



CRESTONE PEAK
RESOURCES

Project: DJ BASIN
Site: S25-T1N-R66W (SAM)
Well: SAM 3J-25H-M166
Wellbore: OH
Design: PLAN #1

SECTION DETAILS

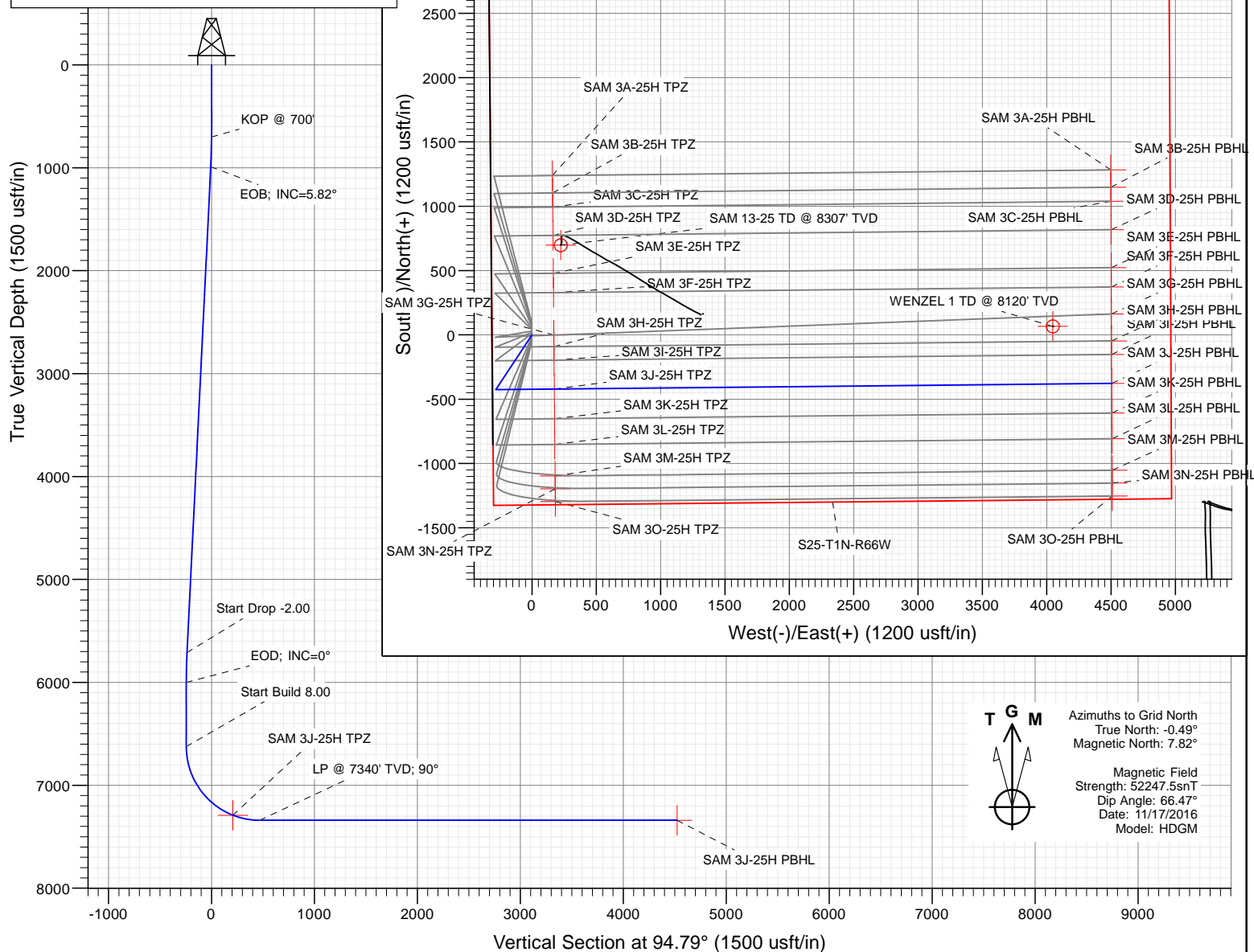
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
3	991.00	5.82	213.43	990.50	-12.32	-8.14	2.00	213.43	-7.08	
4	5734.45	5.82	213.43	5709.50	-413.73	-273.15	0.00	0.00	-237.67	
5	6025.45	0.00	0.00	6000.00	-426.05	-281.29	2.00	180.00	-244.74	
6	6649.25	0.00	0.00	6623.80	-426.05	-281.29	0.00	0.00	-244.74	
7	7774.25	90.00	89.42	7340.00	-418.77	434.87	8.00	89.42	468.31	
8	11845.06	90.00	89.42	7340.00	-377.40	4505.46	0.00	0.00	4521.24	SAM 3J-25H PBHL

PLAN #1
SAM 3J-25H-M166
16XXX LR
23 KS @ 5100.00usft
Ground Level @ 5086.00
North American Datum 1983
Well SAM 3J-25H-M166, Grid North

Name	Type TD	Target No Target (Freehand)	Azimuth 94.79	Origin Type Slot	N/S 0.00	E/W 0.00	From TVD 0.00	Latitude	Longitude
SAM 3J-25H TPZ			7290.66		+N/-S -421.43	+E/-W 173.66		40.017487	-104.733248
SAM 3J-25H PBHL			7340.00		-377.40	4505.46		40.017504	-104.717781

FORMATION TOP DETAILS

No formation data is available



Azimuths to Grid North
True North: -0.49°
Magnetic North: 7.82°

Magnetic Field
Strength: 52247.5nT
Dip Angle: 66.47°
Date: 11/17/2016
Model: HDGM

WELL DETAILS: SAM 3J-25H-M166

+N/-S	+E/-W	Northing	Ground Level:	5086.00	Latitude	Longitude
0.00	0.00	1250566.78	Easting	3214576.91	40.018648	-104.733855

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5109.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5109.00usft
Site:	S25-T1N-R66W (SAM)	North Reference:	Grid
Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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

Site		S25-T1N-R66W (SAM)			
Site Position:		Northing:	1,250,656.77 usft	Latitude:	40.018895
From:	Lat/Long	Easting:	3,214,576.98 usft	Longitude:	-104.733852
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.50 °

Well	SAM 3J-25H-M166					
Well Position	+N/-S	0.00 usft	Northing:	1,250,566.78 usft	Latitude:	40.018648
	+E/-W	0.00 usft	Easting:	3,214,576.91 usft	Longitude:	-104.733855
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,086.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/17/2016	8.32	66.47	52,248

Design		PLAN #1		
Audit Notes:				
Version:		Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	94.79

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
991.00	5.82	213.43	990.50	-12.32	-8.14	2.00	2.00	0.00	213.43	
5,734.45	5.82	213.43	5,709.50	-413.73	-273.15	0.00	0.00	0.00	0.00	
6,025.45	0.00	0.00	6,000.00	-426.05	-281.29	2.00	-2.00	0.00	180.00	
6,649.25	0.00	0.00	6,623.80	-426.05	-281.29	0.00	0.00	0.00	0.00	
7,774.25	90.00	89.42	7,340.00	-418.77	434.87	8.00	8.00	0.00	89.42	
11,845.06	90.00	89.42	7,340.00	-377.40	4,505.46	0.00	0.00	0.00	0.00	SAM 3J-25H PBHL

Cathedral Energy Services

Planning Report

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Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5109.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5109.00usft
Site:	S25-T1N-R66W (SAM)	North Reference:	Grid
Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	KOP @ 700'
800.00	2.00	213.43	799.98	-1.46	-0.96	-0.84	2.00	2.00	
900.00	4.00	213.43	899.84	-5.82	-3.84	-3.35	2.00	2.00	
991.00	5.82	213.43	990.50	-12.32	-8.14	-7.08	2.00	2.00	EOB; INC=5.82°
1,000.00	5.82	213.43	999.45	-13.08	-8.64	-7.52	0.00	0.00	
1,100.00	5.82	213.43	1,098.94	-21.55	-14.23	-12.38	0.00	0.00	
1,200.00	5.82	213.43	1,198.42	-30.01	-19.81	-17.24	0.00	0.00	
1,300.00	5.82	213.43	1,297.91	-38.47	-25.40	-22.10	0.00	0.00	
1,400.00	5.82	213.43	1,397.39	-46.93	-30.99	-26.96	0.00	0.00	
1,500.00	5.82	213.43	1,496.88	-55.40	-36.57	-31.82	0.00	0.00	
1,600.00	5.82	213.43	1,596.36	-63.86	-42.16	-36.68	0.00	0.00	
1,700.00	5.82	213.43	1,695.85	-72.32	-47.75	-41.54	0.00	0.00	
1,800.00	5.82	213.43	1,795.33	-80.78	-53.34	-46.41	0.00	0.00	
1,900.00	5.82	213.43	1,894.81	-89.25	-58.92	-51.27	0.00	0.00	
2,000.00	5.82	213.43	1,994.30	-97.71	-64.51	-56.13	0.00	0.00	
2,100.00	5.82	213.43	2,093.78	-106.17	-70.10	-60.99	0.00	0.00	
2,200.00	5.82	213.43	2,193.27	-114.63	-75.68	-65.85	0.00	0.00	
2,300.00	5.82	213.43	2,292.75	-123.09	-81.27	-70.71	0.00	0.00	
2,400.00	5.82	213.43	2,392.24	-131.56	-86.86	-75.57	0.00	0.00	
2,500.00	5.82	213.43	2,491.72	-140.02	-92.44	-80.43	0.00	0.00	
2,600.00	5.82	213.43	2,591.21	-148.48	-98.03	-85.30	0.00	0.00	
2,700.00	5.82	213.43	2,690.69	-156.94	-103.62	-90.16	0.00	0.00	
2,800.00	5.82	213.43	2,790.18	-165.41	-109.21	-95.02	0.00	0.00	
2,900.00	5.82	213.43	2,889.66	-173.87	-114.79	-99.88	0.00	0.00	
3,000.00	5.82	213.43	2,989.14	-182.33	-120.38	-104.74	0.00	0.00	
3,100.00	5.82	213.43	3,088.63	-190.79	-125.97	-109.60	0.00	0.00	
3,200.00	5.82	213.43	3,188.11	-199.25	-131.55	-114.46	0.00	0.00	
3,300.00	5.82	213.43	3,287.60	-207.72	-137.14	-119.32	0.00	0.00	
3,400.00	5.82	213.43	3,387.08	-216.18	-142.73	-124.18	0.00	0.00	
3,500.00	5.82	213.43	3,486.57	-224.64	-148.31	-129.05	0.00	0.00	
3,600.00	5.82	213.43	3,586.05	-233.10	-153.90	-133.91	0.00	0.00	
3,700.00	5.82	213.43	3,685.54	-241.57	-159.49	-138.77	0.00	0.00	
3,800.00	5.82	213.43	3,785.02	-250.03	-165.08	-143.63	0.00	0.00	
3,900.00	5.82	213.43	3,884.51	-258.49	-170.66	-148.49	0.00	0.00	
4,000.00	5.82	213.43	3,983.99	-266.95	-176.25	-153.35	0.00	0.00	
4,100.00	5.82	213.43	4,083.47	-275.42	-181.84	-158.21	0.00	0.00	
4,200.00	5.82	213.43	4,182.96	-283.88	-187.42	-163.07	0.00	0.00	
4,300.00	5.82	213.43	4,282.44	-292.34	-193.01	-167.93	0.00	0.00	
4,400.00	5.82	213.43	4,381.93	-300.80	-198.60	-172.80	0.00	0.00	
4,500.00	5.82	213.43	4,481.41	-309.26	-204.18	-177.66	0.00	0.00	
4,600.00	5.82	213.43	4,580.90	-317.73	-209.77	-182.52	0.00	0.00	
4,700.00	5.82	213.43	4,680.38	-326.19	-215.36	-187.38	0.00	0.00	
4,800.00	5.82	213.43	4,779.87	-334.65	-220.95	-192.24	0.00	0.00	
4,900.00	5.82	213.43	4,879.35	-343.11	-226.53	-197.10	0.00	0.00	
5,000.00	5.82	213.43	4,978.84	-351.58	-232.12	-201.96	0.00	0.00	

Cathedral Energy Services

Planning Report

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Project:	DJ BASIN	MD Reference:	23' KB @ 5109.00usft
Site:	S25-T1N-R66W (SAM)	North Reference:	Grid
Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
5,100.00	5.82	213.43	5,078.32	-360.04	-237.71	-206.82	0.00	0.00	
5,200.00	5.82	213.43	5,177.80	-368.50	-243.29	-211.69	0.00	0.00	
5,300.00	5.82	213.43	5,277.29	-376.96	-248.88	-216.55	0.00	0.00	
5,400.00	5.82	213.43	5,376.77	-385.42	-254.47	-221.41	0.00	0.00	
5,500.00	5.82	213.43	5,476.26	-393.89	-260.06	-226.27	0.00	0.00	
5,600.00	5.82	213.43	5,575.74	-402.35	-265.64	-231.13	0.00	0.00	
5,700.00	5.82	213.43	5,675.23	-410.81	-271.23	-235.99	0.00	0.00	
5,734.45	5.82	213.43	5,709.50	-413.73	-273.15	-237.67	0.00	0.00	Start Drop -2.00
5,800.00	4.51	213.43	5,774.78	-418.65	-276.40	-240.49	2.00	-2.00	
5,900.00	2.51	213.43	5,874.59	-423.76	-279.78	-243.43	2.00	-2.00	
6,000.00	0.51	213.43	5,974.55	-425.96	-281.23	-244.69	2.00	-2.00	
6,025.45	0.00	0.00	6,000.00	-426.05	-281.29	-244.74	2.00	-2.00	EOD; INC=0°
6,100.00	0.00	0.00	6,074.55	-426.05	-281.29	-244.74	0.00	0.00	
6,200.00	0.00	0.00	6,174.55	-426.05	-281.29	-244.74	0.00	0.00	
6,300.00	0.00	0.00	6,274.55	-426.05	-281.29	-244.74	0.00	0.00	
6,400.00	0.00	0.00	6,374.55	-426.05	-281.29	-244.74	0.00	0.00	
6,500.00	0.00	0.00	6,474.55	-426.05	-281.29	-244.74	0.00	0.00	
6,600.00	0.00	0.00	6,574.55	-426.05	-281.29	-244.74	0.00	0.00	
6,649.25	0.00	0.00	6,623.80	-426.05	-281.29	-244.74	0.00	0.00	Start Build 8.00
6,700.00	4.06	89.42	6,674.51	-426.03	-279.49	-242.96	8.00	8.00	
6,800.00	12.06	89.42	6,773.44	-425.89	-265.48	-229.01	8.00	8.00	
6,900.00	20.06	89.42	6,869.46	-425.61	-237.84	-201.49	8.00	8.00	
7,000.00	28.06	89.42	6,960.70	-425.19	-197.11	-160.93	8.00	8.00	
7,100.00	36.06	89.42	7,045.38	-424.66	-144.08	-108.13	8.00	8.00	
7,200.00	44.06	89.42	7,121.85	-424.00	-79.77	-44.10	8.00	8.00	
7,300.00	52.06	89.42	7,188.63	-423.25	-5.45	29.90	8.00	8.00	
7,400.00	60.06	89.42	7,244.42	-422.40	77.44	112.43	8.00	8.00	
7,500.00	68.06	89.42	7,288.13	-421.49	167.28	201.88	8.00	8.00	
7,600.00	76.06	89.42	7,318.91	-420.52	262.34	296.53	8.00	8.00	
7,700.00	84.06	89.42	7,336.15	-419.52	360.75	394.51	8.00	8.00	
7,774.25	90.00	89.42	7,340.00	-418.77	434.87	468.31	8.00	8.00	LP @ 7340' TVD; 90°
7,800.00	90.00	89.42	7,340.00	-418.51	460.62	493.94	0.00	0.00	
7,900.00	90.00	89.42	7,340.00	-417.49	560.61	593.50	0.00	0.00	
8,000.00	90.00	89.42	7,340.00	-416.48	660.61	693.06	0.00	0.00	
8,100.00	90.00	89.42	7,340.00	-415.46	760.60	792.63	0.00	0.00	
8,200.00	90.00	89.42	7,340.00	-414.44	860.59	892.19	0.00	0.00	
8,300.00	90.00	89.42	7,340.00	-413.43	960.59	991.75	0.00	0.00	
8,400.00	90.00	89.42	7,340.00	-412.41	1,060.58	1,091.31	0.00	0.00	
8,500.00	90.00	89.42	7,340.00	-411.40	1,160.58	1,190.87	0.00	0.00	
8,600.00	90.00	89.42	7,340.00	-410.38	1,260.57	1,290.43	0.00	0.00	
8,700.00	90.00	89.42	7,340.00	-409.36	1,360.57	1,389.99	0.00	0.00	
8,800.00	90.00	89.42	7,340.00	-408.35	1,460.56	1,489.55	0.00	0.00	
8,900.00	90.00	89.42	7,340.00	-407.33	1,560.56	1,589.11	0.00	0.00	
9,000.00	90.00	89.42	7,340.00	-406.31	1,660.55	1,688.67	0.00	0.00	
9,100.00	90.00	89.42	7,340.00	-405.30	1,760.55	1,788.24	0.00	0.00	
9,200.00	90.00	89.42	7,340.00	-404.28	1,860.54	1,887.80	0.00	0.00	
9,300.00	90.00	89.42	7,340.00	-403.27	1,960.54	1,987.36	0.00	0.00	
9,400.00	90.00	89.42	7,340.00	-402.25	2,060.53	2,086.92	0.00	0.00	
9,500.00	90.00	89.42	7,340.00	-401.23	2,160.53	2,186.48	0.00	0.00	
9,600.00	90.00	89.42	7,340.00	-400.22	2,260.52	2,286.04	0.00	0.00	
9,700.00	90.00	89.42	7,340.00	-399.20	2,360.52	2,385.60	0.00	0.00	
9,800.00	90.00	89.42	7,340.00	-398.18	2,460.51	2,485.16	0.00	0.00	

Cathedral Energy Services

Planning Report

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Project:	DJ BASIN	MD Reference:	23' KB @ 5109.00usft
Site:	S25-T1N-R66W (SAM)	North Reference:	Grid
Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
9,900.00	90.00	89.42	7,340.00	-397.17	2,560.51	2,584.72	0.00	0.00	
10,000.00	90.00	89.42	7,340.00	-396.15	2,660.50	2,684.28	0.00	0.00	
10,100.00	90.00	89.42	7,340.00	-395.14	2,760.50	2,783.85	0.00	0.00	
10,200.00	90.00	89.42	7,340.00	-394.12	2,860.49	2,883.41	0.00	0.00	
10,300.00	90.00	89.42	7,340.00	-393.10	2,960.49	2,982.97	0.00	0.00	
10,400.00	90.00	89.42	7,340.00	-392.09	3,060.48	3,082.53	0.00	0.00	
10,500.00	90.00	89.42	7,340.00	-391.07	3,160.48	3,182.09	0.00	0.00	
10,600.00	90.00	89.42	7,340.00	-390.05	3,260.47	3,281.65	0.00	0.00	
10,700.00	90.00	89.42	7,340.00	-389.04	3,360.47	3,381.21	0.00	0.00	
10,800.00	90.00	89.42	7,340.00	-388.02	3,460.46	3,480.77	0.00	0.00	
10,900.00	90.00	89.42	7,340.00	-387.01	3,560.46	3,580.33	0.00	0.00	
11,000.00	90.00	89.42	7,340.00	-385.99	3,660.45	3,679.90	0.00	0.00	
11,100.00	90.00	89.42	7,340.00	-384.97	3,760.45	3,779.46	0.00	0.00	
11,200.00	90.00	89.42	7,340.00	-383.96	3,860.44	3,879.02	0.00	0.00	
11,300.00	90.00	89.42	7,340.00	-382.94	3,960.43	3,978.58	0.00	0.00	
11,400.00	90.00	89.42	7,340.00	-381.92	4,060.43	4,078.14	0.00	0.00	
11,500.00	90.00	89.42	7,340.00	-380.91	4,160.42	4,177.70	0.00	0.00	
11,600.00	90.00	89.42	7,340.00	-379.89	4,260.42	4,277.26	0.00	0.00	
11,700.00	90.00	89.42	7,340.00	-378.88	4,360.41	4,376.82	0.00	0.00	
11,800.00	90.00	89.42	7,340.00	-377.86	4,460.41	4,476.38	0.00	0.00	
11,845.06	90.00	89.42	7,340.00	-377.40	4,505.46	4,521.24	0.00	0.00	TD at 11845.06

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SAM 3J-25H TPZ	0.00	0.00	7,290.66	-421.43	173.66	1,250,145.35	3,214,750.57	40.017487	-104.733248
- plan misses target center by 0.01usft at 7506.85usft MD (7290.66 TVD, -421.43 N, 173.65 E)									
- Point									
SAM 3J-25H PBHL	0.00	0.00	7,340.00	-377.40	4,505.46	1,250,189.38	3,219,082.37	40.017504	-104.717781
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
700.00	700.00	0.00	0.00	KOP @ 700'
991.00	990.50	-12.32	-8.14	EOB; INC=5.82°
5,734.45	5,709.50	-413.73	-273.15	Start Drop -2.00
6,025.45	6,000.00	-426.05	-281.29	EOD; INC=0°
6,649.25	6,623.80	-426.05	-281.29	Start Build 8.00
7,774.25	7,340.00	-418.77	434.87	LP @ 7340' TVD; 90°
11,845.06	7,340.00	-377.40	4,505.46	TD at 11845.06

Crestone Peak Resources

DJ BASIN

S25-T1N-R66W (SAM)

SAM 3J-25H-M166

OH

PLAN #1

Anticollision Report

18 November, 2016

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	11/18/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	11,844.55	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S25-T1N-R66W (SAM)						
Bare Spaces 11-36 (EXISTING) - CPR WELL - NO SURV						Out of range
Beierle 1 (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Beierle 1-A (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Beierle 2 (EXISTING) - CPR WELL - SURVEYS	6,675.74	6,831.84	1,270.47	1,225.41	28.193	CC, ES
Beierle 2 (EXISTING) - CPR WELL - SURVEYS	6,900.00	7,055.93	1,290.06	1,243.78	27.880	SF
Beierle KE 26-361HN - GWOG WELL - GWOG WELL	7,260.34	12,125.42	413.67	334.13	5.201	CC
Beierle KE 26-361HN - GWOG WELL - GWOG WELL	7,300.00	12,125.37	416.66	331.71	4.905	ES
Beierle KE 26-361HN - GWOG WELL - GWOG WELL	7,400.00	12,125.22	449.22	353.83	4.709	SF
Gilmore 1-30 (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Lehl 1 (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Lochbuie 1 (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Lochbuie 21-31 (EXISTING) - CPR WELL - GYRO						Out of range
Lochbuie 2A-31H-D165 (EXISTING) - CPR WELL - SUR	11,845.06	7,001.00	1,252.57	1,119.78	9.433	CC, ES, SF
Lochbuie 2B-31H-D165 (EXISTING) - CPR WELL - SUR	11,845.06	7,118.06	1,437.04	1,321.18	12.404	CC, ES, SF
Lochbuie 2C-31H-D165 (EXISTING) - CPR WELL - SUR						Out of range
Lochbuie 2D-31H-D165 (EXISTING) - CPR WELL - SUR						Out of range
Lochbuie 2E-31H-D165 (EXISTING) - CPR WELL - SUR	11,845.06	7,001.00	1,270.39	1,139.24	9.686	CC, ES, SF
Lochbuie 2F-31H-D165 (PLAN) - CPR WELL - PLAN ON						Out of range
Lochbuie 2G-31H-D165 (EXISTING) - CPR WELL - SUR						Out of range
Lochbuie 2H-31H-D165 (EXISTING) - CPR WELL - SUR						Out of range
Lutz 1-A (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Sam 1 (EXISTING) - CPR WELL - NO SURVEYS	504.51	465.51	1,335.86	1,333.76	636.218	CC, ES
Sam 1 (EXISTING) - CPR WELL - NO SURVEYS	1,100.00	500.00	1,464.06	1,458.85	280.677	SF
Sam 13-25 (EXISTING) - CPR WELL - SURVEYS	7,602.24	7,578.46	1,143.40	1,088.80	20.941	CC, ES
Sam 13-25 (EXISTING) - CPR WELL - SURVEYS	7,750.00	7,591.88	1,153.90	1,098.29	20.750	SF
SAM 3A-25H-M166 - OH - PLAN #1	200.00	200.00	89.98	88.99	90.617	CC, ES
SAM 3A-25H-M166 - OH - PLAN #1	800.00	774.23	150.51	144.95	27.089	SF
SAM 3B-25H-M166 - OH - PLAN #1	300.00	300.00	79.77	78.06	46.651	CC, ES
SAM 3B-25H-M166 - OH - PLAN #1	800.00	782.15	122.23	116.77	22.376	SF
SAM 3C-25H-M166 - OH - PLAN #1	400.00	400.00	69.94	67.52	28.820	CC, ES
SAM 3C-25H-M166 - OH - PLAN #1	11,845.06	11,905.35	1,415.20	1,114.28	4.703	SF
SAM 3D-25H-M166 - OH - PLAN #1	500.00	500.00	59.75	56.60	19.005	CC, ES
SAM 3D-25H-M166 - OH - PLAN #1	11,845.06	11,943.57	1,197.22	896.90	3.986	SF
SAM 3E-25H-M166 - OH - PLAN #1	600.00	600.00	49.91	46.05	12.928	CC, ES
SAM 3E-25H-M166 - OH - PLAN #1	11,845.06	11,843.19	900.12	599.38	2.993	SF
SAM 3F-25H-M166 - OH - PLAN #1	700.00	700.00	39.71	35.13	8.674	CC, ES
SAM 3F-25H-M166 - OH - PLAN #1	11,845.06	11,905.10	753.30	453.75	2.515	SF
SAM 3G-25H-M166 - OH - PLAN #1	700.00	700.00	29.88	25.30	6.526	CC, ES
SAM 3G-25H-M166 - OH - PLAN #1	11,845.06	11,807.89	539.56	240.08	1.802	SF
SAM 3H-25H-M166 - OH - PLAN #1	700.00	700.00	19.68	15.10	4.298	CC, ES
SAM 3H-25H-M166 - OH - PLAN #1	11,845.06	12,068.20	408.07	160.49	1.648	SF
SAM 3I-25H-M166 - OH - PLAN #1	700.00	700.00	9.84	5.27	2.150	CC
SAM 3I-25H-M166 - OH - PLAN #1	11,845.06	11,904.92	235.75	-51.25	0.821	Level 1, ES, SF
SAM 3K-25H-M166 - OH - PLAN #1	600.00	600.00	10.20	6.33	2.641	CC
SAM 3K-25H-M166 - OH - PLAN #1	11,845.06	11,936.55	240.28	-46.95	0.837	Level 1, ES, SF
SAM 3L-25H-M166 - OH - PLAN #1	500.00	500.00	20.04	16.90	6.375	CC, ES
SAM 3L-25H-M166 - OH - PLAN #1	11,845.06	11,886.52	429.85	129.36	1.430	Level 3, SF
SAM 3M-25H-M166 - OH - PLAN #1	400.00	400.00	30.23	27.81	12.457	CC, ES
SAM 3M-25H-M166 - OH - PLAN #1	11,845.06	11,975.04	678.63	379.75	2.271	SF
SAM 3N-25H-M166 - OH - PLAN #1	300.00	300.00	40.07	38.36	23.432	CC, ES
SAM 3N-25H-M166 - OH - PLAN #1	11,845.06	12,155.71	811.14	523.94	2.824	SF
SAM 3O-25H-M166 - OH - PLAN #1	200.00	200.00	50.27	49.28	50.629	CC, ES
SAM 3O-25H-M166 - OH - PLAN #1	11,845.06	11,932.12	874.99	574.29	2.910	SF

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
(usft) (usft) (usft) (usft)						
S25-T1N-R66W (SAM)						
State 7-36 CG (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Templin 1 (EXISTING) - CPR WELL - NO SURVEYS						Out of range
Wenzel 1 (EXISTING) - CPR WELL - NO SURVEYS	11,391.18	7,261.00	448.07	303.64	3.102	CC
Wenzel 1 (EXISTING) - CPR WELL - NO SURVEYS	11,400.00	7,261.00	448.16	303.50	3.098	ES, SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Beierle 2 (EXISTING) - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 1357-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		
3,700.00	3,685.54	4,110.75	4,020.58	13.59	12.93	120.77	1,061.81	-818.54	1,499.14	1,475.09	24.04	62.348		
3,800.00	3,785.02	4,196.69	4,101.65	13.98	13.44	120.22	1,035.48	-829.51	1,481.95	1,457.03	24.92	59.473		
3,900.00	3,884.51	4,292.48	4,192.16	14.36	13.99	119.58	1,006.73	-842.10	1,465.65	1,439.82	25.83	56.748		
4,000.00	3,983.99	4,393.70	4,287.88	14.75	14.58	118.93	976.34	-854.71	1,449.23	1,422.47	26.76	54.166		
4,100.00	4,083.47	4,498.28	4,386.87	15.14	15.19	118.26	944.95	-866.99	1,432.69	1,404.99	27.71	51.711		
4,200.00	4,182.96	4,631.56	4,512.42	15.53	16.03	117.35	902.92	-882.19	1,414.82	1,386.04	28.78	49.160		
4,300.00	4,282.44	4,729.62	4,604.43	15.92	16.66	116.66	870.63	-892.66	1,395.58	1,365.83	29.75	46.913		
4,400.00	4,381.93	4,803.00	4,673.50	16.31	17.11	116.14	847.24	-900.78	1,377.62	1,346.98	30.64	44.968		
4,500.00	4,481.41	4,879.33	4,745.70	16.70	17.53	115.61	824.09	-909.58	1,361.43	1,329.92	31.51	43.206		
4,600.00	4,580.90	4,969.83	4,831.64	17.09	18.03	114.98	797.72	-920.05	1,346.51	1,314.09	32.43	41.525		
4,700.00	4,680.38	5,056.71	4,914.43	17.48	18.50	114.40	773.15	-929.59	1,332.24	1,298.92	33.32	39.979		
4,800.00	4,779.87	5,137.80	4,992.10	17.87	18.91	113.90	751.45	-938.09	1,319.18	1,284.99	34.19	38.587		
4,900.00	4,879.35	5,214.65	5,066.07	18.26	19.29	113.46	732.24	-946.06	1,307.70	1,272.68	35.02	37.341		
5,000.00	4,978.84	5,282.00	5,131.22	18.65	19.62	113.09	716.71	-953.17	1,298.19	1,262.39	35.80	36.259		
5,100.00	5,078.32	5,366.51	5,213.44	19.04	19.98	112.68	699.19	-961.80	1,290.48	1,253.87	36.61	35.250		
5,200.00	5,177.80	5,446.43	5,291.71	19.43	20.30	112.39	684.78	-969.05	1,284.44	1,247.08	37.35	34.386		
5,300.00	5,277.29	5,527.07	5,371.15	19.82	20.58	112.18	672.43	-975.23	1,279.92	1,241.87	38.05	33.637		
5,400.00	5,376.77	5,607.80	5,451.04	20.21	20.84	112.06	662.09	-980.59	1,276.91	1,238.21	38.71	32.991		
5,500.00	5,476.26	5,689.26	5,531.88	20.60	21.07	112.00	653.40	-985.60	1,275.41	1,236.08	39.33	32.431		
5,562.46	5,538.40	5,741.49	5,583.78	20.84	21.21	111.97	648.51	-988.83	1,275.15	1,235.45	39.71	32.114		
5,600.00	5,575.74	5,773.46	5,615.57	20.99	21.29	111.97	645.76	-990.82	1,275.24	1,235.31	39.93	31.936		
5,700.00	5,675.23	5,858.00	5,699.80	21.38	21.48	112.02	639.91	-994.97	1,276.15	1,235.66	40.50	31.513		
5,734.45	5,709.50	5,889.56	5,731.30	21.51	21.54	112.07	638.26	-996.13	1,276.71	1,236.03	40.68	31.384		
5,800.00	5,774.78	5,943.43	5,785.09	21.77	21.63	112.17	636.06	-997.93	1,277.96	1,236.95	41.01	31.162		
5,900.00	5,874.59	6,036.05	5,877.67	22.13	21.77	112.32	634.07	-999.68	1,279.57	1,238.07	41.50	30.836		
6,000.00	5,974.55	6,138.24	5,979.85	22.49	21.89	112.42	633.37	-999.77	1,280.06	1,238.09	41.97	30.500		
6,025.45	6,000.00	6,164.65	6,006.26	22.57	21.92	-34.15	633.14	-999.79	1,279.93	1,237.84	42.09	30.411		
6,100.00	6,074.55	6,242.04	6,083.65	22.80	22.01	-34.17	632.39	-999.74	1,279.30	1,236.88	42.43	30.154		
6,200.00	6,174.55	6,347.15	6,188.75	23.11	22.15	-34.19	631.14	-999.42	1,278.14	1,235.26	42.88	29.805		
6,300.00	6,274.55	6,447.93	6,289.52	23.42	22.27	-34.20	629.84	-998.87	1,276.77	1,233.44	43.33	29.464		
6,400.00	6,374.55	6,550.36	6,391.94	23.73	22.41	-34.21	628.47	-998.15	1,275.27	1,231.48	43.79	29.124		
6,500.00	6,474.55	6,652.68	6,494.24	24.05	22.54	-34.21	626.95	-997.31	1,273.58	1,229.33	44.24	28.786		
6,600.00	6,574.55	6,754.66	6,596.21	24.36	22.68	-34.24	625.10	-996.65	1,271.72	1,227.01	44.71	28.445		
6,649.25	6,623.80	6,804.89	6,646.42	24.52	22.75	-34.26	624.04	-996.43	1,270.74	1,225.80	44.94	28.278		
6,675.74	6,650.29	6,831.84	6,673.37	24.60	22.79	-123.72	623.44	-996.35	1,270.47	1,225.41	45.06	28.193 CC, ES		
6,700.00	6,674.51	6,856.45	6,697.97	24.67	22.83	-123.77	622.87	-996.28	1,270.70	1,225.51	45.19	28.122		
6,750.00	6,724.22	6,906.96	6,748.47	24.82	22.91	-123.87	621.64	-996.19	1,272.59	1,227.15	45.44	28.005		
6,800.00	6,773.44	6,956.96	6,798.45	24.97	22.98	-123.97	620.35	-996.14	1,276.43	1,230.72	45.71	27.926		
6,850.00	6,821.93	7,006.20	6,847.67	25.10	23.06	-124.07	619.02	-996.14	1,282.24	1,236.26	45.98	27.885		
6,900.00	6,869.46	7,055.93	6,897.38	25.23	23.14	-124.15	617.58	-996.17	1,290.06	1,243.78	46.27	27.880 SF		
6,950.00	6,915.79	7,104.49	6,945.92	25.36	23.22	-124.21	616.06	-996.20	1,299.89	1,253.32	46.57	27.913		
7,000.00	6,960.70	7,151.54	6,992.95	25.47	23.29	-124.21	614.50	-996.23	1,311.79	1,264.92	46.87	27.987		
7,050.00	7,003.96	7,196.87	7,038.24	25.59	23.37	-124.14	612.89	-996.26	1,325.81	1,278.63	47.18	28.103		
7,100.00	7,045.38	7,239.03	7,080.38	25.69	23.44	-123.93	611.32	-996.30	1,342.01	1,294.52	47.49	28.258		
7,150.00	7,084.74	7,278.92	7,120.24	25.79	23.52	-123.59	609.78	-996.39	1,360.44	1,312.63	47.81	28.454		
7,200.00	7,121.85	7,316.46	7,157.74	25.90	23.58	-123.07	608.28	-996.50	1,381.12	1,332.99	48.14	28.692		
7,250.00	7,156.54	7,351.47	7,192.72	26.02	23.64	-122.36	606.83	-996.63	1,404.04	1,355.58	48.46	28.971		
7,300.00	7,188.63	7,383.77	7,224.99	26.17	23.70	-121.40	605.46	-996.78	1,429.17	1,380.37	48.80	29.288		
7,350.00	7,217.97	7,414.40	7,255.59	26.39	23.76	-120.21	604.14	-996.91	1,456.44	1,407.31	49.13	29.643		
7,400.00	7,244.42	7,442.66	7,283.83	26.69	23.81	-118.72	602.95	-996.97	1,485.76	1,436.29	49.47	30.034		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Beierle KE 26-361HN - GWOG WELL - GWOG WELL													Offset Site Error: 0.00 usft	
Survey Program: 16-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		
6,025.45	6,000.00	12,125.86	7,499.06	22.57	83.87	-90.48	-426.27	-308.04	1,475.30	1,434.47	40.83	36.133		
6,100.00	6,074.55	12,125.86	7,499.06	22.80	83.87	-90.48	-426.27	-308.04	1,400.76	1,359.88	40.89	34.259		
6,200.00	6,174.55	12,125.86	7,499.06	23.11	83.87	-90.48	-426.27	-308.04	1,300.78	1,259.81	40.97	31.746		
6,300.00	6,274.55	12,125.86	7,499.06	23.42	83.87	-90.48	-426.27	-308.04	1,200.81	1,159.74	41.07	29.237		
6,400.00	6,374.55	12,125.86	7,499.06	23.73	83.87	-90.48	-426.27	-308.04	1,100.83	1,059.66	41.18	26.733		
6,500.00	6,474.55	12,125.86	7,499.06	24.05	83.87	-90.48	-426.27	-308.04	1,000.87	959.57	41.30	24.234		
6,600.00	6,574.55	12,125.86	7,499.06	24.36	83.87	-90.48	-426.27	-308.04	900.91	859.47	41.44	21.742		
6,649.25	6,623.80	12,125.86	7,499.06	24.52	83.87	-90.48	-426.27	-308.04	851.68	810.17	41.51	20.517		
6,700.00	6,674.51	12,125.85	7,499.06	24.67	83.87	-179.97	-426.27	-308.04	801.06	759.44	41.62	19.246		
6,750.00	6,724.22	12,125.85	7,499.06	24.82	83.87	-179.98	-426.26	-308.04	751.60	709.78	41.82	17.972		
6,800.00	6,773.44	12,125.83	7,499.06	24.97	83.87	-179.98	-426.25	-308.04	702.91	660.74	42.17	16.668		
6,850.00	6,821.93	12,125.81	7,499.06	25.10	83.87	-179.98	-426.22	-308.04	655.41	612.62	42.79	15.317		
6,900.00	6,869.46	12,125.78	7,499.06	25.23	83.87	-179.97	-426.20	-308.04	609.66	565.80	43.86	13.900		
6,950.00	6,915.79	12,125.75	7,499.06	25.36	83.87	-179.97	-426.16	-308.04	566.30	520.69	45.61	12.416		
7,000.00	6,960.70	12,125.71	7,499.06	25.47	83.87	-179.97	-426.12	-308.04	526.19	477.89	48.30	10.895		
7,050.00	7,003.96	12,125.66	7,499.06	25.59	83.87	-179.96	-426.08	-308.04	490.33	438.19	52.14	9.405		
7,100.00	7,045.38	12,125.61	7,499.06	25.69	83.87	-179.96	-426.03	-308.04	459.91	402.67	57.24	8.035		
7,150.00	7,084.74	12,125.56	7,499.06	25.79	83.87	-179.95	-425.97	-308.04	436.23	372.69	63.54	6.866		
7,200.00	7,121.85	12,125.50	7,499.06	25.90	83.87	-179.94	-425.91	-308.04	420.55	349.88	70.68	5.950		
7,250.00	7,156.54	12,125.43	7,499.06	26.02	83.87	-179.93	-425.85	-308.04	413.88	335.83	78.05	5.303		
7,260.34	7,163.39	12,125.42	7,499.06	26.05	83.87	-179.93	-425.84	-308.04	413.67	334.13	79.54	5.201 CC		
7,300.00	7,188.63	12,125.37	7,499.06	26.17	83.86	-179.92	-425.78	-308.05	416.66	331.71	84.95	4.905 ES		
7,350.00	7,217.97	12,125.29	7,499.06	26.39	83.86	-179.91	-425.71	-308.05	428.71	337.89	90.82	4.720		
7,400.00	7,244.42	12,125.22	7,499.06	26.69	83.86	-179.90	-425.63	-308.05	449.22	353.83	95.39	4.709 SF		
7,450.00	7,267.84	12,125.14	7,499.06	27.10	83.86	-179.88	-425.55	-308.05	477.02	378.31	98.71	4.833		
7,500.00	7,288.13	12,125.06	7,499.06	27.59	83.86	-179.86	-425.47	-308.05	510.78	409.80	100.98	5.058		
7,550.00	7,305.18	12,124.97	7,499.06	28.17	83.86	-179.83	-425.39	-308.05	549.27	446.79	102.49	5.359		
7,600.00	7,318.91	12,124.89	7,499.06	28.83	83.86	-179.80	-425.30	-308.05	591.40	487.95	103.45	5.717		
7,650.00	7,329.25	12,124.80	7,499.06	29.56	83.85	-179.75	-425.22	-308.05	636.25	532.20	104.05	6.115		
7,700.00	7,336.15	12,124.71	7,499.06	30.35	83.85	-179.67	-425.13	-308.05	683.10	578.68	104.42	6.542		
7,750.00	7,339.59	12,124.62	7,499.06	31.21	83.85	-179.54	-425.04	-308.05	731.36	626.72	104.64	6.989		
7,774.25	7,340.00	12,124.58	7,499.06	31.64	83.85	-179.44	-425.00	-308.05	755.12	650.41	104.71	7.212		
7,800.00	7,340.00	12,124.53	7,499.06	32.11	83.85	-179.42	-424.95	-308.05	780.47	675.70	104.77	7.449		
7,900.00	7,340.00	12,124.35	7,499.06	34.07	83.85	-179.34	-424.77	-308.05	879.13	774.19	104.94	8.377		
8,000.00	7,340.00	12,124.18	7,499.06	36.21	83.84	-179.27	-424.59	-308.06	978.06	873.01	105.06	9.310		
8,100.00	7,340.00	12,124.00	7,499.06	38.49	83.84	-179.19	-424.41	-308.06	1,077.19	972.06	105.14	10.246		
8,200.00	7,340.00	12,123.82	7,499.06	40.90	83.84	-179.11	-424.24	-308.06	1,176.47	1,071.28	105.20	11.184		
8,300.00	7,340.00	12,123.64	7,499.06	43.42	83.83	-179.04	-424.06	-308.06	1,275.86	1,170.62	105.24	12.124		
8,400.00	7,340.00	12,123.46	7,499.06	46.02	83.83	-178.96	-423.88	-308.06	1,375.34	1,270.07	105.27	13.065		
8,500.00	7,340.00	12,123.28	7,499.06	48.69	83.83	-178.89	-423.70	-308.06	1,474.89	1,369.59	105.30	14.007		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Lochbuie 2A-31H-D165 (EXISTING) - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 164-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	
11,500.00	7,340.00	7,001.00	6,906.16	139.72	21.55	69.34	-1,332.36	5,230.27	1,476.98	1,368.51	108.47	13.616	
11,600.00	7,340.00	7,001.00	6,906.16	142.87	21.55	69.34	-1,332.36	5,230.27	1,406.93	1,291.84	115.09	12.225	
11,700.00	7,340.00	7,001.00	6,906.16	146.02	21.55	69.34	-1,332.36	5,230.27	1,340.68	1,218.50	122.18	10.973	
11,800.00	7,340.00	7,001.00	6,906.16	149.18	21.55	69.34	-1,332.36	5,230.27	1,278.83	1,149.14	129.69	9.861	
11,845.06	7,340.00	7,001.00	6,906.16	150.00	21.55	69.34	-1,332.36	5,230.27	1,252.57	1,119.78	132.79	9.433 CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Lochbuie 2B-31H-D165 (EXISTING) - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 133-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	
11,800.00	7,340.00	7,118.54	7,087.11	149.18	18.00	79.22	-1,316.70	5,577.87	1,470.67	1,357.60	113.07	13.007	
11,845.06	7,340.00	7,118.06	7,086.64	150.00	18.00	79.19	-1,316.60	5,577.89	1,437.04	1,321.18	115.86	12.404	CC, ES, SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Lochbuie 2E-31H-D165 (EXISTING) - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 164-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	
11,600.00	7,340.00	7,001.00	6,906.16	142.87	21.56	70.29	-1,332.00	5,269.48	1,429.56	1,315.97	113.58	12.586	
11,700.00	7,340.00	7,001.00	6,906.16	146.02	21.56	70.29	-1,332.00	5,269.48	1,361.53	1,240.94	120.59	11.291	
11,800.00	7,340.00	7,001.00	6,906.16	149.18	21.56	70.29	-1,332.00	5,269.48	1,297.65	1,169.60	128.05	10.134	
11,845.06	7,340.00	7,001.00	6,906.16	150.00	21.56	70.29	-1,332.00	5,269.48	1,270.39	1,139.24	131.16	9.686	CC, ES, SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Sam 1 (EXISTING) - CPR WELL - NO SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 500-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	
0.00	0.00	0.00	0.00	0.00	0.00	82.98	163.17	1,325.86	1,336.43				
100.00	100.00	61.00	61.00	0.14	0.07	82.98	163.17	1,325.86	1,335.86	1,335.66	0.21	6,514.588	
200.00	200.00	161.00	161.00	0.50	0.18	82.98	163.17	1,325.86	1,335.86	1,335.19	0.67	1,983.643	
300.00	300.00	261.00	261.00	0.85	0.29	82.98	163.17	1,325.86	1,335.86	1,334.72	1.14	1,169.941	
400.00	400.00	361.00	361.00	1.21	0.40	82.98	163.17	1,325.86	1,335.86	1,334.25	1.61	829.624	
500.00	500.00	461.00	461.00	1.57	0.51	82.98	163.17	1,325.86	1,335.86	1,333.78	2.08	642.679	
504.51	504.51	465.51	465.51	1.59	0.51	82.98	163.17	1,325.86	1,335.86	1,333.76	2.10	636.218	CC, ES
600.00	600.00	500.00	500.00	1.93	0.55	82.98	163.17	1,325.86	1,337.26	1,334.74	2.51	532.187	
700.00	700.00	500.00	500.00	2.29	0.55	82.98	163.17	1,325.86	1,345.53	1,342.50	3.03	444.141	
800.00	799.98	500.00	500.00	2.63	0.55	-130.19	163.17	1,325.86	1,362.23	1,358.63	3.60	378.845	
900.00	899.84	500.00	500.00	2.97	0.55	-129.78	163.17	1,325.86	1,388.12	1,383.96	4.16	333.395	
991.00	990.50	500.00	500.00	3.28	0.55	-129.27	163.17	1,325.86	1,419.22	1,414.56	4.66	304.306	
1,000.00	999.45	500.00	500.00	3.31	0.55	-129.27	163.17	1,325.86	1,422.66	1,417.95	4.72	301.667	
1,100.00	1,098.94	500.00	500.00	3.66	0.55	-129.27	163.17	1,325.86	1,464.06	1,458.85	5.22	280.677	SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Sam 13-25 (EXISTING) - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft		
Survey Program: 1386-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			
0.00	0.00	0.00	0.00	0.00	0.00	83.22	156.14	1,313.04	1,322.40						
100.00	100.00	83.00	83.00	0.14	0.09	83.22	156.14	1,313.04	1,322.29	1,322.06	0.23	5,743.765			
200.00	200.00	183.00	183.00	0.50	0.20	83.22	156.14	1,313.04	1,322.29	1,321.59	0.70	1,889.604			
300.00	300.00	283.00	283.00	0.85	0.31	83.22	156.14	1,313.04	1,322.29	1,321.12	1.17	1,130.811			
400.00	400.00	383.00	383.00	1.21	0.43	83.22	156.14	1,313.04	1,322.29	1,320.65	1.64	806.822			
500.00	500.00	483.00	483.00	1.57	0.54	83.22	156.14	1,313.04	1,322.29	1,320.18	2.11	627.140			
600.00	600.00	583.00	583.00	1.93	0.65	83.22	156.14	1,313.04	1,322.29	1,319.71	2.58	512.913			
700.00	700.00	683.00	683.00	2.29	0.76	83.22	156.14	1,313.04	1,322.29	1,319.24	3.05	433.885			
800.00	799.98	782.98	782.98	2.63	0.87	-130.26	156.14	1,313.04	1,323.42	1,319.91	3.50	378.021			
900.00	899.84	882.84	882.84	2.97	0.98	-130.38	156.14	1,313.04	1,326.80	1,322.86	3.94	336.338			
991.00	990.50	973.50	973.50	3.28	1.08	-130.55	156.14	1,313.04	1,331.87	1,327.51	4.36	305.766			
1,000.00	999.45	982.45	982.45	3.31	1.09	-130.58	156.14	1,313.04	1,332.47	1,328.07	4.40	302.988			
1,100.00	1,098.94	1,081.94	1,081.94	3.66	1.20	-130.91	156.14	1,313.04	1,339.10	1,334.25	4.85	275.820			
1,200.00	1,198.42	1,181.42	1,181.42	4.02	1.31	-131.24	156.14	1,313.04	1,345.79	1,340.47	5.32	253.052			
1,300.00	1,297.91	1,280.91	1,280.91	4.38	1.42	-131.56	156.14	1,313.04	1,352.51	1,346.73	5.79	233.760			
1,400.00	1,397.39	1,380.39	1,380.39	4.75	1.53	-131.88	156.14	1,313.04	1,359.28	1,353.02	6.26	217.242			
1,500.00	1,496.88	1,469.87	1,469.87	5.13	1.72	-132.17	156.27	1,313.33	1,366.43	1,359.63	6.81	200.734			
1,600.00	1,596.36	1,629.83	1,629.78	5.50	2.06	-132.76	158.17	1,311.16	1,372.34	1,364.80	7.54	182.013			
1,700.00	1,695.85	1,820.11	1,819.37	5.88	2.49	-133.73	164.98	1,296.96	1,372.70	1,364.33	8.37	163.995			
1,800.00	1,795.33	1,985.52	1,982.73	6.26	2.94	-134.84	175.37	1,273.43	1,366.64	1,357.47	9.16	149.131			
1,900.00	1,894.81	2,139.15	2,132.62	6.64	3.48	-136.22	191.52	1,243.99	1,356.96	1,346.97	9.99	135.842			
2,000.00	1,994.30	2,274.84	2,263.16	7.02	4.09	-137.71	210.56	1,212.27	1,344.21	1,333.37	10.85	123.914			
2,100.00	2,093.78	2,419.17	2,400.41	7.40	4.84	-139.48	232.62	1,173.52	1,328.94	1,317.13	11.81	112.493			
2,200.00	2,193.27	2,508.04	2,484.27	7.78	5.34	-140.65	246.99	1,147.85	1,312.50	1,299.89	12.61	104.088			
2,300.00	2,292.75	2,597.43	2,568.70	8.17	5.81	-141.85	261.74	1,122.44	1,297.24	1,283.82	13.42	96.699			
2,400.00	2,392.24	2,687.78	2,654.22	8.55	6.29	-143.07	276.21	1,097.15	1,282.95	1,268.71	14.24	90.085			
2,500.00	2,491.72	2,769.93	2,732.12	8.94	6.73	-144.20	289.31	1,074.64	1,269.91	1,254.86	15.05	84.399			
2,600.00	2,591.21	2,874.01	2,831.13	9.32	7.31	-145.61	305.39	1,046.87	1,258.09	1,242.12	15.97	78.764			
2,700.00	2,690.69	2,975.14	2,926.88	9.71	7.90	-147.05	321.51	1,018.55	1,245.91	1,228.98	16.92	73.627			
2,800.00	2,790.18	3,066.11	3,013.05	10.10	8.44	-148.35	335.74	993.14	1,234.44	1,216.60	17.84	69.184			
2,900.00	2,889.66	3,165.27	3,106.67	10.48	9.07	-149.86	352.41	965.04	1,223.83	1,204.97	18.86	64.897			
3,000.00	2,989.14	3,262.69	3,198.21	10.87	9.72	-151.42	369.72	936.56	1,213.67	1,193.75	19.92	60.938			
3,100.00	3,088.63	3,347.21	3,277.44	11.26	10.28	-152.82	385.47	911.68	1,204.64	1,183.72	20.92	57.594			
3,200.00	3,188.11	3,446.01	3,370.24	11.65	10.89	-154.46	403.67	883.08	1,196.94	1,174.95	21.99	54.437			
3,300.00	3,287.60	3,533.92	3,452.96	12.03	11.45	-155.91	419.28	857.72	1,190.01	1,167.01	23.00	51.731			
3,400.00	3,387.08	3,629.79	3,543.17	12.42	12.05	-157.51	436.59	830.30	1,184.41	1,160.33	24.08	49.186			
3,500.00	3,486.57	3,723.30	3,631.29	12.81	12.63	-159.07	452.93	803.62	1,179.59	1,154.46	25.13	46.932			
3,600.00	3,586.05	3,809.33	3,712.52	13.20	13.17	-160.48	467.83	779.50	1,176.07	1,149.92	26.15	44.980			
3,700.00	3,685.54	3,901.12	3,799.22	13.59	13.74	-162.01	484.15	754.18	1,174.11	1,146.91	27.20	43.170			
3,800.00	3,785.02	4,004.49	3,897.12	13.98	14.37	-163.68	501.59	725.93	1,172.81	1,144.50	28.31	41.428			
3,900.00	3,884.51	4,107.29	3,994.51	14.36	14.99	-165.33	518.02	697.43	1,171.62	1,142.20	29.42	39.830			
3,961.48	3,945.67	4,159.51	4,043.99	14.60	15.32	-166.17	526.24	682.93	1,171.23	1,141.21	30.03	39.003			
4,000.00	3,983.99	4,190.00	4,072.88	14.75	15.50	-166.66	531.23	674.55	1,171.39	1,141.00	30.40	38.535			
4,100.00	4,083.47	4,305.54	4,182.27	15.14	16.23	-168.53	550.11	642.48	1,172.34	1,140.74	31.60	37.096			
4,200.00	4,182.96	4,405.73	4,277.07	15.53	16.85	-170.14	565.06	613.75	1,172.57	1,139.87	32.70	35.858			
4,300.00	4,282.44	4,488.25	4,355.16	15.92	17.37	-171.46	577.62	590.20	1,174.01	1,140.33	33.69	34.851			
4,400.00	4,381.93	4,578.86	4,440.60	16.31	17.96	-172.96	592.61	564.03	1,177.08	1,142.33	34.75	33.873			
4,500.00	4,481.41	4,672.24	4,528.21	16.70	18.60	-174.56	608.99	536.17	1,181.27	1,145.41	35.86	32.942			
4,600.00	4,580.90	4,762.98	4,613.37	17.09	19.20	-176.10	624.93	509.22	1,186.59	1,149.67	36.92	32.137			
4,700.00	4,680.38	4,863.32	4,708.15	17.48	19.84	-177.70	641.47	480.73	1,192.86	1,154.85	38.01	31.383			
4,800.00	4,779.87	4,949.77	4,789.91	17.87	20.38	-179.06	655.44	456.36	1,199.90	1,160.92	38.98	30.779			
4,900.00	4,879.35	5,043.23	4,878.08	18.26	20.99	179.46	671.38	429.77	1,208.38	1,168.36	40.02	30.194			

