221.01	1,327.43	702.58	646.50	56.08	12.528			
7,350.00	7,125.01	7,224.23	7,092.36	36.50	23.29	-42.81	221.67	1,327.39	681.12	625.13	55.99	12.165			
7,400.00	7,164.50	7,263.50	7,131.62	36.58	23.33	-43.21	222.37	1,327.31	657.26	601.40	55.86	11.767			
7,450.00	7,201.91	7,300.78	7,168.90	36.65	23.36	-44.37	223.05	1,327.16	631.17	575.51	55.66	11.339			
7,500.00	7,237.05	7,336.45	7,204.55	36.70	23.39	-46.30	223.71	1,326.97	603.09	547.69	55.40	10.886			
7,550.00	7,269.77	7,369.71	7,237.81	36.74	23.42	-48.96	224.31	1,326.76	573.27	518.21	55.05	10.413			
7,600.00	7,299.90	7,400.56	7,268.66	36.77	23.44	-52.36	224.86	1,326.54	542.04	487.43	54.61	9.926			
7,650.00	7,327.30	7,428.93	7,297.02	36.79	23.47	-56.47	225.35	1,326.33	509.77	455.72	54.04	9.433			
7,700.00	7,351.82	7,454.40	7,322.49	36.80	23.49	-61.18	225.78	1,326.16	476.90	423.58	53.33	8.943			
7,750.00	7,373.35	7,476.86	7,344.95	36.80	23.51	-66.31	226.15	1,326.02	444.00	391.56	52.43	8.468			
7,800.00	7,391.79	7,496.20	7,364.28	36.79	23.53	-71.59	226.46	1,325.90	411.71	360.39	51.32	8.022			
7,850.00	7,407.05	7,512.32	7,380.40	36.77	23.55	-76.70	226.71	1,325.81	380.85	330.88	49.96	7.623			
7,900.00	7,419.05	7,525.17	7,393.24	36.75	23.56	-81.30	226.91	1,325.74	352.40	304.04	48.36	7.287			
7,950.00	7,427.73	7,534.66	7,402.74	36.73	23.57	-85.09	227.06	1,325.69	327.54	280.95	46.59	7.031			
8,000.00	7,433.05	7,540.78	7,408.86	36.70	23.57	-87.85	227.15	1,325.65	307.58	262.75	44.83	6.860			
8,053.55	7,435.00	7,543.56	7,411.63	36.67	23.57	-89.53	227.20	1,325.64	293.13	249.72	43.41	6.752			
8,100.00	7,435.00	7,544.27	7,412.35	36.64	23.57	-89.67	227.21	1,325.64	287.73	244.71	43.02	6.689			
8,110.55	7,435.00	7,544.43	7,412.51	36.64	23.57	-89.70	227.21	1,325.64	287.54	244.46	43.07	6.676 CC, ES			
8,200.00	7,435.00	7,545.80	7,413.87	36.61	23.58	-89.98	227.23	1,325.63	301.12	255.73	45.40	6.633 SF			
8,300.00	7,435.00	7,547.32	7,415.40	36.60	23.58	-90.28	227.25	1,325.62	344.32	294.78	49.55	6.949			
8,400.00	7,435.00	7,548.84	7,416.92	36.63	23.58	-90.58	227.28	1,325.61	407.97	355.16	52.81	7.726			
8,500.00	7,435.00	7,550.36	7,418.43	36.70	23.58	-90.88	227.30	1,325.60	484.06	429.17	54.89	8.819			
8,600.00	7,435.00	7,551.87	7,419.94	36.82	23.58	-91.19	227.32	1,325.60	567.61	511.43	56.18	10.104			
8,700.00	7,435.00	7,553.37	7,421.45	37.02	23.58	-91.49	227.35	1,325.59	655.78	598.79	56.99	11.507			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft		