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Sam 13-25 (EXISTING) - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 1386-ISCWSA MWD												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
5,000.00	4,978.84	5,133.33	4,963.10	18.65	21.57	178.06	686.71	404.20	1,217.76	1,176.75	41.01	29.697	
5,100.00	5,078.32	5,225.27	5,050.32	19.04	22.13	176.71	701.96	379.41	1,228.33	1,186.37	41.96	29.274	
5,200.00	5,177.80	5,320.95	5,141.68	19.43	22.67	175.41	716.94	355.29	1,239.69	1,196.81	42.89	28.907	
5,300.00	5,277.29	5,424.70	5,241.95	19.82	23.19	174.22	730.93	332.63	1,251.37	1,207.58	43.79	28.575	
5,400.00	5,376.77	5,533.58	5,348.26	20.21	23.67	173.20	742.79	312.37	1,262.66	1,218.01	44.65	28.281	
5,500.00	5,476.26	5,642.07	5,455.04	20.60	24.06	172.39	751.80	295.52	1,273.30	1,227.88	45.41	28.038	
5,600.00	5,575.74	5,740.63	5,552.52	20.99	24.38	171.80	758.50	282.57	1,283.80	1,237.71	46.09	27.857	
5,700.00	5,675.23	5,847.13	5,658.12	21.38	24.68	171.25	764.54	270.18	1,294.05	1,247.30	46.75	27.678	
5,734.45	5,709.50	5,882.92	5,693.68	21.51	24.78	171.10	766.23	266.47	1,297.49	1,250.52	46.97	27.623	
5,800.00	5,774.78	5,948.34	5,758.76	21.77	24.94	170.86	768.90	260.37	1,303.23	1,255.86	47.37	27.513	
5,900.00	5,874.59	6,056.91	5,866.93	22.13	25.18	170.52	772.60	251.79	1,309.17	1,261.21	47.96	27.296	
6,000.00	5,974.55	6,161.49	5,971.28	22.49	25.37	170.25	774.12	245.21	1,310.54	1,262.03	48.51	27.018	
6,025.45	6,000.00	6,184.45	5,994.22	22.57	25.41	23.64	774.34	244.18	1,310.41	1,261.78	48.63	26.947	
6,100.00	6,074.55	6,261.41	6,071.12	22.80	25.52	23.52	774.79	241.37	1,309.73	1,260.75	48.98	26.739	
6,200.00	6,174.55	6,368.29	6,177.96	23.11	25.66	23.40	774.63	238.31	1,308.45	1,259.00	49.44	26.463	
6,300.00	6,274.55	6,471.28	6,280.92	23.42	25.78	23.33	773.67	236.15	1,306.76	1,256.87	49.89	26.193	
6,400.00	6,374.55	6,575.80	6,385.41	23.73	25.89	23.29	772.20	234.47	1,304.83	1,254.50	50.33	25.927	
6,500.00	6,474.55	6,681.56	6,491.14	24.05	26.00	23.27	770.11	233.01	1,302.47	1,251.71	50.76	25.658	
6,600.00	6,574.55	6,789.02	6,598.56	24.36	26.09	23.26	767.32	231.78	1,299.64	1,248.45	51.19	25.388	
6,649.25	6,623.80	6,842.70	6,652.21	24.52	26.14	23.28	765.57	231.33	1,298.00	1,246.60	51.40	25.254	
6,700.00	6,674.51	6,897.94	6,707.41	24.67	26.19	-66.39	763.51	230.98	1,295.41	1,243.80	51.60	25.103	
6,750.00	6,724.22	6,953.79	6,763.21	24.82	26.23	-66.90	761.15	230.72	1,291.27	1,239.47	51.79	24.932	
6,800.00	6,773.44	7,010.30	6,819.65	24.97	26.27	-67.70	758.42	230.48	1,285.52	1,233.55	51.96	24.740	
6,850.00	6,821.93	7,064.11	6,873.38	25.10	26.31	-68.76	755.49	230.25	1,278.25	1,226.13	52.12	24.525	
6,900.00	6,869.46	7,113.11	6,922.30	25.23	26.34	-70.01	752.69	230.09	1,269.74	1,217.47	52.27	24.292	
6,950.00	6,915.79	7,160.60	6,969.71	25.36	26.37	-71.49	749.88	230.01	1,260.17	1,207.77	52.41	24.046	
7,000.00	6,960.70	7,206.26	7,015.29	25.47	26.40	-73.15	747.11	230.02	1,249.75	1,197.22	52.53	23.791	
7,050.00	7,003.96	7,250.35	7,059.29	25.59	26.43	-74.98	744.37	230.14	1,238.66	1,186.02	52.65	23.529	
7,100.00	7,045.38	7,292.68	7,101.53	25.69	26.45	-76.96	741.67	230.34	1,227.13	1,174.38	52.75	23.262	
7,150.00	7,084.74	7,333.40	7,142.16	25.79	26.48	-79.05	739.01	230.62	1,215.40	1,162.54	52.86	22.993	
7,200.00	7,121.85	7,378.21	7,186.86	25.90	26.50	-81.41	735.90	230.99	1,203.61	1,150.66	52.95	22.733	
7,250.00	7,156.54	7,420.12	7,228.65	26.02	26.52	-83.79	732.73	231.34	1,191.97	1,138.93	53.04	22.473	
7,300.00	7,188.63	7,458.03	7,266.44	26.17	26.54	-86.11	729.64	231.67	1,180.83	1,127.68	53.15	22.217	
7,350.00	7,217.97	7,492.61	7,300.88	26.39	26.55	-88.32	726.67	232.00	1,170.53	1,117.24	53.28	21.968	
7,400.00	7,244.42	7,521.00	7,329.16	26.69	26.56	-90.25	724.11	232.27	1,161.39	1,107.93	53.46	21.725	
7,450.00	7,267.84	7,540.64	7,348.72	27.10	26.57	-91.73	722.37	232.41	1,153.84	1,100.14	53.69	21.490	
7,500.00	7,288.13	7,555.78	7,363.82	27.59	26.58	-92.87	721.11	232.44	1,148.20	1,094.24	53.96	21.278	
7,550.00	7,305.18	7,568.26	7,376.26	28.17	26.59	-93.74	720.12	232.42	1,144.67	1,090.41	54.26	21.095	
7,600.00	7,318.91	7,578.08	7,386.05	28.83	26.60	-94.32	719.38	232.37	1,143.40	1,088.82	54.59	20.947	
7,602.24	7,319.44	7,578.46	7,386.42	28.86	26.60	-94.34	719.35	232.36	1,143.40	1,088.80	54.60	20.941 CC, ES	
7,650.00	7,329.25	7,585.26	7,393.21	29.56	26.60	-94.58	718.86	232.31	1,144.49	1,089.56	54.93	20.837	
7,700.00	7,336.15	7,589.84	7,397.78	30.35	26.61	-94.53	718.54	232.27	1,147.99	1,092.72	55.27	20.771	
7,750.00	7,339.59	7,591.88	7,399.81	31.21	26.61	-94.16	718.39	232.25	1,153.90	1,098.29	55.61	20.750 SF	
7,774.25	7,340.00	7,591.98	7,399.90	31.64	26.61	-93.86	718.39	232.24	1,157.63	1,101.86	55.77	20.758	
7,800.00	7,340.00	7,591.77	7,399.70	32.11	26.61	-93.85	718.40	232.25	1,162.16	1,106.22	55.94	20.777	
7,900.00	7,340.00	7,590.98	7,398.91	34.07	26.61	-93.81	718.46	232.26	1,184.89	1,128.32	56.57	20.946	
8,000.00	7,340.00	7,590.22	7,398.16	36.21	26.61	-93.77	718.51	232.26	1,215.45	1,158.30	57.16	21.266	
8,100.00	7,340.00	7,589.50	7,397.43	38.49	26.60	-93.74	718.56	232.27	1,253.27	1,195.59	57.67	21.730	
8,200.00	7,340.00	7,588.80	7,396.73	40.90	26.60	-93.70	718.61	232.28	1,297.70	1,239.58	58.12	22.328	
8,300.00	7,340.00	7,588.12	7,396.06	43.42	26.60	-93.67	718.66	232.28	1,348.10	1,289.61	58.49	23.047	
8,400.00	7,340.00	7,587.47	7,395.41	46.02	26.60	-93.64	718.70	232.29	1,403.83	1,345.02	58.81	23.872	
8,500.00	7,340.00	7,586.85	7,394.79	48.69	26.60	-93.60	718.75	232.30	1,464.27	1,405.20	59.07	24.789	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3A-25H-M166 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: O-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	0.04	89.98	0.06	89.98				
100.00	100.00	100.00	100.00	0.14	0.14	0.04	89.98	0.06	89.98	89.70	0.28	325.986	
200.00	200.00	200.00	200.00	0.50	0.50	0.04	89.98	0.06	89.98	88.99	0.99	90.617 CC, ES	
300.00	300.00	297.01	296.99	0.85	0.85	-0.22	91.57	-0.35	91.62	89.88	1.74	52.653	
400.00	400.00	393.80	393.65	1.21	1.20	-0.94	96.32	-1.58	96.55	94.03	2.51	38.404	
500.00	500.00	490.15	489.66	1.57	1.55	-1.99	104.19	-3.61	104.77	101.48	3.29	31.853	
600.00	600.00	585.85	584.68	1.93	1.91	-3.20	115.10	-6.43	116.29	112.23	4.06	28.652	
700.00	700.00	680.68	678.43	2.29	2.28	-4.44	128.93	-10.01	131.11	126.29	4.82	27.205	
800.00	799.98	774.23	770.39	2.63	2.66	141.11	145.51	-14.29	150.51	144.95	5.56	27.089 SF	
900.00	899.84	868.66	862.70	2.97	3.07	140.78	164.79	-19.28	175.29	169.06	6.23	28.144	
991.00	990.50	956.09	948.09	3.28	3.45	140.99	182.95	-23.97	200.45	193.63	6.83	29.360	
1,000.00	999.45	964.71	956.51	3.31	3.49	141.06	184.74	-24.43	203.05	196.16	6.89	29.465	
1,100.00	1,098.94	1,060.42	1,049.99	3.66	3.92	141.76	204.63	-29.57	231.92	224.37	7.55	30.723	
1,200.00	1,198.42	1,156.13	1,143.47	4.02	4.35	142.31	224.51	-34.71	260.81	252.59	8.22	31.730	
1,300.00	1,297.91	1,251.83	1,236.95	4.38	4.79	142.74	244.39	-39.85	289.72	280.82	8.90	32.549	
1,400.00	1,397.39	1,347.54	1,330.43	4.75	5.23	143.10	264.28	-44.99	318.64	309.05	9.59	33.224	
1,500.00	1,496.88	1,443.25	1,423.91	5.13	5.66	143.39	284.16	-50.13	347.57	337.28	10.29	33.787	
1,600.00	1,596.36	1,538.96	1,517.39	5.50	6.11	143.64	304.04	-55.27	376.51	365.52	10.99	34.263	
1,700.00	1,695.85	1,634.67	1,610.87	5.88	6.55	143.86	323.92	-60.41	405.45	393.76	11.69	34.669	
1,800.00	1,795.33	1,730.38	1,704.35	6.26	6.99	144.05	343.81	-65.55	434.40	422.00	12.40	35.019	
1,900.00	1,894.81	1,826.09	1,797.83	6.64	7.43	144.21	363.69	-70.69	463.35	450.24	13.12	35.323	
2,000.00	1,994.30	1,921.80	1,891.31	7.02	7.88	144.35	383.57	-75.83	492.31	478.47	13.83	35.590	
2,100.00	2,093.78	2,017.51	1,984.79	7.40	8.32	144.48	403.46	-80.97	521.26	506.71	14.55	35.825	
2,200.00	2,193.27	2,113.22	2,078.27	7.78	8.77	144.60	423.34	-86.11	550.22	534.95	15.27	36.033	
2,300.00	2,292.75	2,208.93	2,171.75	8.17	9.22	144.70	443.22	-91.25	579.19	563.19	15.99	36.219	
2,400.00	2,392.24	2,304.64	2,265.23	8.55	9.66	144.79	463.11	-96.39	608.15	591.44	16.71	36.387	
2,500.00	2,491.72	2,400.35	2,358.71	8.94	10.11	144.88	482.99	-101.53	637.11	619.68	17.44	36.538	
2,600.00	2,591.21	2,496.06	2,452.19	9.32	10.55	144.95	502.87	-106.67	666.08	647.92	18.16	36.674	
2,700.00	2,690.69	2,591.77	2,545.67	9.71	11.00	145.02	522.75	-111.81	695.04	676.16	18.89	36.799	
2,800.00	2,790.18	2,687.48	2,639.15	10.10	11.45	145.09	542.64	-116.95	724.01	704.40	19.61	36.912	
2,900.00	2,889.66	2,783.19	2,732.63	10.48	11.89	145.15	562.52	-122.09	752.98	732.64	20.34	37.016	
3,000.00	2,989.14	2,878.89	2,826.11	10.87	12.34	145.21	582.40	-127.23	781.95	760.88	21.07	37.112	
3,100.00	3,088.63	2,974.60	2,919.59	11.26	12.79	145.26	602.29	-132.37	810.92	789.12	21.80	37.201	
3,200.00	3,188.11	3,070.31	3,013.07	11.65	13.24	145.31	622.17	-137.51	839.89	817.36	22.53	37.282	
3,300.00	3,287.60	3,166.02	3,106.55	12.03	13.68	145.35	642.05	-142.65	868.86	845.60	23.26	37.358	
3,400.00	3,387.08	3,261.73	3,200.03	12.42	14.13	145.39	661.94	-147.79	897.83	873.84	23.99	37.429	
3,500.00	3,486.57	3,357.44	3,293.51	12.81	14.58	145.43	681.82	-152.93	926.80	902.08	24.72	37.494	
3,600.00	3,586.05	3,453.15	3,386.99	13.20	15.03	145.47	701.70	-158.07	955.77	930.32	25.45	37.556	
3,700.00	3,685.54	3,548.86	3,480.47	13.59	15.48	145.50	721.58	-163.21	984.75	958.56	26.18	37.613	
3,800.00	3,785.02	3,644.57	3,573.95	13.98	15.92	145.54	741.47	-168.35	1,013.72	986.81	26.91	37.667	
3,900.00	3,884.51	3,740.28	3,667.43	14.36	16.37	145.57	761.35	-173.49	1,042.69	1,015.05	27.64	37.718	
4,000.00	3,983.99	3,835.99	3,760.91	14.75	16.82	145.60	781.23	-178.63	1,071.66	1,043.29	28.38	37.766	
4,100.00	4,083.47	3,931.70	3,854.39	15.14	17.27	145.63	801.12	-183.77	1,100.64	1,071.53	29.11	37.811	
4,200.00	4,182.96	4,027.41	3,947.87	15.53	17.72	145.65	821.00	-188.91	1,129.61	1,099.77	29.84	37.853	
4,300.00	4,282.44	4,123.12	4,041.35	15.92	18.16	145.68	840.88	-194.05	1,158.58	1,128.01	30.57	37.893	
4,400.00	4,381.93	4,218.83	4,134.83	16.31	18.61	145.70	860.77	-199.19	1,187.56	1,156.25	31.31	37.931	
4,500.00	4,481.41	4,314.54	4,228.31	16.70	19.06	145.72	880.65	-204.33	1,216.53	1,184.49	32.04	37.967	
4,600.00	4,580.90	4,410.25	4,321.79	17.09	19.51	145.75	900.53	-209.47	1,245.51	1,212.73	32.78	38.001	
4,700.00	4,680.38	4,505.96	4,415.27	17.48	19.96	145.77	920.41	-214.61	1,274.48	1,240.97	33.51	38.034	
4,800.00	4,779.87	4,601.66	4,508.75	17.87	20.41	145.79	940.30	-219.75	1,303.46	1,269.21	34.24	38.065	
4,900.00	4,879.35	4,697.37	4,602.23	18.26	20.86	145.81	960.18	-224.89	1,332.43	1,297.45	34.98	38.094	
5,000.00	4,978.84	4,793.08	4,695.71	18.65	21.30	145.82	980.06	-230.03	1,361.41	1,325.69	35.71	38.122	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3A-25H-M166 - OH - PLAN #1													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	5,078.32	4,888.79	4,789.19	19.04	21.75	145.84	999.95	-235.17	1,390.38	1,353.93	36.45	38.149		
5,200.00	5,177.80	4,984.50	4,882.67	19.43	22.20	145.86	1,019.83	-240.31	1,419.35	1,382.17	37.18	38.175		
5,300.00	5,277.29	5,080.21	4,976.15	19.82	22.65	145.87	1,039.71	-245.45	1,448.33	1,410.41	37.92	38.199		
5,400.00	5,376.77	5,175.92	5,069.63	20.21	23.10	145.89	1,059.60	-250.59	1,477.31	1,438.66	38.65	38.222		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3B-25H-M166 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: O-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	-0.09	79.77	-0.13	79.77				
100.00	100.00	100.00	100.00	0.14	0.14	-0.09	79.77	-0.13	79.77	79.49	0.28	288.996	
200.00	200.00	200.00	200.00	0.50	0.50	-0.09	79.77	-0.13	79.77	78.78	0.99	80.335	
300.00	300.00	300.00	300.00	0.85	0.85	-0.09	79.77	-0.13	79.77	78.06	1.71	46.651 CC, ES	
400.00	400.00	397.36	397.34	1.21	1.20	-0.41	81.36	-0.59	81.40	78.96	2.44	33.304	
500.00	500.00	494.49	494.34	1.57	1.56	-1.30	86.11	-1.96	86.32	83.12	3.20	26.951	
600.00	600.00	591.17	590.67	1.93	1.91	-2.58	93.97	-4.23	94.53	90.57	3.97	23.839	
700.00	700.00	687.20	686.02	2.29	2.27	-4.02	104.87	-7.38	106.06	101.33	4.72	22.448	
800.00	799.98	782.15	779.88	2.63	2.63	141.39	118.66	-11.36	122.23	116.77	5.46	22.376 SF	
900.00	899.84	875.44	871.58	2.97	3.01	141.02	135.11	-16.10	144.26	138.08	6.18	23.344	
991.00	990.50	962.65	956.98	3.28	3.37	141.20	152.11	-21.01	168.31	161.53	6.78	24.838	
1,000.00	999.45	971.30	965.45	3.31	3.41	141.27	153.80	-21.50	170.80	163.96	6.84	24.968	
1,100.00	1,098.94	1,067.38	1,059.52	3.66	3.82	141.96	172.55	-26.91	198.47	190.96	7.51	26.443	
1,200.00	1,198.42	1,163.45	1,153.59	4.02	4.24	142.47	191.30	-32.33	226.16	217.98	8.18	27.652	
1,300.00	1,297.91	1,259.52	1,247.66	4.38	4.66	142.87	210.05	-37.74	253.86	244.99	8.86	28.646	
1,400.00	1,397.39	1,355.60	1,341.73	4.75	5.09	143.19	228.81	-43.15	281.57	272.01	9.55	29.473	
1,500.00	1,496.88	1,451.67	1,435.80	5.13	5.52	143.46	247.56	-48.57	309.28	299.03	10.25	30.170	
1,600.00	1,596.36	1,547.74	1,529.87	5.50	5.95	143.68	266.31	-53.98	337.00	326.05	10.95	30.764	
1,700.00	1,695.85	1,643.82	1,623.94	5.88	6.38	143.87	285.06	-59.39	364.73	353.07	11.66	31.276	
1,800.00	1,795.33	1,739.89	1,718.01	6.26	6.81	144.03	303.81	-64.81	392.46	380.08	12.37	31.720	
1,900.00	1,894.81	1,835.96	1,812.08	6.64	7.24	144.17	322.56	-70.22	420.19	407.10	13.09	32.109	
2,000.00	1,994.30	1,932.04	1,906.15	7.02	7.68	144.29	341.31	-75.64	447.92	434.12	13.80	32.452	
2,100.00	2,093.78	2,028.11	2,000.22	7.40	8.11	144.40	360.06	-81.05	475.66	461.14	14.52	32.756	
2,200.00	2,193.27	2,124.18	2,094.29	7.78	8.55	144.50	378.82	-86.46	503.39	488.15	15.24	33.028	
2,300.00	2,292.75	2,220.26	2,188.36	8.17	8.99	144.58	397.57	-91.88	531.13	515.17	15.96	33.272	
2,400.00	2,392.24	2,316.33	2,282.43	8.55	9.42	144.66	416.32	-97.29	558.87	542.18	16.69	33.492	
2,500.00	2,491.72	2,412.40	2,376.50	8.94	9.86	144.73	435.07	-102.70	586.61	569.20	17.41	33.692	
2,600.00	2,591.21	2,508.48	2,470.57	9.32	10.30	144.80	453.82	-108.12	614.35	596.21	18.14	33.874	
2,700.00	2,690.69	2,604.55	2,564.64	9.71	10.73	144.85	472.57	-113.53	642.09	623.23	18.86	34.040	
2,800.00	2,790.18	2,700.62	2,658.71	10.10	11.17	144.91	491.32	-118.94	669.83	650.24	19.59	34.193	
2,900.00	2,889.66	2,796.70	2,752.78	10.48	11.61	144.96	510.07	-124.36	697.57	677.25	20.32	34.333	
3,000.00	2,989.14	2,892.77	2,846.85	10.87	12.05	145.00	528.83	-129.77	725.31	704.27	21.05	34.463	
3,100.00	3,088.63	2,988.84	2,940.92	11.26	12.49	145.05	547.58	-135.18	753.06	731.28	21.78	34.583	
3,200.00	3,188.11	3,084.92	3,034.99	11.65	12.93	145.08	566.33	-140.60	780.80	758.29	22.50	34.695	
3,300.00	3,287.60	3,180.99	3,129.06	12.03	13.36	145.12	585.08	-146.01	808.54	785.31	23.24	34.798	
3,400.00	3,387.08	3,277.06	3,223.13	12.42	13.80	145.16	603.83	-151.42	836.29	812.32	23.97	34.895	
3,500.00	3,486.57	3,373.14	3,317.20	12.81	14.24	145.19	622.58	-156.84	864.03	839.33	24.70	34.986	
3,600.00	3,586.05	3,469.21	3,411.27	13.20	14.68	145.22	641.33	-162.25	891.77	866.35	25.43	35.070	
3,700.00	3,685.54	3,565.28	3,505.34	13.59	15.12	145.25	660.08	-167.66	919.52	893.36	26.16	35.150	
3,800.00	3,785.02	3,661.36	3,599.41	13.98	15.56	145.27	678.84	-173.08	947.26	920.37	26.89	35.225	
3,900.00	3,884.51	3,757.43	3,693.48	14.36	16.00	145.30	697.59	-178.49	975.01	947.38	27.62	35.295	
4,000.00	3,983.99	3,853.50	3,787.55	14.75	16.44	145.32	716.34	-183.90	1,002.75	974.39	28.36	35.362	
4,100.00	4,083.47	3,949.58	3,881.62	15.14	16.88	145.34	735.09	-189.32	1,030.50	1,001.41	29.09	35.425	
4,200.00	4,182.96	4,045.65	3,975.69	15.53	17.32	145.36	753.84	-194.73	1,058.24	1,028.42	29.82	35.484	
4,300.00	4,282.44	4,141.72	4,069.76	15.92	17.76	145.38	772.59	-200.14	1,085.99	1,055.43	30.56	35.541	
4,400.00	4,381.93	4,237.80	4,163.83	16.31	18.20	145.40	791.34	-205.56	1,113.73	1,082.44	31.29	35.594	
4,500.00	4,481.41	4,333.87	4,257.90	16.70	18.64	145.42	810.10	-210.97	1,141.48	1,109.45	32.02	35.645	
4,600.00	4,580.90	4,429.94	4,351.97	17.09	19.08	145.44	828.85	-216.38	1,169.22	1,136.47	32.76	35.694	
4,700.00	4,680.38	4,526.02	4,446.04	17.48	19.52	145.45	847.60	-221.80	1,196.97	1,163.48	33.49	35.740	
4,800.00	4,779.87	4,622.09	4,540.11	17.87	19.96	145.47	866.35	-227.21	1,224.71	1,190.49	34.23	35.784	
4,900.00	4,879.35	4,718.16	4,634.18	18.26	20.40	145.49	885.10	-232.62	1,252.46	1,217.50	34.96	35.826	
5,000.00	4,978.84	4,814.24	4,728.25	18.65	20.84	145.50	903.85	-238.04	1,280.21	1,244.51	35.69	35.866	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design													S25-T1N-R66W (SAM) - SAM 3B-25H-M166 - OH - PLAN #1		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	5,078.32	4,910.31	4,822.32	19.04	21.28	145.51	922.60	-243.45	1,307.95	1,271.52	36.43	35.904						
5,200.00	5,177.80	5,006.38	4,916.39	19.43	21.72	145.53	941.35	-248.86	1,335.70	1,298.53	37.16	35.941						
5,300.00	5,277.29	5,102.46	5,010.46	19.82	22.16	145.54	960.11	-254.28	1,363.44	1,325.54	37.90	35.976						
5,400.00	5,376.77	5,198.53	5,104.53	20.21	22.60	145.55	978.86	-259.69	1,391.19	1,352.56	38.63	36.009						
5,500.00	5,476.26	5,294.60	5,198.60	20.60	23.04	145.56	997.61	-265.10	1,418.94	1,379.57	39.37	36.042						
5,600.00	5,575.74	5,390.68	5,292.67	20.99	23.48	145.57	1,016.36	-270.52	1,446.68	1,406.58	40.10	36.073						
5,700.00	5,675.23	5,486.75	5,386.74	21.38	23.92	145.59	1,035.11	-275.93	1,474.43	1,433.59	40.84	36.102						
5,734.45	5,709.50	5,520.99	5,420.26	21.51	24.08	145.59	1,041.79	-277.86	1,483.99	1,442.88	41.10	36.105						

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3C-25H-M166 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance					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)	Total Uncertainty Axis			
0.00	0.00	0.00	0.00	0.00	0.00	-0.04	69.94	-0.04	69.94					
100.00	100.00	100.00	100.00	0.14	0.14	-0.04	69.94	-0.04	69.94	69.67	0.28	253.395		
200.00	200.00	200.00	200.00	0.50	0.50	-0.04	69.94	-0.04	69.94	68.95	0.99	70.438		
300.00	300.00	300.00	300.00	0.85	0.85	-0.04	69.94	-0.04	69.94	68.23	1.71	40.904		
400.00	400.00	400.00	400.00	1.21	1.21	-0.04	69.94	-0.04	69.94	67.52	2.43	28.820 CC, ES		
500.00	500.00	497.69	497.67	1.57	1.56	-0.44	71.53	-0.55	71.57	68.41	3.15	22.688		
600.00	600.00	595.15	595.00	1.93	1.92	-1.55	76.27	-2.07	76.46	72.56	3.90	19.597		
700.00	700.00	692.16	691.66	2.29	2.27	-3.11	84.12	-4.57	84.66	80.00	4.65	18.192		
800.00	799.98	788.34	787.16	2.63	2.62	142.19	94.98	-8.04	97.54	92.15	5.39	18.099		
900.00	899.84	883.11	880.83	2.97	2.99	141.81	108.65	-12.41	116.36	110.25	6.11	19.051		
991.00	990.50	969.02	965.31	3.28	3.33	141.96	123.46	-17.14	138.39	131.65	6.74	20.530		
1,000.00	999.45	977.71	973.85	3.31	3.36	142.03	125.01	-17.64	140.73	133.93	6.80	20.685		
1,100.00	1,098.94	1,074.24	1,068.68	3.66	3.76	142.66	142.23	-23.14	166.79	159.32	7.47	22.337		
1,200.00	1,198.42	1,170.78	1,163.50	4.02	4.16	143.11	159.45	-28.64	192.85	184.71	8.14	23.681		
1,300.00	1,297.91	1,267.31	1,258.32	4.38	4.57	143.46	176.67	-34.15	218.93	210.10	8.83	24.793		
1,400.00	1,397.39	1,363.84	1,353.15	4.75	4.98	143.73	193.90	-39.65	245.01	235.49	9.52	25.726		
1,500.00	1,496.88	1,460.37	1,447.97	5.13	5.39	143.95	211.12	-45.15	271.10	260.87	10.22	26.516		
1,600.00	1,596.36	1,556.91	1,542.80	5.50	5.81	144.14	228.34	-50.65	297.19	286.26	10.93	27.193		
1,700.00	1,695.85	1,653.44	1,637.62	5.88	6.23	144.29	245.56	-56.16	323.28	311.64	11.64	27.779		
1,800.00	1,795.33	1,749.97	1,732.45	6.26	6.64	144.42	262.78	-61.66	349.37	337.02	12.35	28.290		
1,900.00	1,894.81	1,846.51	1,827.27	6.64	7.07	144.53	280.01	-67.16	375.47	362.40	13.06	28.739		
2,000.00	1,994.30	1,943.04	1,922.10	7.02	7.49	144.63	297.23	-72.67	401.56	387.78	13.78	29.137		
2,100.00	2,093.78	2,039.57	2,016.92	7.40	7.91	144.71	314.45	-78.17	427.66	413.16	14.50	29.491		
2,200.00	2,193.27	2,136.10	2,111.75	7.78	8.33	144.79	331.67	-83.67	453.76	438.54	15.22	29.809		
2,300.00	2,292.75	2,232.64	2,208.57	8.17	8.76	144.86	348.89	-89.17	479.86	463.91	15.94	30.095		
2,400.00	2,392.24	2,329.17	2,301.40	8.55	9.18	144.92	366.12	-94.68	505.96	489.29	16.67	30.354		
2,500.00	2,491.72	2,425.70	2,396.22	8.94	9.61	144.97	383.34	-100.18	532.06	514.66	17.39	30.590		
2,600.00	2,591.21	2,522.24	2,491.04	9.32	10.03	145.02	400.56	-105.68	558.16	540.04	18.12	30.805		
2,700.00	2,690.69	2,618.77	2,585.87	9.71	10.46	145.07	417.78	-111.19	584.26	565.41	18.85	31.002		
2,800.00	2,790.18	2,715.30	2,680.69	10.10	10.88	145.11	435.01	-116.69	610.36	590.78	19.57	31.184		
2,900.00	2,889.66	2,811.83	2,775.52	10.48	11.31	145.14	452.23	-122.19	636.46	616.16	20.30	31.351		
3,000.00	2,989.14	2,908.37	2,870.34	10.87	11.73	145.18	469.45	-127.69	662.56	641.53	21.03	31.506		
3,100.00	3,088.63	3,004.90	2,965.17	11.26	12.16	145.21	486.67	-133.20	688.66	666.90	21.76	31.649		
3,200.00	3,188.11	3,101.43	3,059.99	11.65	12.59	145.24	503.89	-138.70	714.76	692.27	22.49	31.783		
3,300.00	3,287.60	3,197.97	3,154.82	12.03	13.01	145.27	521.12	-144.20	740.86	717.64	23.22	31.907		
3,400.00	3,387.08	3,294.50	3,249.64	12.42	13.44	145.29	538.34	-149.70	766.97	743.02	23.95	32.024		
3,500.00	3,486.57	3,391.03	3,344.47	12.81	13.87	145.32	555.56	-155.21	793.07	768.39	24.68	32.133		
3,600.00	3,586.05	3,487.56	3,439.29	13.20	14.30	145.34	572.78	-160.71	819.17	793.76	25.41	32.235		
3,700.00	3,685.54	3,584.10	3,534.11	13.59	14.72	145.36	590.01	-166.21	845.27	819.13	26.14	32.331		
3,800.00	3,785.02	3,680.63	3,628.94	13.98	15.15	145.38	607.23	-171.72	871.37	844.50	26.88	32.422		
3,900.00	3,884.51	3,777.16	3,723.76	14.36	15.58	145.40	624.45	-177.22	897.48	869.87	27.61	32.508		
4,000.00	3,983.99	3,873.70	3,818.59	14.75	16.01	145.42	641.67	-182.72	923.58	895.24	28.34	32.588		
4,100.00	4,083.47	3,970.23	3,913.41	15.14	16.43	145.44	658.89	-188.22	949.68	920.61	29.07	32.665		
4,200.00	4,182.96	4,066.76	4,008.24	15.53	16.86	145.45	676.12	-193.73	975.78	945.98	29.81	32.737		
4,300.00	4,282.44	4,163.29	4,103.06	15.92	17.29	145.47	693.34	-199.23	1,001.89	971.35	30.54	32.806		
4,400.00	4,381.93	4,259.83	4,197.89	16.31	17.72	145.48	710.56	-204.73	1,027.99	996.72	31.27	32.871		
4,500.00	4,481.41	4,356.36	4,292.71	16.70	18.15	145.49	727.78	-210.24	1,054.09	1,022.09	32.01	32.933		
4,600.00	4,580.90	4,452.89	4,387.54	17.09	18.57	145.51	745.00	-215.74	1,080.20	1,047.45	32.74	32.993		
4,700.00	4,680.38	4,549.42	4,482.36	17.48	19.00	145.52	762.23	-221.24	1,106.30	1,072.82	33.47	33.049		
4,800.00	4,779.87	4,645.96	4,577.19	17.87	19.43	145.53	779.45	-226.74	1,132.40	1,098.19	34.21	33.103		
4,900.00	4,879.35	4,742.49	4,672.01	18.26	19.86	145.54	796.67	-232.25	1,158.50	1,123.56	34.94	33.154		
5,000.00	4,978.84	4,839.02	4,766.83	18.65	20.29	145.55	813.89	-237.75	1,184.61	1,148.93	35.68	33.204		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3C-25H-M166 - OH - PLAN #1												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	5,078.32	4,935.56	4,861.66	19.04	20.72	145.56	831.12	-243.25	1,210.71	1,174.30	36.41	33.251	
5,200.00	5,177.80	5,032.09	4,956.48	19.43	21.14	145.57	848.34	-248.76	1,236.81	1,199.67	37.15	33.296	
5,300.00	5,277.29	5,128.62	5,051.31	19.82	21.57	145.58	865.56	-254.26	1,262.92	1,225.04	37.88	33.339	
5,400.00	5,376.77	5,225.15	5,146.13	20.21	22.00	145.59	882.78	-259.76	1,289.02	1,250.40	38.62	33.381	
5,500.00	5,476.26	5,321.69	5,240.96	20.60	22.43	145.60	900.00	-265.26	1,315.12	1,275.77	39.35	33.421	
5,600.00	5,575.74	5,418.22	5,335.78	20.99	22.86	145.61	917.23	-270.77	1,341.23	1,301.14	40.09	33.459	
5,700.00	5,675.23	5,514.75	5,430.61	21.38	23.29	145.62	934.45	-276.27	1,367.33	1,326.51	40.82	33.496	
5,734.45	5,709.50	5,548.01	5,463.28	21.51	23.44	145.62	940.38	-278.16	1,376.32	1,335.25	41.07	33.508	
5,800.00	5,774.78	5,666.23	5,579.83	21.77	23.94	145.80	959.19	-284.18	1,391.59	1,349.64	41.95	33.175	
5,900.00	5,874.59	5,851.34	5,763.68	22.13	24.65	145.99	979.40	-290.63	1,407.58	1,364.43	43.15	32.620	
6,000.00	5,974.55	6,039.76	5,951.83	22.49	25.28	146.06	988.32	-293.48	1,414.51	1,370.34	44.17	32.028	
6,025.45	6,000.00	6,087.93	6,000.00	22.57	25.43	-0.50	988.70	-293.60	1,414.81	1,370.42	44.39	31.874	
6,100.00	6,074.55	6,162.48	6,074.55	22.80	25.65	-0.50	988.70	-293.60	1,414.81	1,369.93	44.88	31.527	
6,200.00	6,174.55	6,262.48	6,174.55	23.11	25.94	-0.50	988.70	-293.60	1,414.81	1,369.27	45.53	31.073	
6,300.00	6,274.55	6,362.48	6,274.55	23.42	26.24	-0.50	988.70	-293.60	1,414.81	1,368.62	46.19	30.630	
6,400.00	6,374.55	6,462.48	6,374.55	23.73	26.54	-0.50	988.70	-293.60	1,414.81	1,367.96	46.85	30.198	
6,500.00	6,474.55	6,562.48	6,474.55	24.05	26.85	-0.50	988.70	-293.60	1,414.81	1,367.29	47.51	29.778	
6,600.00	6,574.55	6,662.48	6,574.55	24.36	27.15	-0.50	988.70	-293.60	1,414.81	1,366.63	48.18	29.368	
6,649.25	6,623.80	6,711.73	6,623.80	24.52	27.30	-0.50	988.70	-293.60	1,414.81	1,366.30	48.50	29.170	
6,700.00	6,674.51	6,762.32	6,674.35	24.67	27.45	-89.92	988.72	-291.82	1,414.81	1,365.98	48.83	28.976	
6,750.00	6,724.22	6,812.17	6,723.92	24.82	27.58	-89.92	988.77	-286.57	1,414.81	1,365.68	49.13	28.797	
6,800.00	6,773.44	6,862.02	6,772.99	24.97	27.72	-89.92	988.86	-277.89	1,414.81	1,365.38	49.42	28.626	
6,850.00	6,821.93	6,911.87	6,821.35	25.10	27.84	-89.92	988.99	-265.82	1,414.81	1,365.10	49.71	28.462	
6,900.00	6,869.46	6,961.73	6,868.76	25.23	27.96	-89.92	989.15	-250.41	1,414.81	1,364.82	49.99	28.304	
6,950.00	6,915.79	7,011.59	6,914.98	25.36	28.07	-89.92	989.34	-231.75	1,414.81	1,364.55	50.26	28.149	
7,000.00	6,960.70	7,061.45	6,959.79	25.47	28.17	-89.93	989.56	-209.91	1,414.81	1,364.27	50.54	27.994	
7,050.00	7,003.96	7,111.32	7,002.98	25.59	28.27	-89.93	989.82	-185.00	1,414.81	1,363.99	50.83	27.834	
7,100.00	7,045.38	7,161.20	7,044.34	25.69	28.36	-89.93	990.10	-157.14	1,414.82	1,363.67	51.14	27.664	
7,150.00	7,084.74	7,211.08	7,083.67	25.79	28.44	-89.94	990.42	-126.47	1,414.82	1,363.33	51.49	27.478	
7,200.00	7,121.85	7,260.96	7,120.76	25.90	28.51	-89.94	990.76	-93.14	1,414.82	1,362.94	51.89	27.267	
7,250.00	7,156.54	7,310.86	7,155.46	26.02	28.58	-89.94	991.12	-57.30	1,414.83	1,362.47	52.35	27.026	
7,300.00	7,188.63	7,360.76	7,187.58	26.17	28.63	-89.95	991.52	-19.12	1,414.83	1,361.93	52.90	26.746	
7,350.00	7,217.97	7,410.67	7,216.96	26.39	28.69	-89.95	991.93	21.21	1,414.83	1,361.29	53.55	26.423	
7,400.00	7,244.42	7,460.59	7,243.48	26.69	28.75	-89.96	992.36	63.49	1,414.83	1,360.53	54.31	26.052	
7,450.00	7,267.84	7,510.52	7,266.98	27.10	28.82	-89.96	992.81	107.52	1,414.84	1,359.64	55.20	25.630	
7,500.00	7,288.13	7,560.46	7,287.37	27.59	28.97	-89.97	993.28	153.10	1,414.84	1,358.61	56.23	25.161	
7,550.00	7,305.18	7,610.40	7,304.54	28.17	29.34	-89.97	993.76	199.99	1,414.85	1,357.44	57.41	24.647	
7,600.00	7,318.91	7,660.36	7,318.39	28.83	29.92	-89.98	994.25	247.97	1,414.85	1,356.13	58.72	24.095	
7,650.00	7,329.25	7,710.33	7,328.88	29.56	30.62	-89.99	994.75	296.82	1,414.85	1,354.68	60.17	23.513	
7,700.00	7,336.15	7,760.31	7,335.93	30.35	31.40	-89.99	995.26	346.28	1,414.86	1,353.11	61.75	22.912	
7,750.00	7,339.59	7,810.30	7,339.51	31.21	32.23	-90.00	995.77	396.13	1,414.86	1,351.42	63.44	22.303	
7,774.25	7,340.00	7,834.55	7,340.00	31.64	32.65	-90.00	996.02	420.38	1,414.86	1,350.57	64.29	22.007	
7,800.00	7,340.00	7,860.30	7,340.00	32.11	33.12	-90.00	996.28	446.12	1,414.87	1,349.63	65.23	21.690	
7,900.00	7,340.00	7,960.30	7,340.00	34.07	35.06	-90.00	997.31	546.12	1,414.87	1,345.76	69.12	20.471	
8,000.00	7,340.00	8,060.30	7,340.00	36.21	37.15	-90.00	998.33	646.11	1,414.88	1,341.54	73.34	19.292	
8,100.00	7,340.00	8,160.30	7,340.00	38.49	39.40	-90.00	999.35	746.11	1,414.89	1,337.02	77.87	18.170	
8,200.00	7,340.00	8,260.30	7,340.00	40.90	41.77	-90.00	1,000.38	846.10	1,414.90	1,332.25	82.64	17.120	
8,300.00	7,340.00	8,360.30	7,340.00	43.42	44.25	-90.00	1,001.40	946.09	1,414.91	1,327.28	87.63	16.146	
8,400.00	7,340.00	8,460.30	7,340.00	46.02	46.81	-90.00	1,002.43	1,046.09	1,414.91	1,322.12	92.79	15.248	
8,500.00	7,340.00	8,560.30	7,340.00	48.69	49.45	-90.00	1,003.45	1,146.08	1,414.92	1,316.82	98.10	14.423	
8,600.00	7,340.00	8,660.30	7,340.00	51.42	52.16	-90.00	1,004.48	1,246.08	1,414.93	1,311.40	103.53	13.666	
8,700.00	7,340.00	8,760.30	7,340.00	54.21	54.91	-90.00	1,005.50	1,346.07	1,414.94	1,305.87	109.07	12.972	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3C-25H-M166 - OH - PLAN #1													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	7,340.00	8,860.30	7,340.00	57.04	57.72	-90.00	1,006.53	1,446.07	1,414.95	1,300.24	114.71	12.335		
8,900.00	7,340.00	8,960.30	7,340.00	59.90	60.56	-90.00	1,007.55	1,546.06	1,414.96	1,294.54	120.42	11.751		
9,000.00	7,340.00	9,060.30	7,340.00	62.80	63.44	-90.00	1,008.57	1,646.06	1,414.96	1,288.77	126.19	11.213		
9,100.00	7,340.00	9,160.30	7,340.00	65.73	66.35	-90.00	1,009.60	1,746.05	1,414.97	1,282.94	132.03	10.717		
9,200.00	7,340.00	9,260.30	7,340.00	68.68	69.28	-90.00	1,010.62	1,846.05	1,414.98	1,277.06	137.92	10.260		
9,300.00	7,340.00	9,360.30	7,340.00	71.66	72.24	-90.00	1,011.65	1,946.04	1,414.99	1,271.14	143.85	9.837		
9,400.00	7,340.00	9,460.30	7,340.00	74.65	75.21	-90.00	1,012.67	2,046.04	1,415.00	1,265.18	149.82	9.445		
9,500.00	7,340.00	9,560.30	7,340.00	77.66	78.21	-90.00	1,013.70	2,146.03	1,415.00	1,259.18	155.83	9.081		
9,600.00	7,340.00	9,660.30	7,340.00	80.69	81.22	-90.00	1,014.72	2,246.03	1,415.01	1,253.15	161.86	8.742		
9,700.00	7,340.00	9,760.30	7,340.00	83.73	84.25	-90.00	1,015.75	2,346.02	1,415.02	1,247.09	167.93	8.426		
9,800.00	7,340.00	9,860.30	7,340.00	86.78	87.29	-90.00	1,016.77	2,446.02	1,415.03	1,241.01	174.02	8.131		
9,900.00	7,340.00	9,960.30	7,340.00	89.84	90.34	-90.00	1,017.79	2,546.01	1,415.04	1,234.90	180.13	7.855		
10,000.00	7,340.00	10,060.30	7,340.00	92.91	93.40	-90.00	1,018.82	2,646.01	1,415.05	1,228.78	186.27	7.597		
10,100.00	7,340.00	10,160.30	7,340.00	95.99	96.47	-90.00	1,019.84	2,746.00	1,415.05	1,222.63	192.42	7.354		
10,200.00	7,340.00	10,260.30	7,340.00	99.08	99.55	-90.00	1,020.87	2,846.00	1,415.06	1,216.47	198.59	7.126		
10,300.00	7,340.00	10,360.30	7,340.00	102.18	102.63	-90.00	1,021.89	2,945.99	1,415.07	1,210.30	204.77	6.911		
10,400.00	7,340.00	10,460.30	7,340.00	105.28	105.73	-90.00	1,022.92	3,045.98	1,415.08	1,204.11	210.97	6.708		
10,500.00	7,340.00	10,560.30	7,340.00	108.39	108.83	-90.00	1,023.94	3,145.98	1,415.09	1,197.91	217.18	6.516		
10,600.00	7,340.00	10,660.30	7,340.00	111.50	111.93	-90.00	1,024.97	3,245.97	1,415.09	1,191.70	223.40	6.334		
10,700.00	7,340.00	10,760.30	7,340.00	114.62	115.04	-90.00	1,025.99	3,345.97	1,415.10	1,185.47	229.63	6.163		
10,800.00	7,340.00	10,860.30	7,340.00	117.75	118.16	-90.00	1,027.01	3,445.96	1,415.11	1,179.24	235.87	6.000		
10,900.00	7,340.00	10,960.30	7,340.00	120.87	121.28	-90.00	1,028.04	3,545.96	1,415.12	1,173.00	242.12	5.845		
11,000.00	7,340.00	11,060.30	7,340.00	124.01	124.41	-90.00	1,029.06	3,645.95	1,415.13	1,166.75	248.38	5.697		
11,100.00	7,340.00	11,160.30	7,340.00	127.14	127.54	-90.00	1,030.09	3,745.95	1,415.14	1,160.49	254.64	5.557		
11,200.00	7,340.00	11,260.30	7,340.00	130.28	130.67	-90.00	1,031.11	3,845.94	1,415.14	1,154.23	260.92	5.424		
11,300.00	7,340.00	11,360.30	7,340.00	133.42	133.81	-90.00	1,032.14	3,945.94	1,415.15	1,147.95	267.20	5.296		
11,400.00	7,340.00	11,460.30	7,340.00	136.57	136.95	-90.00	1,033.16	4,045.93	1,415.16	1,141.68	273.48	5.175		
11,500.00	7,340.00	11,560.30	7,340.00	139.72	140.09	-90.00	1,034.19	4,145.93	1,415.17	1,135.39	279.78	5.058		
11,600.00	7,340.00	11,660.30	7,340.00	142.87	143.24	-90.00	1,035.21	4,245.92	1,415.18	1,129.10	286.07	4.947		
11,700.00	7,340.00	11,760.30	7,340.00	146.02	146.38	-90.00	1,036.24	4,345.92	1,415.18	1,122.81	292.37	4.840		
11,800.00	7,340.00	11,860.30	7,340.00	149.18	149.54	-90.00	1,037.26	4,445.91	1,415.19	1,116.51	298.68	4.738		
11,845.06	7,340.00	11,905.35	7,340.00	150.00	150.96	-90.00	1,037.72	4,490.96	1,415.20	1,114.28	300.92	4.703 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3D-25H-M166 - OH - PLAN #1													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	0.04	59.75	0.04	59.75					
100.00	100.00	100.00	100.00	0.14	0.14	0.04	59.75	0.04	59.75	59.47	0.28	216.459		
200.00	200.00	200.00	200.00	0.50	0.50	0.04	59.75	0.04	59.75	58.75	0.99	60.171		
300.00	300.00	300.00	300.00	0.85	0.85	0.04	59.75	0.04	59.75	58.04	1.71	34.942		
400.00	400.00	400.00	400.00	1.21	1.21	0.04	59.75	0.04	59.75	57.32	2.43	24.619		
500.00	500.00	500.00	500.00	1.57	1.57	0.04	59.75	0.04	59.75	56.60	3.14	19.005 CC, ES		
600.00	600.00	598.07	598.05	1.93	1.92	-0.56	61.30	-0.59	61.33	57.47	3.87	15.860		
700.00	700.00	695.91	695.76	2.29	2.28	-2.17	65.94	-2.50	66.12	61.52	4.61	14.358		
800.00	799.98	793.18	792.67	2.63	2.63	142.85	73.61	-5.66	75.57	70.23	5.33	14.168		
900.00	899.84	889.33	888.13	2.97	2.98	142.27	84.18	-10.00	90.97	84.92	6.05	15.034		
991.00	990.50	977.09	974.95	3.28	3.31	142.35	96.05	-14.88	109.69	103.01	6.68	16.412		
1,000.00	999.45	985.87	983.63	3.31	3.35	142.42	97.26	-15.38	111.68	104.93	6.75	16.551		
1,100.00	1,098.94	1,083.39	1,080.05	3.66	3.72	143.02	110.75	-20.93	133.80	126.38	7.42	18.027		
1,200.00	1,198.42	1,180.90	1,176.47	4.02	4.11	143.46	124.23	-26.47	155.94	147.83	8.11	19.224		
1,300.00	1,297.91	1,278.42	1,272.89	4.38	4.49	143.79	137.72	-32.02	178.08	169.27	8.81	20.220		
1,400.00	1,397.39	1,375.93	1,369.30	4.75	4.88	144.04	151.20	-37.56	200.22	190.72	9.51	21.057		
1,500.00	1,496.88	1,473.44	1,465.72	5.13	5.27	144.24	164.68	-43.11	222.37	212.16	10.22	21.769		
1,600.00	1,596.36	1,570.96	1,562.14	5.50	5.67	144.41	178.17	-48.65	244.52	233.60	10.93	22.381		
1,700.00	1,695.85	1,668.47	1,658.56	5.88	6.06	144.55	191.65	-54.20	266.67	255.03	11.64	22.912		
1,800.00	1,795.33	1,765.98	1,754.98	6.26	6.46	144.67	205.14	-59.74	288.83	276.47	12.36	23.377		
1,900.00	1,894.81	1,863.50	1,851.39	6.64	6.85	144.77	218.62	-65.29	310.98	297.90	13.07	23.786		
2,000.00	1,994.30	1,961.01	1,947.81	7.02	7.25	144.86	232.11	-70.83	333.13	319.34	13.79	24.150		
2,100.00	2,093.78	2,058.53	2,044.23	7.40	7.65	144.93	245.59	-76.38	355.29	340.77	14.52	24.476		
2,200.00	2,193.27	2,156.04	2,140.65	7.78	8.05	145.00	259.07	-81.92	377.44	362.20	15.24	24.768		
2,300.00	2,292.75	2,253.55	2,237.06	8.17	8.45	145.06	272.56	-87.47	399.60	383.64	15.96	25.032		
2,400.00	2,392.24	2,351.07	2,333.48	8.55	8.85	145.11	286.04	-93.01	421.76	405.07	16.69	25.271		
2,500.00	2,491.72	2,448.58	2,429.90	8.94	9.25	145.16	299.53	-98.56	443.91	426.50	17.42	25.490		
2,600.00	2,591.21	2,546.10	2,526.32	9.32	9.65	145.21	313.01	-104.10	466.07	447.93	18.14	25.689		
2,700.00	2,690.69	2,643.61	2,622.73	9.71	10.05	145.25	326.49	-109.65	488.23	469.36	18.87	25.873		
2,800.00	2,790.18	2,741.12	2,719.15	10.10	10.45	145.28	339.98	-115.19	510.39	490.79	19.60	26.042		
2,900.00	2,889.66	2,838.64	2,815.57	10.48	10.85	145.32	353.46	-120.74	532.54	512.22	20.33	26.198		
3,000.00	2,989.14	2,936.15	2,911.99	10.87	11.26	145.35	366.95	-126.28	554.70	533.64	21.06	26.343		
3,100.00	3,088.63	3,033.66	3,008.41	11.26	11.66	145.38	380.43	-131.83	576.86	555.07	21.79	26.477		
3,200.00	3,188.11	3,131.18	3,104.82	11.65	12.06	145.40	393.91	-137.37	599.02	576.50	22.52	26.603		
3,300.00	3,287.60	3,228.69	3,201.24	12.03	12.46	145.43	407.40	-142.92	621.18	597.93	23.25	26.720		
3,400.00	3,387.08	3,326.21	3,297.66	12.42	12.86	145.45	420.88	-148.46	643.33	619.35	23.98	26.829		
3,500.00	3,486.57	3,423.72	3,394.08	12.81	13.27	145.47	434.37	-154.01	665.49	640.78	24.71	26.932		
3,600.00	3,586.05	3,521.23	3,490.49	13.20	13.67	145.49	447.85	-159.55	687.65	662.21	25.44	27.029		
3,700.00	3,685.54	3,618.75	3,586.91	13.59	14.07	145.51	461.34	-165.10	709.81	683.64	26.17	27.120		
3,800.00	3,785.02	3,716.26	3,683.33	13.98	14.47	145.53	474.82	-170.64	731.97	705.06	26.91	27.205		
3,900.00	3,884.51	3,813.78	3,779.75	14.36	14.88	145.54	488.30	-176.19	754.13	726.49	27.64	27.286		
4,000.00	3,983.99	3,911.29	3,876.17	14.75	15.28	145.56	501.79	-181.73	776.28	747.91	28.37	27.363		
4,100.00	4,083.47	4,008.80	3,972.58	15.14	15.68	145.57	515.27	-187.28	798.44	769.34	29.10	27.435		
4,200.00	4,182.96	4,106.32	4,069.00	15.53	16.09	145.59	528.76	-192.82	820.60	790.77	29.84	27.504		
4,300.00	4,282.44	4,203.83	4,165.42	15.92	16.49	145.60	542.24	-198.37	842.76	812.19	30.57	27.570		
4,400.00	4,381.93	4,301.34	4,261.84	16.31	16.89	145.61	555.72	-203.91	864.92	833.62	31.30	27.632		
4,500.00	4,481.41	4,398.86	4,358.25	16.70	17.30	145.62	569.21	-209.46	887.08	855.04	32.03	27.691		
4,600.00	4,580.90	4,496.37	4,454.67	17.09	17.70	145.64	582.69	-215.00	909.24	876.47	32.77	27.748		
4,700.00	4,680.38	4,593.89	4,551.09	17.48	18.10	145.65	596.18	-220.55	931.40	897.90	33.50	27.801		
4,800.00	4,779.87	4,691.40	4,647.51	17.87	18.51	145.66	609.66	-226.09	953.56	919.32	34.24	27.853		
4,900.00	4,879.35	4,788.91	4,743.93	18.26	18.91	145.67	623.14	-231.64	975.72	940.75	34.97	27.902		
5,000.00	4,978.84	4,886.43	4,840.34	18.65	19.31	145.68	636.63	-237.18	997.87	962.17	35.70	27.949		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3D-25H-M166 - OH - PLAN #1													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	5,078.32	4,983.94	4,936.76	19.04	19.72	145.68	650.11	-242.73	1,020.03	983.60	36.44	27.994		
5,200.00	5,177.80	5,081.46	5,033.18	19.43	20.12	145.69	663.60	-248.27	1,042.19	1,005.02	37.17	28.038		
5,300.00	5,277.29	5,178.97	5,129.60	19.82	20.52	145.70	677.08	-253.82	1,064.35	1,026.45	37.91	28.079		
5,400.00	5,376.77	5,276.48	5,226.01	20.21	20.93	145.71	690.57	-259.36	1,086.51	1,047.87	38.64	28.119		
5,500.00	5,476.26	5,374.00	5,322.43	20.60	21.33	145.72	704.05	-264.91	1,108.67	1,069.30	39.37	28.158		
5,600.00	5,575.74	5,471.51	5,418.85	20.99	21.74	145.72	717.53	-270.45	1,130.83	1,090.72	40.11	28.194		
5,700.00	5,675.23	5,569.02	5,515.27	21.38	22.14	145.73	731.02	-276.00	1,152.99	1,112.15	40.84	28.230		
5,734.45	5,709.50	5,602.62	5,548.49	21.51	22.28	145.73	735.66	-277.91	1,160.62	1,119.53	41.10	28.242		
5,800.00	5,774.78	5,691.59	5,636.56	21.77	22.64	145.88	747.28	-282.68	1,174.11	1,132.35	41.76	28.116		
5,900.00	5,874.59	5,851.93	5,796.09	22.13	23.25	146.02	761.97	-288.72	1,188.36	1,145.51	42.85	27.734		
6,000.00	5,974.55	6,014.49	5,958.48	22.49	23.81	146.07	768.41	-291.37	1,194.52	1,150.71	43.80	27.269		
6,025.45	6,000.00	6,056.01	6,000.00	22.57	23.94	-0.49	768.69	-291.49	1,194.78	1,150.76	44.02	27.141		
6,100.00	6,074.55	6,130.56	6,074.55	22.80	24.17	-0.49	768.69	-291.49	1,194.78	1,150.27	44.51	26.840		
6,200.00	6,174.55	6,230.56	6,174.55	23.11	24.49	-0.49	768.69	-291.49	1,194.78	1,149.60	45.18	26.446		
6,300.00	6,274.55	6,330.56	6,274.55	23.42	24.81	-0.49	768.69	-291.49	1,194.78	1,148.94	45.84	26.063		
6,400.00	6,374.55	6,430.56	6,374.55	23.73	25.13	-0.49	768.69	-291.49	1,194.78	1,148.27	46.51	25.690		
6,500.00	6,474.55	6,530.56	6,474.55	24.05	25.45	-0.49	768.69	-291.49	1,194.78	1,147.61	47.18	25.326		
6,600.00	6,574.55	6,630.56	6,574.55	24.36	25.77	-0.49	768.69	-291.49	1,194.78	1,146.94	47.85	24.972		
6,649.25	6,623.80	6,679.81	6,623.80	24.52	25.93	-0.49	768.69	-291.49	1,194.78	1,146.61	48.18	24.801		
6,700.00	6,674.51	6,730.52	6,674.51	24.67	26.09	-89.99	768.69	-291.49	1,194.78	1,146.27	48.51	24.629		
6,702.06	6,676.57	6,732.58	6,676.57	24.68	26.10	-90.00	768.69	-291.49	1,194.78	1,146.26	48.52	24.622		
6,750.00	6,724.22	6,780.42	6,724.40	24.82	26.25	-90.21	768.69	-290.83	1,194.79	1,145.96	48.83	24.469		
6,800.00	6,773.44	6,830.66	6,774.48	24.97	26.40	-90.45	768.73	-286.93	1,194.82	1,145.69	49.13	24.319		
6,850.00	6,821.93	6,881.25	6,824.51	25.10	26.54	-90.68	768.81	-279.46	1,194.87	1,145.44	49.42	24.176		
6,900.00	6,869.46	6,932.20	6,874.22	25.23	26.68	-90.91	768.92	-268.39	1,194.93	1,145.23	49.71	24.040		
6,950.00	6,915.79	6,983.50	6,923.36	25.36	26.81	-91.13	769.08	-253.70	1,195.02	1,145.03	49.98	23.908		
7,000.00	6,960.70	7,035.16	6,971.66	25.47	26.93	-91.35	769.26	-235.39	1,195.12	1,144.86	50.26	23.778		
7,050.00	7,003.96	7,087.17	7,018.82	25.59	27.05	-91.57	769.49	-213.49	1,195.24	1,144.69	50.55	23.646		
7,100.00	7,045.38	7,139.54	7,064.58	25.69	27.16	-91.78	769.75	-188.05	1,195.37	1,144.52	50.85	23.509		
7,150.00	7,084.74	7,192.25	7,108.63	25.79	27.26	-91.97	770.04	-159.13	1,195.51	1,144.33	51.18	23.360		
7,200.00	7,121.85	7,245.29	7,150.69	25.90	27.35	-92.16	770.37	-126.83	1,195.65	1,144.10	51.55	23.194		
7,250.00	7,156.54	7,298.66	7,190.49	26.02	27.44	-92.34	770.74	-91.29	1,195.80	1,143.82	51.98	23.004		
7,300.00	7,188.63	7,352.34	7,227.73	26.17	27.53	-92.51	771.14	-52.65	1,195.95	1,143.46	52.50	22.782		
7,350.00	7,217.97	7,406.32	7,262.15	26.39	27.63	-92.67	771.56	-11.10	1,196.10	1,142.99	53.11	22.520		
7,400.00	7,244.42	7,460.56	7,293.50	26.69	27.75	-92.81	772.01	33.15	1,196.25	1,142.40	53.85	22.216		
7,450.00	7,267.84	7,515.05	7,321.53	27.10	27.97	-92.93	772.49	79.87	1,196.38	1,141.66	54.72	21.865		
7,500.00	7,288.13	7,569.77	7,346.01	27.59	28.37	-93.04	772.99	128.78	1,196.51	1,140.77	55.74	21.466		
7,550.00	7,305.18	7,624.68	7,366.76	28.17	28.93	-93.14	773.51	179.61	1,196.62	1,139.70	56.92	21.024		
7,600.00	7,318.91	7,679.76	7,383.60	28.83	29.59	-93.22	774.05	232.03	1,196.71	1,138.46	58.25	20.543		
7,650.00	7,329.25	7,734.97	7,396.39	29.56	30.36	-93.28	774.60	285.73	1,196.79	1,137.04	59.75	20.031		
7,700.00	7,336.15	7,790.29	7,405.02	30.35	31.20	-93.32	775.16	340.35	1,196.84	1,135.46	61.38	19.498		
7,750.00	7,339.59	7,845.67	7,409.41	31.21	32.12	-93.35	775.73	395.54	1,196.88	1,133.73	63.15	18.954		
7,774.25	7,340.00	7,872.55	7,410.00	31.64	32.59	-93.35	776.00	422.41	1,196.89	1,132.84	64.04	18.689		
7,800.00	7,340.00	7,898.51	7,410.00	32.11	33.05	-93.35	776.27	448.37	1,196.89	1,131.91	64.98	18.420		
7,900.00	7,340.00	7,998.51	7,410.00	34.07	34.97	-93.35	777.29	548.37	1,196.90	1,128.05	68.84	17.385		
8,000.00	7,340.00	8,098.51	7,410.00	36.21	37.07	-93.35	778.32	648.36	1,196.91	1,123.84	73.07	16.381		
8,100.00	7,340.00	8,198.51	7,410.00	38.49	39.32	-93.35	779.34	748.36	1,196.91	1,119.32	77.59	15.426		
8,200.00	7,340.00	8,298.51	7,410.00	40.90	41.69	-93.35	780.37	848.35	1,196.92	1,114.56	82.36	14.532		
8,300.00	7,340.00	8,398.51	7,410.00	43.42	44.17	-93.35	781.39	948.35	1,196.93	1,109.59	87.34	13.704		
8,400.00	7,340.00	8,498.51	7,410.00	46.02	46.74	-93.35	782.42	1,048.34	1,196.94	1,104.44	92.50	12.940		
8,500.00	7,340.00	8,598.51	7,410.00	48.69	49.38	-93.35	783.44	1,148.34	1,196.95	1,099.14	97.80	12.238		
8,600.00	7,340.00	8,698.51	7,410.00	51.42	52.08	-93.35	784.47	1,248.33	1,196.96	1,093.72	103.23	11.595		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3D-25H-M166 - OH - PLAN #1													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	
8,700.00	7,340.00	8,798.51	7,410.00	54.21	54.84	-93.35	785.49	1,348.33	1,196.96	1,088.20	108.77	11.005		
8,800.00	7,340.00	8,898.51	7,410.00	57.04	57.64	-93.35	786.51	1,448.32	1,196.97	1,082.58	114.39	10.464		
8,900.00	7,340.00	8,998.51	7,410.00	59.90	60.49	-93.35	787.54	1,548.32	1,196.98	1,076.89	120.09	9.967		
9,000.00	7,340.00	9,098.51	7,410.00	62.80	63.37	-93.35	788.56	1,648.31	1,196.99	1,071.13	125.86	9.510		
9,100.00	7,340.00	9,198.51	7,410.00	65.73	66.28	-93.35	789.59	1,748.31	1,197.00	1,065.31	131.69	9.089		
9,200.00	7,340.00	9,298.51	7,410.00	68.68	69.21	-93.35	790.61	1,848.30	1,197.01	1,059.44	137.57	8.701		
9,300.00	7,340.00	9,398.51	7,410.00	71.66	72.17	-93.35	791.64	1,948.30	1,197.01	1,053.52	143.49	8.342		
9,400.00	7,340.00	9,498.51	7,410.00	74.65	75.15	-93.35	792.66	2,048.29	1,197.02	1,047.56	149.46	8.009		
9,500.00	7,340.00	9,598.51	7,410.00	77.66	78.14	-93.35	793.69	2,148.28	1,197.03	1,041.58	155.46	7.700		
9,600.00	7,340.00	9,698.51	7,410.00	80.69	81.16	-93.35	794.71	2,248.28	1,197.04	1,035.55	161.48	7.413		
9,700.00	7,340.00	9,798.51	7,410.00	83.73	84.18	-93.35	795.74	2,348.27	1,197.05	1,029.51	167.54	7.145		
9,800.00	7,340.00	9,898.51	7,410.00	86.78	87.22	-93.35	796.76	2,448.27	1,197.06	1,023.43	173.62	6.895		
9,900.00	7,340.00	9,998.51	7,410.00	89.84	90.27	-93.35	797.78	2,548.26	1,197.06	1,017.34	179.73	6.660		
10,000.00	7,340.00	10,098.51	7,410.00	92.91	93.33	-93.35	798.81	2,648.26	1,197.07	1,011.22	185.85	6.441		
10,100.00	7,340.00	10,198.51	7,410.00	95.99	96.40	-93.35	799.83	2,748.25	1,197.08	1,005.09	191.99	6.235		
10,200.00	7,340.00	10,298.51	7,410.00	99.08	99.48	-93.35	800.86	2,848.25	1,197.09	998.94	198.15	6.041		
10,300.00	7,340.00	10,398.51	7,410.00	102.18	102.57	-93.35	801.88	2,948.24	1,197.10	992.77	204.33	5.859		
10,400.00	7,340.00	10,498.51	7,410.00	105.28	105.67	-93.35	802.91	3,048.24	1,197.11	986.59	210.51	5.687		
10,500.00	7,340.00	10,598.51	7,410.00	108.39	108.77	-93.35	803.93	3,148.23	1,197.11	980.40	216.71	5.524		
10,600.00	7,340.00	10,698.51	7,410.00	111.50	111.87	-93.35	804.96	3,248.23	1,197.12	974.20	222.92	5.370		
10,700.00	7,340.00	10,798.51	7,410.00	114.62	114.98	-93.35	805.98	3,348.22	1,197.13	967.99	229.14	5.224		
10,800.00	7,340.00	10,898.51	7,410.00	117.75	118.10	-93.35	807.01	3,448.22	1,197.14	961.76	235.38	5.086		
10,900.00	7,340.00	10,998.51	7,410.00	120.87	121.22	-93.35	808.03	3,548.21	1,197.15	955.53	241.62	4.955		
11,000.00	7,340.00	11,098.51	7,410.00	124.01	124.35	-93.35	809.05	3,648.21	1,197.15	949.29	247.86	4.830		
11,100.00	7,340.00	11,198.51	7,410.00	127.14	127.48	-93.35	810.08	3,748.20	1,197.16	943.04	254.12	4.711		
11,200.00	7,340.00	11,298.51	7,410.00	130.28	130.61	-93.35	811.10	3,848.20	1,197.17	936.79	260.38	4.598		
11,300.00	7,340.00	11,398.51	7,410.00	133.42	133.75	-93.35	812.13	3,948.19	1,197.18	930.53	266.65	4.490		
11,400.00	7,340.00	11,498.51	7,410.00	136.57	136.89	-93.35	813.15	4,048.18	1,197.19	924.26	272.93	4.386		
11,500.00	7,340.00	11,598.51	7,410.00	139.72	140.03	-93.35	814.18	4,148.18	1,197.20	917.99	279.21	4.288		
11,600.00	7,340.00	11,698.51	7,410.00	142.87	143.18	-93.35	815.20	4,248.17	1,197.20	911.71	285.50	4.193		
11,700.00	7,340.00	11,798.51	7,410.00	146.02	146.33	-93.35	816.23	4,348.17	1,197.21	905.42	291.79	4.103		
11,800.00	7,340.00	11,898.51	7,410.00	149.18	149.48	-93.35	817.25	4,448.16	1,197.22	899.14	298.09	4.016		
11,845.06	7,340.00	11,943.57	7,410.00	150.00	150.90	-93.35	817.71	4,493.22	1,197.22	896.90	300.32	3.986 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3E-25H-M166 - OH - PLAN #1													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	0.15	49.91	0.13	49.91					
100.00	100.00	100.00	100.00	0.14	0.14	0.15	49.91	0.13	49.91	49.64	0.28	180.829		
200.00	200.00	200.00	200.00	0.50	0.50	0.15	49.91	0.13	49.91	48.92	0.99	50.267		
300.00	300.00	300.00	300.00	0.85	0.85	0.15	49.91	0.13	49.91	48.20	1.71	29.190		
400.00	400.00	400.00	400.00	1.21	1.21	0.15	49.91	0.13	49.91	47.49	2.43	20.567		
500.00	500.00	500.00	500.00	1.57	1.57	0.15	49.91	0.13	49.91	46.77	3.14	15.877		
600.00	600.00	600.00	600.00	1.93	1.93	0.15	49.91	0.13	49.91	46.05	3.86	12.928 CC, ES		
700.00	700.00	698.54	698.52	2.29	2.28	-0.92	51.31	-0.83	51.34	46.76	4.58	11.210		
800.00	799.98	796.79	796.64	2.63	2.64	143.75	55.50	-3.68	57.12	51.82	5.29	10.788		
900.00	899.84	894.44	893.92	2.97	2.99	142.49	62.40	-8.38	68.63	62.63	6.00	11.435		
991.00	990.50	984.35	983.38	3.28	3.32	142.43	69.82	-13.43	82.62	75.99	6.63	12.459		
1,000.00	999.45	993.23	992.22	3.31	3.35	142.50	70.55	-13.93	84.12	77.42	6.70	12.562		
1,100.00	1,098.94	1,091.83	1,090.33	3.66	3.71	143.13	78.69	-19.48	100.74	93.35	7.39	13.636		
1,200.00	1,198.42	1,190.43	1,188.44	4.02	4.08	143.58	86.83	-25.02	117.38	109.29	8.09	14.512		
1,300.00	1,297.91	1,289.04	1,286.55	4.38	4.45	143.92	94.97	-30.56	134.02	125.23	8.79	15.240		
1,400.00	1,397.39	1,387.64	1,384.66	4.75	4.82	144.18	103.10	-36.11	150.66	141.16	9.50	15.852		
1,500.00	1,496.88	1,486.24	1,482.77	5.13	5.19	144.39	111.24	-41.65	167.31	157.09	10.22	16.373		
1,600.00	1,596.36	1,584.85	1,580.88	5.50	5.56	144.57	119.38	-47.20	183.96	173.02	10.94	16.822		
1,700.00	1,695.85	1,683.45	1,678.99	5.88	5.93	144.71	127.52	-52.74	200.61	188.96	11.66	17.212		
1,800.00	1,795.33	1,782.05	1,777.10	6.26	6.31	144.83	135.66	-58.28	217.26	204.89	12.38	17.555		
1,900.00	1,894.81	1,880.65	1,875.21	6.64	6.68	144.94	143.79	-63.83	233.91	220.81	13.10	17.857		
2,000.00	1,994.30	1,979.26	1,973.32	7.02	7.06	145.03	151.93	-69.37	250.57	236.74	13.82	18.126		
2,100.00	2,093.78	2,077.86	2,071.43	7.40	7.43	145.11	160.07	-74.92	267.22	252.67	14.55	18.367		
2,200.00	2,193.27	2,176.46	2,169.54	7.78	7.81	145.18	168.21	-80.46	283.87	268.60	15.27	18.584		
2,300.00	2,292.75	2,275.07	2,267.65	8.17	8.18	145.24	176.35	-86.00	300.53	284.53	16.00	18.781		
2,400.00	2,392.24	2,373.67	2,365.76	8.55	8.56	145.30	184.48	-91.55	317.18	300.45	16.73	18.959		
2,500.00	2,491.72	2,472.27	2,463.87	8.94	8.94	145.35	192.62	-97.09	333.84	316.38	17.46	19.122		
2,600.00	2,591.21	2,570.87	2,561.98	9.32	9.31	145.40	200.76	-102.64	350.49	332.31	18.19	19.271		
2,700.00	2,690.69	2,669.48	2,660.09	9.71	9.69	145.44	208.90	-108.18	367.15	348.23	18.92	19.408		
2,800.00	2,790.18	2,768.08	2,758.20	10.10	10.07	145.48	217.04	-113.72	383.80	364.16	19.65	19.535		
2,900.00	2,889.66	2,866.68	2,856.31	10.48	10.44	145.51	225.17	-119.27	400.46	380.08	20.38	19.652		
3,000.00	2,989.14	2,965.29	2,954.42	10.87	10.82	145.54	233.31	-124.81	417.11	396.01	21.11	19.761		
3,100.00	3,088.63	3,063.89	3,052.53	11.26	11.20	145.57	241.45	-130.36	433.77	411.93	21.84	19.862		
3,200.00	3,188.11	3,162.49	3,150.64	11.65	11.57	145.60	249.59	-135.90	450.43	427.86	22.57	19.956		
3,300.00	3,287.60	3,261.10	3,248.75	12.03	11.95	145.62	257.73	-141.44	467.08	443.78	23.30	20.044		
3,400.00	3,387.08	3,359.70	3,346.86	12.42	12.33	145.65	265.86	-146.99	483.74	459.70	24.03	20.127		
3,500.00	3,486.57	3,458.30	3,444.97	12.81	12.71	145.67	274.00	-152.53	500.39	475.63	24.77	20.205		
3,600.00	3,586.05	3,556.90	3,543.08	13.20	13.08	145.69	282.14	-158.08	517.05	491.55	25.50	20.278		
3,700.00	3,685.54	3,655.51	3,641.19	13.59	13.46	145.71	290.28	-163.62	533.71	507.48	26.23	20.346		
3,800.00	3,785.02	3,754.11	3,739.30	13.98	13.84	145.73	298.42	-169.17	550.36	523.40	26.96	20.411		
3,900.00	3,884.51	3,852.71	3,837.41	14.36	14.22	145.75	306.55	-174.71	567.02	539.32	27.70	20.473		
4,000.00	3,983.99	3,951.32	3,935.52	14.75	14.59	145.76	314.69	-180.25	583.68	555.25	28.43	20.531		