Survey Program: 134-Geolink MWD													Offset Well Error:		0.00 usft	
Reference				Offset				Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor				
8,800.00	7,435.00	7,554.87	7,422.95	37.33	23.58	-91.78	227.37	1,325.58	746.93	689.41	57.52	12.986				
8,900.00	7,435.00	7,556.37	7,424.44	37.77	23.58	-92.08	227.39	1,325.57	840.09	782.21	57.88	14.514				
9,000.00	7,435.00	7,557.86	7,425.93	38.34	23.59	-92.38	227.41	1,325.57	934.67	876.54	58.13	16.078				
9,100.00	7,435.00	7,559.35	7,427.42	39.03	23.59	-92.67	227.44	1,325.56	1,030.27	971.95	58.32	17.666				
9,200.00	7,435.00	7,560.83	7,428.90	39.84	23.59	-92.97	227.46	1,325.55	1,126.63	1,068.17	58.46	19.272				
9,300.00	7,435.00	7,562.31	7,430.38	40.73	23.59	-93.26	227.48	1,325.55	1,223.57	1,165.01	58.57	20.892				
9,400.00	7,435.00	7,564.00	7,432.07	41.69	23.59	-93.60	227.51	1,325.54	1,320.97	1,262.32	58.65	22.522				
9,500.00	7,435.00	7,565.27	7,433.34	42.70	23.59	-93.85	227.52	1,325.53	1,418.73	1,360.01	58.72	24.160				

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
S32-T2N-R68W - Ray Nelson 8-8-32 - CPR WELL - SURVEYS													Offset Well Error:	0.00 usft	
Survey Program: 70-Geolink MWD															
Reference				Offset				Semi Major Axis		Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning		
0.00	0.00	0.00	0.00	0.00	0.00	51.37	195.62	244.81	314.07						
100.00	100.00	76.35	76.35	0.14	0.11	51.39	195.74	245.15	313.72	313.47	0.25	1,235.294	CC		
200.00	200.00	174.04	174.03	0.50	0.28	51.50	195.94	246.30	314.77	313.99	0.78	401.902			
300.00	300.00	272.84	272.77	0.85	0.46	51.99	194.87	249.36	316.53	315.21	1.32	239.670			
400.00	399.98	367.09	366.81	1.20	0.66	-57.97	192.10	254.91	318.49	316.62	1.87	170.394			
500.00	499.84	463.84	463.08	1.55	0.90	-57.17	187.91	263.61	320.29	317.85	2.44	131.240			
600.00	599.45	560.41	558.85	1.91	1.17	-56.39	181.76	274.34	320.78	317.72	3.06	104.994			
700.00	698.70	654.77	651.93	2.29	1.48	-55.61	174.28	287.79	321.06	317.33	3.72	86.226			
800.00	797.47	748.54	743.82	2.69	1.84	-54.76	165.28	304.21	321.18	316.74	4.44	72.387			
900.00	895.62	840.93	833.90	3.11	2.24	-54.18	156.62	322.78	321.63	316.45	5.18	62.039			
1,000.00	993.06	937.43	927.57	3.56	2.68	-53.88	147.64	344.15	321.84	315.85	5.99	53.734			
1,014.60	1,007.22	951.87	941.53	3.63	2.75	-53.84	146.14	347.51	321.76	315.64	6.11	52.633			
1,065.35	1,056.39	1,000.37	988.29	3.88	3.00	-53.61	140.70	359.18	321.52	314.96	6.55	49.051			
1,100.00	1,089.97	1,032.48	1,019.07	4.05	3.18	-53.35	136.77	367.43	321.65	314.79	6.86	46.882			
1,200.00	1,186.87	1,123.52	1,105.52	4.54	3.73	-52.22	124.53	393.23	323.79	316.04	7.75	41.762			
1,300.00	1,283.78	1,214.91	1,191.14	5.05	4.33	-50.68	111.48	422.37	328.85	320.20	8.65	38.002			
1,400.00	1,380.68	1,309.16	1,278.37	5.56	5.01	-48.74	97.00	455.00	336.22	326.66	9.57	35.149			
1,500.00	1,477.59	1,407.95	1,368.79	6.07	5.76	-46.35	79.81	490.87	344.79	334.30	10.48	32.888			
1,600.00	1,574.49	1,507.03	1,459.02	6.59	6.52	-43.80	60.97	527.21	353.71	342.35	11.36	31.141			
1,700.00	1,671.40	1,600.00	1,543.79	7.11	7.23	-41.69	44.50	561.65	364.06	351.93	12.14	30.001			
1,800.00	1,768.30	1,695.72	1,631.21	7.64	7.97	-39.88	29.41	597.60	376.01	363.11	12.90	29.143			
1,900.00	1,865.21	1,791.55	1,718.53	8.17	8.72	-38.15	14.33	634.08	388.86	375.22	13.64	28.500			
2,000.00	1,962.11	1,888.27	1,806.34	8.69	9.49	-36.53	-0.58	671.79	403.06	388.69	14.37	28.058			
2,100.00	2,059.02	1,996.25	1,904.59	9.22	10.32	-34.74	-18.15	712.98	416.56	401.43	15.14	27.523			
2,200.00	2,155.92	2,106.02	2,005.50	9.75	11.12	-33.08	-36.55	752.06	427.63	411.75	15.88	26.937			
2,300.00	2,252.83	2,202.15	2,094.24	10.28	11.83	-31.75	-52.49	785.39	438.05	421.53	16.52	26.510			
2,400.00	2,349.73	2,309.68	2,193.52	10.82	12.59	-30.23	-71.22	822.23	448.18	430.97	17.21	26.042			
2,500.00	2,446.64	2,415.97	2,292.51	11.35	13.30	-28.89	-89.33	856.41	456.40	438.55	17.85	25.569			
2,600.00	2,543.54	2,512.95	2,383.57	11.88	13.93	-28.11	-102.81	886.95	464.45	445.99	18.46	25.155			
2,700.00	2,640.45	2,618.97	2,483.30	12.42	14.60	-27.45	-116.24	920.32	472.69	453.55	19.15	24.690			
2,800.00	2,737.35	2,728.43	2,586.92	12.95	15.26	-26.73	-130.84	952.40	478.65	458.82	19.83	24.142			
2,900.00	2,834.26	2,816.29	2,669.93	13.49	15.82	-26.18	-142.50	978.69	485.30	464.91	20.39	23.799			
3,000.00	2,931.16	2,929.34	2,776.68	14.02	16.52	-25.27	-159.35	1,011.87	491.31	470.24	21.07	23.318			
3,100.00	3,028.07	3,032.02	2,873.66	14.56	17.14	-24.22	-176.81	1,040.71	496.07	474.45	21.62	22.941			
3,200.00	3,124.97	3,128.45	2,965.19	15.09	17.72	-23.52	-191.03	1,067.54	500.76	478.58	22.18	22.582			
3,300.00	3,221.88	3,222.68	3,054.38	15.63	18.31	-22.88	-204.53	1,094.78	506.64	483.90	22.74	22.280			