4,100.00	4,083.47	4,049.92	4,033.63	15.14	14.97	145.78	322.83	-185.80	600.33	571.17	29.16	20.586		
4,200.00	4,182.96	4,148.52	4,131.74	15.53	15.35	145.79	330.97	-191.34	616.99	587.09	29.90	20.638		
4,300.00	4,282.44	4,247.12	4,229.85	15.92	15.73	145.80	339.11	-196.89	633.65	603.02	30.63	20.688		
4,400.00	4,381.93	4,345.73	4,327.96	16.31	16.11	145.82	347.25	-202.43	650.30	618.94	31.36	20.735		
4,500.00	4,481.41	4,444.33	4,426.07	16.70	16.48	145.83	355.38	-207.97	666.96	634.86	32.10	20.780		
4,600.00	4,580.90	4,542.93	4,524.18	17.09	16.86	145.84	363.52	-213.52	683.62	650.79	32.83	20.823		
4,700.00	4,680.38	4,641.54	4,622.29	17.48	17.24	145.85	371.66	-219.06	700.27	666.71	33.56	20.864		
4,800.00	4,779.87	4,740.14	4,720.40	17.87	17.62	145.86	379.80	-224.61	716.93	682.63	34.30	20.904		
4,900.00	4,879.35	4,838.74	4,818.51	18.26	17.99	145.87	387.94	-230.15	733.59	698.55	35.03	20.941		
5,000.00	4,978.84	4,937.35	4,916.62	18.65	18.37	145.88	396.07	-235.69	750.24	714.48	35.76	20.977		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3E-25H-M166 - OH - PLAN #1													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	5,078.32	5,035.95	5,014.73	19.04	18.75	145.89	404.21	-241.24	766.90	730.40	36.50	21.012		
5,200.00	5,177.80	5,134.55	5,112.84	19.43	19.13	145.90	412.35	-246.78	783.56	746.32	37.23	21.045		
5,300.00	5,277.29	5,233.15	5,210.95	19.82	19.51	145.91	420.49	-252.33	800.21	762.25	37.97	21.077		
5,400.00	5,376.77	5,331.76	5,309.06	20.21	19.89	145.92	428.63	-257.87	816.87	778.17	38.70	21.107		
5,500.00	5,476.26	5,430.36	5,407.17	20.60	20.26	145.93	436.76	-263.41	833.53	794.09	39.44	21.137		
5,600.00	5,575.74	5,528.96	5,505.28	20.99	20.64	145.93	444.90	-268.96	850.18	810.01	40.17	21.165		
5,700.00	5,675.23	5,627.57	5,603.39	21.38	21.02	145.94	453.04	-274.50	866.84	825.94	40.90	21.192		
5,734.45	5,709.50	5,661.54	5,637.19	21.51	21.15	145.94	455.84	-276.41	872.58	831.42	41.16	21.201		
5,800.00	5,774.78	5,726.27	5,701.60	21.77	21.40	146.04	461.19	-280.05	882.88	841.25	41.64	21.204		
5,900.00	5,874.59	5,855.76	5,830.65	22.13	21.88	146.07	469.90	-285.99	894.76	852.20	42.56	21.021		
6,000.00	5,974.55	5,990.77	5,965.56	22.49	22.36	146.09	473.87	-288.69	899.90	856.46	43.45	20.713		
6,025.45	6,000.00	6,025.21	6,000.00	22.57	22.48	-0.48	474.04	-288.81	900.12	856.47	43.65	20.619		
6,100.00	6,074.55	6,099.76	6,074.55	22.80	22.73	-0.48	474.04	-288.81	900.12	855.97	44.15	20.387		
6,200.00	6,174.55	6,199.76	6,174.55	23.11	23.06	-0.48	474.04	-288.81	900.12	855.30	44.82	20.083		
6,300.00	6,274.55	6,299.76	6,274.55	23.42	23.40	-0.48	474.04	-288.81	900.12	854.63	45.49	19.787		
6,400.00	6,374.55	6,399.76	6,374.55	23.73	23.74	-0.48	474.04	-288.81	900.12	853.96	46.16	19.499		
6,500.00	6,474.55	6,499.76	6,474.55	24.05	24.08	-0.48	474.04	-288.81	900.12	853.29	46.84	19.218		
6,600.00	6,574.55	6,599.76	6,574.55	24.36	24.42	-0.48	474.04	-288.81	900.12	852.61	47.51	18.945		
6,649.25	6,623.80	6,649.01	6,623.80	24.52	24.59	-0.48	474.04	-288.81	900.12	852.28	47.84	18.814		
6,700.00	6,674.51	6,699.65	6,674.39	24.67	24.75	-89.90	474.06	-287.02	900.12	851.95	48.17	18.685		
6,750.00	6,724.22	6,749.53	6,723.99	24.82	24.90	-89.90	474.11	-281.77	900.12	851.64	48.48	18.566		
6,800.00	6,773.44	6,799.42	6,773.11	24.97	25.05	-89.90	474.20	-273.08	900.12	851.34	48.78	18.453		
6,850.00	6,821.93	6,849.31	6,821.50	25.10	25.19	-89.90	474.33	-260.99	900.12	851.06	49.07	18.344		
6,900.00	6,869.46	6,899.20	6,868.94	25.23	25.32	-89.90	474.48	-245.56	900.12	850.77	49.35	18.240		
6,950.00	6,915.79	6,949.10	6,915.18	25.36	25.45	-89.91	474.67	-226.86	900.12	850.50	49.63	18.137		
7,000.00	6,960.70	6,999.00	6,960.02	25.47	25.57	-89.91	474.89	-204.99	900.12	850.21	49.91	18.035		
7,050.00	7,003.96	7,048.90	7,003.23	25.59	25.68	-89.91	475.15	-180.05	900.12	849.92	50.20	17.930		
7,100.00	7,045.38	7,098.81	7,044.60	25.69	25.80	-89.92	475.43	-152.16	900.12	849.61	50.52	17.818		
7,150.00	7,084.74	7,148.72	7,083.94	25.79	25.92	-89.92	475.74	-121.45	900.12	849.26	50.87	17.696		
7,200.00	7,121.85	7,198.63	7,121.04	25.90	26.06	-89.93	476.08	-88.08	900.12	848.86	51.27	17.558		
7,250.00	7,156.54	7,248.55	7,155.73	26.02	26.23	-89.93	476.45	-52.20	900.12	848.39	51.73	17.399		
7,300.00	7,188.63	7,298.48	7,187.85	26.17	26.46	-89.94	476.84	-13.98	900.12	847.84	52.28	17.216		
7,350.00	7,217.97	7,348.41	7,217.22	26.39	26.75	-89.94	477.25	26.38	900.12	847.19	52.93	17.004		
7,400.00	7,244.42	7,398.35	7,243.72	26.69	27.12	-89.95	477.68	68.70	900.12	846.42	53.70	16.761		
7,450.00	7,267.84	7,448.30	7,267.20	27.10	27.56	-89.95	478.12	112.76	900.12	845.52	54.60	16.485		
7,500.00	7,288.13	7,498.25	7,287.56	27.59	28.07	-89.96	478.59	158.37	900.12	844.48	55.64	16.178		
7,550.00	7,305.18	7,548.22	7,304.70	28.17	28.66	-89.97	479.06	205.28	900.12	843.30	56.82	15.842		
7,600.00	7,318.91	7,598.18	7,318.52	28.83	29.32	-89.97	479.55	253.29	900.12	841.98	58.15	15.481		
7,650.00	7,329.25	7,648.16	7,328.97	29.56	30.05	-89.98	480.05	302.15	900.12	840.51	59.61	15.101		
7,700.00	7,336.15	7,698.14	7,335.99	30.35	30.84	-89.99	480.55	351.63	900.12	838.93	61.20	14.709		
7,750.00	7,339.59	7,748.14	7,339.53	31.21	31.69	-90.00	481.06	401.48	900.12	837.23	62.90	14.311		
7,774.25	7,340.00	7,772.39	7,340.00	31.64	32.12	-90.00	481.30	425.72	900.12	836.37	63.75	14.119		
7,800.00	7,340.00	7,798.14	7,340.00	32.11	32.58	-90.00	481.57	451.47	900.12	835.43	64.69	13.914		
7,900.00	7,340.00	7,898.14	7,340.00	34.07	34.52	-90.00	482.58	551.46	900.12	831.53	68.59	13.124		
8,000.00	7,340.00	7,998.14	7,340.00	36.21	36.64	-90.00	483.60	651.46	900.12	827.28	72.84	12.358		
8,100.00	7,340.00	8,098.14	7,340.00	38.49	38.91	-90.00	484.61	751.45	900.12	822.73	77.39	11.631		
8,200.00	7,340.00	8,198.14	7,340.00	40.90	41.30	-90.00	485.63	851.45	900.12	817.93	82.19	10.952		
8,300.00	7,340.00	8,298.14	7,340.00	43.42	43.79	-90.00	486.65	951.44	900.12	812.93	87.19	10.323		
8,400.00	7,340.00	8,398.14	7,340.00	46.02	46.37	-90.00	487.66	1,051.44	900.12	807.75	92.37	9.744		
8,500.00	7,340.00	8,498.14	7,340.00	48.69	49.03	-90.00	488.68	1,151.43	900.12	802.42	97.70	9.213		
8,600.00	7,340.00	8,598.14	7,340.00	51.42	51.75	-90.00	489.69	1,251.43	900.12	796.97	103.15	8.726		
8,700.00	7,340.00	8,698.14	7,340.00	54.21	54.52	-90.00	490.71	1,351.42	900.12	791.41	108.71	8.280		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3E-25H-M166 - OH - PLAN #1												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	7,340.00	8,798.14	7,340.00	57.04	57.34	-90.00	491.73	1,451.42	900.12	785.77		114.35	7.871
8,900.00	7,340.00	8,898.14	7,340.00	59.90	60.19	-90.00	492.74	1,551.41	900.12	780.05		120.08	7.496
9,000.00	7,340.00	8,998.14	7,340.00	62.80	63.08	-90.00	493.76	1,651.41	900.12	774.26		125.86	7.152
9,100.00	7,340.00	9,098.14	7,340.00	65.73	66.00	-90.00	494.78	1,751.40	900.12	768.41		131.71	6.834
9,200.00	7,340.00	9,198.14	7,340.00	68.68	68.94	-90.00	495.79	1,851.40	900.12	762.51		137.61	6.541
9,300.00	7,340.00	9,298.14	7,340.00	71.66	71.91	-90.00	496.81	1,951.39	900.12	756.57		143.55	6.270
9,400.00	7,340.00	9,398.14	7,340.00	74.65	74.90	-90.00	497.82	2,051.39	900.12	750.59		149.53	6.020
9,500.00	7,340.00	9,498.14	7,340.00	77.66	77.90	-90.00	498.84	2,151.38	900.12	744.57		155.54	5.787
9,600.00	7,340.00	9,598.14	7,340.00	80.69	80.92	-90.00	499.86	2,251.38	900.12	738.53		161.59	5.570
9,700.00	7,340.00	9,698.14	7,340.00	83.73	83.95	-90.00	500.87	2,351.37	900.12	732.46		167.66	5.369
9,800.00	7,340.00	9,798.14	7,340.00	86.78	87.00	-90.00	501.89	2,451.37	900.12	726.36		173.76	5.180
9,900.00	7,340.00	9,898.14	7,340.00	89.84	90.06	-90.00	502.90	2,551.36	900.12	720.24		179.88	5.004
10,000.00	7,340.00	9,998.14	7,340.00	92.91	93.12	-90.00	503.92	2,651.36	900.12	714.10		186.02	4.839
10,100.00	7,340.00	10,098.14	7,340.00	95.99	96.20	-90.00	504.94	2,751.35	900.12	707.94		192.18	4.684
10,200.00	7,340.00	10,198.14	7,340.00	99.08	99.28	-90.00	505.95	2,851.35	900.12	701.77		198.35	4.538
10,300.00	7,340.00	10,298.14	7,340.00	102.18	102.37	-90.00	506.97	2,951.34	900.12	695.58		204.54	4.401
10,400.00	7,340.00	10,398.14	7,340.00	105.28	105.47	-90.00	507.98	3,051.33	900.12	689.38		210.74	4.271
10,500.00	7,340.00	10,498.14	7,340.00	108.39	108.58	-90.00	509.00	3,151.33	900.12	683.17		216.95	4.149
10,600.00	7,340.00	10,598.14	7,340.00	111.50	111.69	-90.00	510.02	3,251.32	900.12	676.94		223.18	4.033
10,700.00	7,340.00	10,698.14	7,340.00	114.62	114.80	-90.00	511.03	3,351.32	900.12	670.71		229.41	3.924
10,800.00	7,340.00	10,798.14	7,340.00	117.75	117.93	-90.00	512.05	3,451.31	900.12	664.46		235.66	3.820
10,900.00	7,340.00	10,898.14	7,340.00	120.87	121.05	-90.00	513.07	3,551.31	900.12	658.21		241.91	3.721
11,000.00	7,340.00	10,998.14	7,340.00	124.01	124.18	-90.00	514.08	3,651.30	900.12	651.95		248.17	3.627
11,100.00	7,340.00	11,098.14	7,340.00	127.14	127.31	-90.00	515.10	3,751.30	900.12	645.68		254.44	3.538
11,200.00	7,340.00	11,198.14	7,340.00	130.28	130.45	-90.00	516.11	3,851.29	900.12	639.40		260.72	3.452
11,300.00	7,340.00	11,298.14	7,340.00	133.42	133.59	-90.00	517.13	3,951.29	900.12	633.12		267.00	3.371
11,400.00	7,340.00	11,398.14	7,340.00	136.57	136.73	-90.00	518.15	4,051.28	900.12	626.83		273.29	3.294
11,500.00	7,340.00	11,498.14	7,340.00	139.72	139.88	-90.00	519.16	4,151.28	900.12	620.54		279.58	3.220
11,600.00	7,340.00	11,598.14	7,340.00	142.87	143.03	-90.00	520.18	4,251.27	900.12	614.24		285.88	3.149
11,700.00	7,340.00	11,698.14	7,340.00	146.02	146.18	-90.00	521.19	4,351.27	900.12	607.93		292.19	3.081
11,800.00	7,340.00	11,798.14	7,340.00	149.18	149.33	-90.00	522.21	4,451.26	900.12	601.62		298.49	3.016
11,845.06	7,340.00	11,843.19	7,340.00	150.00	150.75	-90.00	522.67	4,496.32	900.12	599.38		300.74	2.993 SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3F-25H-M166 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: O-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	-0.09	39.71	-0.06	39.71				
100.00	100.00	100.00	100.00	0.14	0.14	-0.09	39.71	-0.06	39.71	39.43	0.28	143.853	
200.00	200.00	200.00	200.00	0.50	0.50	-0.09	39.71	-0.06	39.71	38.71	0.99	39.988	
300.00	300.00	300.00	300.00	0.85	0.85	-0.09	39.71	-0.06	39.71	38.00	1.71	23.222	
400.00	400.00	400.00	400.00	1.21	1.21	-0.09	39.71	-0.06	39.71	37.28	2.43	16.361	
500.00	500.00	500.00	500.00	1.57	1.57	-0.09	39.71	-0.06	39.71	36.56	3.14	12.630	
600.00	600.00	600.00	600.00	1.93	1.93	-0.09	39.71	-0.06	39.71	35.85	3.86	10.285	
700.00	700.00	700.00	700.00	2.29	2.29	-0.09	39.71	-0.06	39.71	35.13	4.58	8.674 CC, ES	
800.00	799.98	799.98	799.98	2.63	2.65	147.80	39.71	-0.06	41.17	35.89	5.28	7.799	
900.00	899.84	899.84	899.84	2.97	3.01	151.26	39.71	-0.06	45.69	39.72	5.97	7.650	
991.00	990.50	990.50	990.50	3.28	3.33	155.27	39.71	-0.06	52.65	46.04	6.61	7.968	
1,000.00	999.45	999.45	999.45	3.31	3.36	155.68	39.71	-0.06	53.48	46.81	6.67	8.015	
1,100.00	1,098.94	1,097.77	1,097.75	3.66	3.71	158.17	40.88	-1.25	63.77	56.40	7.37	8.656	
1,200.00	1,198.42	1,195.72	1,195.57	4.02	4.06	157.77	44.41	-4.82	75.97	67.90	8.06	9.421	
1,300.00	1,297.91	1,294.00	1,293.52	4.38	4.41	155.93	49.99	-10.46	89.82	81.05	8.76	10.249	
1,400.00	1,397.39	1,392.96	1,392.13	4.75	4.77	154.39	55.88	-16.42	103.97	94.50	9.47	10.978	
1,500.00	1,496.88	1,491.92	1,490.73	5.13	5.13	153.22	61.77	-22.38	118.18	108.00	10.18	11.606	
1,600.00	1,596.36	1,590.88	1,589.34	5.50	5.49	152.30	67.66	-28.34	132.43	121.53	10.90	12.152	
1,700.00	1,695.85	1,689.84	1,687.94	5.88	5.85	151.56	73.55	-34.30	146.71	135.09	11.62	12.630	
1,800.00	1,795.33	1,788.80	1,786.55	6.26	6.22	150.95	79.45	-40.25	161.00	148.67	12.34	13.051	
1,900.00	1,894.81	1,887.76	1,885.15	6.64	6.58	150.44	85.34	-46.21	175.31	162.25	13.06	13.426	
2,000.00	1,994.30	1,986.72	1,983.75	7.02	6.95	150.01	91.23	-52.17	189.63	175.85	13.78	13.760	
2,100.00	2,093.78	2,085.68	2,082.36	7.40	7.31	149.64	97.12	-58.13	203.97	189.46	14.51	14.060	
2,200.00	2,193.27	2,184.64	2,180.96	7.78	7.68	149.32	103.02	-64.09	218.30	203.07	15.23	14.331	
2,300.00	2,292.75	2,283.60	2,279.57	8.17	8.05	149.03	108.91	-70.05	232.65	216.69	15.96	14.577	
2,400.00	2,392.24	2,382.56	2,378.17	8.55	8.42	148.78	114.80	-76.01	247.00	230.31	16.69	14.800	
2,500.00	2,491.72	2,481.52	2,476.78	8.94	8.79	148.56	120.69	-81.97	261.35	243.93	17.42	15.005	
2,600.00	2,591.21	2,580.48	2,575.38	9.32	9.15	148.36	126.58	-87.93	275.71	257.56	18.15	15.193	
2,700.00	2,690.69	2,679.44	2,673.98	9.71	9.52	148.18	132.48	-93.89	290.07	271.19	18.88	15.366	
2,800.00	2,790.18	2,778.40	2,772.59	10.10	9.89	148.02	138.37	-99.85	304.43	284.82	19.61	15.526	
2,900.00	2,889.66	2,877.35	2,871.19	10.48	10.26	147.87	144.26	-105.81	318.79	298.45	20.34	15.674	
3,000.00	2,989.14	2,976.31	2,969.80	10.87	10.63	147.74	150.15	-111.76	333.16	312.09	21.07	15.811	
3,100.00	3,088.63	3,075.27	3,068.40	11.26	11.00	147.61	156.05	-117.72	347.53	325.72	21.80	15.939	
3,200.00	3,188.11	3,174.23	3,167.01	11.65	11.37	147.50	161.94	-123.68	361.89	339.36	22.54	16.059	
3,300.00	3,287.60	3,273.19	3,265.61	12.03	11.75	147.39	167.83	-129.64	376.27	353.00	23.27	16.171	
3,400.00	3,387.08	3,372.15	3,364.21	12.42	12.12	147.29	173.72	-135.60	390.64	366.64	24.00	16.276	
3,500.00	3,486.57	3,471.11	3,462.82	12.81	12.49	147.20	179.62	-141.56	405.01	380.28	24.73	16.374	
3,600.00	3,586.05	3,570.07	3,561.42	13.20	12.86	147.12	185.51	-147.52	419.38	393.92	25.47	16.467	
3,700.00	3,685.54	3,669.03	3,660.03	13.59	13.23	147.04	191.40	-153.48	433.76	407.56	26.20	16.555	
3,800.00	3,785.02	3,767.99	3,758.63	13.98	13.60	146.97	197.29	-159.44	448.13	421.20	26.94	16.637	
3,900.00	3,884.51	3,866.95	3,857.24	14.36	13.97	146.90	203.18	-165.40	462.51	434.84	27.67	16.715	
4,000.00	3,983.99	3,965.91	3,955.84	14.75	14.34	146.83	209.08	-171.36	476.89	448.48	28.40	16.789	
4,100.00	4,083.47	4,064.87	4,054.44	15.14	14.72	146.77	214.97	-177.32	491.26	462.12	29.14	16.860	
4,200.00	4,182.96	4,163.83	4,153.05	15.53	15.09	146.71	220.86	-183.28	505.64	475.77	29.87	16.926	
4,300.00	4,282.44	4,262.79	4,251.65	15.92	15.46	146.66	226.75	-189.23	520.02	489.41	30.61	16.990	
4,400.00	4,381.93	4,361.75	4,350.26	16.31	15.83	146.61	232.65	-195.19	534.40	503.05	31.34	17.050	
4,500.00	4,481.41	4,460.71	4,448.86	16.70	16.20	146.56	238.54	-201.15	548.78	516.70	32.08	17.108	
4,600.00	4,580.90	4,559.67	4,547.47	17.09	16.57	146.51	244.43	-207.11	563.16	530.34	32.81	17.163	
4,700.00	4,680.38	4,658.63	4,646.07	17.48	16.95	146.47	250.32	-213.07	577.54	543.99	33.55	17.215	
4,800.00	4,779.87	4,757.59	4,744.67	17.87	17.32	146.42	256.21	-219.03	591.92	557.63	34.28	17.265	
4,900.00	4,879.35	4,856.55	4,843.28	18.26	17.69	146.38	262.11	-224.99	606.30	571.28	35.02	17.313	
5,000.00	4,978.84	4,955.51	4,941.88	18.65	18.06	146.35	268.00	-230.95	620.68	584.92	35.75	17.359	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3F-25H-M166 - OH - PLAN #1													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	5,078.32	5,054.47	5,040.49	19.04	18.44	146.31	273.89	-236.91	635.06	598.57	36.49	17.404		
5,200.00	5,177.80	5,153.43	5,139.09	19.43	18.81	146.27	279.78	-242.87	649.44	612.21	37.23	17.446		
5,300.00	5,277.29	5,252.39	5,237.70	19.82	19.18	146.24	285.68	-248.83	663.82	625.86	37.96	17.487		
5,400.00	5,376.77	5,351.35	5,336.30	20.21	19.55	146.21	291.57	-254.79	678.20	639.50	38.70	17.526		
5,500.00	5,476.26	5,450.31	5,434.90	20.60	19.92	146.18	297.46	-260.75	692.58	653.15	39.43	17.563		
5,600.00	5,575.74	5,549.27	5,533.51	20.99	20.30	146.15	303.35	-266.70	706.97	666.80	40.17	17.600		
5,700.00	5,675.23	5,648.23	5,632.11	21.38	20.67	146.12	309.24	-272.66	721.35	680.44	40.91	17.635		
5,734.45	5,709.50	5,682.32	5,666.08	21.51	20.80	146.11	311.27	-274.72	726.30	685.14	41.16	17.646		
5,800.00	5,774.78	5,747.27	5,730.80	21.77	21.04	146.16	315.14	-278.63	735.11	693.47	41.64	17.654		
5,900.00	5,874.59	5,863.04	5,846.26	22.13	21.47	146.12	321.06	-284.62	745.38	702.89	42.48	17.546		
6,000.00	5,974.55	5,985.61	5,968.75	22.49	21.91	146.09	323.85	-287.43	749.85	706.53	43.32	17.311		
6,025.45	6,000.00	6,016.86	6,000.00	22.57	22.02	-0.48	323.97	-287.55	750.04	706.53	43.52	17.235		
6,100.00	6,074.55	6,091.41	6,074.55	22.80	22.27	-0.48	323.97	-287.55	750.04	706.03	44.02	17.040		
6,200.00	6,174.55	6,191.41	6,174.55	23.11	22.62	-0.48	323.97	-287.55	750.04	705.36	44.69	16.784		
6,300.00	6,274.55	6,291.41	6,274.55	23.42	22.96	-0.48	323.97	-287.55	750.04	704.68	45.36	16.536		
6,400.00	6,374.55	6,391.41	6,374.55	23.73	23.30	-0.48	323.97	-287.55	750.04	704.01	46.03	16.294		
6,500.00	6,474.55	6,491.41	6,474.55	24.05	23.65	-0.48	323.97	-287.55	750.04	703.34	46.71	16.059		
6,600.00	6,574.55	6,591.41	6,574.55	24.36	23.99	-0.48	323.97	-287.55	750.04	702.66	47.38	15.830		
6,649.25	6,623.80	6,640.66	6,623.80	24.52	24.16	-0.48	323.97	-287.55	750.04	702.33	47.72	15.719		
6,693.39	6,667.91	6,684.77	6,667.91	24.65	24.32	-90.00	323.97	-287.55	750.04	702.03	48.01	15.622		
6,700.00	6,674.51	6,691.37	6,674.51	24.67	24.34	-90.03	323.97	-287.55	750.04	701.99	48.06	15.608		
6,750.00	6,724.22	6,741.30	6,724.43	24.82	24.51	-90.38	323.97	-286.90	750.06	701.68	48.38	15.503		
6,800.00	6,773.44	6,791.59	6,774.56	24.97	24.67	-90.76	324.01	-282.99	750.11	701.42	48.69	15.405		
6,850.00	6,821.93	6,842.23	6,824.63	25.10	24.82	-91.12	324.09	-275.50	750.19	701.20	48.99	15.313		
6,900.00	6,869.46	6,893.22	6,874.40	25.23	24.97	-91.49	324.20	-264.41	750.30	701.01	49.28	15.224		
6,950.00	6,915.79	6,944.58	6,923.58	25.36	25.11	-91.85	324.35	-249.69	750.43	700.87	49.57	15.139		
7,000.00	6,960.70	6,996.28	6,971.91	25.47	25.25	-92.20	324.54	-231.35	750.60	700.74	49.86	15.055		
7,050.00	7,003.96	7,048.35	7,019.12	25.59	25.39	-92.54	324.76	-209.41	750.78	700.64	50.15	14.972		
7,100.00	7,045.38	7,100.76	7,064.90	25.69	25.53	-92.87	325.02	-183.92	750.99	700.53	50.45	14.885		
7,150.00	7,084.74	7,153.52	7,108.97	25.79	25.68	-93.18	325.31	-154.95	751.21	700.42	50.79	14.791		
7,200.00	7,121.85	7,206.61	7,151.05	25.90	25.84	-93.48	325.64	-122.60	751.43	700.27	51.16	14.687		
7,250.00	7,156.54	7,260.02	7,190.86	26.02	26.04	-93.76	326.00	-87.00	751.67	700.07	51.60	14.567		
7,300.00	7,188.63	7,313.74	7,228.10	26.17	26.28	-94.03	326.40	-48.30	751.90	699.79	52.11	14.428		
7,350.00	7,217.97	7,367.75	7,262.51	26.39	26.57	-94.27	326.82	-6.69	752.14	699.41	52.73	14.265		
7,400.00	7,244.42	7,422.03	7,293.84	26.69	26.94	-94.49	327.27	37.61	752.36	698.90	53.46	14.074		
7,450.00	7,267.84	7,476.56	7,321.84	27.10	27.38	-94.69	327.75	84.38	752.56	698.24	54.32	13.853		
7,500.00	7,288.13	7,531.30	7,346.30	27.59	27.90	-94.86	328.24	133.34	752.75	697.41	55.34	13.602		
7,550.00	7,305.18	7,586.24	7,367.00	28.17	28.50	-95.01	328.76	184.21	752.92	696.41	56.51	13.323		
7,600.00	7,318.91	7,641.34	7,383.80	28.83	29.19	-95.13	329.29	236.67	753.06	695.21	57.85	13.018		
7,650.00	7,329.25	7,696.56	7,396.53	29.56	29.97	-95.22	329.84	290.39	753.17	693.83	59.34	12.693		
7,700.00	7,336.15	7,751.89	7,405.11	30.35	30.83	-95.29	330.40	345.03	753.25	692.27	60.98	12.353		
7,750.00	7,339.59	7,807.28	7,409.44	31.21	31.76	-95.32	330.96	400.23	753.29	690.55	62.75	12.006		
7,774.25	7,340.00	7,834.16	7,410.00	31.64	32.23	-95.33	331.23	427.10	753.30	689.66	63.64	11.837		
7,800.00	7,340.00	7,860.05	7,410.00	32.11	32.71	-95.33	331.49	452.99	753.30	688.71	64.59	11.663		
7,900.00	7,340.00	7,960.05	7,410.00	34.07	34.65	-95.33	332.51	552.99	753.30	684.83	68.47	11.002		
8,000.00	7,340.00	8,060.05	7,410.00	36.21	36.76	-95.33	333.52	652.98	753.30	680.60	72.70	10.362		
8,100.00	7,340.00	8,160.05	7,410.00	38.49	39.02	-95.33	334.54	752.98	753.30	676.08	77.22	9.755		
8,200.00	7,340.00	8,260.05	7,410.00	40.90	41.40	-95.33	335.56	852.97	753.30	671.31	81.99	9.188		
8,300.00	7,340.00	8,360.05	7,410.00	43.42	43.89	-95.33	336.57	952.97	753.30	666.33	86.97	8.662		
8,400.00	7,340.00	8,460.05	7,410.00	46.02	46.47	-95.33	337.59	1,052.96	753.30	661.18	92.12	8.177		
8,500.00	7,340.00	8,560.05	7,410.00	48.69	49.12	-95.33	338.61	1,152.96	753.30	655.88	97.42	7.732		
8,600.00	7,340.00	8,660.05	7,410.00	51.42	51.83	-95.33	339.62	1,252.95	753.30	650.46	102.84	7.325		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3F-25H-M166 - OH - PLAN #1													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		
8,700.00	7,340.00	8,760.05	7,410.00	54.21	54.60	-95.33	340.64	1,352.95	753.30	644.93	108.37	6.951		
8,800.00	7,340.00	8,860.05	7,410.00	57.04	57.41	-95.33	341.65	1,452.94	753.30	639.31	113.99	6.608		
8,900.00	7,340.00	8,960.05	7,410.00	59.90	60.26	-95.33	342.67	1,552.94	753.30	633.61	119.68	6.294		
9,000.00	7,340.00	9,060.05	7,410.00	62.80	63.15	-95.33	343.69	1,652.93	753.30	627.85	125.45	6.005		
9,100.00	7,340.00	9,160.05	7,410.00	65.73	66.07	-95.33	344.70	1,752.93	753.30	622.03	131.26	5.739		
9,200.00	7,340.00	9,260.05	7,410.00	68.68	69.01	-95.33	345.72	1,852.92	753.30	616.16	137.13	5.493		
9,300.00	7,340.00	9,360.05	7,410.00	71.66	71.97	-95.33	346.73	1,952.92	753.30	610.25	143.05	5.266		
9,400.00	7,340.00	9,460.05	7,410.00	74.65	74.96	-95.33	347.75	2,052.91	753.30	604.30	149.00	5.056		
9,500.00	7,340.00	9,560.05	7,410.00	77.66	77.96	-95.33	348.77	2,152.91	753.30	598.31	154.99	4.860		
9,600.00	7,340.00	9,660.05	7,410.00	80.69	80.98	-95.33	349.78	2,252.90	753.30	592.29	161.01	4.679		
9,700.00	7,340.00	9,760.05	7,410.00	83.73	84.01	-95.33	350.80	2,352.90	753.30	586.25	167.05	4.509		
9,800.00	7,340.00	9,860.05	7,410.00	86.78	87.05	-95.33	351.82	2,452.89	753.30	580.18	173.12	4.351		
9,900.00	7,340.00	9,960.05	7,410.00	89.84	90.11	-95.33	352.83	2,552.89	753.30	574.08	179.21	4.203		
10,000.00	7,340.00	10,060.05	7,410.00	92.91	93.17	-95.33	353.85	2,652.88	753.30	567.97	185.33	4.065		
10,100.00	7,340.00	10,160.05	7,410.00	95.99	96.25	-95.33	354.86	2,752.88	753.30	561.84	191.45	3.935		
10,200.00	7,340.00	10,260.05	7,410.00	99.08	99.33	-95.33	355.88	2,852.87	753.30	555.70	197.60	3.812		
10,300.00	7,340.00	10,360.05	7,410.00	102.18	102.42	-95.33	356.90	2,952.86	753.30	549.54	203.76	3.697		
10,400.00	7,340.00	10,460.05	7,410.00	105.28	105.52	-95.33	357.91	3,052.86	753.30	543.36	209.93	3.588		
10,500.00	7,340.00	10,560.05	7,410.00	108.39	108.62	-95.33	358.93	3,152.85	753.30	537.18	216.12	3.486		
10,600.00	7,340.00	10,660.05	7,410.00	111.50	111.73	-95.33	359.94	3,252.85	753.30	530.98	222.32	3.388		
10,700.00	7,340.00	10,760.05	7,410.00	114.62	114.85	-95.33	360.96	3,352.84	753.30	524.77	228.53	3.296		
10,800.00	7,340.00	10,860.05	7,410.00	117.75	117.97	-95.33	361.98	3,452.84	753.30	518.55	234.74	3.209		
10,900.00	7,340.00	10,960.05	7,410.00	120.87	121.09	-95.33	362.99	3,552.83	753.30	512.33	240.97	3.126		
11,000.00	7,340.00	11,060.05	7,410.00	124.01	124.22	-95.33	364.01	3,652.83	753.30	506.09	247.21	3.047		
11,100.00	7,340.00	11,160.05	7,410.00	127.14	127.35	-95.33	365.03	3,752.82	753.30	499.85	253.45	2.972		
11,200.00	7,340.00	11,260.05	7,410.00	130.28	130.49	-95.33	366.04	3,852.82	753.30	493.60	259.70	2.901		
11,300.00	7,340.00	11,360.05	7,410.00	133.42	133.63	-95.33	367.06	3,952.81	753.30	487.34	265.95	2.832		
11,400.00	7,340.00	11,460.05	7,410.00	136.57	136.77	-95.33	368.07	4,052.81	753.30	481.08	272.21	2.767		
11,500.00	7,340.00	11,560.05	7,410.00	139.72	139.92	-95.33	369.09	4,152.80	753.30	474.82	278.48	2.705		
11,600.00	7,340.00	11,660.05	7,410.00	142.87	143.07	-95.33	370.11	4,252.80	753.30	468.54	284.75	2.645		
11,700.00	7,340.00	11,760.05	7,410.00	146.02	146.22	-95.33	371.12	4,352.79	753.30	462.27	291.03	2.588		
11,800.00	7,340.00	11,860.05	7,410.00	149.18	149.37	-95.33	372.14	4,452.79	753.30	455.98	297.31	2.534		
11,845.06	7,340.00	11,905.10	7,410.00	150.00	150.79	-95.33	372.60	4,497.84	753.30	453.75	299.54	2.515 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3G-25H-M166 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: O-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	0.04	29.88	0.02	29.88					
100.00	100.00	100.00	100.00	0.14	0.14	0.04	29.88	0.02	29.88	29.60	0.28	108.237		
200.00	200.00	200.00	200.00	0.50	0.50	0.04	29.88	0.02	29.88	28.88	0.99	30.088		
300.00	300.00	300.00	300.00	0.85	0.85	0.04	29.88	0.02	29.88	28.17	1.71	17.472		
400.00	400.00	400.00	400.00	1.21	1.21	0.04	29.88	0.02	29.88	27.45	2.43	12.311		
500.00	500.00	500.00	500.00	1.57	1.57	0.04	29.88	0.02	29.88	26.73	3.14	9.503		
600.00	600.00	600.00	600.00	1.93	1.93	0.04	29.88	0.02	29.88	26.02	3.86	7.738		
700.00	700.00	700.00	700.00	2.29	2.29	0.04	29.88	0.02	29.88	25.30	4.58	6.526 CC, ES		
800.00	799.98	799.98	799.98	2.63	2.65	148.35	29.88	0.02	31.35	26.07	5.28	5.938		
900.00	899.84	900.12	900.10	2.97	3.00	149.98	29.60	-1.71	35.49	29.53	5.96	5.952		
991.00	990.50	991.04	990.93	3.28	3.31	149.64	28.95	-5.85	41.34	34.75	6.59	6.276		
1,000.00	999.45	1,000.02	999.89	3.31	3.34	149.68	28.88	-6.28	42.04	35.39	6.65	6.321		
1,100.00	1,098.94	1,099.72	1,099.47	3.66	3.69	150.02	28.12	-11.14	49.76	42.42	7.34	6.778		
1,200.00	1,198.42	1,199.42	1,199.05	4.02	4.04	150.27	27.35	-16.01	57.49	49.45	8.04	7.150		
1,300.00	1,297.91	1,299.12	1,298.63	4.38	4.39	150.46	26.59	-20.87	65.22	56.48	8.75	7.457		
1,400.00	1,397.39	1,398.82	1,398.21	4.75	4.75	150.60	25.82	-25.73	72.95	63.50	9.46	7.715		
1,500.00	1,496.88	1,498.52	1,497.79	5.13	5.10	150.72	25.06	-30.59	80.68	70.52	10.17	7.935		
1,600.00	1,596.36	1,598.22	1,597.37	5.50	5.46	150.82	24.30	-35.45	88.41	77.53	10.88	8.123		
1,700.00	1,695.85	1,697.92	1,696.94	5.88	5.82	150.91	23.53	-40.31	96.15	84.54	11.60	8.287		
1,800.00	1,795.33	1,797.62	1,796.52	6.26	6.18	150.98	22.77	-45.18	103.88	91.55	12.32	8.430		
1,900.00	1,894.81	1,897.33	1,896.10	6.64	6.54	151.04	22.00	-50.04	111.61	98.56	13.04	8.557		
2,000.00	1,994.30	1,997.03	1,995.68	7.02	6.90	151.09	21.24	-54.90	119.34	105.57	13.77	8.669		
2,100.00	2,093.78	2,096.73	2,095.26	7.40	7.26	151.14	20.47	-59.76	127.07	112.58	14.49	8.770		
2,200.00	2,193.27	2,196.43	2,194.84	7.78	7.62	151.18	19.71	-64.62	134.80	119.59	15.21	8.860		
2,300.00	2,292.75	2,296.13	2,294.42	8.17	7.98	151.22	18.94	-69.48	142.53	126.59	15.94	8.942		
2,400.00	2,392.24	2,395.83	2,394.00	8.55	8.34	151.25	18.18	-74.35	150.26	133.60	16.67	9.016		
2,500.00	2,491.72	2,495.53	2,493.58	8.94	8.70	151.28	17.41	-79.21	158.00	140.60	17.39	9.084		
2,600.00	2,591.21	2,595.23	2,593.16	9.32	9.07	151.31	16.65	-84.07	165.73	147.61	18.12	9.146		
2,700.00	2,690.69	2,694.93	2,692.74	9.71	9.43	151.33	15.88	-88.93	173.46	154.61	18.85	9.203		
2,800.00	2,790.18	2,794.63	2,792.31	10.10	9.79	151.35	15.12	-93.79	181.19	161.61	19.58	9.255		
2,900.00	2,889.66	2,894.33	2,891.89	10.48	10.15	151.38	14.35	-98.66	188.92	168.62	20.31	9.304		
3,000.00	2,989.14	2,994.03	2,991.47	10.87	10.52	151.39	13.59	-103.52	196.66	175.62	21.04	9.349		
3,100.00	3,088.63	3,093.73	3,091.05	11.26	10.88	151.41	12.82	-108.38	204.39	182.62	21.76	9.391		
3,200.00	3,188.11	3,193.43	3,190.63	11.65	11.24	151.43	12.06	-113.24	212.12	189.62	22.49	9.430		
3,300.00	3,287.60	3,293.13	3,290.21	12.03	11.61	151.44	11.29	-118.10	219.85	196.63	23.22	9.466		
3,400.00	3,387.08	3,392.83	3,389.79	12.42	11.97	151.46	10.53	-122.96	227.58	203.63	23.95	9.500		
3,500.00	3,486.57	3,492.54	3,489.37	12.81	12.34	151.47	9.76	-127.83	235.31	210.63	24.69	9.533		
3,600.00	3,586.05	3,592.24	3,588.95	13.20	12.70	151.48	9.00	-132.69	243.05	217.63	25.42	9.563		
3,700.00	3,685.54	3,691.94	3,688.53	13.59	13.06	151.49	8.23	-137.55	250.78	224.63	26.15	9.591		
3,800.00	3,785.02	3,791.64	3,788.11	13.98	13.43	151.51	7.47	-142.41	258.51	231.63	26.88	9.618		
3,900.00	3,884.51	3,891.34	3,887.68	14.36	13.79	151.52	6.70	-147.27	266.24	238.63	27.61	9.643		
4,000.00	3,983.99	3,991.04	3,987.26	14.75	14.16	151.53	5.94	-152.13	273.97	245.63	28.34	9.667		
4,100.00	4,083.47	4,090.74	4,086.84	15.14	14.52	151.53	5.17	-157.00	281.71	252.63	29.07	9.690		
4,200.00	4,182.96	4,190.44	4,186.42	15.53	14.88	151.54	4.41	-161.86	289.44	259.64	29.80	9.712		
4,300.00	4,282.44	4,290.14	4,286.00	15.92	15.25	151.55	3.64	-166.72	297.17	266.64	30.54	9.732		
4,400.00	4,381.93	4,389.84	4,385.58	16.31	15.61	151.56	2.88	-171.58	304.90	273.64	31.27	9.752		
4,500.00	4,481.41	4,489.54	4,485.16	16.70	15.98	151.57	2.11	-176.44	312.63	280.64	32.00	9.770		
4,600.00	4,580.90	4,589.24	4,584.74	17.09	16.34	151.57	1.35	-181.30	320.37	287.64	32.73	9.788		
4,700.00	4,680.38	4,688.94	4,684.32	17.48	16.70	151.58	0.58	-186.17	328.10	294.64	33.46	9.805		
4,800.00	4,779.87	4,788.64	4,783.90	17.87	17.07	151.59	-0.18	-191.03	335.83	301.64	34.20	9.821		
4,900.00	4,879.35	4,888.34	4,883.48	18.26	17.43	151.59	-0.94	-195.89	343.56	308.64	34.93	9.836		
5,000.00	4,978.84	4,988.04	4,983.05	18.65	17.80	151.60	-1.71	-200.75	351.29	315.63	35.66	9.851		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3G-25H-M166 - OH - PLAN #1													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	5,078.32	5,087.75	5,082.63	19.04	18.16	151.60	-2.47	-205.61	359.03	322.63	36.39	9.866		
5,200.00	5,177.80	5,187.45	5,182.21	19.43	18.53	151.61	-3.24	-210.47	366.76	329.63	37.12	9.879		
5,300.00	5,277.29	5,287.15	5,281.79	19.82	18.89	151.62	-4.00	-215.34	374.49	336.63	37.86	9.892		
5,400.00	5,376.77	5,386.85	5,381.37	20.21	19.26	151.62	-4.77	-220.20	382.22	343.63	38.59	9.905		
5,500.00	5,476.26	5,486.55	5,480.95	20.60	19.62	151.62	-5.53	-225.06	389.95	350.63	39.32	9.917		
5,600.00	5,575.74	5,586.25	5,580.53	20.99	19.99	151.63	-6.30	-229.92	397.69	357.63	40.05	9.929		
5,700.00	5,675.23	5,685.95	5,680.11	21.38	20.35	151.63	-7.06	-234.78	405.42	364.63	40.79	9.940		
5,734.45	5,709.50	5,720.30	5,714.42	21.51	20.48	151.64	-7.33	-236.46	408.08	367.04	41.04	9.944		
5,800.00	5,774.78	5,785.70	5,779.73	21.77	20.72	151.63	-7.83	-239.65	412.49	370.97	41.52	9.935		
5,900.00	5,874.59	5,885.58	5,879.50	22.13	21.08	151.41	-8.60	-244.52	416.69	374.44	42.25	9.862		
6,000.00	5,974.55	5,985.51	5,979.30	22.49	21.45	150.94	-9.36	-249.39	417.84	374.86	42.98	9.722		
6,025.45	6,000.00	6,010.93	6,004.70	22.57	21.54	4.21	-9.56	-250.63	417.65	374.49	43.16	9.677		
6,100.00	6,074.55	6,085.39	6,079.06	22.80	21.81	3.72	-10.13	-254.26	416.82	373.14	43.68	9.542		
6,200.00	6,174.55	6,185.27	6,178.82	23.11	22.18	3.06	-10.89	-259.13	415.77	371.39	44.38	9.368		
6,300.00	6,274.55	6,285.15	6,278.58	23.42	22.54	2.39	-11.66	-264.00	414.77	369.68	45.09	9.200		
6,400.00	6,374.55	6,385.03	6,378.33	23.73	22.91	1.72	-12.43	-268.87	413.83	368.04	45.79	9.038		
6,500.00	6,474.55	6,484.90	6,478.09	24.05	23.27	1.05	-13.19	-273.74	412.94	366.45	46.49	8.882		
6,600.00	6,574.55	6,584.78	6,577.85	24.36	23.64	0.37	-13.96	-278.61	412.11	364.91	47.20	8.731		
6,649.25	6,623.80	6,633.11	6,626.15	24.52	23.81	0.18	-14.29	-279.99	411.77	364.24	47.53	8.663		
6,700.00	6,674.51	6,682.69	6,675.67	24.67	23.97	-89.24	-14.51	-278.10	411.53	363.68	47.85	8.601		
6,750.00	6,724.22	6,731.53	6,724.23	24.82	24.12	-89.24	-14.60	-272.90	411.38	363.24	48.14	8.545		
6,799.74	6,773.19	6,780.11	6,772.07	24.97	24.26	-89.25	-14.56	-264.46	411.34	362.91	48.43	8.493		
6,800.00	6,773.44	6,780.36	6,772.31	24.97	24.26	-89.25	-14.56	-264.41	411.34	362.90	48.43	8.493		
6,850.00	6,821.93	6,829.21	6,819.71	25.10	24.40	-89.26	-14.39	-252.66	411.38	362.67	48.71	8.446		
6,900.00	6,869.46	6,878.06	6,866.21	25.23	24.54	-89.28	-14.09	-237.70	411.53	362.55	48.98	8.402		
6,950.00	6,915.79	6,926.93	6,911.60	25.36	24.68	-89.30	-13.67	-219.61	411.76	362.52	49.25	8.361		
7,000.00	6,960.70	6,975.82	6,955.66	25.47	24.82	-89.32	-13.13	-198.46	412.10	362.58	49.52	8.322		
7,050.00	7,003.96	7,024.74	6,998.20	25.59	24.96	-89.35	-12.47	-174.34	412.52	362.72	49.80	8.283		
7,100.00	7,045.38	7,073.68	7,039.01	25.69	25.11	-89.38	-11.69	-147.36	413.03	362.93	50.11	8.243		
7,150.00	7,084.74	7,122.66	7,077.92	25.79	25.28	-89.41	-10.79	-117.64	413.63	363.19	50.44	8.200		
7,200.00	7,121.85	7,171.67	7,114.73	25.90	25.47	-89.45	-9.78	-85.30	414.32	363.49	50.83	8.151		
7,250.00	7,156.54	7,220.73	7,149.27	26.02	25.69	-89.48	-8.66	-50.49	415.09	363.81	51.28	8.094		
7,300.00	7,188.63	7,269.84	7,181.38	26.17	25.95	-89.52	-7.45	-13.37	415.94	364.12	51.82	8.027		
7,350.00	7,217.97	7,319.00	7,210.89	26.39	26.26	-89.57	-6.13	25.91	416.86	364.41	52.45	7.948		
7,400.00	7,244.42	7,368.21	7,237.67	26.69	26.62	-89.61	-4.73	67.16	417.86	364.66	53.20	7.855		
7,450.00	7,267.84	7,417.49	7,261.58	27.10	27.05	-89.66	-3.24	110.21	418.92	364.84	54.07	7.747		
7,500.00	7,288.13	7,466.82	7,282.50	27.59	27.54	-89.70	-1.67	154.86	420.04	364.95	55.09	7.625		
7,550.00	7,305.18	7,516.23	7,300.31	28.17	28.11	-89.75	-0.04	200.90	421.22	364.97	56.24	7.489		
7,600.00	7,318.91	7,565.70	7,314.93	28.83	28.74	-89.80	1.66	248.12	422.45	364.90	57.55	7.341		