3,400.00	3,318.78	3,318.85	3,144.86	16.16	18.93	-22.03	-220.12	1,123.37	513.47	490.22	23.25	22.082			
3,500.00	3,415.69	3,415.07	3,235.44	16.70	19.54	-21.36	-234.35	1,152.55	521.01	497.24	23.77	21.921			
3,600.00	3,512.59	3,520.15	3,334.72	17.24	20.18	-20.90	-247.57	1,184.31	528.46	504.08	24.38	21.678			
3,700.00	3,609.50	3,624.41	3,433.51	17.77	20.81	-20.36	-261.51	1,214.59	534.71	509.74	24.97	21.416			
3,800.00	3,706.40	3,719.92	3,524.04	18.31	21.40	-19.94	-273.75	1,242.45	541.13	515.61	25.51	21.209			
3,900.00	3,803.31	3,820.29	3,618.92	18.85	22.01	-19.47	-287.05	1,272.37	548.27	522.19	26.08	21.022			
4,000.00	3,900.21	3,910.94	3,704.56	19.38	22.59	-19.00	-299.57	1,299.29	555.40	528.83	26.57	20.905			
4,100.00	3,997.12	4,001.07	3,789.13	19.92	23.19	-18.63	-311.20	1,328.23	564.96	537.90	27.06	20.880			
4,200.00	4,094.02	4,120.21	3,901.13	20.46	23.94	-18.13	-326.79	1,365.69	574.01	546.27	27.74	20.691			
4,300.00	4,190.93	4,223.45	3,999.08	20.99	24.56	-17.65	-340.83	1,395.12	579.93	551.64	28.28	20.504			
4,400.00	4,287.83	4,300.76	4,072.06	21.53	25.06	-17.42	-350.18	1,418.85	588.05	559.34	28.71	20.483			
4,500.00	4,384.74	4,382.36	4,148.11	22.07	25.65	-17.13	-360.68	1,446.49	599.60	570.47	29.14	20.580			
4,600.00	4,481.64	4,496.98	4,254.64	22.61	26.42	-16.69	-376.07	1,485.87	611.80	582.02	29.79	20.540			
4,700.00	4,578.55	4,615.02	4,365.92	23.14	27.15	-16.28	-391.31	1,522.15	619.99	589.55	30.44	20.368			
4,800.00	4,675.45	4,714.87	4,460.39	23.68	27.77	-15.99	-403.64	1,552.07	627.45	596.45	31.00	20.239			
4,900.00	4,772.36	4,814.00	4,553.99	24.22	28.39	-15.57	-417.46	1,581.64	634.98	603.46	31.52	20.143			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
S32-T2N-R68W - Ray Nelson 8-8-32 - CPR WELL - SURVEYS													Offset Well Error:	0.00 usft
Survey Program: 70-Geolink MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
5,000.00	4,869.26	4,905.41	4,639.95	24.76	28.99	-15.10	-431.22	1,609.49	643.34	611.37	31.97	20.123		
5,100.00	4,966.17	5,052.45	4,779.41	25.29	29.81	-14.27	-454.08	1,650.00	648.89	616.26	32.63	19.889		
5,200.00	5,063.07	5,148.53	4,871.72	25.83	30.32	-13.77	-468.17	1,672.61	650.18	617.09	33.09	19.646		
5,300.00	5,159.98	5,252.51	4,971.36	26.37	30.88	-13.22	-483.75	1,697.95	652.41	618.84	33.57	19.434		
5,400.00	5,256.88	5,350.45	5,065.34	26.91	31.39	-12.77	-497.52	1,721.80	654.52	620.48	34.04	19.226		