7,650.00	7,329.25	7,615.25	7,326.26	29.56	29.44	-89.85	3.42	296.32	423.72	364.74	58.99	7.184		
7,700.00	7,336.15	7,664.87	7,334.24	30.35	30.21	-89.90	5.23	345.25	425.04	364.48	60.55	7.019		
7,750.00	7,339.59	7,714.57	7,338.81	31.21	31.04	-89.95	7.07	394.69	426.38	364.15	62.24	6.851		
7,774.25	7,340.00	7,738.71	7,339.80	31.64	31.45	-89.97	7.97	418.79	427.05	363.96	63.09	6.769		
7,800.00	7,340.00	7,764.39	7,340.00	32.11	31.91	-90.00	8.94	444.45	427.76	363.75	64.01	6.682		
7,900.00	7,340.00	7,864.35	7,340.00	34.07	33.84	-90.00	12.72	544.34	430.52	362.63	67.89	6.341		
8,000.00	7,340.00	7,964.31	7,340.00	36.21	35.93	-90.00	16.50	644.23	433.29	361.17	72.11	6.008		
8,100.00	7,340.00	8,064.27	7,340.00	38.49	38.17	-90.00	20.28	744.12	436.05	359.41	76.64	5.690		
8,200.00	7,340.00	8,164.23	7,340.00	40.90	40.54	-90.00	24.06	844.01	438.81	357.40	81.41	5.390		
8,300.00	7,340.00	8,264.19	7,340.00	43.42	43.02	-90.00	27.83	943.90	441.58	355.18	86.40	5.111		
8,400.00	7,340.00	8,364.16	7,340.00	46.02	45.58	-90.00	31.61	1,043.79	444.34	352.78	91.56	4.853		
8,500.00	7,340.00	8,464.12	7,340.00	48.69	48.23	-90.00	35.39	1,143.68	447.11	350.24	96.87	4.615		
8,600.00	7,340.00	8,564.08	7,340.00	51.42	50.93	-90.00	39.17	1,243.57	449.87	347.56	102.31	4.397		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3G-25H-M166 - OH - PLAN #1													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	
8,700.00	7,340.00	8,664.04	7,340.00	54.21	53.69	-90.00	42.95	1,343.46	452.63	344.79	107.85	4.197		
8,800.00	7,340.00	8,764.00	7,340.00	57.04	56.50	-90.00	46.73	1,443.35	455.40	341.92	113.48	4.013		
8,900.00	7,340.00	8,863.96	7,340.00	59.90	59.34	-90.00	50.50	1,543.24	458.16	338.98	119.19	3.844		
9,000.00	7,340.00	8,963.93	7,340.00	62.80	62.22	-90.00	54.28	1,643.13	460.93	335.96	124.96	3.688		
9,100.00	7,340.00	9,063.89	7,340.00	65.73	65.13	-90.00	58.06	1,743.02	463.69	332.89	130.80	3.545		
9,200.00	7,340.00	9,163.85	7,340.00	68.68	68.06	-90.00	61.84	1,842.91	466.45	329.77	136.68	3.413		
9,300.00	7,340.00	9,263.81	7,340.00	71.66	71.02	-90.00	65.62	1,942.80	469.22	326.61	142.61	3.290		
9,400.00	7,340.00	9,363.77	7,340.00	74.65	73.99	-90.00	69.40	2,042.69	471.98	323.40	148.58	3.177		
9,500.00	7,340.00	9,463.74	7,340.00	77.66	76.99	-90.00	73.17	2,142.58	474.75	320.16	154.58	3.071		
9,600.00	7,340.00	9,563.70	7,340.00	80.69	80.00	-90.00	76.95	2,242.47	477.51	316.90	160.62	2.973		
9,700.00	7,340.00	9,663.66	7,340.00	83.73	83.02	-90.00	80.73	2,342.36	480.27	313.60	166.68	2.881		
9,800.00	7,340.00	9,763.62	7,340.00	86.78	86.06	-90.00	84.51	2,442.25	483.04	310.28	172.76	2.796		
9,900.00	7,340.00	9,863.58	7,340.00	89.84	89.10	-90.00	88.29	2,542.15	485.80	306.93	178.87	2.716		
10,000.00	7,340.00	9,963.54	7,340.00	92.91	92.16	-90.00	92.07	2,642.04	488.57	303.57	185.00	2.641		
10,100.00	7,340.00	10,063.51	7,340.00	95.99	95.22	-90.00	95.84	2,741.93	491.33	300.19	191.14	2.571		
10,200.00	7,340.00	10,163.47	7,340.00	99.08	98.30	-90.00	99.62	2,841.82	494.09	296.79	197.30	2.504		
10,300.00	7,340.00	10,263.43	7,340.00	102.18	101.38	-90.00	103.40	2,941.71	496.86	293.38	203.48	2.442		
10,400.00	7,340.00	10,363.39	7,340.00	105.28	104.47	-90.00	107.18	3,041.60	499.62	289.96	209.67	2.383		
10,500.00	7,340.00	10,463.35	7,340.00	108.39	107.56	-90.00	110.96	3,141.49	502.39	286.52	215.87	2.327		
10,600.00	7,340.00	10,563.32	7,340.00	111.50	110.66	-90.00	114.73	3,241.38	505.15	283.07	222.08	2.275		
10,700.00	7,340.00	10,663.28	7,340.00	114.62	113.77	-90.00	118.51	3,341.27	507.91	279.61	228.30	2.225		
10,800.00	7,340.00	10,763.24	7,340.00	117.75	116.88	-90.00	122.29	3,441.16	510.68	276.14	234.54	2.177		
10,900.00	7,340.00	10,863.20	7,340.00	120.87	119.99	-90.00	126.07	3,541.05	513.44	272.67	240.78	2.132		
11,000.00	7,340.00	10,963.16	7,340.00	124.01	123.11	-90.00	129.85	3,640.94	516.21	269.18	247.03	2.090		
11,100.00	7,340.00	11,063.12	7,340.00	127.14	126.23	-90.00	133.63	3,740.83	518.97	265.69	253.28	2.049		
11,200.00	7,340.00	11,163.09	7,340.00	130.28	129.36	-90.00	137.40	3,840.72	521.73	262.19	259.55	2.010		
11,300.00	7,340.00	11,263.05	7,340.00	133.42	132.49	-90.00	141.18	3,940.61	524.50	258.68	265.82	1.973		
11,400.00	7,340.00	11,363.01	7,340.00	136.57	135.62	-90.00	144.96	4,040.50	527.26	255.17	272.09	1.938		
11,500.00	7,340.00	11,462.97	7,340.00	139.72	138.75	-90.00	148.74	4,140.39	530.03	251.65	278.37	1.904		
11,600.00	7,340.00	11,562.93	7,340.00	142.87	141.89	-90.00	152.52	4,240.28	532.79	248.13	284.66	1.872		
11,700.00	7,340.00	11,662.90	7,340.00	146.02	145.03	-90.00	156.30	4,340.17	535.55	244.60	290.95	1.841		
11,800.00	7,340.00	11,762.86	7,340.00	149.18	148.17	-90.00	160.07	4,440.06	538.32	241.07	297.25	1.811		
11,845.06	7,340.00	11,807.89	7,340.00	150.00	149.59	-90.00	161.78	4,485.07	539.56	240.08	299.48	1.802 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3H-25H-M166 - OH - PLAN #1													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	0.32	19.68	0.11	19.68					
100.00	100.00	100.00	100.00	0.14	0.14	0.32	19.68	0.11	19.68	19.40	0.28	71.288		
200.00	200.00	200.00	200.00	0.50	0.50	0.32	19.68	0.11	19.68	18.68	0.99	19.816		
300.00	300.00	300.00	300.00	0.85	0.85	0.32	19.68	0.11	19.68	17.97	1.71	11.508		
400.00	400.00	400.00	400.00	1.21	1.21	0.32	19.68	0.11	19.68	17.25	2.43	8.108		
500.00	500.00	500.00	500.00	1.57	1.57	0.32	19.68	0.11	19.68	16.53	3.14	6.259		
600.00	600.00	600.00	600.00	1.93	1.93	0.32	19.68	0.11	19.68	15.82	3.86	5.097		
700.00	700.00	700.00	700.00	2.29	2.29	0.32	19.68	0.11	19.68	15.10	4.58	4.298 CC, ES		
800.00	799.98	799.98	799.98	2.63	2.65	149.45	19.68	0.11	21.16	15.88	5.28	4.008		
900.00	899.84	899.84	899.84	2.97	3.01	155.33	19.68	0.11	25.81	19.83	5.97	4.321		
991.00	990.50	991.09	991.08	3.28	3.32	158.89	19.13	-1.23	32.21	25.61	6.60	4.880		
1,000.00	999.45	1,000.13	1,000.11	3.31	3.35	159.03	19.02	-1.51	32.89	26.23	6.66	4.935		
1,100.00	1,098.94	1,100.46	1,100.30	3.66	3.70	158.14	17.06	-6.30	39.44	32.09	7.35	5.365		
1,200.00	1,198.42	1,200.27	1,199.92	4.02	4.04	156.38	14.72	-12.05	45.42	37.38	8.04	5.648		
1,300.00	1,297.91	1,300.09	1,299.54	4.38	4.39	155.04	12.38	-17.80	51.44	42.70	8.74	5.884		
1,400.00	1,397.39	1,399.90	1,399.16	4.75	4.74	153.97	10.04	-23.54	57.48	48.03	9.45	6.084		
1,500.00	1,496.88	1,499.71	1,498.78	5.13	5.09	153.11	7.70	-29.29	63.54	53.38	10.16	6.254		
1,600.00	1,596.36	1,599.52	1,598.40	5.50	5.45	152.40	5.35	-35.04	69.61	58.73	10.87	6.401		
1,700.00	1,695.85	1,699.33	1,698.02	5.88	5.81	151.80	3.01	-40.78	75.68	64.09	11.59	6.529		
1,800.00	1,795.33	1,799.15	1,797.64	6.26	6.17	151.30	0.67	-46.53	81.77	69.46	12.31	6.641		
1,900.00	1,894.81	1,898.96	1,897.26	6.64	6.53	150.86	-1.67	-52.28	87.86	74.82	13.04	6.740		
2,000.00	1,994.30	1,998.77	1,996.88	7.02	6.89	150.48	-4.02	-58.02	93.95	80.19	13.76	6.827		
2,100.00	2,093.78	2,098.58	2,096.50	7.40	7.26	150.14	-6.36	-63.77	100.05	85.56	14.49	6.906		
2,200.00	2,193.27	2,198.40	2,196.11	7.78	7.62	149.85	-8.70	-69.52	106.15	90.94	15.22	6.977		
2,300.00	2,292.75	2,298.21	2,295.73	8.17	7.98	149.58	-11.04	-75.26	112.25	96.31	15.94	7.040		
2,400.00	2,392.24	2,398.02	2,395.35	8.55	8.35	149.35	-13.38	-81.01	118.36	101.68	16.67	7.098		
2,500.00	2,491.72	2,497.83	2,494.97	8.94	8.71	149.13	-15.73	-86.76	124.47	107.06	17.41	7.151		
2,600.00	2,591.21	2,597.65	2,594.59	9.32	9.08	148.94	-18.07	-92.50	130.57	112.44	18.14	7.199		
2,700.00	2,690.69	2,697.46	2,694.21	9.71	9.45	148.76	-20.41	-98.25	136.68	117.81	18.87	7.244		
2,800.00	2,790.18	2,797.27	2,793.83	10.10	9.81	148.60	-22.75	-104.00	142.80	123.19	19.60	7.284		
2,900.00	2,889.66	2,897.08	2,893.45	10.48	10.18	148.46	-25.09	-109.74	148.91	128.57	20.34	7.322		
3,000.00	2,989.14	2,996.89	2,993.07	10.87	10.55	148.32	-27.44	-115.49	155.02	133.95	21.07	7.357		
3,100.00	3,088.63	3,096.71	3,092.69	11.26	10.91	148.19	-29.78	-121.24	161.14	139.33	21.81	7.390		
3,200.00	3,188.11	3,196.52	3,192.31	11.65	11.28	148.08	-32.12	-126.98	167.25	144.71	22.54	7.420		
3,300.00	3,287.60	3,296.33	3,291.93	12.03	11.65	147.97	-34.46	-132.73	173.37	150.09	23.28	7.448		
3,400.00	3,387.08	3,396.14	3,391.54	12.42	12.01	147.87	-36.80	-138.48	179.48	155.47	24.01	7.475		
3,500.00	3,486.57	3,495.96	3,491.16	12.81	12.38	147.77	-39.15	-144.22	185.60	160.85	24.75	7.499		
3,600.00	3,586.05	3,595.77	3,590.78	13.20	12.75	147.68	-41.49	-149.97	191.71	166.23	25.48	7.523		
3,700.00	3,685.54	3,695.58	3,690.40	13.59	13.12	147.60	-43.83	-155.72	197.83	171.61	26.22	7.545		
3,800.00	3,785.02	3,795.39	3,790.02	13.98	13.49	147.52	-46.17	-161.46	203.95	176.99	26.96	7.565		
3,900.00	3,884.51	3,895.21	3,889.64	14.36	13.86	147.45	-48.51	-167.21	210.07	182.37	27.70	7.585		
4,000.00	3,983.99	3,995.02	3,989.26	14.75	14.22	147.38	-50.86	-172.96	216.19	187.75	28.43	7.604		
4,100.00	4,083.47	4,094.83	4,088.88	15.14	14.59	147.32	-53.20	-178.71	222.30	193.13	29.17	7.621		
4,200.00	4,182.96	4,194.64	4,188.50	15.53	14.96	147.25	-55.54	-184.45	228.42	198.52	29.91	7.638		
4,300.00	4,282.44	4,294.46	4,288.12	15.92	15.33	147.19	-57.88	-190.20	234.54	203.90	30.65	7.653		
4,400.00	4,381.93	4,394.27	4,387.74	16.31	15.70	147.14	-60.22	-195.95	240.66	209.28	31.38	7.668		
4,500.00	4,481.41	4,494.08	4,487.36	16.70	16.07	147.09	-62.57	-201.69	246.78	214.66	32.12	7.683		
4,600.00	4,580.90	4,593.89	4,586.98	17.09	16.44	147.04	-64.91	-207.44	252.90	220.04	32.86	7.696		
4,700.00	4,680.38	4,693.70	4,686.59	17.48	16.81	146.99	-67.25	-213.19	259.02	225.42	33.60	7.709		
4,800.00	4,779.87	4,793.52	4,786.21	17.87	17.17	146.94	-69.59	-218.93	265.14	230.81	34.34	7.722		
4,900.00	4,879.35	4,893.33	4,885.83	18.26	17.54	146.90	-71.93	-224.68	271.26	236.19	35.08	7.734		
5,000.00	4,978.84	4,993.14	4,985.45	18.65	17.91	146.86	-74.28	-230.43	277.38	241.57	35.81	7.745		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3H-25H-M166 - OH - PLAN #1												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	5,078.32	5,092.95	5,085.07	19.04	18.28	146.82	-76.62	-236.17	283.50	246.95	36.55	7.756	
5,200.00	5,177.80	5,192.77	5,184.69	19.43	18.65	146.78	-78.96	-241.92	289.62	252.33	37.29	7.766	
5,300.00	5,277.29	5,292.58	5,284.31	19.82	19.02	146.74	-81.30	-247.67	295.75	257.71	38.03	7.777	
5,400.00	5,376.77	5,392.39	5,383.93	20.21	19.39	146.71	-83.65	-253.41	301.87	263.10	38.77	7.786	
5,500.00	5,476.26	5,492.20	5,483.55	20.60	19.76	146.67	-85.99	-259.16	307.99	268.48	39.51	7.795	
5,600.00	5,575.74	5,592.02	5,583.17	20.99	20.13	146.64	-88.33	-264.91	314.11	273.86	40.25	7.804	
5,700.00	5,675.23	5,691.83	5,682.79	21.38	20.50	146.61	-90.67	-270.65	320.23	279.24	40.99	7.813	
5,734.45	5,709.50	5,726.22	5,717.11	21.51	20.63	146.60	-91.48	-272.63	322.34	281.10	41.24	7.816	
5,800.00	5,774.78	5,791.67	5,782.44	21.77	20.87	146.54	-93.01	-276.40	325.73	284.00	41.73	7.806	
5,900.00	5,874.59	5,889.13	5,879.74	22.13	21.23	146.27	-95.08	-281.47	328.72	286.28	42.44	7.745	
6,000.00	5,974.55	5,985.02	5,975.59	22.49	21.56	146.13	-95.99	-283.71	329.97	286.85	43.12	7.653	
6,025.45	6,000.00	6,009.43	6,000.00	22.57	21.65	-0.44	-96.03	-283.81	330.03	286.74	43.28	7.625	
6,100.00	6,074.55	6,083.97	6,074.55	22.80	21.90	-0.44	-96.03	-283.81	330.03	286.25	43.77	7.540	
6,200.00	6,174.55	6,183.97	6,174.55	23.11	22.23	-0.44	-96.03	-283.81	330.03	285.60	44.43	7.428	
6,300.00	6,274.55	6,283.97	6,274.55	23.42	22.56	-0.44	-96.03	-283.81	330.03	284.94	45.09	7.319	
6,400.00	6,374.55	6,383.97	6,374.55	23.73	22.90	-0.44	-96.03	-283.81	330.03	284.27	45.75	7.213	
6,500.00	6,474.55	6,483.97	6,474.55	24.05	23.23	-0.44	-96.03	-283.81	330.03	283.61	46.42	7.110	
6,600.00	6,574.55	6,583.97	6,574.55	24.36	23.57	-0.44	-96.03	-283.81	330.03	282.94	47.08	7.010	
6,649.25	6,623.80	6,633.23	6,623.80	24.52	23.74	-0.44	-96.03	-283.81	330.03	282.62	47.41	6.961	
6,683.87	6,658.41	6,667.83	6,658.41	24.62	23.85	-90.00	-96.03	-283.81	330.03	282.38	47.64	6.927	
6,700.00	6,674.51	6,683.93	6,674.51	24.67	23.91	-90.17	-96.03	-283.81	330.03	282.28	47.75	6.911	
6,750.00	6,724.22	6,733.64	6,724.22	24.82	24.07	-91.07	-96.03	-283.81	330.08	281.99	48.09	6.863	
6,800.00	6,773.44	6,782.86	6,773.44	24.97	24.24	-92.54	-96.03	-283.81	330.36	281.92	48.44	6.820	
6,850.00	6,821.93	6,831.36	6,821.93	25.10	24.41	-94.51	-96.03	-283.81	331.14	282.34	48.79	6.787	
6,900.00	6,869.46	6,879.24	6,869.46	25.23	24.57	-96.93	-96.03	-283.78	332.76	283.61	49.15	6.770	
6,950.00	6,915.79	6,929.97	6,920.48	25.36	24.73	-99.62	-96.01	-281.56	335.32	285.80	49.52	6.772	
7,000.00	6,960.70	6,982.04	6,972.19	25.47	24.89	-102.25	-95.95	-275.56	338.66	288.79	49.87	6.791	
7,050.00	7,003.96	7,035.54	7,024.73	25.59	25.05	-104.83	-95.85	-265.50	342.73	292.55	50.18	6.830	
7,100.00	7,045.38	7,090.58	7,077.84	25.69	25.21	-107.32	-95.70	-251.08	347.44	297.01	50.43	6.890	
7,150.00	7,084.74	7,147.25	7,131.19	25.79	25.37	-109.71	-95.51	-232.03	352.70	302.10	50.60	6.971	
7,200.00	7,121.85	7,205.62	7,184.39	25.90	25.53	-111.99	-95.26	-208.06	358.38	307.71	50.67	7.072	
7,250.00	7,156.54	7,265.78	7,236.99	26.02	25.70	-114.14	-94.97	-178.90	364.35	313.71	50.64	7.195	
7,300.00	7,188.63	7,327.77	7,288.44	26.17	25.89	-116.15	-94.62	-144.35	370.48	319.97	50.51	7.335	
7,350.00	7,217.97	7,391.63	7,338.11	26.39	26.11	-118.01	-94.21	-104.25	376.60	326.31	50.29	7.489	
7,400.00	7,244.42	7,457.37	7,385.30	26.69	26.39	-119.70	-93.74	-58.52	382.56	332.54	50.01	7.649	
7,450.00	7,267.84	7,524.93	7,429.22	27.10	26.75	-121.22	-93.22	-7.22	388.20	338.46	49.74	7.804	
7,500.00	7,288.13	7,594.25	7,469.06	27.59	27.20	-122.54	-92.65	49.48	393.39	343.85	49.54	7.941	
7,550.00	7,305.18	7,665.19	7,503.95	28.17	27.80	-123.67	-92.02	111.20	397.96	348.46	49.50	8.039	
7,600.00	7,318.91	7,737.55	7,533.08	28.83	28.54	-124.58	-91.35	177.40	401.80	352.09	49.71	8.082	
7,650.00	7,329.25	7,811.09	7,555.69	29.56	29.45	-125.28	-90.63	247.34	404.80	354.53	50.26	8.053	
7,700.00	7,336.15	7,885.52	7,571.15	30.35	30.52	-125.75	-89.89	320.11	406.85	355.64	51.22	7.943	
7,750.00	7,339.59	7,960.51	7,579.01	31.21	31.73	-125.99	-89.14	394.65	407.92	355.31	52.61	7.754	
7,774.25	7,340.00	7,996.97	7,580.00	31.64	32.36	-126.03	-88.77	431.10	408.06	354.63	53.44	7.637	
7,800.00	7,340.00	8,023.14	7,580.00	32.11	32.85	-126.03	-88.50	457.26	408.07	353.84	54.22	7.525	
7,900.00	7,340.00	8,123.14	7,580.00	34.07	34.77	-126.03	-87.48	557.26	408.07	350.65	57.41	7.107	
8,000.00	7,340.00	8,223.14	7,580.00	36.21	36.87	-126.03	-86.47	657.25	408.07	347.17	60.89	6.701	
8,100.00	7,340.00	8,323.14	7,580.00	38.49	39.11	-126.03	-85.45	757.25	408.07	343.45	64.61	6.316	
8,200.00	7,340.00	8,423.14	7,580.00	40.90	41.49	-126.03	-84.44	857.24	408.07	339.53	68.54	5.954	
8,300.00	7,340.00	8,523.14	7,580.00	43.42	43.97	-126.03	-83.42	957.24	408.07	335.44	72.63	5.619	
8,400.00	7,340.00	8,623.14	7,580.00	46.02	46.54	-126.03	-82.40	1,057.23	408.07	331.20	76.86	5.309	
8,500.00	7,340.00	8,723.14	7,580.00	48.69	49.18	-126.03	-81.39	1,157.23	408.07	326.85	81.22	5.024	
8,600.00	7,340.00	8,823.14	7,580.00	51.42	51.89	-126.03	-80.37	1,257.22	408.07	322.39	85.68	4.763	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3H-25H-M166 - OH - PLAN #1												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
8,700.00	7,340.00	8,923.14	7,580.00	54.21	54.66	-126.03	-79.35	1,357.21	408.07	317.84		90.22	4.523
8,800.00	7,340.00	9,023.14	7,580.00	57.04	57.46	-126.03	-78.34	1,457.21	408.07	313.23		94.84	4.303
8,900.00	7,340.00	9,123.14	7,580.00	59.90	60.31	-126.03	-77.32	1,557.20	408.07	308.54		99.52	4.100
9,000.00	7,340.00	9,223.14	7,580.00	62.80	63.19	-126.03	-76.30	1,657.20	408.07	303.81		104.26	3.914
9,100.00	7,340.00	9,323.14	7,580.00	65.73	66.11	-126.03	-75.29	1,757.19	408.07	299.02		109.05	3.742
9,200.00	7,340.00	9,423.14	7,580.00	68.68	69.04	-126.03	-74.27	1,857.19	408.07	294.19		113.87	3.583
9,300.00	7,340.00	9,523.14	7,580.00	71.66	72.01	-126.03	-73.26	1,957.18	408.07	289.33		118.74	3.437
9,400.00	7,340.00	9,623.14	7,580.00	74.65	74.99	-126.03	-72.24	2,057.18	408.07	284.43		123.64	3.301
9,500.00	7,340.00	9,723.14	7,580.00	77.66	77.99	-126.03	-71.22	2,157.17	408.07	279.50		128.56	3.174
9,600.00	7,340.00	9,823.14	7,580.00	80.69	81.00	-126.03	-70.21	2,257.17	408.07	274.55		133.52	3.056
9,700.00	7,340.00	9,923.14	7,580.00	83.73	84.03	-126.03	-69.19	2,357.16	408.07	269.58		138.49	2.947
9,800.00	7,340.00	10,023.14	7,580.00	86.78	87.07	-126.03	-68.17	2,457.16	408.07	264.58		143.49	2.844
9,900.00	7,340.00	10,123.14	7,580.00	89.84	90.13	-126.03	-67.16	2,557.15	408.07	259.57		148.50	2.748
10,000.00	7,340.00	10,223.14	7,580.00	92.91	93.19	-126.03	-66.14	2,657.15	408.07	254.54		153.53	2.658
10,100.00	7,340.00	10,323.14	7,580.00	95.99	96.26	-126.03	-65.12	2,757.14	408.07	249.49		158.58	2.573
10,200.00	7,340.00	10,423.14	7,580.00	99.08	99.35	-126.03	-64.11	2,857.14	408.07	244.43		163.64	2.494
10,300.00	7,340.00	10,523.14	7,580.00	102.18	102.43	-126.02	-63.09	2,957.13	408.07	239.36		168.71	2.419
10,400.00	7,340.00	10,623.14	7,580.00	105.28	105.53	-126.02	-62.07	3,057.13	408.07	234.28		173.79	2.348
10,500.00	7,340.00	10,723.14	7,580.00	108.39	108.63	-126.02	-61.06	3,157.12	408.07	229.18		178.88	2.281
10,600.00	7,340.00	10,823.14	7,580.00	111.50	111.74	-126.02	-60.04	3,257.12	408.07	224.08		183.99	2.218
10,700.00	7,340.00	10,923.14	7,580.00	114.62	114.86	-126.02	-59.03	3,357.11	408.07	218.97		189.10	2.158
10,800.00	7,340.00	11,023.14	7,580.00	117.75	117.97	-126.02	-58.01	3,457.11	408.07	213.85		194.22	2.101
10,900.00	7,340.00	11,123.14	7,580.00	120.87	121.10	-126.02	-56.99	3,557.10	408.07	208.72		199.35	2.047
11,000.00	7,340.00	11,223.14	7,580.00	124.01	124.22	-126.02	-55.98	3,657.10	408.07	203.59		204.48	1.996
11,100.00	7,340.00	11,323.14	7,580.00	127.14	127.36	-126.02	-54.96	3,757.09	408.07	198.45		209.62	1.947
11,200.00	7,340.00	11,423.14	7,580.00	130.28	130.49	-126.02	-53.94	3,857.09	408.07	193.30		214.77	1.900
11,300.00	7,340.00	11,523.14	7,580.00	133.42	133.63	-126.02	-52.93	3,957.08	408.07	188.15		219.92	1.856
11,400.00	7,340.00	11,623.14	7,580.00	136.57	136.77	-126.02	-51.91	4,057.08	408.07	182.99		225.08	1.813
11,500.00	7,340.00	11,723.14	7,580.00	139.72	139.92	-126.02	-50.89	4,157.07	408.07	177.83		230.24	1.772
11,600.00	7,340.00	11,823.14	7,580.00	142.87	143.06	-126.02	-49.88	4,257.07	408.07	172.66		235.40	1.733
11,700.00	7,340.00	11,923.14	7,580.00	146.02	146.21	-126.02	-48.86	4,357.06	408.07	167.49		240.57	1.696
11,800.00	7,340.00	12,023.14	7,580.00	149.18	149.37	-126.02	-47.85	4,457.05	408.07	162.32		245.75	1.661
11,845.06	7,340.00	12,068.20	7,580.00	150.00	150.79	-126.02	-47.39	4,502.11	408.07	160.49		247.58	1.648 SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3J-25H-M166 - OH - PLAN #1													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	1.14	9.84	0.20	9.84					
100.00	100.00	100.00	100.00	0.14	0.14	1.14	9.84	0.20	9.84	9.57	0.28	35.662		
200.00	200.00	200.00	200.00	0.50	0.50	1.14	9.84	0.20	9.84	8.85	0.99	9.913		
300.00	300.00	300.00	300.00	0.85	0.85	1.14	9.84	0.20	9.84	8.13	1.71	5.757		
400.00	400.00	400.00	400.00	1.21	1.21	1.14	9.84	0.20	9.84	7.42	2.43	4.056		
500.00	500.00	500.00	500.00	1.57	1.57	1.14	9.84	0.20	9.84	6.70	3.14	3.131		
600.00	600.00	600.00	600.00	1.93	1.93	1.14	9.84	0.20	9.84	5.98	3.86	2.550		
700.00	700.00	700.00	700.00	2.29	2.29	1.14	9.84	0.20	9.84	5.27	4.58	2.150 CC		
800.00	799.98	799.98	799.98	2.63	2.65	152.40	9.84	0.20	11.36	6.08	5.28	2.151		
900.00	899.84	900.24	900.22	2.97	2.99	156.76	8.80	-1.21	14.86	8.90	5.96	2.492		
991.00	990.50	991.54	991.40	3.28	3.30	156.44	6.02	-4.94	18.64	12.06	6.59	2.831		
1,000.00	999.45	1,000.58	1,000.42	3.31	3.33	156.27	5.65	-5.44	19.04	12.39	6.65	2.863		
1,100.00	1,098.94	1,100.79	1,100.27	3.66	3.68	151.86	0.64	-12.19	22.32	14.98	7.34	3.041		
1,200.00	1,198.42	1,200.73	1,199.81	4.02	4.03	147.66	-4.68	-19.35	25.37	17.33	8.04	3.156		
1,300.00	1,297.91	1,300.67	1,299.35	4.38	4.39	144.38	-10.00	-26.51	28.53	19.78	8.75	3.261		
1,400.00	1,397.39	1,400.60	1,398.89	4.75	4.75	141.75	-15.32	-33.66	31.76	22.30	9.46	3.356		
1,500.00	1,496.88	1,500.54	1,498.43	5.13	5.11	139.62	-20.64	-40.82	35.05	24.86	10.19	3.440		
1,600.00	1,596.36	1,600.48	1,597.97	5.50	5.48	137.85	-25.96	-47.98	38.38	27.46	10.92	3.514		
1,700.00	1,695.85	1,700.42	1,697.51	5.88	5.85	136.37	-31.28	-55.14	41.73	30.08	11.66	3.581		
1,800.00	1,795.33	1,800.36	1,797.05	6.26	6.22	135.11	-36.60	-62.30	45.12	32.72	12.39	3.640		
1,900.00	1,894.81	1,900.30	1,896.59	6.64	6.59	134.02	-41.92	-69.46	48.52	35.38	13.14	3.693		
2,000.00	1,994.30	2,000.23	1,996.13	7.02	6.96	133.08	-47.24	-76.62	51.93	38.05	13.88	3.741		
2,100.00	2,093.78	2,100.17	2,095.66	7.40	7.34	132.25	-52.56	-83.77	55.36	40.73	14.63	3.784		
2,200.00	2,193.27	2,200.11	2,195.20	7.78	7.71	131.52	-57.88	-90.93	58.80	43.42	15.38	3.824		
2,300.00	2,292.75	2,300.05	2,294.74	8.17	8.09	130.87	-63.20	-98.09	62.24	46.12	16.13	3.859		
2,400.00	2,392.24	2,399.99	2,394.28	8.55	8.47	130.29	-68.52	-105.25	65.70	48.82	16.88	3.892		
2,500.00	2,491.72	2,499.93	2,493.82	8.94	8.85	129.77	-73.84	-112.41	69.16	51.52	17.63	3.922		
2,600.00	2,591.21	2,599.86	2,593.36	9.32	9.22	129.30	-79.16	-119.57	72.62	54.23	18.39	3.950		
2,700.00	2,690.69	2,699.80	2,692.90	9.71	9.60	128.87	-84.48	-126.73	76.09	56.95	19.14	3.975		
2,800.00	2,790.18	2,799.74	2,792.44	10.10	9.98	128.47	-89.80	-133.88	79.56	59.67	19.90	3.998		
2,900.00	2,889.66	2,899.68	2,891.98	10.48	10.36	128.11	-95.12	-141.04	83.04	62.38	20.66	4.020		
3,000.00	2,989.14	2,999.62	2,991.52	10.87	10.74	127.78	-100.44	-148.20	86.52	65.11	21.41	4.040		
3,100.00	3,088.63	3,099.55	3,091.06	11.26	11.12	127.48	-105.76	-155.36	90.00	67.83	22.17	4.059		
3,200.00	3,188.11	3,199.49	3,190.60	11.65	11.50	127.20	-111.08	-162.52	93.49	70.56	22.93	4.077		
3,300.00	3,287.60	3,299.43	3,290.14	12.03	11.88	126.93	-116.40	-169.68	96.97	73.28	23.69	4.093		
3,400.00	3,387.08	3,399.37	3,389.68	12.42	12.26	126.69	-121.72	-176.84	100.46	76.01	24.45	4.109		
3,500.00	3,486.57	3,499.31	3,489.22	12.81	12.64	126.46	-127.04	-184.00	103.95	78.74	25.21	4.123		
3,600.00	3,586.05	3,599.25	3,588.76	13.20	13.02	126.25	-132.36	-191.15	107.45	81.47	25.97	4.137		
3,700.00	3,685.54	3,699.18	3,688.30	13.59	13.40	126.05	-137.68	-198.31	110.94	84.21	26.73	4.150		
3,800.00	3,785.02	3,799.12	3,787.84	13.98	13.78	125.86	-143.00	-205.47	114.43	86.94	27.49	4.162		
3,900.00	3,884.51	3,899.06	3,887.38	14.36	14.17	125.69	-148.32	-212.63	117.93	89.67	28.25	4.174		
4,000.00	3,983.99	3,999.00	3,986.91	14.75	14.55	125.52	-153.64	-219.79	121.43	92.41	29.02	4.185		
4,100.00	4,083.47	4,098.94	4,086.45	15.14	14.93	125.37	-158.96	-226.95	124.92	95.15	29.78	4.195		
4,200.00	4,182.96	4,198.88	4,185.99	15.53	15.31	125.22	-164.28	-234.11	128.42	97.88	30.54	4.205		
4,300.00	4,282.44	4,298.81	4,285.53	15.92	15.69	125.08	-169.60	-241.26	131.92	100.62	31.30	4.214		
4,400.00	4,381.93	4,398.75	4,385.07	16.31	16.07	124.94	-174.92	-248.42	135.42	103.36	32.07	4.223		
4,500.00	4,481.41	4,498.69	4,484.61	16.70	16.46	124.82	-180.24	-255.58	138.92	106.09	32.83	4.232		
4,600.00	4,580.90	4,598.63	4,584.15	17.09	16.84	124.70	-185.56	-262.74	142.42	108.83	33.59	4.240		
4,700.00	4,680.38	4,698.57	4,683.69	17.48	17.22	124.58	-190.88	-269.90	145.93	111.57	34.35	4.248		
4,800.00	4,779.87	4,798.00	4,782.74	17.87	17.60	124.57	-196.02	-276.81	149.49	114.38	35.11	4.258		
4,900.00	4,879.35	4,896.50	4,881.08	18.26	17.96	124.56	-199.47	-281.45	153.80	117.97	35.83	4.293		
5,000.00	4,978.84	4,994.65	4,979.19	18.65	18.31	127.65	-200.89	-283.37	159.16	122.67	36.49	4.361		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3J-25H-M166 - OH - PLAN #1												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	5,078.32	5,093.78	5,078.32	19.04	18.63	130.38	-200.94	-283.43	165.54	128.42	37.13	4.459	
5,200.00	5,177.80	5,193.26	5,177.80	19.43	18.95	132.95	-200.94	-283.43	172.30	134.54	37.76	4.563	
5,300.00	5,277.29	5,292.75	5,277.29	19.82	19.28	135.31	-200.94	-283.43	179.38	140.99	38.40	4.672	
5,400.00	5,376.77	5,392.23	5,376.77	20.21	19.60	137.50	-200.94	-283.43	186.75	147.71	39.04	4.784	
5,500.00	5,476.26	5,491.72	5,476.26	20.60	19.93	139.51	-200.94	-283.43	194.36	154.68	39.68	4.898	
5,600.00	5,575.74	5,591.20	5,575.74	20.99	20.25	141.37	-200.94	-283.43	202.20	161.86	40.33	5.013	
5,700.00	5,675.23	5,690.69	5,675.23	21.38	20.58	143.10	-200.94	-283.43	210.23	169.24	40.98	5.129	
5,734.45	5,709.50	5,724.96	5,709.50	21.51	20.69	143.66	-200.94	-283.43	213.04	171.83	41.21	5.169	
5,800.00	5,774.78	5,790.24	5,774.78	21.77	20.91	144.63	-200.94	-283.43	217.83	176.18	41.64	5.231	
5,900.00	5,874.59	5,890.05	5,874.59	22.13	21.24	145.60	-200.94	-283.43	222.85	180.54	42.31	5.267	
6,000.00	5,974.55	5,990.01	5,974.55	22.49	21.57	146.00	-200.94	-283.43	225.03	182.04	42.99	5.234	
6,025.45	6,000.00	6,015.46	6,000.00	22.57	21.65	-0.55	-200.94	-283.43	225.12	181.96	43.16	5.216	
6,100.00	6,074.55	6,090.01	6,074.55	22.80	21.90	-0.55	-200.94	-283.43	225.12	181.47	43.65	5.157	
6,200.00	6,174.55	6,190.01	6,174.55	23.11	22.24	-0.55	-200.94	-283.43	225.12	180.81	44.31	5.080	
6,300.00	6,274.55	6,290.01	6,274.55	23.42	22.57	-0.55	-200.94	-283.43	225.12	180.15	44.98	5.005	
6,400.00	6,374.55	6,390.01	6,374.55	23.73	22.90	-0.55	-200.94	-283.43	225.12	179.48	45.64	4.933	
6,500.00	6,474.55	6,490.01	6,474.55	24.05	23.24	-0.55	-200.94	-283.43	225.12	178.82	46.30	4.862	
6,600.00	6,574.55	6,590.01	6,574.55	24.36	23.58	-0.55	-200.94	-283.43	225.12	178.15	46.97	4.793	
6,649.25	6,623.80	6,639.26	6,623.80	24.52	23.74	-0.55	-200.94	-283.43	225.12	177.82	47.30	4.759	
6,663.56	6,638.11	6,653.57	6,638.11	24.56	23.79	-90.00	-200.94	-283.43	225.12	177.73	47.40	4.750	
6,700.00	6,674.51	6,689.97	6,674.51	24.67	23.91	-90.42	-200.94	-283.43	225.13	177.48	47.65	4.725	
6,750.00	6,724.22	6,739.95	6,724.49	24.82	24.08	-91.59	-200.93	-282.78	225.21	177.21	48.00	4.692	
6,800.00	6,773.44	6,790.33	6,774.70	24.97	24.24	-92.82	-200.89	-278.85	225.40	177.05	48.35	4.662	
6,850.00	6,821.93	6,841.06	6,824.86	25.10	24.39	-94.04	-200.82	-271.34	225.69	177.00	48.69	4.636	
6,900.00	6,869.46	6,892.14	6,874.70	25.23	24.54	-95.24	-200.70	-260.21	226.08	177.07	49.01	4.613	
6,950.00	6,915.79	6,943.58	6,923.96	25.36	24.69	-96.42	-200.55	-245.45	226.55	177.23	49.32	4.593	
7,000.00	6,960.70	6,995.38	6,972.37	25.47	24.83	-97.56	-200.37	-227.04	227.11	177.49	49.62	4.577	
7,050.00	7,003.96	7,047.53	7,019.63	25.59	24.97	-98.67	-200.14	-205.03	227.74	177.83	49.91	4.563	
7,100.00	7,045.38	7,100.03	7,065.47	25.69	25.12	-99.72	-199.88	-179.46	228.43	178.24	50.18	4.552	
7,150.00	7,084.74	7,152.87	7,109.58	25.79	25.27	-100.73	-199.59	-150.39	229.15	178.69	50.46	4.541	
7,200.00	7,121.85	7,206.04	7,151.69	25.90	25.43	-101.68	-199.26	-117.95	229.91	179.15	50.76	4.530	
7,250.00	7,156.54	7,259.53	7,191.51	26.02	25.63	-102.57	-198.89	-82.25	230.68	179.59	51.08	4.516	
7,300.00	7,188.63	7,313.33	7,228.75	26.17	25.86	-103.39	-198.50	-43.45	231.44	179.98	51.46	4.498	
7,350.00	7,217.97	7,367.40	7,263.15	26.39	26.15	-104.14	-198.08	-1.74	232.18	180.27	51.91	4.473	
7,400.00	7,244.42	7,421.74	7,294.45	26.69	26.51	-104.82	-197.62	42.66	232.89	180.43	52.46	4.439	
7,450.00	7,267.84	7,476.32	7,322.40	27.10	26.95	-105.42	-197.15	89.52	233.55	180.41	53.13	4.396	
7,500.00	7,288.13	7,531.12	7,346.80	27.59	27.47	-105.94	-196.65	138.57	234.14	180.19	53.95	4.340	
7,550.00	7,305.18	7,586.10	7,367.43	28.17	28.08	-106.38	-196.13	189.51	234.65	179.72	54.93	4.272	
7,600.00	7,318.91	7,641.23	7,384.14	28.83	28.78	-106.73	-195.60	242.03	235.08	178.99	56.08	4.192	
7,650.00	7,329.25	7,696.48	7,396.79	29.56	29.57	-106.99	-195.05	295.80	235.40	177.99	57.41	4.100	
7,700.00	7,336.15	7,751.83	7,405.26	30.35	30.44	-107.17	-194.50	350.48	235.63	176.71	58.92	3.999	
7,750.00	7,339.59	7,807.22	7,409.49	31.21	31.38	-107.26	-193.93	405.70	235.74	175.15	60.59	3.891	
7,774.25	7,340.00	7,834.10	7,410.00	31.64	31.86	-107.27	-193.66	432.57	235.75	174.30	61.45	3.836	
7,800.00	7,340.00	7,859.87	7,410.00	32.11	32.34	-107.27	-193.40	458.33	235.75	173.39	62.36	3.780	
7,900.00	7,340.00	7,959.87	7,410.00	34.07	34.31	-107.27	-192.38	558.32	235.75	169.63	66.12	3.566	
8,000.00	7,340.00	8,059.87	7,410.00	36.21	36.44	-107.27	-191.37	658.32	235.75	165.55	70.20	3.358	
8,100.00	7,340.00	8,159.87	7,410.00	38.49	38.72	-107.27	-190.35	758.31	235.75	161.19	74.56	3.162	
8,200.00	7,340.00	8,259.87	7,410.00	40.90	41.13	-107.27	-189.33	858.31	235.75	156.59	79.16	2.978	
8,300.00	7,340.00	8,359.87	7,410.00	43.42	43.64	-107.27	-188.32	958.30	235.75	151.80	83.96	2.808	
8,400.00	7,340.00	8,459.87	7,410.00	46.02	46.23	-107.27	-187.30	1,058.30	235.75	146.84	88.92	2.651	
8,500.00	7,340.00	8,559.87	7,410.00	48.69	48.90	-107.27	-186.29	1,158.29	235.75	141.74	94.02	2.508	
8,600.00	7,340.00	8,659.87	7,410.00	51.42	51.63	-107.27	-185.27	1,258.29	235.75	136.52	99.24	2.376	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3J-25H-M166 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: O-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
8,700.00	7,340.00	8,759.87	7,410.00	54.21	54.41	-107.27	-184.25	1,358.28	235.75	131.20		104.55	2.255
8,800.00	7,340.00	8,859.87	7,410.00	57.04	57.23	-107.27	-183.24	1,458.28	235.75	125.80		109.96	2.144
8,900.00	7,340.00	8,959.87	7,410.00	59.90	60.10	-107.27	-182.22	1,558.27	235.75	120.32		115.44	2.042
9,000.00	7,340.00	9,059.87	7,410.00	62.80	62.99	-107.27	-181.21	1,658.27	235.75	114.78		120.98	1.949
9,100.00	7,340.00	9,159.87	7,410.00	65.73	65.92	-107.27	-180.19	1,758.26	235.75	109.18		126.57	1.863
9,200.00	7,340.00	9,259.87	7,410.00	68.68	68.87	-107.27	-179.17	1,858.26	235.75	103.54		132.22	1.783
9,300.00	7,340.00	9,359.87	7,410.00	71.66	71.84	-107.27	-178.16	1,958.25	235.75	97.85		137.90	1.710
9,400.00	7,340.00	9,459.87	7,410.00	74.65	74.84	-107.27	-177.14	2,058.25	235.75	92.13		143.63	1.641
9,500.00	7,340.00	9,559.87	7,410.00	77.66	77.84	-107.27	-176.12	2,158.24	235.75	86.37		149.38	1.578
9,600.00	7,340.00	9,659.87	7,410.00	80.69	80.87	-107.27	-175.11	2,258.23	235.75	80.58		155.17	1.519
9,700.00	7,340.00	9,759.87	7,410.00	83.73	83.91	-107.27	-174.09	2,358.23	235.75	74.77		160.98	1.464 Level 3
9,800.00	7,340.00	9,859.87	7,410.00	86.78	86.96	-107.27	-173.08	2,458.22	235.75	68.94		166.82	1.413 Level 3
9,900.00	7,340.00	9,959.87	7,410.00	89.84	90.02	-107.27	-172.06	2,558.22	235.75	63.08		172.67	1.365 Level 3
10,000.00	7,340.00	10,059.87	7,410.00	92.91	93.09	-107.27	-171.04	2,658.21	235.75	57.20		178.55	1.320 Level 3
10,100.00	7,340.00	10,159.87	7,410.00	95.99	96.17	-107.27	-170.03	2,758.21	235.75	51.31		184.44	1.278 Level 3
10,200.00	7,340.00	10,259.87	7,410.00	99.08	99.26	-107.27	-169.01	2,858.20	235.75	45.40		190.35	1.239 Level 2
10,300.00	7,340.00	10,359.87	7,410.00	102.18	102.35	-107.27	-167.99	2,958.20	235.75	39.48		196.27	1.201 Level 2
10,400.00	7,340.00	10,459.87	7,410.00	105.28	105.45	-107.27	-166.98	3,058.19	235.75	33.54		202.21	1.166 Level 2
10,500.00	7,340.00	10,559.87	7,410.00	108.39	108.56	-107.27	-165.96	3,158.19	235.75	27.60		208.16	1.133 Level 2
10,600.00	7,340.00	10,659.87	7,410.00	111.50	111.67	-107.27	-164.95	3,258.18	235.75	21.64		214.11	1.101 Level 2
10,700.00	7,340.00	10,759.87	7,410.00	114.62	114.79	-107.27	-163.93	3,358.18	235.75	15.67		220.08	1.071 Level 2
10,800.00	7,340.00	10,859.87	7,410.00	117.75	117.91	-107.27	-162.91	3,458.17	235.75	9.70		226.06	1.043 Level 2
10,900.00	7,340.00	10,959.87	7,410.00	120.87	121.04	-107.27	-161.90	3,558.17	235.75	3.71		232.04	1.016 Level 2
11,000.00	7,340.00	11,059.87	7,410.00	124.01	124.17	-107.27	-160.88	3,658.16	235.75	-2.28		238.04	0.990 Level 1
11,100.00	7,340.00	11,159.87	7,410.00	127.14	127.31	-107.27	-159.86	3,758.16	235.75	-8.28		244.04	0.966 Level 1
11,200.00	7,340.00	11,259.87	7,410.00	130.28	130.45	-107.27	-158.85	3,858.15	235.75	-14.29		250.04	0.943 Level 1
11,300.00	7,340.00	11,359.87	7,410.00	133.42	133.59	-107.27	-157.83	3,958.15	235.75	-20.30		256.06	0.921 Level 1
11,400.00	7,340.00	11,459.87	7,410.00	136.57	136.73	-107.27	-156.82	4,058.14	235.75	-26.32		262.08	0.900 Level 1
11,500.00	7,340.00	11,559.87	7,410.00	139.72	139.88	-107.27	-155.80	4,158.14	235.75	-32.35		268.10	0.879 Level 1
11,600.00	7,340.00	11,659.87	7,410.00	142.87	143.03	-107.27	-154.78	4,258.13	235.75	-38.38		274.13	0.860 Level 1
11,700.00	7,340.00	11,759.87	7,410.00	146.02	146.18	-107.27	-153.77	4,358.13	235.75	-44.41		280.16	0.841 Level 1
11,800.00	7,340.00	11,859.87	7,410.00	149.18	149.34	-107.27	-152.75	4,458.12	235.75	-49.69		285.44	0.826 Level 1
11,845.06	7,340.00	11,904.92	7,410.00	150.00	149.36	-107.27	-152.29	4,503.17	235.75	-51.25		287.00	0.821 Level 1, ES, SF

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3K-25H-M166 - OH - PLAN #1												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	179.50	-10.20	0.09	10.20				
100.00	100.00	100.00	100.00	0.14	0.14	179.50	-10.20	0.09	10.20	9.92	0.28	36.937	
200.00	200.00	200.00	200.00	0.50	0.50	179.50	-10.20	0.09	10.20	9.20	0.99	10.268	
300.00	300.00	300.00	300.00	0.85	0.85	179.50	-10.20	0.09	10.20	8.49	1.71	5.963	
400.00	400.00	400.00	400.00	1.21	1.21	179.50	-10.20	0.09	10.20	7.77	2.43	4.201	
500.00	500.00	500.00	500.00	1.57	1.57	179.50	-10.20	0.09	10.20	7.05	3.14	3.243	
600.00	600.00	600.00	600.00	1.93	1.93	179.50	-10.20	0.09	10.20	6.33	3.86	2.641 CC	
700.00	700.00	699.64	699.62	2.29	2.27	-177.09	-11.79	-0.60	11.81	7.24	4.57	2.583	
800.00	799.98	799.13	798.97	2.63	2.61	-26.97	-16.54	-2.66	15.22	9.95	5.27	2.888	
900.00	899.84	898.50	897.96	2.97	2.95	-26.48	-24.46	-6.08	18.86	12.90	5.96	3.162	
991.00	990.50	988.80	987.61	3.28	3.27	-27.43	-34.38	-10.37	22.35	15.74	6.61	3.383	
1,000.00	999.45	997.73	996.46	3.31	3.30	-27.56	-35.50	-10.85	22.72	16.05	6.67	3.406	
1,100.00	1,098.94	1,097.62	1,095.37	3.66	3.67	-28.59	-48.27	-16.38	27.05	19.69	7.35	3.677	
1,200.00	1,198.42	1,197.52	1,194.30	4.02	4.05	-29.33	-61.05	-21.90	31.38	23.33	8.05	3.898	
1,300.00	1,297.91	1,297.43	1,293.23	4.38	4.43	-29.90	-73.83	-27.43	35.72	26.97	8.76	4.080	
1,400.00	1,397.39	1,397.33	1,392.16	4.75	4.82	-30.34	-86.61	-32.95	40.07	30.60	9.47	4.232	
1,500.00	1,496.88	1,497.24	1,491.09	5.13	5.22	-30.70	-99.39	-38.48	44.41	34.23	10.19	4.360	
1,600.00	1,596.36	1,597.14	1,590.02	5.50	5.61	-30.99	-112.17	-44.00	48.76	37.85	10.91	4.470	
1,700.00	1,695.85	1,697.05	1,688.95	5.88	6.01	-31.23	-124.94	-49.53	53.10	41.47	11.63	4.565	
1,800.00	1,795.33	1,796.95	1,787.88	6.26	6.42	-31.44	-137.72	-55.05	57.45	45.09	12.36	4.647	
1,900.00	1,894.81	1,896.86	1,886.81	6.64	6.82	-31.62	-150.50	-60.58	61.80	48.71	13.09	4.720	
2,000.00	1,994.30	1,996.76	1,985.74	7.02	7.23	-31.77	-163.28	-66.10	66.15	52.32	13.83	4.784	
2,100.00	2,093.78	2,096.67	2,084.67	7.40	7.63	-31.91	-176.06	-71.63	70.50	55.94	14.56	4.841	
2,200.00	2,193.27	2,196.57	2,183.60	7.78	8.04	-32.03	-188.84	-77.15	74.85	59.55	15.30	4.892	
2,300.00	2,292.75	2,296.48	2,282.53	8.17	8.45	-32.14	-201.62	-82.68	79.20	63.16	16.04	4.938	
2,400.00	2,392.24	2,396.38	2,381.46	8.55	8.86	-32.23	-214.40	-88.21	83.55	66.77	16.78	4.980	
2,500.00	2,491.72	2,496.29	2,480.39	8.94	9.27	-32.32	-227.18	-93.73	87.90	70.38	17.52	5.018	
2,600.00	2,591.21	2,596.20	2,579.32	9.32	9.68	-32.40	-239.95	-99.26	92.25	73.99	18.26	5.052	
2,700.00	2,690.69	2,696.10	2,678.25	9.71	10.09	-32.47	-252.73	-104.78	96.60	77.60	19.00	5.084	
2,800.00	2,790.18	2,796.01	2,777.18	10.10	10.50	-32.53	-265.51	-110.31	100.95	81.21	19.74	5.113	
2,900.00	2,889.66	2,895.91	2,876.11	10.48	10.91	-32.59	-278.29	-115.83	105.30	84.82	20.49	5.140	
3,000.00	2,989.14	2,995.82	2,975.04	10.87	11.32	-32.65	-291.07	-121.36	109.65	88.42	21.23	5.165	
3,100.00	3,088.63	3,095.72	3,073.97	11.26	11.73	-32.70	-303.85	-126.88	114.01	92.03	21.98	5.188	
3,200.00	3,188.11	3,195.63	3,172.90	11.65	12.15	-32.74	-316.63	-132.41	118.36	95.64	22.72	5.209	
3,300.00	3,287.60	3,295.53	3,271.83	12.03	12.56	-32.79	-329.41	-137.93	122.71	99.24	23.47	5.229	
3,400.00	3,387.08	3,395.44	3,370.77	12.42	12.97	-32.83	-342.19	-143.46	127.06	102.85	24.21	5.248	
3,500.00	3,486.57	3,495.34	3,469.70	12.81	13.39	-32.87	-354.96	-148.98	131.41	106.45	24.96	5.265	
3,600.00	3,586.05	3,595.25	3,568.63	13.20	13.80	-32.90	-367.74	-154.51	135.76	110.06	25.70	5.282	
3,700.00	3,685.54	3,695.15	3,667.56	13.59	14.21	-32.93	-380.52	-160.04	140.12	113.66	26.45	5.297	
3,800.00	3,785.02	3,795.06	3,766.49	13.98	14.63	-32.97	-393.30	-165.56	144.47	117.27	27.20	5.312	
3,900.00	3,884.51	3,894.96	3,865.42	14.36	15.04	-32.99	-406.08	-171.09	148.82	120.87	27.95	5.325	
4,000.00	3,983.99	3,994.87	3,964.35	14.75	15.45	-33.02	-418.86	-176.61	153.17	124.48	28.69	5.338	
4,100.00	4,083.47	4,094.77	4,063.28	15.14	15.87	-33.05	-431.64	-182.14	157.52	128.08	29.44	5.351	
4,200.00	4,182.96	4,194.68	4,162.21	15.53	16.28	-33.07	-444.42	-187.66	161.88	131.69	30.19	5.362	
4,300.00	4,282.44	4,294.58	4,261.14	15.92	16.70	-33.10	-457.20	-193.19	166.23	135.29	30.94	5.373	
4,400.00	4,381.93	4,394.49	4,360.07	16.31	17.11	-33.12	-469.97	-198.71	170.58	138.90	31.68	5.384	
4,500.00	4,481.41	4,494.39	4,459.00	16.70	17.53	-33.14	-482.75	-204.24	174.93	142.50	32.43	5.394	
4,600.00	4,580.90	4,594.30	4,557.93	17.09	17.94	-33.16	-495.53	-209.76	179.28	146.10	33.18	5.403	
4,700.00	4,680.38	4,694.21	4,656.86	17.48	18.35	-33.18	-508.31	-215.29	183.64	149.71	33.93	5.412	
4,800.00	4,779.87	4,794.11	4,755.79	17.87	18.77	-33.20	-521.09	-220.81	187.99	153.31	34.68	5.421	
4,900.00	4,879.35	4,894.02	4,854.72	18.26	19.18	-33.22	-533.87	-226.34	192.34	156.91	35.43	5.429	
5,000.00	4,978.84	4,993.92	4,953.65	18.65	19.60	-33.23	-546.65	-231.87	196.69	160.52	36.18	5.437	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3K-25H-M166 - OH - PLAN #1												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	5,078.32	5,093.83	5,052.58	19.04	20.01	-33.25	-559.43	-237.39	201.04	164.12	36.92	5.445	
5,200.00	5,177.80	5,193.73	5,151.51	19.43	20.43	-33.26	-572.21	-242.92	205.40	167.72	37.67	5.452	
5,300.00	5,277.29	5,293.64	5,250.44	19.82	20.84	-33.28	-584.98	-248.44	209.75	171.33	38.42	5.459	
5,400.00	5,376.77	5,393.54	5,349.37	20.21	21.26	-33.29	-597.76	-253.97	214.10	174.93	39.17	5.466	
5,500.00	5,476.26	5,493.45	5,448.30	20.60	21.67	-33.31	-610.54	-259.49	218.45	178.53	39.92	5.472	
5,600.00	5,575.74	5,593.35	5,547.23	20.99	22.09	-33.32	-623.32	-265.02	222.80	182.13	40.67	5.478	
5,700.00	5,675.23	5,696.85	5,649.78	21.38	22.52	-33.37	-636.17	-270.57	226.79	185.34	41.45	5.471	
5,734.45	5,709.50	5,734.00	5,686.68	21.51	22.66	-33.47	-640.12	-272.28	227.54	185.82	41.73	5.453	
5,800.00	5,774.78	5,804.69	5,757.03	21.77	22.94	-33.67	-646.42	-275.01	228.47	186.23	42.23	5.409	
5,900.00	5,874.59	5,912.58	5,864.68	22.13	23.33	-33.88	-652.96	-277.83	229.42	186.48	42.95	5.342	
6,000.00	5,974.55	6,020.48	5,972.54	22.49	23.70	-33.98	-655.77	-279.05	229.84	186.25	43.59	5.273	
6,025.45	6,000.00	6,047.95	6,000.00	22.57	23.78	179.45	-655.90	-279.10	229.86	186.12	43.73	5.256	
6,100.00	6,074.55	6,122.50	6,074.55	22.80	24.00	179.45	-655.90	-279.10	229.86	185.65	44.21	5.200	
6,200.00	6,174.55	6,222.50	6,174.55	23.11	24.29	179.45	-655.90	-279.10	229.86	185.01	44.85	5.125	
6,300.00	6,274.55	6,322.50	6,274.55	23.42	24.58	179.45	-655.90	-279.10	229.86	184.37	45.49	5.053	
6,400.00	6,374.55	6,422.50	6,374.55	23.73	24.88	179.45	-655.90	-279.10	229.86	183.72	46.13	4.983	
6,500.00	6,474.55	6,522.50	6,474.55	24.05	25.17	179.45	-655.90	-279.10	229.86	183.08	46.78	4.914	
6,600.00	6,574.55	6,622.50	6,574.55	24.36	25.47	179.45	-655.90	-279.10	229.86	182.43	47.42	4.847	
6,649.25	6,623.80	6,671.75	6,623.80	24.52	25.62	179.45	-655.90	-279.10	229.86	182.11	47.74	4.814	
6,650.40	6,624.95	6,672.90	6,624.95	24.52	25.62	90.04	-655.90	-279.10	229.86	182.10	47.75	4.814	
6,700.00	6,674.51	6,722.46	6,674.51	24.67	25.77	90.48	-655.90	-279.10	229.86	181.81	48.05	4.784	
6,750.00	6,724.22	6,772.46	6,724.50	24.82	25.92	91.63	-655.89	-278.44	229.95	181.64	48.31	4.760	
6,800.00	6,773.44	6,822.85	6,774.73	24.97	26.07	92.84	-655.85	-274.52	230.14	181.59	48.55	4.740	
6,850.00	6,821.93	6,873.60	6,824.91	25.10	26.21	94.03	-655.77	-267.00	230.43	181.66	48.77	4.725	
6,900.00	6,869.46	6,924.71	6,874.77	25.23	26.35	95.21	-655.66	-255.86	230.82	181.85	48.97	4.714	
6,950.00	6,915.79	6,976.17	6,924.06	25.36	26.48	96.36	-655.51	-241.08	231.29	182.15	49.14	4.706	
7,000.00	6,960.70	7,027.99	6,972.48	25.47	26.60	97.47	-655.32	-222.66	231.84	182.54	49.30	4.702	
7,050.00	7,003.96	7,080.16	7,019.76	25.59	26.71	98.55	-655.10	-200.63	232.46	183.01	49.45	4.701	
7,100.00	7,045.38	7,132.68	7,065.60	25.69	26.82	99.59	-654.84	-175.04	233.13	183.55	49.58	4.702	
7,150.00	7,084.74	7,185.54	7,109.73	25.79	26.92	100.57	-654.54	-145.96	233.85	184.13	49.72	4.703	
7,200.00	7,121.85	7,238.73	7,151.85	25.90	27.01	101.50	-654.21	-113.49	234.59	184.71	49.88	4.703	
7,250.00	7,156.54	7,292.24	7,191.67	26.02	27.09	102.37	-653.85	-77.77	235.34	185.28	50.07	4.700	
7,300.00	7,188.63	7,346.05	7,228.91	26.17	27.17	103.17	-653.45	-38.94	236.09	185.78	50.32	4.692	
7,350.00	7,217.97	7,400.14	7,263.30	26.39	27.24	103.90	-653.03	2.79	236.82	186.17	50.65	4.676	
7,400.00	7,244.42	7,454.50	7,294.59	26.69	27.33	104.57	-652.58	47.22	237.51	186.42	51.09	4.649	
7,450.00	7,267.84	7,509.09	7,322.54	27.10	27.45	105.15	-652.10	94.10	238.15	186.48	51.67	4.609	
7,500.00	7,288.13	7,563.90	7,346.92	27.59	27.75	105.65	-651.60	143.17	238.72	186.32	52.40	4.556	
7,550.00	7,305.18	7,618.89	7,367.54	28.17	28.26	106.08	-651.09	194.13	239.22	185.91	53.31	4.487	
7,600.00	7,318.91	7,674.03	7,384.23	28.83	28.92	106.42	-650.55	246.66	239.63	185.22	54.41	4.404	
7,650.00	7,329.25	7,729.29	7,396.85	29.56	29.69	106.68	-650.01	300.45	239.95	184.24	55.71	4.307	
7,700.00	7,336.15	7,784.64	7,405.30	30.35	30.54	106.85	-649.45	355.13	240.16	182.98	57.19	4.200	
7,750.00	7,339.59	7,840.04	7,409.50	31.21	31.47	106.93	-648.89	410.35	240.27	181.43	58.84	4.083	
7,774.25	7,340.00	7,866.90	7,410.00	31.64	31.94	106.94	-648.62	437.21	240.28	180.58	59.70	4.025	
7,800.00	7,340.00	7,892.65	7,410.00	32.11	32.41	106.94	-648.35	462.95	240.28	179.67	60.60	3.965	
7,900.00	7,340.00	7,992.65	7,410.00	34.07	34.35	106.94	-647.34	562.95	240.28	175.91	64.37	3.733	
8,000.00	7,340.00	8,092.65	7,410.00	36.21	36.47	106.94	-646.32	662.94	240.28	171.81	68.47	3.509	
8,100.00	7,340.00	8,192.65	7,410.00	38.49	38.74	106.94	-645.30	762.94	240.28	167.41	72.87	3.297	
8,200.00	7,340.00	8,292.65	7,410.00	40.90	41.13	106.94	-644.29	862.93	240.28	162.78	77.50	3.100	
8,300.00	7,340.00	8,392.65	7,410.00	43.42	43.63	106.94	-643.27	962.93	240.28	157.94	82.34	2.918	
8,400.00	7,340.00	8,492.65	7,410.00	46.02	46.22	106.94	-642.26	1,062.92	240.28	152.94	87.34	2.751	
8,500.00	7,340.00	8,592.65	7,410.00	48.69	48.88	106.94	-641.24	1,162.92	240.28	147.80	92.48	2.598	
8,600.00	7,340.00	8,692.65	7,410.00	51.42	51.60	106.94	-640.22	1,262.91	240.28	142.54	97.73	2.458	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3K-25H-M166 - OH - PLAN #1													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		
8,700.00	7,340.00	8,792.65	7,410.00	54.21	54.37	106.94	-639.21	1,362.91	240.28	137.19	103.09	2.331		
8,800.00	7,340.00	8,892.65	7,410.00	57.04	57.19	106.94	-638.19	1,462.90	240.28	131.75	108.53	2.214		
8,900.00	7,340.00	8,992.65	7,410.00	59.90	60.04	106.94	-637.17	1,562.89	240.28	126.23	114.05	2.107		
9,000.00	7,340.00	9,092.65	7,410.00	62.80	62.94	106.94	-636.16	1,662.89	240.28	120.66	119.62	2.009		
9,100.00	7,340.00	9,192.65	7,410.00	65.73	65.86	106.94	-635.14	1,762.88	240.28	115.03	125.25	1.918		
9,200.00	7,340.00	9,292.65	7,410.00	68.68	68.80	106.94	-634.13	1,862.88	240.28	109.35	130.93	1.835		
9,300.00	7,340.00	9,392.65	7,410.00	71.66	71.77	106.94	-633.11	1,962.87	240.28	103.63	136.65	1.758		
9,400.00	7,340.00	9,492.65	7,410.00	74.65	74.76	106.94	-632.09	2,062.87	240.28	97.87	142.40	1.687		
9,500.00	7,340.00	9,592.65	7,410.00	77.66	77.76	106.94	-631.08	2,162.86	240.28	92.09	148.19	1.621		
9,600.00	7,340.00	9,692.65	7,410.00	80.69	80.78	106.94	-630.06	2,262.86	240.28	86.27	154.01	1.560		
9,700.00	7,340.00	9,792.65	7,410.00	83.73	83.81	106.94	-629.04	2,362.85	240.28	80.43	159.85	1.503		
9,800.00	7,340.00	9,892.65	7,410.00	86.78	86.86	106.94	-628.03	2,462.85	240.28	74.57	165.71	1.450 Level 3		
9,900.00	7,340.00	9,992.65	7,410.00	89.84	89.92	106.94	-627.01	2,562.84	240.28	68.68	171.60	1.400 Level 3		
10,000.00	7,340.00	10,092.65	7,410.00	92.91	92.99	106.94	-626.00	2,662.84	240.28	62.78	177.50	1.354 Level 3		
10,100.00	7,340.00	10,192.65	7,410.00	95.99	96.06	106.94	-624.98	2,762.83	240.28	56.86	183.42	1.310 Level 3		
10,200.00	7,340.00	10,292.65	7,410.00	99.08	99.15	106.94	-623.96	2,862.83	240.28	50.93	189.35	1.269 Level 3		
10,300.00	7,340.00	10,392.65	7,410.00	102.18	102.24	106.94	-622.95	2,962.82	240.28	44.98	195.30	1.230 Level 2		
10,400.00	7,340.00	10,492.65	7,410.00	105.28	105.34	106.94	-621.93	3,062.82	240.28	39.02	201.26	1.194 Level 2		
10,500.00	7,340.00	10,592.65	7,410.00	108.39	108.44	106.94	-620.91	3,162.81	240.28	33.05	207.23	1.159 Level 2		
10,600.00	7,340.00	10,692.65	7,410.00	111.50	111.55	106.94	-619.90	3,262.81	240.28	27.06	213.21	1.127 Level 2		
10,700.00	7,340.00	10,792.65	7,410.00	114.62	114.67	106.94	-618.88	3,362.80	240.28	21.07	219.21	1.096 Level 2		
10,800.00	7,340.00	10,892.65	7,410.00	117.75	117.79	106.94	-617.87	3,462.80	240.28	15.07	225.21	1.067 Level 2		
10,900.00	7,340.00	10,992.65	7,410.00	120.87	120.92	106.94	-616.85	3,562.79	240.28	9.06	231.21	1.039 Level 2		
11,000.00	7,340.00	11,092.65	7,410.00	124.01	124.05	106.94	-615.83	3,662.79	240.28	3.05	237.23	1.013 Level 2		
11,100.00	7,340.00	11,192.65	7,410.00	127.14	127.18	106.94	-614.82	3,762.78	240.28	-2.97	243.25	0.988 Level 1		
11,200.00	7,340.00	11,292.65	7,410.00	130.28	130.32	106.94	-613.80	3,862.78	240.28	-9.00	249.28	0.964 Level 1		
11,300.00	7,340.00	11,392.65	7,410.00	133.42	133.46	106.94	-612.78	3,962.77	240.28	-15.04	255.32	0.941 Level 1		
11,400.00	7,340.00	11,492.65	7,410.00	136.57	136.60	106.94	-611.77	4,062.77	240.28	-21.08	261.36	0.919 Level 1		
11,500.00	7,340.00	11,592.65	7,410.00	139.72	139.75	106.94	-610.75	4,162.76	240.28	-27.12	267.40	0.899 Level 1		
11,600.00	7,340.00	11,692.65	7,410.00	142.87	142.90	106.94	-609.74	4,262.76	240.28	-33.18	273.45	0.879 Level 1		
11,700.00	7,340.00	11,792.65	7,410.00	146.02	146.05	106.94	-608.72	4,362.75	240.28	-39.23	279.51	0.860 Level 1		
11,800.00	7,340.00	11,892.65	7,410.00	149.18	149.20	106.94	-607.70	4,462.74	240.28	-45.29	285.57	0.841 Level 1		
11,804.61	7,340.00	11,897.26	7,410.00	149.26	149.35	106.94	-607.66	4,467.36	240.28	-45.51	285.79	0.841 Level 1		
11,845.06	7,340.00	11,936.55	7,410.00	150.00	150.10	106.94	-607.26	4,506.65	240.28	-46.95	287.23	0.837 Level 1, ES, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3L-25H-M166 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: O-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	-179.69	-20.04	-0.11	20.04					
100.00	100.00	100.00	100.00	0.14	0.14	-179.69	-20.04	-0.11	20.04	19.77	0.28	72.607		
200.00	200.00	200.00	200.00	0.50	0.50	-179.69	-20.04	-0.11	20.04	19.05	0.99	20.183		
300.00	300.00	300.00	300.00	0.85	0.85	-179.69	-20.04	-0.11	20.04	18.33	1.71	11.721		
400.00	400.00	400.00	400.00	1.21	1.21	-179.69	-20.04	-0.11	20.04	17.61	2.43	8.258		
500.00	500.00	500.00	500.00	1.57	1.57	-179.69	-20.04	-0.11	20.04	16.90	3.14	6.375 CC, ES		
600.00	600.00	599.30	599.28	1.93	1.91	-178.29	-21.67	-0.65	21.70	17.84	3.86	5.625		
700.00	700.00	698.36	698.20	2.29	2.25	-175.12	-26.56	-2.27	26.71	22.14	4.58	5.835		
800.00	799.98	797.10	796.57	2.63	2.59	-26.50	-34.65	-4.95	33.61	28.31	5.29	6.349		
900.00	899.84	895.59	894.34	2.97	2.94	-26.36	-45.92	-8.69	40.77	34.77	6.00	6.794		
991.00	990.50	985.39	983.09	3.28	3.28	-27.19	-58.87	-12.99	47.38	40.75	6.64	7.140		
1,000.00	999.45	994.38	991.96	3.31	3.31	-27.32	-60.24	-13.44	47.98	41.29	6.70	7.166		
1,100.00	1,098.94	1,094.15	1,090.45	3.66	3.70	-28.62	-75.38	-18.46	54.66	47.28	7.38	7.407		
1,200.00	1,198.42	1,193.92	1,188.93	4.02	4.10	-29.64	-90.52	-23.48	61.36	53.28	8.08	7.597		
1,300.00	1,297.91	1,293.69	1,287.42	4.38	4.50	-30.46	-105.66	-28.50	68.08	59.29	8.78	7.750		
1,400.00	1,397.39	1,393.46	1,385.90	4.75	4.91	-31.13	-120.81	-33.53	74.80	65.30	9.50	7.875		
1,500.00	1,496.88	1,493.23	1,484.39	5.13	5.32	-31.69	-135.95	-38.55	81.54	71.32	10.22	7.979		
1,600.00	1,596.36	1,593.00	1,582.88	5.50	5.74	-32.16	-151.09	-43.57	88.28	77.33	10.94	8.066		
1,700.00	1,695.85	1,692.77	1,681.36	5.88	6.16	-32.57	-166.23	-48.59	95.03	83.35	11.67	8.140		
1,800.00	1,795.33	1,792.54	1,779.85	6.26	6.58	-32.92	-181.37	-53.62	101.78	89.37	12.41	8.204		
1,900.00	1,894.81	1,892.31	1,878.34	6.64	7.00	-33.23	-196.52	-58.64	108.53	95.39	13.14	8.259		
2,000.00	1,994.30	1,992.08	1,976.82	7.02	7.42	-33.50	-211.66	-63.66	115.29	101.41	13.88	8.307		
2,100.00	2,093.78	2,091.85	2,075.31	7.40	7.84	-33.75	-226.80	-68.68	122.05	107.43	14.62	8.349		
2,200.00	2,193.27	2,191.62	2,173.79	7.78	8.27	-33.96	-241.94	-73.70	128.81	113.45	15.36	8.386		
2,300.00	2,292.75	2,291.39	2,272.28	8.17	8.69	-34.16	-257.09	-78.73	135.57	119.47	16.10	8.419		
2,400.00	2,392.24	2,391.16	2,370.77	8.55	9.12	-34.34	-272.23	-83.75	142.33	125.49	16.85	8.448		
2,500.00	2,491.72	2,490.93	2,469.25	8.94	9.54	-34.50	-287.37	-88.77	149.10	131.51	17.59	8.475		
2,600.00	2,591.21	2,590.70	2,567.74	9.32	9.97	-34.64	-302.51	-93.79	155.87	137.53	18.34	8.499		
2,700.00	2,690.69	2,690.47	2,666.23	9.71	10.40	-34.78	-317.66	-98.81	162.63	143.55	19.09	8.521		
2,800.00	2,790.18	2,790.24	2,764.71	10.10	10.82	-34.90	-332.80	-103.84	169.40	149.57	19.83	8.541		
2,900.00	2,889.66	2,890.01	2,863.20	10.48	11.25	-35.02	-347.94	-108.86	176.17	155.59	20.58	8.559		
3,000.00	2,989.14	2,989.78	2,961.69	10.87	11.68	-35.12	-363.08	-113.88	182.94	161.61	21.33	8.576		
3,100.00	3,088.63	3,089.55	3,060.17	11.26	12.11	-35.22	-378.22	-118.90	189.71	167.63	22.08	8.591		
3,200.00	3,188.11	3,189.32	3,158.66	11.65	12.53	-35.31	-393.37	-123.93	196.48	173.65	22.83	8.605		
3,300.00	3,287.60	3,289.09	3,257.14	12.03	12.96	-35.40	-408.51	-128.95	203.25	179.67	23.58	8.618		
3,400.00	3,387.08	3,388.86	3,355.63	12.42	13.39	-35.48	-423.65	-133.97	210.03	185.69	24.33	8.631		
3,500.00	3,486.57	3,488.63	3,454.12	12.81	13.82	-35.55	-438.79	-138.99	216.80	191.71	25.09	8.642		
3,600.00	3,586.05	3,588.40	3,552.60	13.20	14.25	-35.62	-453.94	-144.01	223.57	197.73	25.84	8.653		
3,700.00	3,685.54	3,688.17	3,651.09	13.59	14.68	-35.69	-469.08	-149.04	230.34	203.75	26.59	8.663		
3,800.00	3,785.02	3,787.94	3,749.58	13.98	15.11	-35.75	-484.22	-154.06	237.12	209.77	27.34	8.672		
3,900.00	3,884.51	3,887.71	3,848.06	14.36	15.54	-35.81	-499.36	-159.08	243.89	215.79	28.10	8.681		
4,000.00	3,983.99	3,987.48	3,946.55	14.75	15.97	-35.87	-514.51	-164.10	250.66	221.81	28.85	8.689		
4,100.00	4,083.47	4,087.25	4,045.03	15.14	16.40	-35.92	-529.65	-169.12	257.44	227.83	29.60	8.696		
4,200.00	4,182.96	4,187.02	4,143.52	15.53	16.83	-35.97	-544.79	-174.15	264.21	233.85	30.36	8.704		
4,300.00	4,282.44	4,286.79	4,242.01	15.92	17.26	-36.02	-559.93	-179.17	270.98	239.87	31.11	8.711		
4,400.00	4,381.93	4,386.56	4,340.49	16.31	17.69	-36.06	-575.07	-184.19	277.76	245.90	31.86	8.717		
4,500.00	4,481.41	4,486.33	4,438.98	16.70	18.12	-36.11	-590.22	-189.21	284.53	251.92	32.62	8.723		
4,600.00	4,580.90	4,586.10	4,537.47	17.09	18.55	-36.15	-605.36	-194.24	291.31	257.94	33.37	8.729		
4,700.00	4,680.38	4,685.87	4,635.95	17.48	18.98	-36.19	-620.50	-199.26	298.08	263.96	34.13	8.735		
4,800.00	4,779.87	4,785.64	4,734.44	17.87	19.41	-36.23	-635.64	-204.28	304.86	269.98	34.88	8.740		
4,900.00	4,879.35	4,885.41	4,832.92	18.26	19.84	-36.26	-650.79	-209.30	311.63	276.00	35.64	8.745		
5,000.00	4,978.84	4,985.18	4,931.41	18.65	20.27	-36.30	-665.93	-214.32	318.41	282.02	36.39	8.750		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3L-25H-M166 - OH - PLAN #1													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	5,078.32	5,084.95	5,029.90	19.04	20.70	-36.33	-681.07	-219.35	325.18	288.04	37.15	8.754		
5,200.00	5,177.80	5,184.72	5,128.38	19.43	21.13	-36.36	-696.21	-224.37	331.96	294.06	37.90	8.759		
5,300.00	5,277.29	5,284.49	5,226.87	19.82	21.56	-36.39	-711.36	-229.39	338.73	300.08	38.66	8.763		
5,400.00	5,376.77	5,384.26	5,325.36	20.21	21.99	-36.42	-726.50	-234.41	345.51	306.10	39.41	8.767		
5,500.00	5,476.26	5,484.03	5,423.84	20.60	22.42	-36.45	-741.64	-239.43	352.29	312.12	40.17	8.771		
5,600.00	5,575.74	5,583.80	5,522.33	20.99	22.85	-36.48	-756.78	-244.46	359.06	318.14	40.92	8.774		
5,700.00	5,675.23	5,683.57	5,620.82	21.38	23.28	-36.50	-771.92	-249.48	365.84	324.16	41.68	8.778		
5,734.45	5,709.50	5,717.94	5,654.75	21.51	23.43	-36.51	-777.14	-251.21	368.17	326.23	41.94	8.779		
5,800.00	5,774.78	5,783.29	5,719.26	21.77	23.71	-36.52	-787.06	-254.50	373.21	330.79	42.43	8.797		
5,900.00	5,874.59	5,882.76	5,817.44	22.13	24.14	-36.30	-802.16	-259.51	383.23	340.07	43.15	8.881		
6,000.00	5,974.55	5,981.84	5,915.25	22.49	24.57	-35.84	-817.19	-264.49	396.06	352.21	43.85	9.032		
6,025.45	6,000.00	6,006.98	5,940.07	22.57	24.68	177.75	-821.01	-265.76	399.78	355.76	44.02	9.081		
6,100.00	6,074.55	6,091.74	6,023.92	22.80	25.04	178.36	-832.75	-269.65	410.00	365.41	44.59	9.194		
6,200.00	6,174.55	6,206.85	6,138.30	23.11	25.49	178.96	-844.91	-273.69	420.50	375.18	45.32	9.278		
6,300.00	6,274.55	6,322.81	6,253.96	23.42	25.91	179.33	-852.75	-276.28	427.22	381.24	45.99	9.290		
6,400.00	6,374.55	6,439.25	6,370.33	23.73	26.29	179.48	-856.14	-277.41	430.12	383.54	46.58	9.234		
6,500.00	6,474.55	6,543.46	6,474.55	24.05	26.59	179.49	-856.28	-277.46	430.25	383.06	47.19	9.117		
6,600.00	6,574.55	6,643.46	6,574.55	24.36	26.87	179.49	-856.28	-277.46	430.25	382.42	47.83	8.995		
6,649.25	6,623.80	6,692.72	6,623.80	24.52	27.01	179.49	-856.28	-277.46	430.25	382.10	48.14	8.937		
6,700.00	6,674.51	6,743.50	6,674.55	24.67	27.15	90.07	-856.26	-275.66	430.25	381.78	48.46	8.878		
6,750.00	6,724.22	6,793.54	6,724.30	24.82	27.29	90.07	-856.21	-270.37	430.25	381.48	48.76	8.823		
6,800.00	6,773.44	6,843.58	6,773.56	24.97	27.42	90.07	-856.12	-261.63	430.25	381.19	49.05	8.771		
6,850.00	6,821.93	6,893.62	6,822.08	25.10	27.54	90.07	-855.99	-249.46	430.25	380.92	49.33	8.722		
6,900.00	6,869.46	6,943.66	6,869.64	25.23	27.66	90.07	-855.84	-233.94	430.24	380.65	49.59	8.676		
6,950.00	6,915.79	6,993.70	6,916.00	25.36	27.77	90.07	-855.64	-215.14	430.24	380.39	49.85	8.630		
7,000.00	6,960.70	7,043.73	6,960.94	25.47	27.87	90.06	-855.42	-193.15	430.24	380.13	50.11	8.585		
7,050.00	7,003.96	7,093.77	7,004.22	25.59	27.96	90.06	-855.16	-168.08	430.24	379.86	50.38	8.540		
7,100.00	7,045.38	7,143.80	7,045.65	25.69	28.04	90.06	-854.87	-140.04	430.24	379.57	50.67	8.491		
7,150.00	7,084.74	7,193.83	7,085.02	25.79	28.12	90.05	-854.56	-109.19	430.23	379.24	50.99	8.437		
7,200.00	7,121.85	7,243.86	7,122.14	25.90	28.18	90.05	-854.21	-75.66	430.23	378.87	51.36	8.376		
7,250.00	7,156.54	7,293.89	7,156.83	26.02	28.24	90.05	-853.84	-39.63	430.23	378.43	51.80	8.305		
7,300.00	7,188.63	7,343.92	7,188.91	26.17	28.29	90.04	-853.45	-1.26	430.22	377.90	52.32	8.223		
7,350.00	7,217.97	7,393.94	7,218.24	26.39	28.33	90.04	-853.04	39.25	430.22	377.28	52.95	8.126		
7,400.00	7,244.42	7,443.96	7,244.67	26.69	28.37	90.04	-852.60	81.70	430.22	376.53	53.69	8.013		
7,450.00	7,267.84	7,493.98	7,268.07	27.10	28.40	90.03	-852.15	125.90	430.21	375.65	54.56	7.885		
7,500.00	7,288.13	7,544.00	7,288.33	27.59	28.44	90.03	-851.68	171.61	430.21	374.64	55.57	7.741		
7,550.00	7,305.18	7,594.01	7,305.35	28.17	28.63	90.02	-851.20	218.63	430.21	373.47	56.73	7.583		
7,600.00	7,318.91	7,644.02	7,319.04	28.83	29.22	90.02	-850.70	266.72	430.20	372.16	58.04	7.412		
7,650.00	7,329.25	7,694.03	7,329.35	29.56	29.94	90.01	-850.20	315.64	430.20	370.71	59.49	7.231		
7,700.00	7,336.15	7,744.04	7,336.21	30.35	30.72	90.01	-849.70	365.16	430.19	369.13	61.07	7.045		
7,750.00	7,339.59	7,794.04	7,339.61	31.21	31.57	90.00	-849.18	415.03	430.19	367.43	62.76	6.855		
7,774.25	7,340.00	7,818.29	7,340.00	31.64	31.99	90.00	-848.94	439.28	430.19	366.57	63.61	6.763		
7,800.00	7,340.00	7,844.04	7,340.00	32.11	32.47	90.00	-848.67	465.02	430.18	365.62	64.56	6.663		
7,900.00	7,340.00	7,944.04	7,340.00	34.07	34.42	90.00	-847.65	565.02	430.18	361.72	68.46	6.284		
8,000.00	7,340.00	8,044.04	7,340.00	36.21	36.54	90.00	-846.62	665.01	430.17	357.47	72.70	5.917		
8,100.00	7,340.00	8,144.04	7,340.00	38.49	38.80	90.00	-845.60	765.01	430.16	352.92	77.24	5.569		
8,200.00	7,340.00	8,244.04	7,340.00	40.90	41.19	90.00	-844.57	865.00	430.15	348.12	82.03	5.244		
8,300.00	7,340.00	8,344.04	7,340.00	43.42	43.68	90.00	-843.55	965.00	430.14	343.11	87.03	4.942		
8,400.00	7,340.00	8,444.04	7,340.00	46.02	46.26	90.00	-842.52	1,064.99	430.13	337.93	92.21	4.665		
8,500.00	7,340.00	8,544.04	7,340.00	48.69	48.91	90.00	-841.50	1,164.99	430.13	332.59	97.53	4.410		
8,600.00	7,340.00	8,644.04	7,340.00	51.42	51.63	90.00	-840.47	1,264.98	430.12	327.14	102.98	4.177		
8,700.00	7,340.00	8,744.04	7,340.00	54.21	54.40	90.00	-839.45	1,364.98	430.11	321.58	108.53	3.963		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3L-25H-M166 - OH - PLAN #1													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	
8,800.00	7,340.00	8,844.04	7,340.00	57.04	57.21	90.00	-838.42	1,464.97	430.10	315.92	114.18	3.767		
8,900.00	7,340.00	8,944.04	7,340.00	59.90	60.06	90.00	-837.40	1,564.97	430.09	310.19	119.90	3.587		
9,000.00	7,340.00	9,044.04	7,340.00	62.80	62.95	90.00	-836.37	1,664.96	430.08	304.40	125.69	3.422		
9,100.00	7,340.00	9,144.04	7,340.00	65.73	65.87	90.00	-835.35	1,764.96	430.07	298.54	131.53	3.270		
9,200.00	7,340.00	9,244.04	7,340.00	68.68	68.81	90.00	-834.33	1,864.95	430.07	292.64	137.43	3.129		
9,300.00	7,340.00	9,344.04	7,340.00	71.66	71.78	90.00	-833.30	1,964.95	430.06	286.69	143.37	3.000		
9,400.00	7,340.00	9,444.04	7,340.00	74.65	74.76	90.00	-832.28	2,064.94	430.05	280.70	149.35	2.880		
9,500.00	7,340.00	9,544.04	7,340.00	77.66	77.76	90.00	-831.25	2,164.93	430.04	274.68	155.36	2.768		
9,600.00	7,340.00	9,644.04	7,340.00	80.69	80.78	90.00	-830.23	2,264.93	430.03	268.62	161.41	2.664		
9,700.00	7,340.00	9,744.04	7,340.00	83.73	83.81	90.00	-829.20	2,364.92	430.02	262.54	167.48	2.568		
9,800.00	7,340.00	9,844.04	7,340.00	86.78	86.86	90.00	-828.18	2,464.92	430.01	256.44	173.58	2.477		
9,900.00	7,340.00	9,944.04	7,340.00	89.84	89.91	90.00	-827.15	2,564.91	430.01	250.31	179.70	2.393		
10,000.00	7,340.00	10,044.04	7,340.00	92.91	92.98	90.00	-826.13	2,664.91	430.00	244.16	185.83	2.314		
10,100.00	7,340.00	10,144.04	7,340.00	95.99	96.05	90.00	-825.10	2,764.90	429.99	238.00	191.99	2.240		
10,200.00	7,340.00	10,244.04	7,340.00	99.08	99.14	90.00	-824.08	2,864.90	429.98	231.82	198.16	2.170		
10,300.00	7,340.00	10,344.04	7,340.00	102.18	102.23	90.00	-823.05	2,964.89	429.97	225.62	204.35	2.104		
10,400.00	7,340.00	10,444.04	7,340.00	105.28	105.33	90.00	-822.03	3,064.89	429.96	219.41	210.55	2.042		
10,500.00	7,340.00	10,544.04	7,340.00	108.39	108.43	90.00	-821.00	3,164.88	429.96	213.19	216.77	1.983		
10,600.00	7,340.00	10,644.04	7,340.00	111.50	111.54	90.00	-819.98	3,264.88	429.95	206.95	222.99	1.928		
10,700.00	7,340.00	10,744.04	7,340.00	114.62	114.65	90.00	-818.95	3,364.87	429.94	200.71	229.23	1.876		
10,800.00	7,340.00	10,844.04	7,340.00	117.75	117.77	90.00	-817.93	3,464.87	429.93	194.46	235.47	1.826		
10,900.00	7,340.00	10,944.04	7,340.00	120.87	120.90	90.00	-816.90	3,564.86	429.92	188.20	241.73	1.779		
11,000.00	7,340.00	11,044.04	7,340.00	124.01	124.03	90.00	-815.88	3,664.86	429.91	181.93	247.99	1.734		
11,100.00	7,340.00	11,144.04	7,340.00	127.14	127.16	90.00	-814.85	3,764.85	429.90	175.65	254.26	1.691		
11,200.00	7,340.00	11,244.04	7,340.00	130.28	130.30	90.00	-813.83	3,864.85	429.90	169.36	260.53	1.650		
11,300.00	7,340.00	11,344.04	7,340.00	133.42	133.44	90.00	-812.80	3,964.84	429.89	163.07	266.81	1.611		
11,400.00	7,340.00	11,444.04	7,340.00	136.57	136.58	90.00	-811.78	4,064.83	429.88	156.77	273.10	1.574		
11,500.00	7,340.00	11,544.04	7,340.00	139.72	139.72	90.00	-810.76	4,164.83	429.87	150.47	279.40	1.539		
11,600.00	7,340.00	11,644.04	7,340.00	142.87	142.87	90.00	-809.73	4,264.82	429.86	144.16	285.70	1.505		
11,700.00	7,340.00	11,744.04	7,340.00	146.02	146.02	90.00	-808.71	4,364.82	429.85	137.85	292.00	1.472 Level 3		
11,800.00	7,340.00	11,844.04	7,340.00	149.18	149.18	90.00	-807.68	4,464.81	429.84	131.53	298.31	1.441 Level 3		
11,842.74	7,340.00	11,886.52	7,340.00	149.95	150.52	90.00	-807.25	4,507.29	429.84	129.41	300.43	1.431 Level 3		
11,845.06	7,340.00	11,886.52	7,340.00	150.00	150.52	90.00	-807.25	4,507.29	429.85	129.36	300.49	1.430 Level 3, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3M-25H-M166 - OH - PLAN #1													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	-179.96	-30.23	-0.02	30.23	29.96	0.28	109.526		
100.00	100.00	100.00	100.00	0.14	0.14	-179.96	-30.23	-0.02	30.23	29.24	0.99	30.446		
200.00	200.00	200.00	200.00	0.50	0.50	-179.96	-30.23	-0.02	30.23	28.52	1.71	17.680		
300.00	300.00	300.00	300.00	0.85	0.85	-179.96	-30.23	-0.02	30.23	27.81	2.43	12.457 CC, ES		
400.00	400.00	400.00	400.00	1.21	1.21	-179.96	-30.23	-0.02	30.23	27.81	2.43	12.457 CC, ES		
500.00	500.00	498.96	498.94	1.57	1.55	-179.12	-31.87	-0.49	31.90	28.75	3.14	10.144		
600.00	600.00	597.68	597.52	1.93	1.89	-177.03	-36.78	-1.91	36.92	33.04	3.88	9.524		
700.00	700.00	695.93	695.40	2.29	2.23	-174.60	-44.91	-4.24	45.34	40.72	4.62	9.815		
800.00	799.98	793.69	792.46	2.63	2.58	-26.52	-56.19	-7.49	55.63	50.28	5.35	10.405		
900.00	899.84	891.64	889.25	2.97	2.96	-26.34	-70.57	-11.63	66.07	60.03	6.04	10.931		
991.00	990.50	982.30	978.71	3.28	3.32	-27.15	-84.71	-15.71	73.73	67.08	6.65	11.087		
1,000.00	999.45	991.28	987.57	3.31	3.36	-27.28	-86.11	-16.11	74.37	67.66	6.71	11.081		
1,100.00	1,098.94	1,091.02	1,085.98	3.66	3.76	-28.57	-101.67	-20.59	81.41	74.01	7.40	11.001		
1,200.00	1,198.42	1,190.75	1,184.40	4.02	4.17	-29.65	-117.23	-25.07	88.50	80.39	8.10	10.923		
1,300.00	1,297.91	1,290.49	1,282.81	4.38	4.58	-30.57	-132.79	-29.55	95.60	86.79	8.81	10.850		
1,400.00	1,397.39	1,390.23	1,381.22	4.75	5.00	-31.36	-148.34	-34.03	102.73	93.21	9.53	10.781		
1,500.00	1,496.88	1,489.96	1,479.64	5.13	5.42	-32.06	-163.90	-38.51	109.88	99.63	10.25	10.718		
1,600.00	1,596.36	1,589.70	1,578.05	5.50	5.84	-32.66	-179.46	-42.99	117.04	106.06	10.98	10.660		
1,700.00	1,695.85	1,689.44	1,676.46	5.88	6.27	-33.20	-195.01	-47.47	124.21	112.50	11.71	10.606		
1,800.00	1,795.33	1,789.17	1,774.88	6.26	6.69	-33.67	-210.57	-51.95	131.40	118.95	12.45	10.557		
1,900.00	1,894.81	1,888.91	1,873.29	6.64	7.12	-34.10	-226.13	-56.43	138.59	125.40	13.18	10.512		
2,000.00	1,994.30	1,988.64	1,971.70	7.02	7.55	-34.49	-241.69	-60.91	145.78	131.86	13.92	10.470		
2,100.00	2,093.78	2,088.38	2,070.12	7.40	7.97	-34.84	-257.24	-65.39	152.99	138.32	14.67	10.431		
2,200.00	2,193.27	2,188.12	2,168.53	7.78	8.40	-35.16	-272.80	-69.86	160.20	144.79	15.41	10.395		
2,300.00	2,292.75	2,287.85	2,266.94	8.17	8.83	-35.45	-288.36	-74.34	167.41	151.25	16.16	10.362		
2,400.00	2,392.24	2,387.59	2,365.36	8.55	9.26	-35.71	-303.91	-78.82	174.63	157.72	16.90	10.331		
2,500.00	2,491.72	2,487.32	2,463.77	8.94	9.69	-35.96	-319.47	-83.30	181.85	164.19	17.65	10.302		
2,600.00	2,591.21	2,587.06	2,562.18	9.32	10.12	-36.19	-335.03	-87.78	189.07	170.67	18.40	10.276		
2,700.00	2,690.69	2,686.80	2,660.60	9.71	10.55	-36.40	-350.58	-92.26	196.29	177.14	19.15	10.251		
2,800.00	2,790.18	2,786.53	2,759.01	10.10	10.98	-36.59	-366.14	-96.74	203.52	183.62	19.90	10.227		
2,900.00	2,889.66	2,886.27	2,857.42	10.48	11.41	-36.77	-381.70	-101.22	210.75	190.10	20.65	10.205		
3,000.00	2,989.14	2,986.00	2,955.84	10.87	11.84	-36.94	-397.26	-105.70	217.99	196.58	21.40	10.184		
3,100.00	3,088.63	3,085.74	3,054.25	11.26	12.27	-37.10	-412.81	-110.18	225.22	203.06	22.16	10.165		
3,200.00	3,188.11	3,185.48	3,152.66	11.65	12.70	-37.25	-428.37	-114.66	232.46	209.55	22.91	10.146		
3,300.00	3,287.60	3,285.21	3,251.08	12.03	13.13	-37.39	-443.93	-119.14	239.69	216.03	23.66	10.129		
3,400.00	3,387.08	3,384.95	3,349.49	12.42	13.56	-37.52	-459.48	-123.62	246.93	222.51	24.42	10.113		
3,500.00	3,486.57	3,484.69	3,447.90	12.81	14.00	-37.65	-475.04	-128.10	254.17	229.00	25.17	10.097		
3,600.00	3,586.05	3,584.42	3,546.32	13.20	14.43	-37.76	-490.60	-132.58	261.41	235.49	25.93	10.082		
3,700.00	3,685.54	3,684.16	3,644.73	13.59	14.86	-37.87	-506.16	-137.06	268.66	241.97	26.68	10.068		
3,800.00	3,785.02	3,783.89	3,743.14	13.98	15.29	-37.98	-521.71	-141.54	275.90	248.46	27.44	10.055		
3,900.00	3,884.51	3,883.63	3,841.56	14.36	15.72	-38.08	-537.27	-146.02	283.14	254.95	28.19	10.042		
4,000.00	3,983.99	3,983.37	3,939.97	14.75	16.16	-38.17	-552.83	-150.50	290.39	261.44	28.95	10.030		
4,100.00	4,083.47	4,083.10	4,038.38	15.14	16.59	-38.26	-568.38	-154.98	297.63	267.93	29.71	10.019		
4,200.00	4,182.96	4,182.84	4,136.80	15.53	17.02	-38.35	-583.94	-159.46	304.88	274.41	30.46	10.008		
4,300.00	4,282.44	4,282.57	4,235.21	15.92	17.45	-38.43	-599.50	-163.94	312.13	280.90	31.22	9.997		
4,400.00	4,381.93	4,382.31	4,333.63	16.31	17.88	-38.51	-615.05	-168.42	319.37	287.39	31.98	9.987		
4,500.00	4,481.41	4,482.05	4,432.04	16.70	18.32	-38.58	-630.61	-172.90	326.62	293.89	32.74	9.978		
4,600.00	4,580.90	4,581.78	4,530.45	17.09	18.75	-38.66	-646.17	-177.37	333.87	300.38	33.49	9.968		
4,700.00	4,680.38	4,681.52	4,628.87	17.48	19.18	-38.72	-661.73	-181.85	341.12	306.87	34.25	9.960		
4,800.00	4,779.87	4,781.25	4,727.28	17.87	19.61	-38.79	-677.28	-186.33	348.37	313.36	35.01	9.951		
4,900.00	4,879.35	4,880.99	4,825.69	18.26	20.05	-38.85	-692.84	-190.81	355.62	319.85	35.77	9.943		
5,000.00	4,978.84	4,980.73	4,924.11	18.65	20.48	-38.91	-708.40	-195.29	362.87	326.34	36.52	9.935		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3M-25H-M166 - OH - PLAN #1													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	5,078.32	5,080.46	5,022.52	19.04	20.91	-38.97	-723.95	-199.77	370.12	332.84	37.28	9.927		
5,200.00	5,177.80	5,180.20	5,120.93	19.43	21.34	-39.03	-739.51	-204.25	377.37	339.33	38.04	9.920		
5,300.00	5,277.29	5,279.94	5,219.35	19.82	21.78	-39.08	-755.07	-208.73	384.62	345.82	38.80	9.913		
5,400.00	5,376.77	5,379.67	5,317.76	20.21	22.21	-39.13	-770.63	-213.21	391.87	352.32	39.56	9.906		
5,500.00	5,476.26	5,479.41	5,416.17	20.60	22.64	-39.18	-786.18	-217.69	399.13	358.81	40.32	9.900		
5,600.00	5,575.74	5,579.14	5,514.59	20.99	23.07	-39.23	-801.74	-222.17	406.38	365.30	41.08	9.894		
5,700.00	5,675.23	5,678.88	5,613.00	21.38	23.51	-39.28	-817.30	-226.65	413.63	371.80	41.83	9.887		
5,734.45	5,709.50	5,713.24	5,646.91	21.51	23.66	-39.29	-822.66	-228.19	416.13	374.03	42.10	9.885		
5,800.00	5,774.78	5,778.57	5,711.37	21.77	23.94	-39.32	-832.85	-231.13	421.46	378.87	42.59	9.896		
5,900.00	5,874.59	5,878.00	5,809.48	22.13	24.37	-39.16	-848.36	-235.59	431.83	388.51	43.31	9.970		
6,000.00	5,974.55	5,977.04	5,907.21	22.49	24.80	-38.76	-863.81	-240.04	444.91	400.89	44.02	10.108		
6,025.45	6,000.00	6,002.17	5,932.01	22.57	24.91	174.81	-867.72	-241.17	448.68	404.49	44.19	10.154		
6,100.00	6,074.55	6,075.73	6,004.59	22.80	25.23	175.36	-879.20	-244.47	459.99	415.32	44.68	10.296		
6,200.00	6,174.55	6,174.41	6,101.96	23.11	25.66	176.05	-894.59	-248.91	475.24	429.90	45.34	10.482		
6,300.00	6,274.55	6,273.08	6,199.32	23.42	26.09	176.69	-909.98	-253.34	490.54	444.54	46.00	10.664		
6,400.00	6,374.55	6,371.76	6,296.69	23.73	26.51	177.30	-925.37	-257.77	505.90	459.24	46.67	10.841		
6,500.00	6,474.55	6,470.43	6,394.05	24.05	26.94	177.88	-940.76	-262.20	521.32	473.98	47.34	11.013		
6,600.00	6,574.55	6,569.10	6,491.42	24.36	27.37	178.42	-956.16	-266.63	536.78	488.78	48.01	11.181		
6,649.25	6,623.80	6,617.70	6,539.37	24.52	27.58	178.67	-963.74	-268.82	544.42	496.08	48.34	11.262		
6,700.00	6,674.51	6,667.65	6,588.66	24.67	27.80	89.06	-971.53	-271.06	552.27	503.60	48.67	11.347		
6,750.00	6,724.22	6,716.46	6,636.82	24.82	28.01	89.21	-979.14	-273.25	560.03	511.06	48.97	11.436		
6,800.00	6,773.44	6,764.95	6,684.67	24.97	28.22	89.65	-986.70	-275.27	567.88	518.63	49.25	11.531		
6,850.00	6,821.93	6,814.45	6,733.56	25.10	28.43	90.17	-994.40	-274.73	575.86	526.33	49.53	11.626		
6,900.00	6,869.46	6,864.81	6,783.14	25.23	28.62	90.67	-1,002.18	-270.68	583.92	534.11	49.81	11.722		
6,950.00	6,915.79	6,916.08	6,833.21	25.36	28.81	91.16	-1,009.99	-262.94	592.00	541.91	50.10	11.818		
7,000.00	6,960.70	6,968.32	6,883.53	25.47	28.98	91.63	-1,017.80	-251.34	600.07	549.69	50.38	11.911		
7,050.00	7,003.96	7,021.58	6,933.84	25.59	29.15	92.09	-1,025.57	-235.74	608.06	557.39	50.67	12.000		
7,100.00	7,045.38	7,075.89	6,983.83	25.69	29.30	92.53	-1,033.25	-215.97	615.91	564.94	50.97	12.084		
7,150.00	7,084.74	7,131.30	7,033.16	25.79	29.45	92.96	-1,040.78	-191.92	623.58	572.30	51.28	12.161		
7,200.00	7,121.85	7,187.83	7,081.44	25.90	29.58	93.36	-1,048.11	-163.48	630.99	579.38	51.61	12.227		
7,250.00	7,156.54	7,245.50	7,128.27	26.02	29.71	93.75	-1,055.15	-130.60	638.08	586.11	51.97	12.277		
7,300.00	7,188.63	7,304.31	7,173.18	26.17	29.82	94.11	-1,061.85	-93.25	644.80	592.41	52.39	12.308		
7,350.00	7,217.97	7,364.24	7,215.68	26.39	29.92	94.44	-1,068.12	-51.49	651.07	598.19	52.88	12.312		
7,400.00	7,244.42	7,425.27	7,255.27	26.69	30.01	94.75	-1,073.90	-5.43	656.83	603.36	53.47	12.284		
7,450.00	7,267.84	7,487.34	7,291.42	27.10	30.09	95.03	-1,079.08	44.74	662.03	607.84	54.19	12.217		
7,500.00	7,288.13	7,550.37	7,323.60	27.59	30.17	95.27	-1,083.61	98.73	666.60	611.54	55.06	12.107		
7,550.00	7,305.18	7,614.28	7,351.32	28.17	30.26	95.48	-1,087.39	156.16	670.50	614.37	56.13	11.946		
7,600.00	7,318.91	7,678.93	7,374.11	28.83	30.41	95.65	-1,090.37	216.56	673.67	616.29	57.39	11.739		
7,650.00	7,329.25	7,744.19	7,391.57	29.56	30.79	95.78	-1,092.48	279.38	676.09	617.24	58.85	11.489		
7,700.00	7,336.15	7,809.89	7,403.37	30.35	31.52	95.87	-1,093.69	343.98	677.71	617.20	60.51	11.199		
7,750.00	7,339.59	7,875.86	7,409.29	31.21	32.50	95.92	-1,093.95	409.67	678.52	616.16	62.36	10.881		
7,774.25	7,340.00	7,907.91	7,410.00	31.64	33.03	95.92	-1,093.74	441.70	678.62	615.31	63.31	10.719		
7,800.00	7,340.00	7,933.69	7,410.00	32.11	33.49	95.92	-1,093.48	467.48	678.62	614.37	64.25	10.562		
7,900.00	7,340.00	8,033.69	7,410.00	34.07	35.37	95.92	-1,092.46	567.47	678.62	610.52	68.11	9.964		
8,000.00	7,340.00	8,133.69	7,410.00	36.21	37.43	95.92	-1,091.44	667.47	678.62	606.31	72.31	9.384		
8,100.00	7,340.00	8,233.69	7,410.00	38.49	39.65	95.92	-1,090.43	767.46	678.62	601.80	76.82	8.834		
8,200.00	7,340.00	8,333.69	7,410.00	40.90	42.00	95.92	-1,089.41	867.46	678.62	597.04	81.58	8.318		
8,300.00	7,340.00	8,433.69	7,410.00	43.42	44.46	95.92	-1,088.40	967.45	678.62	592.07	86.55	7.841		
8,400.00	7,340.00	8,533.69	7,410.00	46.02	47.00	95.92	-1,087.38	1,067.45	678.62	586.93	91.69	7.401		
8,500.00	7,340.00	8,633.69	7,410.00	48.69	49.62	95.92	-1,086.36	1,167.44	678.62	581.64	96.98	6.997		
8,600.00	7,340.00	8,733.69	7,410.00	51.42	52.31	95.92	-1,085.35	1,267.44	678.62	576.22	102.40	6.627		
8,700.00	7,340.00	8,833.69	7,410.00	54.21	55.05	95.92	-1,084.33	1,367.43	678.62	570.70	107.92	6.288		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3M-25H-M166 - OH - PLAN #1												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	7,340.00	8,933.69	7,410.00	57.04	57.84	95.92	-1,083.31	1,467.42	678.62	565.09		113.53	5.977
8,900.00	7,340.00	9,033.69	7,410.00	59.90	60.68	95.92	-1,082.30	1,567.42	678.62	559.40		119.22	5.692
9,000.00	7,340.00	9,133.69	7,410.00	62.80	63.54	95.92	-1,081.28	1,667.41	678.62	553.64		124.98	5.430
9,100.00	7,340.00	9,233.69	7,410.00	65.73	66.44	95.92	-1,080.26	1,767.41	678.62	547.83		130.79	5.189
9,200.00	7,340.00	9,333.69	7,410.00	68.68	69.36	95.92	-1,079.25	1,867.40	678.62	541.96		136.66	4.966
9,300.00	7,340.00	9,433.69	7,410.00	71.66	72.31	95.92	-1,078.23	1,967.40	678.62	536.05		142.57	4.760
9,400.00	7,340.00	9,533.69	7,410.00	74.65	75.28	95.92	-1,077.21	2,067.39	678.62	530.11		148.51	4.569
9,500.00	7,340.00	9,633.69	7,410.00	77.66	78.27	95.92	-1,076.20	2,167.39	678.62	524.12		154.50	4.392
9,600.00	7,340.00	9,733.69	7,410.00	80.69	81.27	95.92	-1,075.18	2,267.38	678.62	518.11		160.51	4.228
9,700.00	7,340.00	9,833.69	7,410.00	83.73	84.29	95.92	-1,074.17	2,367.38	678.62	512.07		166.55	4.075
9,800.00	7,340.00	9,933.69	7,410.00	86.78	87.33	95.92	-1,073.15	2,467.37	678.62	506.00		172.62	3.931
9,900.00	7,340.00	10,033.69	7,410.00	89.84	90.37	95.92	-1,072.13	2,567.37	678.62	499.92		178.70	3.797
10,000.00	7,340.00	10,133.69	7,410.00	92.91	93.43	95.92	-1,071.12	2,667.36	678.62	493.81		184.81	3.672
10,100.00	7,340.00	10,233.69	7,410.00	95.99	96.49	95.92	-1,070.10	2,767.36	678.62	487.68		190.94	3.554
10,200.00	7,340.00	10,333.69	7,410.00	99.08	99.56	95.92	-1,069.08	2,867.35	678.62	481.54		197.08	3.443
10,300.00	7,340.00	10,433.69	7,410.00	102.18	102.65	95.92	-1,068.07	2,967.35	678.62	475.38		203.23	3.339
10,400.00	7,340.00	10,533.69	7,410.00	105.28	105.74	95.92	-1,067.05	3,067.34	678.62	469.21		209.40	3.241
10,500.00	7,340.00	10,633.69	7,410.00	108.39	108.83	95.92	-1,066.03	3,167.34	678.62	463.03		215.59	3.148
10,600.00	7,340.00	10,733.69	7,410.00	111.50	111.93	95.92	-1,065.02	3,267.33	678.62	456.84		221.78	3.060
10,700.00	7,340.00	10,833.69	7,410.00	114.62	115.04	95.92	-1,064.00	3,367.33	678.62	450.63		227.98	2.977
10,800.00	7,340.00	10,933.69	7,410.00	117.75	118.16	95.92	-1,062.98	3,467.32	678.62	444.42		234.20	2.898
10,900.00	7,340.00	11,033.69	7,410.00	120.87	121.27	95.92	-1,061.97	3,567.32	678.62	438.20		240.42	2.823
11,000.00	7,340.00	11,133.69	7,410.00	124.01	124.40	95.92	-1,060.95	3,667.31	678.62	431.97		246.65	2.751
11,100.00	7,340.00	11,233.69	7,410.00	127.14	127.52	95.92	-1,059.94	3,767.31	678.62	425.73		252.89	2.683
11,200.00	7,340.00	11,333.69	7,410.00	130.28	130.65	95.92	-1,058.92	3,867.30	678.62	419.48		259.13	2.619
11,300.00	7,340.00	11,433.69	7,410.00	133.42	133.79	95.92	-1,057.90	3,967.30	678.62	413.23		265.38	2.557
11,400.00	7,340.00	11,533.69	7,410.00	136.57	136.93	95.92	-1,056.89	4,067.29	678.62	406.97		271.64	2.498
11,500.00	7,340.00	11,633.69	7,410.00	139.72	140.07	95.92	-1,055.87	4,167.29	678.62	400.71		277.91	2.442
11,600.00	7,340.00	11,733.69	7,410.00	142.87	143.21	95.92	-1,054.85	4,267.28	678.62	394.44		284.17	2.388
11,700.00	7,340.00	11,833.69	7,410.00	146.02	146.36	95.92	-1,053.84	4,367.27	678.62	388.17		290.45	2.336
11,800.00	7,340.00	11,933.69	7,410.00	149.18	149.50	95.92	-1,052.82	4,467.27	678.62	381.89		296.72	2.287
11,839.98	7,340.00	11,973.67	7,410.00	149.90	150.76	95.92	-1,052.41	4,507.25	678.62	379.91		298.70	2.272
11,845.06	7,340.00	11,975.04	7,410.00	150.00	150.81	95.92	-1,052.40	4,508.62	678.63	379.75		298.87	2.271 SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3N-25H-M166 - OH - PLAN #1													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	179.91	-40.07	0.07	40.07							
100.00	100.00	100.00	100.00	0.14	0.14	179.91	-40.07	0.07	40.07	39.79	0.28	145.158				
200.00	200.00	200.00	200.00	0.50	0.50	179.91	-40.07	0.07	40.07	39.07	0.99	40.351				
300.00	300.00	300.00	300.00	0.85	0.85	179.91	-40.07	0.07	40.07	38.36	1.71	23.432	CC, ES			
400.00	400.00	398.63	398.61	1.21	1.19	-179.50	-41.71	-0.37	41.73	39.30	2.43	17.140				
500.00	500.00	497.02	496.87	1.57	1.53	-177.96	-46.61	-1.66	46.75	43.57	3.18	14.698				
600.00	600.00	594.95	594.43	1.93	1.88	-176.02	-54.73	-3.81	55.15	51.21	3.94	14.003				
700.00	700.00	692.20	690.97	2.29	2.24	-174.13	-65.98	-6.78	66.94	62.25	4.70	14.256				
800.00	799.98	788.92	786.55	2.63	2.61	-26.36	-80.30	-10.56	80.56	75.13	5.42	14.850				
900.00	899.84	888.19	884.40	2.97	3.02	-26.28	-96.45	-14.83	92.59	86.51	6.07	15.242				
991.00	990.50	978.79	973.72	3.28	3.39	-27.00	-111.20	-18.72	100.84	94.16	6.68	15.086				
1,000.00	999.45	987.77	982.56	3.31	3.43	-27.11	-112.66	-19.11	101.53	94.79	6.74	15.054				
1,100.00	1,098.94	1,087.45	1,080.82	3.66	3.85	-28.21	-128.87	-23.39	109.23	101.79	7.44	14.686				
1,200.00	1,198.42	1,187.13	1,179.09	4.02	4.27	-29.18	-145.09	-27.67	116.96	108.82	8.14	14.366				
1,300.00	1,297.91	1,286.82	1,277.35	4.38	4.70	-30.02	-161.31	-31.96	124.72	115.87	8.85	14.087				
1,400.00	1,397.39	1,386.50	1,375.61	4.75	5.12	-30.76	-177.53	-36.24	132.50	122.93	9.57	13.842				
1,500.00	1,496.88	1,486.18	1,473.87	5.13	5.55	-31.43	-193.75	-40.53	140.31	130.01	10.30	13.626				
1,600.00	1,596.36	1,585.86	1,572.13	5.50	5.98	-32.02	-209.96	-44.81	148.12	137.10	11.03	13.434				
1,700.00	1,695.85	1,685.55	1,670.39	5.88	6.41	-32.55	-226.18	-49.09	155.96	144.20	11.76	13.263				
1,800.00	1,795.33	1,785.23	1,768.65	6.26	6.85	-33.03	-242.40	-53.38	163.80	151.31	12.49	13.110				
1,900.00	1,894.81	1,884.91	1,866.91	6.64	7.28	-33.47	-258.62	-57.66	171.66	158.43	13.23	12.972				
2,000.00	1,994.30	1,984.60	1,965.18	7.02	7.71	-33.87	-274.84	-61.94	179.53	165.55	13.97	12.847				
2,100.00	2,093.78	2,084.28	2,063.44	7.40	8.15	-34.23	-291.05	-66.23	187.40	172.68	14.72	12.733				
2,200.00	2,193.27	2,183.96	2,161.70	7.78	8.58	-34.57	-307.27	-70.51	195.28	179.82	15.46	12.629				
2,300.00	2,292.75	2,283.64	2,259.96	8.17	9.02	-34.88	-323.49	-74.80	203.16	186.96	16.21	12.534				
2,400.00	2,392.24	2,383.33	2,358.22	8.55	9.45	-35.17	-339.71	-79.08	211.06	194.10	16.96	12.447				
2,500.00	2,491.72	2,483.01	2,456.48	8.94	9.89	-35.43	-355.93	-83.36	218.95	201.25	17.71	12.367				
2,600.00	2,591.21	2,582.69	2,554.74	9.32	10.32	-35.68	-372.14	-87.65	226.85	208.40	18.46	12.292				
2,700.00	2,690.69	2,682.37	2,653.00	9.71	10.76	-35.91	-388.36	-91.93	234.76	215.55	19.21	12.223				
2,800.00	2,790.18	2,782.06	2,751.27	10.10	11.20	-36.13	-404.58	-96.21	242.67	222.71	19.96	12.159				
2,900.00	2,889.66	2,881.74	2,849.53	10.48	11.63	-36.33	-420.80	-100.50	250.58	229.87	20.71	12.100				
3,000.00	2,989.14	2,981.42	2,947.79	10.87	12.07	-36.52	-437.02	-104.78	258.49	237.03	21.46	12.044				
3,100.00	3,088.63	3,081.11	3,046.05	11.26	12.50	-36.70	-453.24	-109.07	266.41	244.19	22.22	11.992				
3,200.00	3,188.11	3,180.79	3,144.31	11.65	12.94	-36.87	-469.45	-113.35	274.33	251.36	22.97	11.943				
3,300.00	3,287.60	3,280.47	3,242.57	12.03	13.38	-37.02	-485.67	-117.63	282.25	258.53	23.73	11.897				
3,400.00	3,387.08	3,380.15	3,340.83	12.42	13.81	-37.17	-501.89	-121.92	290.18	265.70	24.48	11.853				
3,500.00	3,486.57	3,479.84	3,439.09	12.81	14.25	-37.32	-518.11	-126.20	298.10	272.87	25.24	11.812				
3,600.00	3,586.05	3,579.52	3,537.36	13.20	14.69	-37.45	-534.33	-130.48	306.03	280.04	25.99	11.774				
3,700.00	3,685.54	3,679.20	3,635.62	13.59	15.13	-37.58	-550.54	-134.77	313.96	287.21	26.75	11.737				
3,800.00	3,785.02	3,778.89	3,733.88	13.98	15.56	-37.70	-566.76	-139.05	321.89	294.38	27.51	11.703				
3,900.00	3,884.51	3,878.57	3,832.14	14.36	16.00	-37.82	-582.98	-143.34	329.82	301.56	28.26	11.670				
4,000.00	3,983.99	3,978.25	3,930.40	14.75	16.44	-37.93	-599.20	-147.62	337.76	308.74	29.02	11.639				
4,100.00	4,083.47	4,077.93	4,028.66	15.14	16.87	-38.03	-615.42	-151.90	345.69	315.91	29.78	11.609				
4,200.00	4,182.96	4,177.62	4,126.92	15.53	17.31	-38.13	-631.63	-156.19	353.63	323.09	30.53	11.581				
4,300.00	4,282.44	4,277.30	4,225.18	15.92	17.75	-38.23	-647.85	-160.47	361.56	330.27	31.29	11.554				
4,400.00	4,381.93	4,376.98	4,323.45	16.31	18.19	-38.32	-664.07	-164.75	369.50	337.45	32.05	11.528				
4,500.00	4,481.41	4,476.66	4,421.71	16.70	18.62	-38.41	-680.29	-169.04	377.44	344.63	32.81	11.504				
4,600.00	4,580.90	4,576.35	4,519.97	17.09	19.06	-38.49	-696.51	-173.32	385.38	351.81	33.57	11.481				
4,700.00	4,680.38	4,676.03	4,618.23	17.48	19.50	-38.58	-712.73	-177.61	393.32	358.99	34.33	11.458				
4,800.00	4,779.87	4,775.71	4,716.49	17.87	19.94	-38.65	-728.94	-181.89	401.26	366.17	35.09	11.437				
4,900.00	4,879.35	4,875.40	4,814.75	18.26	20.37	-38.73	-745.16	-186.17	409.20	373.36	35.84	11.416				
5,000.00	4,978.84	4,975.08	4,913.01	18.65	20.81	-38.80	-761.38	-190.46	417.14	380.54	36.60	11.396				