5,500.00	5,353.79	5,473.24	5,183.93	27.44	31.97	-12.38	-512.78	1,749.70	654.70	620.11	34.59	18.926		
5,600.00	5,450.69	5,594.52	5,302.22	27.98	32.46	-12.30	-523.79	1,774.05	651.72	616.53	35.19	18.519		
5,700.00	5,547.60	5,727.22	5,432.92	28.52	32.87	-12.32	-533.69	1,794.72	643.76	608.00	35.77	17.998		
5,800.00	5,644.50	5,845.45	5,549.99	29.06	33.18	-12.51	-540.20	1,809.80	632.95	596.60	36.35	17.411		
5,900.00	5,741.41	5,964.96	5,668.88	29.60	33.42	-12.87	-544.38	1,821.13	618.53	581.58	36.95	16.738		
6,000.00	5,838.31	6,077.36	5,780.98	30.13	33.59	-13.32	-547.11	1,828.86	601.45	563.87	37.59	16.002		
6,100.00	5,935.22	6,183.24	5,886.71	30.67	33.73	-13.85	-548.59	1,834.26	582.53	544.25	38.28	15.217		
6,200.00	6,032.12	6,286.55	5,989.92	31.21	33.85	-14.44	-549.54	1,838.58	562.72	523.70	39.02	14.422		
6,300.00	6,129.03	6,387.08	6,090.39	31.75	33.96	-15.12	-549.88	1,842.08	542.21	502.41	39.81	13.621		
6,400.00	6,225.93	6,492.82	6,196.10	32.29	34.04	-15.93	-549.73	1,844.57	520.64	480.05	40.59	12.826		
6,500.00	6,322.84	6,591.40	6,294.67	32.83	34.12	-16.78	-549.33	1,846.21	498.48	457.00	41.48	12.018		
6,600.00	6,419.74	6,691.69	6,394.95	33.36	34.18	-17.77	-548.57	1,847.38	475.93	433.53	42.40	11.224		
6,700.00	6,516.65	6,790.30	6,493.55	33.90	34.24	-18.85	-547.70	1,847.98	452.97	409.57	43.40	10.437		
6,800.00	6,613.55	6,887.73	6,590.98	34.44	34.30	-20.05	-546.79	1,848.42	430.01	385.54	44.48	9.668		
6,865.63	6,677.15	6,951.81	6,655.05	34.79	34.33	-20.91	-546.13	1,848.63	414.98	369.76	45.22	9.176		
6,900.00	6,710.52	6,985.45	6,688.69	34.98	34.35	-9.90	-545.73	1,848.71	407.11	361.54	45.57	8.934		
6,950.00	6,759.15	7,034.49	6,737.73	35.22	34.38	7.58	-545.08	1,848.78	395.60	349.74	45.86	8.627		
7,000.00	6,807.67	7,083.46	6,786.69	35.45	34.40	24.45	-544.35	1,848.81	384.08	338.21	45.87	8.373		
7,050.00	6,855.86	7,131.70	6,834.92	35.66	34.43	38.96	-543.62	1,848.81	372.70	327.09	45.61	8.172		
7,100.00	6,903.48	7,179.40	6,882.62	35.84	34.46	50.95	-542.94	1,848.82	361.72	316.67	45.05	8.029		
7,150.00	6,950.29	7,226.32	6,929.53	36.01	34.48	61.00	-542.31	1,848.84	351.50	307.29	44.22	7.949		
7,200.00	6,996.07	7,272.36	6,975.57	36.16	34.51	69.74	-541.74	1,848.86	342.53	299.36	43.17	7.934 SF		
7,250.00	7,040.60	7,317.44	7,020.65	36.29	34.53	77.58	-541.19	1,848.84	335.36	293.32	42.04	7.978		
7,300.00	7,083.65	7,361.06	7,064.26	36.40	34.55	84.75	-540.67	1,848.79	330.69	289.66	41.03	8.060		
7,344.58	7,120.62	7,398.53	7,101.74	36.49	34.57	90.64	-540.23	1,848.71	329.22	288.74	40.48	8.133 ES		
7,350.00	7,125.01	7,402.99	7,106.19	36.50	34.58	91.32	-540.17	1,848.69	329.25	288.80	40.45	8.140		
7,400.00	7,164.50	7,442.99	7,146.19	36.58	34.60	97.29	-539.70	1,848.57	331.76	291.14	40.62	8.168		
7,450.00	7,201.91	7,480.76	7,183.96	36.65	34.62	102.59	-539.28	1,848.43	338.84	297.14	41.70	8.125		
7,500.00	7,237.05	7,516.25	7,219.45	36.70	34.64	107.21	-538.90	1,848.28	350.87	307.26	43.61	8.045		
7,550.00	7,269.77	7,549.30	7,252.49	36.74	34.65	111.10	-538.56	1,848.13	368.00	321.96	46.04	7.993		
7,600.00	7,299.90	7,579.74	7,282.93	36.77	34.67	114.23	-538.27	1,847.98	390.10	341.44	48.66	8.017		
7,650.00	7,327.30	7,607.43	7,310.62	36.79	34.68	116.57	-538.01	1,847.84	416.87	365.67	51.20	8.141		
7,700.00	7,351.82	7,632.06	7,335.25	36.80	34.70	118.06	-537.80	1,847.70	447.89	394.35	53.53	8.367		
7,750.00	7,373.35	7,653.70	7,356.89	36.80	34.71	118.68	-537.63	1,847.59	482.64	427.07	55.57	8.685		
7,800.00	7,391.79	7,672.24	7,375.42	36.79	34.72	118.31	-537.49	1,847.48	520.61	463.30	57.32	9.083		
7,850.00	7,407.05	7,687.60	7,390.79	36.77	34.73	116.80	-537.38	1,847.40	561.30	502.52	58.78	9.549		
7,900.00	7,419.05	7,699.73	7,402.91	36.75	34.74	113.88	-537.30	1,847.33	604.22	544.23	60.00	10.071		
7,950.00	7,427.73	7,708.57	7,411.75	36.73	34.74	109.15	-537.25	1,847.28	648.93	587.93	61.00	10.638		
8,000.00	7,433.05	7,714.09	7,417.27	36.70	34.74	102.09	-537.21	1,847.25	695.02	633.19	61.83	11.241		
8,053.55	7,435.00	7,716.31	7,419.50	36.67	34.75	91.35	-537.20	1,847.24	745.46	682.91	62.55	11.917		
8,100.00	7,435.00	7,716.58	7,419.77	36.64	34.75	91.42	-537.20	1,847.24	789.71	726.63	63.08	12.519		
8,200.00	7,435.00	7,717.16	7,420.35	36.61	34.75	91.56	-537.20	1,847.24	885.75	821.73	64.01	13.837		
8,300.00	7,435.00	7,717.74	7,420.93	36.60	34.75	91.70	-537.19	1,847.23	982.57	917.83	64.74	15.177		
8,400.00	7,435.00	7,718.31	7,421.50	36.63	34.75	91.84	-537.19	1,847.23	1,079.97	1,014.65	65.32	16.532		
8,500.00	7,435.00	7,718.89	7,422.07	36.70	34.75	91.99	-537.19	1,847.23	1,177.81	1,112.01	65.80	17.900		
8,600.00	7,435.00	7,719.45	7,422.64	36.82	34.75	92.12	-537.18	1,847.22	1,275.98	1,209.79	66.20	19.275		
8,700.00	7,435.00	7,720.02	7,423.20	37.02	34.75	92.26	-537.18	1,847.22	1,374.42	1,307.89	66.53	20.658		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