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3N-25H-M166 - OH - PLAN #1													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	5,078.32	5,074.76	5,011.27	19.04	21.25	-38.87	-777.60	-194.74	425.09	387.72	37.36	11.377		
5,200.00	5,177.80	5,174.44	5,109.54	19.43	21.69	-38.94	-793.82	-199.02	433.03	394.91	38.12	11.359		
5,300.00	5,277.29	5,274.13	5,207.80	19.82	22.12	-39.00	-810.03	-203.31	440.97	402.09	38.88	11.341		
5,400.00	5,376.77	5,373.81	5,306.06	20.21	22.56	-39.06	-826.25	-207.59	448.92	409.28	39.64	11.324		
5,500.00	5,476.26	5,473.49	5,404.32	20.60	23.00	-39.12	-842.47	-211.88	456.86	416.46	40.40	11.308		
5,600.00	5,575.74	5,573.17	5,502.58	20.99	23.44	-39.18	-858.69	-216.16	464.81	423.65	41.16	11.292		
5,700.00	5,675.23	5,672.86	5,600.84	21.38	23.87	-39.24	-874.91	-220.44	472.75	430.83	41.92	11.277		
5,734.45	5,709.50	5,707.20	5,634.70	21.51	24.03	-39.26	-880.49	-221.92	475.49	433.31	42.18	11.272		
5,800.00	5,774.78	5,772.49	5,699.05	21.77	24.31	-39.31	-891.12	-224.72	481.28	438.60	42.68	11.277		
5,900.00	5,874.59	5,871.85	5,797.00	22.13	24.75	-39.20	-907.28	-228.99	492.34	448.93	43.41	11.342		
6,000.00	5,974.55	5,970.81	5,894.54	22.49	25.18	-38.89	-923.38	-233.25	506.10	461.99	44.11	11.473		
6,025.45	6,000.00	5,995.91	5,919.29	22.57	25.29	174.65	-927.47	-234.33	510.04	465.75	44.28	11.517		
6,100.00	6,074.55	6,069.40	5,991.73	22.80	25.62	175.12	-939.42	-237.48	521.85	477.08	44.78	11.654		
6,200.00	6,174.55	6,167.97	6,088.89	23.11	26.05	175.73	-955.46	-241.72	537.75	492.31	45.44	11.834		
6,300.00	6,274.55	6,266.54	6,186.06	23.42	26.48	176.29	-971.50	-245.96	553.71	507.60	46.11	12.009		
6,400.00	6,374.55	6,365.12	6,283.23	23.73	26.91	176.83	-987.54	-250.19	569.71	522.93	46.78	12.179		
6,500.00	6,474.55	6,463.69	6,380.40	24.05	27.35	177.34	-1,003.57	-254.43	585.76	538.31	47.45	12.345		
6,600.00	6,574.55	6,562.27	6,477.57	24.36	27.78	177.82	-1,019.61	-258.66	601.86	553.73	48.12	12.506		
6,649.25	6,623.80	6,610.82	6,525.43	24.52	27.99	178.04	-1,027.51	-260.75	609.80	561.34	48.46	12.584		
6,700.00	6,674.51	6,660.72	6,574.62	24.67	28.21	88.36	-1,035.63	-262.90	617.95	569.16	48.79	12.666		
6,750.00	6,724.22	6,709.48	6,622.69	24.82	28.43	88.41	-1,043.56	-264.99	625.94	576.85	49.09	12.750		
6,800.00	6,773.44	6,757.61	6,670.13	24.97	28.64	88.73	-1,051.39	-267.06	633.98	584.61	49.37	12.841		
6,850.00	6,821.93	6,804.87	6,716.72	25.10	28.85	89.30	-1,059.08	-269.09	642.19	592.55	49.64	12.938		
6,900.00	6,869.46	6,851.03	6,762.21	25.23	29.05	90.05	-1,066.59	-271.07	650.74	600.86	49.88	13.045		
6,950.00	6,915.79	6,895.86	6,806.41	25.36	29.25	90.94	-1,073.89	-273.00	659.84	609.71	50.12	13.165		
7,000.00	6,960.70	6,940.14	6,850.06	25.47	29.44	91.96	-1,081.09	-274.85	669.69	619.32	50.37	13.297		
7,050.00	7,003.96	6,989.58	6,898.83	25.59	29.65	93.18	-1,089.12	-274.69	680.23	629.57	50.66	13.426		
7,100.00	7,045.38	7,041.15	6,949.57	25.69	29.86	94.40	-1,097.43	-270.89	691.29	640.30	50.99	13.557		
7,150.00	7,084.74	7,095.14	7,002.26	25.79	30.06	95.61	-1,106.02	-262.96	702.78	651.44	51.34	13.689		
7,200.00	7,121.85	7,151.87	7,056.84	25.90	30.25	96.82	-1,114.88	-250.32	714.58	662.88	51.70	13.822		
7,250.00	7,156.54	7,211.70	7,113.14	26.02	30.44	98.03	-1,123.96	-232.29	726.55	674.49	52.06	13.957		
7,300.00	7,188.63	7,275.01	7,170.89	26.17	30.62	99.23	-1,133.22	-208.11	738.54	686.14	52.40	14.094		
7,350.00	7,217.97	7,342.20	7,229.63	26.39	30.79	100.43	-1,142.57	-176.91	750.37	697.65	52.72	14.233		
7,400.00	7,244.42	7,413.65	7,288.65	26.69	30.95	101.61	-1,151.88	-137.76	761.84	708.82	53.02	14.370		
7,450.00	7,267.84	7,489.73	7,346.92	27.10	31.10	102.76	-1,160.98	-89.78	772.71	719.41	53.31	14.495		
7,500.00	7,288.13	7,570.66	7,403.04	27.59	31.24	103.85	-1,169.63	-32.17	782.75	729.11	53.64	14.592		
7,550.00	7,305.18	7,656.53	7,455.19	28.17	31.36	104.85	-1,177.52	35.53	791.67	737.59	54.08	14.638		
7,600.00	7,318.91	7,747.18	7,501.16	28.83	31.48	105.73	-1,184.29	113.30	799.22	744.48	54.74	14.600		
7,650.00	7,329.25	7,842.10	7,538.52	29.56	31.64	106.43	-1,189.54	200.32	805.14	749.39	55.76	14.441		
7,700.00	7,336.15	7,940.43	7,564.91	30.35	32.04	106.93	-1,192.92	294.90	809.20	751.98	57.22	14.143		
7,750.00	7,339.59	8,040.95	7,578.43	31.21	33.12	107.18	-1,194.12	394.42	811.23	752.07	59.16	13.711		
7,774.25	7,340.00	8,089.38	7,580.00	31.64	33.85	107.20	-1,193.89	442.81	811.46	751.19	60.26	13.465		
7,800.00	7,340.00	8,115.13	7,580.00	32.11	34.28	107.20	-1,193.62	468.56	811.46	750.29	61.17	13.267		
7,900.00	7,340.00	8,215.13	7,580.00	34.07	36.08	107.20	-1,192.60	568.55	811.45	746.59	64.86	12.510		
8,000.00	7,340.00	8,315.13	7,580.00	36.21	38.09	107.20	-1,191.57	668.55	811.44	742.53	68.91	11.775		
8,100.00	7,340.00	8,415.13	7,580.00	38.49	40.27	107.20	-1,190.55	768.54	811.43	738.18	73.25	11.077		
8,200.00	7,340.00	8,515.13	7,580.00	40.90	42.58	107.20	-1,189.52	868.54	811.42	733.59	77.84	10.425		
8,300.00	7,340.00	8,615.13	7,580.00	43.42	45.01	107.20	-1,188.50	968.53	811.42	728.79	82.62	9.821		
8,400.00	7,340.00	8,715.13	7,580.00	46.02	47.52	107.20	-1,187.47	1,068.53	811.41	723.83	87.58	9.265		
8,500.00	7,340.00	8,815.13	7,580.00	48.69	50.12	107.20	-1,186.45	1,168.52	811.40	718.72	92.68	8.755		
8,600.00	7,340.00	8,915.13	7,580.00	51.42	52.78	107.20	-1,185.42	1,268.52	811.39	713.49	97.90	8.288		
8,700.00	7,340.00	9,015.13	7,580.00	54.21	55.50	107.20	-1,184.40	1,368.51	811.38	708.16	103.22	7.861		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3N-25H-M166 - OH - PLAN #1													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	
8,800.00	7,340.00	9,115.13	7,580.00	57.04	58.27	107.21	-1,183.37	1,468.51	811.38	702.74	108.63	7.469		
8,900.00	7,340.00	9,215.13	7,580.00	59.90	61.08	107.21	-1,182.35	1,568.50	811.37	697.25	114.12	7.110		
9,000.00	7,340.00	9,315.13	7,580.00	62.80	63.93	107.21	-1,181.32	1,668.50	811.36	691.70	119.66	6.780		
9,100.00	7,340.00	9,415.13	7,580.00	65.73	66.81	107.21	-1,180.30	1,768.49	811.35	686.08	125.27	6.477		
9,200.00	7,340.00	9,515.13	7,580.00	68.68	69.72	107.21	-1,179.27	1,868.49	811.34	680.42	130.92	6.197		
9,300.00	7,340.00	9,615.13	7,580.00	71.66	72.65	107.21	-1,178.25	1,968.48	811.33	674.72	136.62	5.939		
9,400.00	7,340.00	9,715.13	7,580.00	74.65	75.61	107.21	-1,177.22	2,068.48	811.33	668.98	142.35	5.700		
9,500.00	7,340.00	9,815.13	7,580.00	77.66	78.58	107.21	-1,176.20	2,168.47	811.32	663.20	148.11	5.478		
9,600.00	7,340.00	9,915.13	7,580.00	80.69	81.58	107.21	-1,175.18	2,268.47	811.31	657.40	153.91	5.271		
9,700.00	7,340.00	10,015.13	7,580.00	83.73	84.59	107.21	-1,174.15	2,368.46	811.30	651.57	159.73	5.079		
9,800.00	7,340.00	10,115.13	7,580.00	86.78	87.61	107.21	-1,173.13	2,468.45	811.29	645.72	165.58	4.900		
9,900.00	7,340.00	10,215.13	7,580.00	89.84	90.64	107.21	-1,172.10	2,568.45	811.28	639.84	171.44	4.732		
10,000.00	7,340.00	10,315.13	7,580.00	92.91	93.69	107.21	-1,171.08	2,668.44	811.28	633.95	177.33	4.575		
10,100.00	7,340.00	10,415.13	7,580.00	95.99	96.75	107.21	-1,170.05	2,768.44	811.27	628.04	183.23	4.428		
10,200.00	7,340.00	10,515.13	7,580.00	99.08	99.81	107.21	-1,169.03	2,868.43	811.26	622.11	189.15	4.289		
10,300.00	7,340.00	10,615.13	7,580.00	102.18	102.89	107.21	-1,168.00	2,968.43	811.25	616.17	195.08	4.159		
10,400.00	7,340.00	10,715.13	7,580.00	105.28	105.97	107.21	-1,166.98	3,068.42	811.24	610.22	201.02	4.036		
10,500.00	7,340.00	10,815.13	7,580.00	108.39	109.06	107.21	-1,165.95	3,168.42	811.24	604.26	206.98	3.919		
10,600.00	7,340.00	10,915.13	7,580.00	111.50	112.16	107.21	-1,164.93	3,268.41	811.23	598.28	212.95	3.810		
10,700.00	7,340.00	11,015.13	7,580.00	114.62	115.26	107.21	-1,163.90	3,368.41	811.22	592.30	218.92	3.705		
10,800.00	7,340.00	11,115.13	7,580.00	117.75	118.37	107.21	-1,162.88	3,468.40	811.21	586.30	224.91	3.607		
10,900.00	7,340.00	11,215.13	7,580.00	120.87	121.48	107.21	-1,161.85	3,568.40	811.20	580.30	230.90	3.513		
11,000.00	7,340.00	11,315.13	7,580.00	124.01	124.60	107.21	-1,160.83	3,668.39	811.19	574.29	236.91	3.424		
11,100.00	7,340.00	11,415.13	7,580.00	127.14	127.72	107.21	-1,159.80	3,768.39	811.19	568.27	242.92	3.339		
11,200.00	7,340.00	11,515.13	7,580.00	130.28	130.84	107.21	-1,158.78	3,868.38	811.18	562.25	248.93	3.259		
11,300.00	7,340.00	11,615.13	7,580.00	133.42	133.97	107.21	-1,157.75	3,968.38	811.17	556.22	254.95	3.182		
11,400.00	7,340.00	11,715.13	7,580.00	136.57	137.11	107.21	-1,156.73	4,068.37	811.16	550.18	260.98	3.108		
11,500.00	7,340.00	11,815.13	7,580.00	139.72	140.24	107.21	-1,155.70	4,168.37	811.15	544.14	267.02	3.038		
11,600.00	7,340.00	11,915.13	7,580.00	142.87	143.38	107.21	-1,154.68	4,268.36	811.15	538.09	273.05	2.971		
11,700.00	7,340.00	12,015.13	7,580.00	146.02	146.53	107.21	-1,153.65	4,368.35	811.14	532.04	279.10	2.906		
11,800.00	7,340.00	12,115.13	7,580.00	149.18	149.67	107.21	-1,152.63	4,468.35	811.13	525.99	285.14	2.845		
11,839.61	7,340.00	12,154.73	7,580.00	149.90	150.92	107.21	-1,152.22	4,507.96	811.13	524.10	287.03	2.826		
11,845.06	7,340.00	12,155.71	7,580.00	150.00	150.95	107.21	-1,152.21	4,508.94	811.14	523.94	287.19	2.824 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3O-25H-M166 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: O-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	-179.86	-50.27	-0.13	50.27					
100.00	100.00	100.00	100.00	0.14	0.14	-179.86	-50.27	-0.13	50.27	50.00	0.28	182.133		
200.00	200.00	200.00	200.00	0.50	0.50	-179.86	-50.27	-0.13	50.27	49.28	0.99	50.629 CC, ES		
300.00	300.00	298.28	298.26	0.85	0.84	-179.42	-51.91	-0.53	51.94	50.21	1.73	29.987		
400.00	400.00	396.34	396.18	1.21	1.18	-178.26	-56.81	-1.72	56.96	54.46	2.50	22.801		
500.00	500.00	493.93	493.42	1.57	1.53	-176.74	-64.91	-3.70	65.35	62.07	3.27	19.969		
600.00	600.00	590.85	589.64	1.93	1.89	-175.16	-76.13	-6.44	77.10	73.06	4.04	19.068		
700.00	700.00	686.87	684.53	2.29	2.28	-173.73	-90.37	-9.92	92.22	87.41	4.81	19.186		
800.00	799.98	784.05	780.11	2.63	2.68	-26.22	-107.43	-14.09	108.62	103.13	5.49	19.773		
900.00	899.84	883.11	877.47	2.97	3.11	-26.20	-125.15	-18.42	122.28	116.14	6.14	19.928		
991.00	990.50	973.57	966.38	3.28	3.50	-26.77	-141.33	-22.37	132.01	125.27	6.75	19.560		
1,000.00	999.45	982.53	975.19	3.31	3.54	-26.86	-142.94	-22.77	132.85	126.04	6.81	19.512		
1,100.00	1,098.94	1,082.07	1,073.03	3.66	3.98	-27.76	-160.74	-27.12	142.17	134.67	7.50	18.951		
1,200.00	1,198.42	1,181.61	1,170.87	4.02	4.42	-28.56	-178.55	-31.47	151.52	143.32	8.21	18.465		
1,300.00	1,297.91	1,281.15	1,268.71	4.38	4.86	-29.26	-196.36	-35.82	160.90	151.98	8.92	18.041		
1,400.00	1,397.39	1,380.69	1,366.55	4.75	5.31	-29.89	-214.16	-40.17	170.30	160.66	9.64	17.669		
1,500.00	1,496.88	1,480.23	1,464.39	5.13	5.75	-30.45	-231.97	-44.52	179.71	169.35	10.36	17.341		
1,600.00	1,596.36	1,579.78	1,562.23	5.50	6.20	-30.95	-249.78	-48.87	189.15	178.05	11.09	17.050		
1,700.00	1,695.85	1,679.32	1,660.06	5.88	6.65	-31.40	-267.58	-53.22	198.59	186.76	11.83	16.791		
1,800.00	1,795.33	1,778.86	1,757.90	6.26	7.09	-31.82	-285.39	-57.57	208.05	195.48	12.56	16.559		
1,900.00	1,894.81	1,878.40	1,855.74	6.64	7.54	-32.20	-303.20	-61.92	217.51	204.21	13.30	16.350		
2,000.00	1,994.30	1,977.94	1,953.58	7.02	7.99	-32.54	-321.00	-66.27	226.99	212.94	14.04	16.161		
2,100.00	2,093.78	2,077.48	2,051.42	7.40	8.44	-32.86	-338.81	-70.62	236.47	221.68	14.79	15.990		
2,200.00	2,193.27	2,177.02	2,149.26	7.78	8.89	-33.16	-356.62	-74.97	245.96	230.42	15.53	15.833		
2,300.00	2,292.75	2,276.56	2,247.10	8.17	9.33	-33.43	-374.42	-79.32	255.45	239.17	16.28	15.690		
2,400.00	2,392.24	2,376.11	2,344.94	8.55	9.78	-33.68	-392.23	-83.67	264.95	247.92	17.03	15.558		
2,500.00	2,491.72	2,475.65	2,442.77	8.94	10.23	-33.92	-410.04	-88.02	274.45	256.68	17.78	15.437		
2,600.00	2,591.21	2,575.19	2,540.61	9.32	10.68	-34.14	-427.84	-92.38	283.96	265.43	18.53	15.325		
2,700.00	2,690.69	2,674.73	2,638.45	9.71	11.13	-34.35	-445.65	-96.73	293.48	274.20	19.28	15.221		
2,800.00	2,790.18	2,774.27	2,736.29	10.10	11.58	-34.54	-463.46	-101.08	302.99	282.96	20.03	15.124		
2,900.00	2,889.66	2,873.81	2,834.13	10.48	12.03	-34.72	-481.26	-105.43	312.51	291.73	20.79	15.034		
3,000.00	2,989.14	2,973.35	2,931.97	10.87	12.48	-34.89	-499.07	-109.78	322.03	300.49	21.54	14.950		
3,100.00	3,088.63	3,072.89	3,029.81	11.26	12.93	-35.05	-516.88	-114.13	331.56	309.26	22.29	14.872		
3,200.00	3,188.11	3,172.43	3,127.65	11.65	13.38	-35.20	-534.68	-118.48	341.09	318.04	23.05	14.798		
3,300.00	3,287.60	3,271.98	3,225.49	12.03	13.83	-35.34	-552.49	-122.83	350.62	326.81	23.81	14.729		
3,400.00	3,387.08	3,371.52	3,323.32	12.42	14.28	-35.48	-570.30	-127.18	360.15	335.59	24.56	14.663		
3,500.00	3,486.57	3,471.06	3,421.16	12.81	14.73	-35.61	-588.10	-131.53	369.68	344.36	25.32	14.602		
3,600.00	3,586.05	3,570.60	3,519.00	13.20	15.18	-35.73	-605.91	-135.88	379.22	353.14	26.07	14.544		
3,700.00	3,685.54	3,670.14	3,616.84	13.59	15.63	-35.85	-623.72	-140.23	388.75	361.92	26.83	14.489		
3,800.00	3,785.02	3,769.68	3,714.68	13.98	16.08	-35.96	-641.52	-144.58	398.29	370.70	27.59	14.437		
3,900.00	3,884.51	3,869.22	3,812.52	14.36	16.53	-36.06	-659.33	-148.93	407.83	379.49	28.35	14.388		
4,000.00	3,983.99	3,968.76	3,910.36	14.75	16.99	-36.16	-677.14	-153.28	417.37	388.27	29.10	14.341		
4,100.00	4,083.47	4,068.31	4,008.20	15.14	17.44	-36.26	-694.94	-157.63	426.92	397.05	29.86	14.296		
4,200.00	4,182.96	4,167.85	4,106.03	15.53	17.89	-36.35	-712.75	-161.98	436.46	405.84	30.62	14.254		
4,300.00	4,282.44	4,267.39	4,203.87	15.92	18.34	-36.44	-730.56	-166.34	446.00	414.62	31.38	14.213		
4,400.00	4,381.93	4,366.93	4,301.71	16.31	18.79	-36.52	-748.36	-170.69	455.55	423.41	32.14	14.175		
4,500.00	4,481.41	4,466.47	4,399.55	16.70	19.24	-36.61	-766.17	-175.04	465.10	432.20	32.90	14.138		
4,600.00	4,580.90	4,566.01	4,497.39	17.09	19.69	-36.68	-783.98	-179.39	474.64	440.99	33.66	14.102		
4,700.00	4,680.38	4,665.55	4,595.23	17.48	20.14	-36.76	-801.78	-183.74	484.19	449.78	34.42	14.069		
4,800.00	4,779.87	4,765.09	4,693.07	17.87	20.59	-36.83	-819.59	-188.09	493.74	458.57	35.18	14.036		
4,900.00	4,879.35	4,864.63	4,790.91	18.26	21.04	-36.90	-837.40	-192.44	503.29	467.36	35.94	14.005		
5,000.00	4,978.84	4,964.18	4,888.75	18.65	21.49	-36.96	-855.20	-196.79	512.84	476.15	36.70	13.975		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3O-25H-M166 - OH - PLAN #1													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	5,078.32	5,063.72	4,986.58	19.04	21.94	-37.03	-873.01	-201.14	522.39	484.94	37.46	13.947		
5,200.00	5,177.80	5,163.26	5,084.42	19.43	22.39	-37.09	-890.82	-205.49	531.95	493.73	38.22	13.919		
5,300.00	5,277.29	5,262.80	5,182.26	19.82	22.85	-37.15	-908.63	-209.84	541.50	502.52	38.98	13.893		
5,400.00	5,376.77	5,362.34	5,280.10	20.21	23.30	-37.21	-926.43	-214.19	551.05	511.31	39.74	13.867		
5,500.00	5,476.26	5,461.88	5,377.94	20.60	23.75	-37.26	-944.24	-218.54	560.60	520.11	40.50	13.843		
5,600.00	5,575.74	5,561.42	5,475.78	20.99	24.20	-37.32	-962.05	-222.89	570.16	528.90	41.26	13.819		
5,700.00	5,675.23	5,660.96	5,573.62	21.38	24.65	-37.37	-979.85	-227.24	579.71	537.69	42.02	13.796		
5,734.45	5,709.50	5,695.26	5,607.33	21.51	24.80	-37.39	-985.99	-228.74	583.00	540.72	42.28	13.789		
5,800.00	5,774.78	5,760.44	5,671.40	21.77	25.10	-37.46	-997.65	-231.59	589.86	547.08	42.78	13.790		
5,900.00	5,874.59	5,859.61	5,768.86	22.13	25.55	-37.43	-1,015.39	-235.93	602.60	559.09	43.51	13.850		
6,000.00	5,974.55	5,958.31	5,865.88	22.49	26.00	-37.24	-1,033.04	-240.24	618.10	573.88	44.22	13.977		
6,025.45	6,000.00	5,983.35	5,890.49	22.57	26.11	176.26	-1,037.52	-241.33	622.49	578.09	44.40	14.021		
6,100.00	6,074.55	6,056.62	5,962.51	22.80	26.44	176.63	-1,050.63	-244.54	635.61	590.72	44.89	14.158		
6,200.00	6,174.55	6,154.91	6,059.12	23.11	26.89	177.11	-1,068.21	-248.83	653.26	607.70	45.57	14.337		
6,300.00	6,274.55	6,253.20	6,155.73	23.42	27.33	177.56	-1,085.80	-253.13	670.95	624.71	46.24	14.510		
6,400.00	6,374.55	6,351.49	6,252.34	23.73	27.78	177.98	-1,103.38	-257.42	688.68	641.76	46.92	14.679		
6,500.00	6,474.55	6,449.78	6,348.95	24.05	28.22	178.39	-1,120.96	-261.72	706.44	658.85	47.59	14.843		
6,600.00	6,574.55	6,548.07	6,445.55	24.36	28.67	178.77	-1,138.54	-266.02	724.24	675.96	48.27	15.003		
6,649.25	6,623.80	6,596.48	6,493.14	24.52	28.89	178.95	-1,147.20	-268.13	733.01	684.40	48.61	15.080		
6,700.00	6,674.51	6,646.24	6,542.04	24.67	29.11	89.13	-1,156.11	-270.31	742.05	693.11	48.94	15.161		
6,750.00	6,724.22	6,694.86	6,589.83	24.82	29.33	88.98	-1,164.80	-272.43	750.95	701.70	49.25	15.247		
6,800.00	6,773.44	6,743.63	6,637.79	24.97	29.55	89.01	-1,173.52	-273.70	759.88	710.34	49.55	15.336		
6,850.00	6,821.93	6,793.23	6,686.55	25.10	29.76	89.06	-1,182.36	-271.72	768.83	718.98	49.84	15.426		
6,900.00	6,869.46	6,843.61	6,735.82	25.23	29.96	89.11	-1,191.24	-266.21	777.73	727.60	50.13	15.514		
6,950.00	6,915.79	6,894.80	6,785.37	25.36	30.15	89.16	-1,200.15	-257.01	786.54	736.12	50.42	15.599		
7,000.00	6,960.70	6,946.84	6,834.97	25.47	30.33	89.21	-1,209.02	-244.00	795.23	744.51	50.71	15.681		
7,050.00	7,003.96	6,999.79	6,884.33	25.59	30.50	89.27	-1,217.81	-227.05	803.72	752.71	51.01	15.755		
7,100.00	7,045.38	7,053.67	6,933.17	25.69	30.66	89.33	-1,226.46	-206.04	811.99	760.66	51.32	15.821		
7,150.00	7,084.74	7,108.50	6,981.15	25.79	30.81	89.39	-1,234.92	-180.90	819.96	768.30	51.66	15.873		
7,200.00	7,121.85	7,164.32	7,027.91	25.90	30.94	89.46	-1,243.11	-151.55	827.59	775.57	52.02	15.909		
7,250.00	7,156.54	7,221.13	7,073.04	26.02	31.07	89.52	-1,250.96	-117.98	834.83	782.40	52.43	15.922		
7,300.00	7,188.63	7,278.93	7,116.14	26.17	31.18	89.59	-1,258.40	-80.22	841.62	788.71	52.91	15.907		
7,350.00	7,217.97	7,337.70	7,156.74	26.39	31.29	89.65	-1,265.35	-38.33	847.91	794.44	53.47	15.858		
7,400.00	7,244.42	7,397.40	7,194.40	26.69	31.38	89.72	-1,271.72	7.54	853.65	799.51	54.14	15.767		
7,450.00	7,267.84	7,457.99	7,228.65	27.10	31.47	89.78	-1,277.43	57.17	858.79	803.84	54.95	15.628		
7,500.00	7,288.13	7,519.40	7,259.03	27.59	31.56	89.84	-1,282.40	110.29	863.29	807.37	55.92	15.438		
7,550.00	7,305.18	7,581.54	7,285.10	28.17	31.66	89.89	-1,286.57	166.52	867.10	810.04	57.06	15.196		
7,600.00	7,318.91	7,644.31	7,306.48	28.83	31.79	89.93	-1,289.85	225.42	870.20	811.81	58.38	14.905		
7,650.00	7,329.25	7,707.59	7,322.81	29.56	32.03	89.96	-1,292.19	286.49	872.54	812.64	59.90	14.568		
7,700.00	7,336.15	7,771.24	7,333.83	30.35	32.46	89.99	-1,293.56	349.14	874.11	812.52	61.59	14.193		
7,750.00	7,339.59	7,835.12	7,339.34	31.21	33.18	90.00	-1,293.91	412.76	874.89	811.46	63.43	13.793		
7,774.25	7,340.00	7,866.13	7,340.00	31.64	33.62	90.00	-1,293.71	443.76	874.99	810.62	64.37	13.593		
7,800.00	7,340.00	7,891.88	7,340.00	32.11	34.01	90.00	-1,293.45	469.51	874.99	809.69	65.30	13.400		
7,900.00	7,340.00	7,991.88	7,340.00	34.07	35.77	90.00	-1,292.44	569.50	874.99	805.83	69.16	12.652		
8,000.00	7,340.00	8,091.88	7,340.00	36.21	37.77	90.00	-1,291.42	669.50	874.99	801.62	73.37	11.925		
8,100.00	7,340.00	8,191.88	7,340.00	38.49	39.96	90.00	-1,290.40	769.49	874.99	797.10	77.89	11.234		
8,200.00	7,340.00	8,291.88	7,340.00	40.90	42.28	90.00	-1,289.39	869.49	874.99	792.34	82.65	10.587		
8,300.00	7,340.00	8,391.88	7,340.00	43.42	44.71	90.00	-1,288.37	969.48	874.99	787.36	87.63	9.985		
8,400.00	7,340.00	8,491.88	7,340.00	46.02	47.24	90.00	-1,287.35	1,069.48	874.99	782.21	92.78	9.431		
8,500.00	7,340.00	8,591.88	7,340.00	48.69	49.85	90.00	-1,286.34	1,169.47	874.99	776.91	98.08	8.921		
8,600.00	7,340.00	8,691.88	7,340.00	51.42	52.52	90.00	-1,285.32	1,269.47	874.99	771.48	103.51	8.454		
8,700.00	7,340.00	8,791.88	7,340.00	54.21	55.25	90.00	-1,284.31	1,369.46	874.99	765.95	109.04	8.024		