S32-T2N-R68W - Ray Nelson 8-8-32 - CPR WELL - SURVEYS													Offset Well Error:		0.00 usft
Survey Program: 70-Geolink MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning		
8,800.00	7,435.00	7,720.58	7,423.77	37.33	34.75	92.40	-537.18	1,847.22	1,473.07	1,406.25	66.82	22.046			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 51-ISWWSA MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
6,865.63	6,677.15	6,861.50	6,742.05	34.79	24.72	47.52	-1,913.18	2,012.29	1,487.72	1,433.52	54.20	27.450			
6,900.00	6,710.52	6,893.91	6,774.44	34.98	24.78	58.69	-1,912.69	2,011.42	1,481.82	1,427.34	54.48	27.200			
6,950.00	6,759.15	6,941.22	6,821.73	35.22	24.85	75.96	-1,911.97	2,010.20	1,476.03	1,421.13	54.90	26.885			
7,000.00	6,807.67	6,988.52	6,869.00	35.45	24.92	92.03	-1,911.26	2,009.04	1,473.62	1,418.28	55.34	26.628			
7,010.36	6,817.70	6,998.28	6,878.76	35.49	24.94	95.01	-1,911.12	2,008.81	1,473.54	1,418.11	55.43	26.583 CC, ES			
7,050.00	6,855.86	7,035.39	6,915.86	35.66	25.00	105.14	-1,910.58	2,007.95	1,474.62	1,418.84	55.79	26.433			
7,100.00	6,903.48	7,081.75	6,962.20	35.84	25.07	115.11	-1,909.91	2,006.93	1,479.08	1,422.84	56.24	26.302			
7,150.00	6,950.29	7,127.39	7,007.83	36.01	25.14	122.54	-1,909.28	2,005.98	1,486.99	1,430.31	56.68	26.233			
7,200.00	6,996.07	7,169.78	7,050.21	36.16	25.20	128.08	-1,908.73	2,005.13	1,498.37	1,441.24	57.13	26.228 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well HWY52 4V-32H-O268
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	23' KB @ 5015.00usft
<b>Reference Site:</b>	S32-T2N-R68W	<b>MD Reference:</b>	23' KB @ 5015.00usft
<b>Site Error:</b>	0.00usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HWY52 4V-32H-O268	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	PLAN #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S32-T2N-R68W - SEC Four 4-4 - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 52-ISCWSA MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
6,865.63	6,677.15	6,853.00	6,806.78	34.79	19.39	13.77	-1,370.05	2,665.34	1,487.08	1,445.62	41.47	35.863		
6,900.00	6,710.52	6,885.20	6,838.91	34.98	19.47	25.28	-1,368.45	2,663.77	1,477.01	1,435.34	41.67	35.442		
6,950.00	6,759.15	6,939.06	6,892.64	35.22	19.60	43.11	-1,366.08	2,660.79	1,463.89	1,421.93	41.96	34.889		
7,000.00	6,807.67	7,006.25	6,959.56	35.45	19.77	59.89	-1,362.27	2,656.31	1,451.84	1,409.65	42.20	34.407		