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - SAM 3O-25H-M166 - OH - PLAN #1													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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
8,800.00	7,340.00	8,891.88	7,340.00	57.04	58.03	90.00	-1,283.29	1,469.46	874.99	760.32	114.67	7.631		
8,900.00	7,340.00	8,991.88	7,340.00	59.90	60.86	90.00	-1,282.27	1,569.45	874.99	754.62	120.37	7.269		
9,000.00	7,340.00	9,091.88	7,340.00	62.80	63.71	90.00	-1,281.26	1,669.45	874.99	748.84	126.14	6.937		
9,100.00	7,340.00	9,191.88	7,340.00	65.73	66.60	90.00	-1,280.24	1,769.44	874.99	743.01	131.97	6.630		
9,200.00	7,340.00	9,291.88	7,340.00	68.68	69.52	90.00	-1,279.22	1,869.44	874.99	737.13	137.86	6.347		
9,300.00	7,340.00	9,391.88	7,340.00	71.66	72.46	90.00	-1,278.21	1,969.43	874.99	731.20	143.78	6.085		
9,400.00	7,340.00	9,491.88	7,340.00	74.65	75.43	90.00	-1,277.19	2,069.43	874.99	725.23	149.75	5.843		
9,500.00	7,340.00	9,591.88	7,340.00	77.66	78.41	90.00	-1,276.17	2,169.42	874.99	719.23	155.76	5.618		
9,600.00	7,340.00	9,691.88	7,340.00	80.69	81.41	90.00	-1,275.16	2,269.42	874.99	713.19	161.79	5.408		
9,700.00	7,340.00	9,791.88	7,340.00	83.73	84.42	90.00	-1,274.14	2,369.41	874.99	707.13	167.85	5.213		
9,800.00	7,340.00	9,891.88	7,340.00	86.78	87.45	90.00	-1,273.12	2,469.41	874.99	701.04	173.94	5.030		
9,900.00	7,340.00	9,991.88	7,340.00	89.84	90.49	90.00	-1,272.11	2,569.40	874.98	694.93	180.05	4.860		
10,000.00	7,340.00	10,091.88	7,340.00	92.91	93.54	90.00	-1,271.09	2,669.40	874.98	688.80	186.18	4.700		
10,100.00	7,340.00	10,191.88	7,340.00	95.99	96.60	90.00	-1,270.08	2,769.39	874.98	682.65	192.33	4.549		
10,200.00	7,340.00	10,291.88	7,340.00	99.08	99.67	90.00	-1,269.06	2,869.39	874.98	676.48	198.50	4.408		
10,300.00	7,340.00	10,391.88	7,340.00	102.18	102.75	90.00	-1,268.04	2,969.38	874.98	670.30	204.68	4.275		
10,400.00	7,340.00	10,491.88	7,340.00	105.28	105.84	90.00	-1,267.03	3,069.38	874.98	664.11	210.88	4.149		
10,500.00	7,340.00	10,591.88	7,340.00	108.39	108.93	90.00	-1,266.01	3,169.37	874.98	657.90	217.08	4.031		
10,600.00	7,340.00	10,691.88	7,340.00	111.50	112.03	90.00	-1,264.99	3,269.36	874.98	651.68	223.30	3.918		
10,700.00	7,340.00	10,791.88	7,340.00	114.62	115.14	90.00	-1,263.98	3,369.36	874.98	645.45	229.53	3.812		
10,800.00	7,340.00	10,891.88	7,340.00	117.75	118.25	90.00	-1,262.96	3,469.35	874.98	639.21	235.77	3.711		
10,900.00	7,340.00	10,991.88	7,340.00	120.87	121.36	90.00	-1,261.94	3,569.35	874.98	632.96	242.02	3.615		
11,000.00	7,340.00	11,091.88	7,340.00	124.01	124.48	90.00	-1,260.93	3,669.34	874.98	626.70	248.28	3.524		
11,100.00	7,340.00	11,191.88	7,340.00	127.14	127.61	90.00	-1,259.91	3,769.34	874.98	620.44	254.54	3.437		
11,200.00	7,340.00	11,291.88	7,340.00	130.28	130.73	90.00	-1,258.89	3,869.33	874.98	614.17	260.82	3.355		
11,300.00	7,340.00	11,391.88	7,340.00	133.42	133.87	90.00	-1,257.88	3,969.33	874.98	607.89	267.09	3.276		
11,400.00	7,340.00	11,491.88	7,340.00	136.57	137.00	90.00	-1,256.86	4,069.32	874.98	601.60	273.38	3.201		
11,500.00	7,340.00	11,591.88	7,340.00	139.72	140.14	90.00	-1,255.84	4,169.32	874.98	595.31	279.67	3.129		
11,600.00	7,340.00	11,691.88	7,340.00	142.87	143.28	90.00	-1,254.83	4,269.31	874.98	589.02	285.97	3.060		
11,700.00	7,340.00	11,791.88	7,340.00	146.02	146.43	90.00	-1,253.81	4,369.31	874.98	582.71	292.27	2.994		
11,800.00	7,340.00	11,891.88	7,340.00	149.18	149.57	90.00	-1,252.80	4,469.30	874.98	576.41	298.57	2.931		
11,839.08	7,340.00	11,930.96	7,340.00	149.89	150.80	90.00	-1,252.40	4,508.38	874.98	574.47	300.52	2.912		
11,845.06	7,340.00	11,932.12	7,340.00	150.00	150.84	90.00	-1,252.39	4,509.54	874.99	574.29	300.70	2.910 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3J-25H-M166
Project:	DJ BASIN	TVD Reference:	23' KB @ 5109.00usft
Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S25-T1N-R66W (SAM) - Wenzel 1 (EXISTING) - CPR WELL - NO SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 8120-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		
10,000.00	7,340.00	7,261.00	7,261.00	92.91	8.15	-90.00	66.03	4,047.05	1,461.55	1,414.53	47.02	31.084		
10,100.00	7,340.00	7,261.00	7,261.00	95.99	8.15	-90.00	66.03	4,047.05	1,366.71	1,317.46	49.25	27.751		
10,200.00	7,340.00	7,261.00	7,261.00	99.08	8.15	-90.00	66.03	4,047.05	1,272.66	1,220.77	51.89	24.524		
10,300.00	7,340.00	7,261.00	7,261.00	102.18	8.15	-90.00	66.03	4,047.05	1,179.59	1,124.54	55.05	21.429		
10,400.00	7,340.00	7,261.00	7,261.00	105.28	8.15	-90.00	66.03	4,047.05	1,087.75	1,028.93	58.82	18.494		
10,500.00	7,340.00	7,261.00	7,261.00	108.39	8.15	-90.00	66.03	4,047.05	997.48	934.13	63.35	15.746		
10,600.00	7,340.00	7,261.00	7,261.00	111.50	8.15	-90.00	66.03	4,047.05	909.24	840.43	68.81	13.213		
10,700.00	7,340.00	7,261.00	7,261.00	114.62	8.15	-90.00	66.03	4,047.05	823.70	748.29	75.42	10.922		
10,800.00	7,340.00	7,261.00	7,261.00	117.75	8.15	-90.00	66.03	4,047.05	741.79	658.41	83.39	8.896		
10,900.00	7,340.00	7,261.00	7,261.00	120.87	8.15	-90.00	66.03	4,047.05	664.85	571.93	92.92	7.155		
11,000.00	7,340.00	7,261.00	7,261.00	124.01	8.15	-90.00	66.03	4,047.05	594.80	490.73	104.07	5.715		
11,100.00	7,340.00	7,261.00	7,261.00	127.14	8.15	-90.00	66.03	4,047.05	534.37	417.89	116.48	4.588		
11,200.00	7,340.00	7,261.00	7,261.00	130.28	8.15	-90.00	66.03	4,047.05	487.15	358.18	128.97	3.777		
11,300.00	7,340.00	7,261.00	7,261.00	133.42	8.15	-90.00	66.03	4,047.05	457.25	317.98	139.27	3.283		
11,391.18	7,340.00	7,261.00	7,261.00	136.29	8.15	-90.00	66.03	4,047.05	448.07	303.64	144.43	3.102 CC		
11,400.00	7,340.00	7,261.00	7,261.00	136.57	8.15	-90.00	66.03	4,047.05	448.16	303.50	144.66	3.098 ES, SF		
11,500.00	7,340.00	7,261.00	7,261.00	139.72	8.15	-90.00	66.03	4,047.05	461.09	317.36	143.73	3.208		
11,600.00	7,340.00	7,261.00	7,261.00	142.87	8.15	-90.00	66.03	4,047.05	494.34	356.79	137.55	3.594		
11,700.00	7,340.00	7,261.00	7,261.00	146.02	8.15	-90.00	66.03	4,047.05	544.19	415.63	128.56	4.233		
11,800.00	7,340.00	7,261.00	7,261.00	149.18	8.15	-90.00	66.03	4,047.05	606.55	487.65	118.90	5.101		
11,845.06	7,340.00	7,261.00	7,261.00	150.00	8.15	-90.00	66.03	4,047.05	637.79	523.44	114.34	5.578		

Cathedral Energy Services

Anticollision Report

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Reference Site:	S25-T1N-R66W (SAM)	MD Reference:	23' KB @ 5109.00usft
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Reference Well:	SAM 3J-25H-M166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 23' KB @ 5109.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: SAM 3J-25H-M166
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.50°