7,050.00	6,855.86	7,033.00	6,986.23	35.66	19.84	73.37	-1,360.70	2,654.93	1,442.56	1,399.95	42.61	33.856		
7,100.00	6,903.48	7,064.51	7,017.67	35.84	19.91	83.69	-1,359.08	2,653.65	1,436.14	1,393.14	43.00	33.397		
7,150.00	6,950.29	7,135.05	7,088.02	36.01	20.08	91.97	-1,355.00	2,650.61	1,431.85	1,388.61	43.25	33.108		
7,200.00	6,996.07	7,172.43	7,125.28	36.16	20.17	97.94	-1,352.55	2,648.97	1,429.77	1,386.14	43.64	32.765		
7,212.39	7,007.23	7,182.32	7,135.15	36.19	20.19	99.21	-1,351.94	2,648.55	1,429.69	1,385.96	43.73	32.692	CC, ES	
7,250.00	7,040.60	7,213.00	7,165.75	36.29	20.27	102.61	-1,350.31	2,647.13	1,430.48	1,386.46	44.02	32.496		
7,300.00	7,083.65	7,246.14	7,198.82	36.40	20.34	106.14	-1,348.73	2,645.65	1,434.09	1,389.65	44.44	32.270		
7,350.00	7,125.01	7,279.73	7,232.35	36.50	20.42	108.89	-1,347.14	2,644.41	1,440.72	1,395.86	44.86	32.113		
7,400.00	7,164.50	7,312.99	7,265.56	36.58	20.49	111.02	-1,345.77	2,643.26	1,450.40	1,405.11	45.29	32.021		
7,450.00	7,201.91	7,348.00	7,300.53	36.65	20.57	112.70	-1,344.44	2,642.11	1,463.08	1,417.36	45.72	31.998	SF	
7,500.00	7,237.05	7,383.65	7,336.13	36.70	20.64	113.97	-1,343.15	2,640.94	1,478.68	1,432.53	46.16	32.037		
7,550.00	7,269.77	7,414.43	7,366.88	36.74	20.71	114.73	-1,342.07	2,639.92	1,497.19	1,450.59	46.60	32.127		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

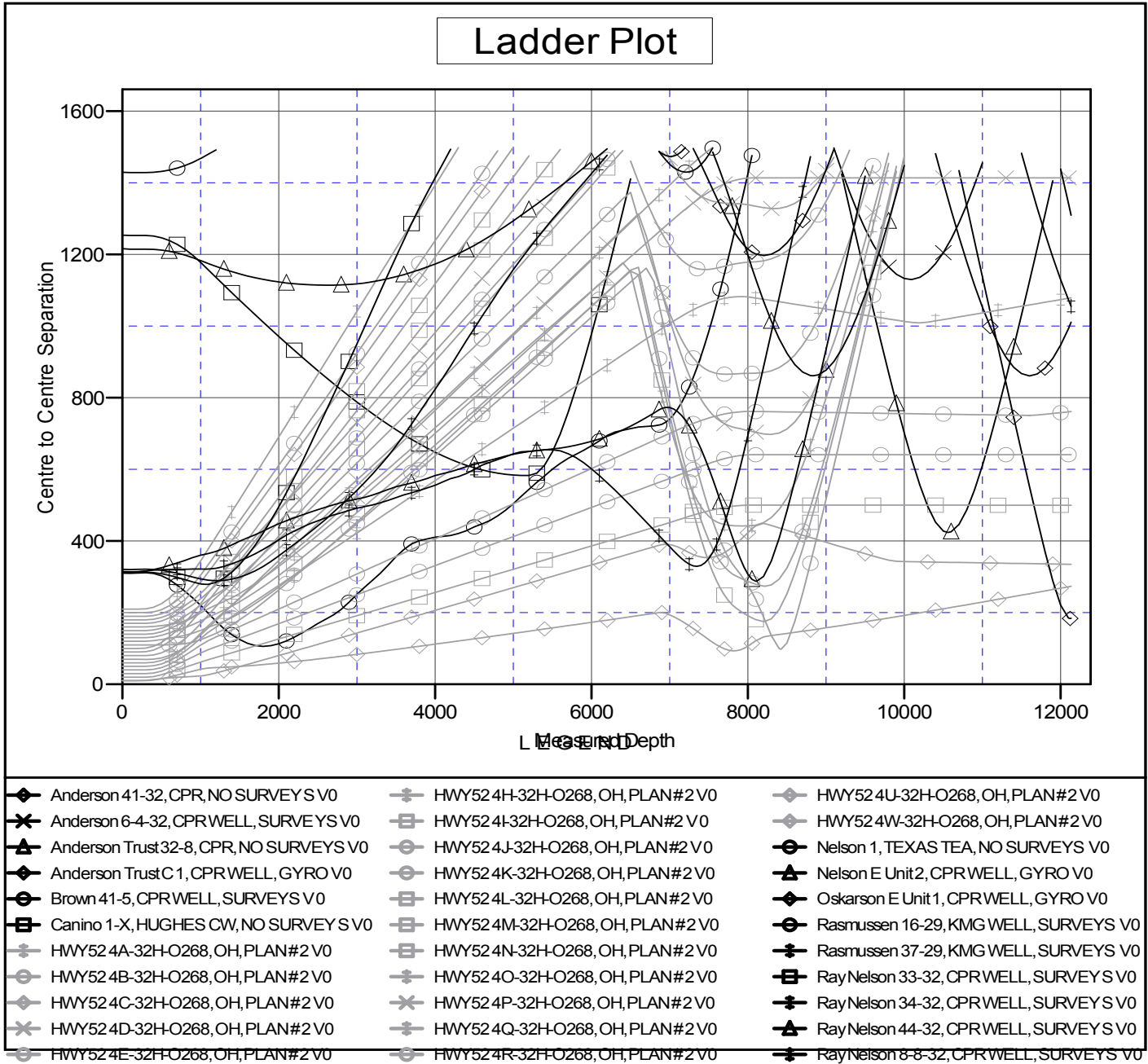
# Cathedral Energy Services

## Anticollision Report

<b>Company:</b> Crestone Peak Resources	<b>Local Co-ordinate Reference:</b> Well HWY52 4V-32H-O268
<b>Project:</b> DJ BASIN	<b>TVD Reference:</b> 23' KB @ 5015.00usft
<b>Reference Site:</b> S32-T2N-R68W	<b>MD Reference:</b> 23' KB @ 5015.00usft
<b>Site Error:</b> 0.00usft	<b>North Reference:</b> True
<b>Reference Well:</b> HWY52 4V-32H-O268	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Well Error:</b> 0.00usft	<b>Output errors are at</b> 2.00 sigma
<b>Reference Wellbore</b> OH	<b>Database:</b> USA EDM 5000 Multi Users DB
<b>Reference Design:</b> PLAN #2	<b>Offset TVD Reference:</b> Offset Datum

Reference Depths are relative to 23' KB @ 5015.00usft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °

Coordinates are relative to: HWY52 4V-32H-O268  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.31°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation