



CRESTONE PEAK
RESOURCES

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

SECTION DETAILS

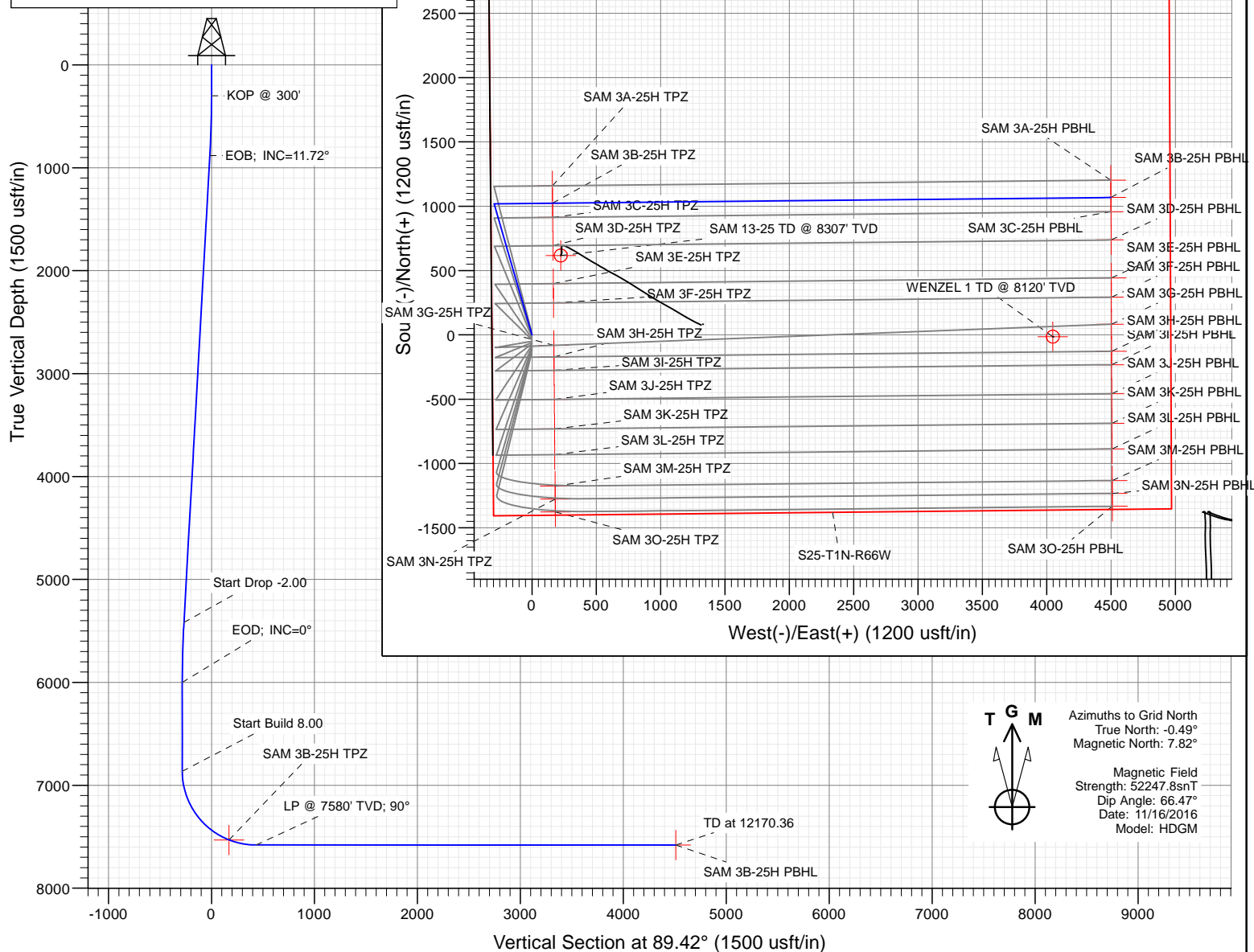
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	886.05	11.72	343.90	881.97	57.39	-16.57	2.00	343.90	-15.99	
4	5518.70	11.72	343.90	5418.03	961.58	-277.60	0.00	0.00	-267.85	
5	6104.76	0.00	0.00	6000.00	1018.97	-294.17	2.00	180.00	-283.84	
6	6968.56	0.00	0.00	6863.80	1018.97	-294.17	0.00	0.00	-283.84	
7	8093.56	90.00	89.42	7580.00	1026.25	421.99	8.00	89.42	432.36	
8	12170.36	90.00	89.42	7580.00	1067.68	4498.58	0.00	0.00	4509.16	SAM 3B-25H PBHL

FORMATION TOP DETAILS

No formation data is available

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

Name	Type	Target	No Target (Freehand)	Azimuth	Origin	Type	N/S	E/W	From	TVD
SAM 3B-25H TPZ				89.42	7530.90		+N/-S	+E/-W	Latitude	Longitude
SAM 3B-25H PBHL					7580.00		1023.60	160.60	40.021673	-104.733248
							1067.68	4498.58	40.021690	-104.717758



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

Magnetic Field
Strength: 52247.8nT
Dip Angle: 66.47°
Date: 11/16/2016
Model: HDGM

WELL DETAILS: SAM 3B-25H-M166

+N/-S	+E/-W	Northing	Ground Level:	5086.00	Latitude	Longitude
0.00	0.00	1250646.55	Easting	3214576.78	40.018867	-104.733853

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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 3B-25H-M166					
Well Position	+N/-S	0.00 usft	Northing:	1,250,646.55 usft	Latitude:	40.018867
	+E/-W	0.00 usft	Easting:	3,214,576.78 usft	Longitude:	-104.733853
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	11/16/2016	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	89.42

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
886.05	11.72	343.90	881.97	57.39	-16.57	2.00	2.00	0.00	343.90	
5,518.70	11.72	343.90	5,418.03	961.58	-277.60	0.00	0.00	0.00	0.00	
6,104.76	0.00	0.00	6,000.00	1,018.97	-294.17	2.00	-2.00	0.00	180.00	
6,968.56	0.00	0.00	6,863.80	1,018.97	-294.17	0.00	0.00	0.00	0.00	
8,093.56	90.00	89.42	7,580.00	1,026.25	421.99	8.00	8.00	0.00	89.42	
12,170.36	90.00	89.42	7,580.00	1,067.68	4,498.58	0.00	0.00	0.00	0.00	SAM 3B-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 3B-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	KOP @ 300'
400.00	2.00	343.90	399.98	1.68	-0.48	-0.47	2.00	2.00	
500.00	4.00	343.90	499.84	6.70	-1.94	-1.87	2.00	2.00	
600.00	6.00	343.90	599.45	15.08	-4.35	-4.20	2.00	2.00	
700.00	8.00	343.90	698.70	26.79	-7.73	-7.46	2.00	2.00	
800.00	10.00	343.90	797.47	41.81	-12.07	-11.65	2.00	2.00	
886.05	11.72	343.90	881.97	57.39	-16.57	-15.99	2.00	2.00	EOB; INC=11.72°
900.00	11.72	343.90	895.63	60.11	-17.35	-16.75	0.00	0.00	
1,000.00	11.72	343.90	993.54	79.63	-22.99	-22.18	0.00	0.00	
1,100.00	11.72	343.90	1,091.46	99.15	-28.62	-27.62	0.00	0.00	
1,200.00	11.72	343.90	1,189.37	118.67	-34.26	-33.06	0.00	0.00	
1,300.00	11.72	343.90	1,287.29	138.19	-39.89	-38.49	0.00	0.00	
1,400.00	11.72	343.90	1,385.20	157.70	-45.53	-43.93	0.00	0.00	
1,500.00	11.72	343.90	1,483.12	177.22	-51.16	-49.37	0.00	0.00	
1,600.00	11.72	343.90	1,581.03	196.74	-56.80	-54.80	0.00	0.00	
1,700.00	11.72	343.90	1,678.95	216.26	-62.43	-60.24	0.00	0.00	
1,800.00	11.72	343.90	1,776.86	235.77	-68.07	-65.68	0.00	0.00	
1,900.00	11.72	343.90	1,874.78	255.29	-73.70	-71.11	0.00	0.00	
2,000.00	11.72	343.90	1,972.69	274.81	-79.34	-76.55	0.00	0.00	
2,100.00	11.72	343.90	2,070.61	294.33	-84.97	-81.99	0.00	0.00	
2,200.00	11.72	343.90	2,168.52	313.84	-90.60	-87.42	0.00	0.00	
2,300.00	11.72	343.90	2,266.44	333.36	-96.24	-92.86	0.00	0.00	
2,400.00	11.72	343.90	2,364.35	352.88	-101.87	-98.30	0.00	0.00	
2,500.00	11.72	343.90	2,462.27	372.40	-107.51	-103.73	0.00	0.00	
2,600.00	11.72	343.90	2,560.18	391.91	-113.14	-109.17	0.00	0.00	
2,700.00	11.72	343.90	2,658.10	411.43	-118.78	-114.61	0.00	0.00	
2,800.00	11.72	343.90	2,756.01	430.95	-124.41	-120.04	0.00	0.00	
2,900.00	11.72	343.90	2,853.93	450.47	-130.05	-125.48	0.00	0.00	
3,000.00	11.72	343.90	2,951.84	469.99	-135.68	-130.92	0.00	0.00	
3,100.00	11.72	343.90	3,049.76	489.50	-141.32	-136.35	0.00	0.00	
3,200.00	11.72	343.90	3,147.67	509.02	-146.95	-141.79	0.00	0.00	
3,300.00	11.72	343.90	3,245.59	528.54	-152.59	-147.23	0.00	0.00	
3,400.00	11.72	343.90	3,343.50	548.06	-158.22	-152.66	0.00	0.00	
3,500.00	11.72	343.90	3,441.42	567.57	-163.85	-158.10	0.00	0.00	
3,600.00	11.72	343.90	3,539.33	587.09	-169.49	-163.54	0.00	0.00	
3,700.00	11.72	343.90	3,637.24	606.61	-175.12	-168.97	0.00	0.00	
3,800.00	11.72	343.90	3,735.16	626.13	-180.76	-174.41	0.00	0.00	
3,900.00	11.72	343.90	3,833.07	645.64	-186.39	-179.85	0.00	0.00	
4,000.00	11.72	343.90	3,930.99	665.16	-192.03	-185.28	0.00	0.00	
4,100.00	11.72	343.90	4,028.90	684.68	-197.66	-190.72	0.00	0.00	
4,200.00	11.72	343.90	4,126.82	704.20	-203.30	-196.16	0.00	0.00	
4,300.00	11.72	343.90	4,224.73	723.72	-208.93	-201.60	0.00	0.00	
4,400.00	11.72	343.90	4,322.65	743.23	-214.57	-207.03	0.00	0.00	
4,500.00	11.72	343.90	4,420.56	762.75	-220.20	-212.47	0.00	0.00	
4,600.00	11.72	343.90	4,518.48	782.27	-225.84	-217.91	0.00	0.00	
4,700.00	11.72	343.90	4,616.39	801.79	-231.47	-223.34	0.00	0.00	
4,800.00	11.72	343.90	4,714.31	821.30	-237.10	-228.78	0.00	0.00	
4,900.00	11.72	343.90	4,812.22	840.82	-242.74	-234.22	0.00	0.00	
5,000.00	11.72	343.90	4,910.14	860.34	-248.37	-239.65	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 3B-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	11.72	343.90	5,008.05	879.86	-254.01	-245.09	0.00	0.00	
5,200.00	11.72	343.90	5,105.97	899.37	-259.64	-250.53	0.00	0.00	
5,300.00	11.72	343.90	5,203.88	918.89	-265.28	-255.96	0.00	0.00	
5,400.00	11.72	343.90	5,301.80	938.41	-270.91	-261.40	0.00	0.00	
5,500.00	11.72	343.90	5,399.71	957.93	-276.55	-266.84	0.00	0.00	
5,518.70	11.72	343.90	5,418.03	961.58	-277.60	-267.85	0.00	0.00	Start Drop -2.00
5,600.00	10.10	343.90	5,497.85	976.36	-281.87	-271.97	2.00	-2.00	
5,700.00	8.10	343.90	5,596.59	991.54	-286.25	-276.20	2.00	-2.00	
5,800.00	6.10	343.90	5,695.82	1,003.41	-289.68	-279.51	2.00	-2.00	
5,900.00	4.10	343.90	5,795.42	1,011.94	-292.14	-281.88	2.00	-2.00	
6,000.00	2.10	343.90	5,895.27	1,017.13	-293.64	-283.33	2.00	-2.00	
6,100.00	0.10	343.90	5,995.24	1,018.97	-294.17	-283.84	2.00	-2.00	
6,104.76	0.00	0.00	6,000.00	1,018.97	-294.17	-283.84	2.00	-2.00	EOD; INC=0°
6,200.00	0.00	0.00	6,095.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,300.00	0.00	0.00	6,195.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,400.00	0.00	0.00	6,295.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,500.00	0.00	0.00	6,395.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,600.00	0.00	0.00	6,495.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,700.00	0.00	0.00	6,595.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,800.00	0.00	0.00	6,695.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,900.00	0.00	0.00	6,795.24	1,018.97	-294.17	-283.84	0.00	0.00	
6,968.56	0.00	0.00	6,863.80	1,018.97	-294.17	-283.84	0.00	0.00	Start Build 8.00
7,000.00	2.52	89.42	6,895.23	1,018.98	-293.48	-283.15	8.00	8.00	
7,100.00	10.52	89.42	6,994.51	1,019.09	-282.14	-271.81	8.00	8.00	
7,200.00	18.52	89.42	7,091.24	1,019.35	-257.10	-246.77	8.00	8.00	
7,300.00	26.52	89.42	7,183.54	1,019.74	-218.84	-208.51	8.00	8.00	
7,400.00	34.52	89.42	7,269.62	1,020.25	-168.11	-157.77	8.00	8.00	
7,500.00	42.52	89.42	7,347.80	1,020.88	-105.89	-95.55	8.00	8.00	
7,600.00	50.52	89.42	7,416.56	1,021.62	-33.40	-23.05	8.00	8.00	
7,700.00	58.52	89.42	7,474.56	1,022.45	47.96	58.31	8.00	8.00	
7,800.00	66.52	89.42	7,520.67	1,023.35	136.60	146.95	8.00	8.00	
7,900.00	74.52	89.42	7,554.00	1,024.31	230.79	241.14	8.00	8.00	
8,000.00	82.52	89.42	7,573.90	1,025.30	328.70	339.06	8.00	8.00	
8,093.56	90.00	89.42	7,580.00	1,026.25	421.99	432.36	8.00	8.00	LP @ 7580' TVD; 90°
8,100.00	90.00	89.42	7,580.00	1,026.31	428.43	438.80	0.00	0.00	
8,200.00	90.00	89.42	7,580.00	1,027.33	528.42	538.80	0.00	0.00	
8,300.00	90.00	89.42	7,580.00	1,028.35	628.42	638.80	0.00	0.00	
8,400.00	90.00	89.42	7,580.00	1,029.36	728.41	738.80	0.00	0.00	
8,500.00	90.00	89.42	7,580.00	1,030.38	828.41	838.80	0.00	0.00	
8,600.00	90.00	89.42	7,580.00	1,031.40	928.40	938.80	0.00	0.00	
8,700.00	90.00	89.42	7,580.00	1,032.41	1,028.40	1,038.80	0.00	0.00	
8,800.00	90.00	89.42	7,580.00	1,033.43	1,128.39	1,138.80	0.00	0.00	
8,900.00	90.00	89.42	7,580.00	1,034.44	1,228.39	1,238.80	0.00	0.00	
9,000.00	90.00	89.42	7,580.00	1,035.46	1,328.38	1,338.80	0.00	0.00	
9,100.00	90.00	89.42	7,580.00	1,036.48	1,428.38	1,438.80	0.00	0.00	
9,200.00	90.00	89.42	7,580.00	1,037.49	1,528.37	1,538.80	0.00	0.00	
9,300.00	90.00	89.42	7,580.00	1,038.51	1,628.37	1,638.80	0.00	0.00	
9,400.00	90.00	89.42	7,580.00	1,039.53	1,728.36	1,738.80	0.00	0.00	
9,500.00	90.00	89.42	7,580.00	1,040.54	1,828.36	1,838.80	0.00	0.00	
9,600.00	90.00	89.42	7,580.00	1,041.56	1,928.35	1,938.80	0.00	0.00	
9,700.00	90.00	89.42	7,580.00	1,042.57	2,028.35	2,038.80	0.00	0.00	
9,800.00	90.00	89.42	7,580.00	1,043.59	2,128.34	2,138.80	0.00	0.00	

Cathedral Energy Services

Planning Report

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Well:	SAM 3B-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	7,580.00	1,044.61	2,228.34	2,238.80	0.00	0.00	
10,000.00	90.00	89.42	7,580.00	1,045.62	2,328.33	2,338.80	0.00	0.00	
10,100.00	90.00	89.42	7,580.00	1,046.64	2,428.33	2,438.80	0.00	0.00	
10,200.00	90.00	89.42	7,580.00	1,047.66	2,528.32	2,538.80	0.00	0.00	
10,300.00	90.00	89.42	7,580.00	1,048.67	2,628.32	2,638.80	0.00	0.00	
10,400.00	90.00	89.42	7,580.00	1,049.69	2,728.31	2,738.80	0.00	0.00	
10,500.00	90.00	89.42	7,580.00	1,050.70	2,828.31	2,838.80	0.00	0.00	
10,600.00	90.00	89.42	7,580.00	1,051.72	2,928.30	2,938.80	0.00	0.00	
10,700.00	90.00	89.42	7,580.00	1,052.74	3,028.30	3,038.80	0.00	0.00	
10,800.00	90.00	89.42	7,580.00	1,053.75	3,128.29	3,138.80	0.00	0.00	
10,900.00	90.00	89.42	7,580.00	1,054.77	3,228.29	3,238.80	0.00	0.00	
11,000.00	90.00	89.42	7,580.00	1,055.79	3,328.28	3,338.80	0.00	0.00	
11,100.00	90.00	89.42	7,580.00	1,056.80	3,428.27	3,438.80	0.00	0.00	
11,200.00	90.00	89.42	7,580.00	1,057.82	3,528.27	3,538.80	0.00	0.00	
11,300.00	90.00	89.42	7,580.00	1,058.83	3,628.26	3,638.80	0.00	0.00	
11,400.00	90.00	89.42	7,580.00	1,059.85	3,728.26	3,738.80	0.00	0.00	
11,500.00	90.00	89.42	7,580.00	1,060.87	3,828.25	3,838.80	0.00	0.00	
11,600.00	90.00	89.42	7,580.00	1,061.88	3,928.25	3,938.80	0.00	0.00	
11,700.00	90.00	89.42	7,580.00	1,062.90	4,028.24	4,038.80	0.00	0.00	
11,800.00	90.00	89.42	7,580.00	1,063.92	4,128.24	4,138.80	0.00	0.00	
11,900.00	90.00	89.42	7,580.00	1,064.93	4,228.23	4,238.80	0.00	0.00	
12,000.00	90.00	89.42	7,580.00	1,065.95	4,328.23	4,338.80	0.00	0.00	
12,100.00	90.00	89.42	7,580.00	1,066.97	4,428.22	4,438.80	0.00	0.00	
12,170.36	90.00	89.42	7,580.00	1,067.68	4,498.58	4,509.16	0.00	0.00	TD at 12170.36

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 3B-25H PBHL	0.00	0.00	7,580.00	1,067.68	4,498.58	1,251,714.23	3,219,075.36	40.021690	-104.717758
- plan hits target center									
- Point									
SAM 3B-25H TPZ	0.00	0.00	7,530.90	1,023.60	160.60	1,251,670.15	3,214,737.38	40.021673	-104.733248
- plan misses target center by 0.29usft at 7826.06usft MD (7530.62 TVD, 1023.59 N, 160.68 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
300.00	300.00	0.00	0.00	KOP @ 300'
886.05	881.97	57.39	-16.57	EOB; INC=11.72°
5,518.70	5,418.03	961.58	-277.60	Start Drop -2.00
6,104.76	6,000.00	1,018.97	-294.17	EOD; INC=0°
6,968.56	6,863.80	1,018.97	-294.17	Start Build 8.00
8,093.56	7,580.00	1,026.25	421.99	LP @ 7580' TVD; 90°
12,170.36	7,580.00	1,067.68	4,498.58	TD at 12170.36

Crestone Peak Resources

DJ BASIN

S25-T1N-R66W (SAM)

SAM 3B-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 3B-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 3B-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	12,170.36	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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 Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
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	4,548.78	4,523.97	654.80	620.27	18.963	CC
Beierle 2 (EXISTING) - CPR WELL - SURVEYS	4,600.00	4,573.21	655.13	620.07	18.688	ES
Beierle 2 (EXISTING) - CPR WELL - SURVEYS	4,900.00	4,833.35	675.07	637.79	18.107	SF
Beierle KE 26-361HN - GWOG WELL - GWOG WELL	7,461.74	10,600.72	245.71	176.34	3.542	CC
Beierle KE 26-361HN - GWOG WELL - GWOG WELL	7,500.00	10,600.67	249.67	175.08	3.347	ES, 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						Out of range
Lochbuie 2B-31H-D165 (EXISTING) - CPR WELL - SUR						Out of range
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						Out of range
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	300.00	261.00	1,328.61	1,327.47	1,163.588	CC
Sam 1 (EXISTING) - CPR WELL - NO SURVEYS	400.00	360.98	1,328.99	1,327.38	825.750	ES
Sam 1 (EXISTING) - CPR WELL - NO SURVEYS	1,100.00	500.00	1,463.02	1,457.62	270.516	SF
Sam 13-25 (EXISTING) - CPR WELL - SURVEYS	7,890.75	7,711.16	392.42	337.51	7.147	CC
Sam 13-25 (EXISTING) - CPR WELL - SURVEYS	7,900.00	7,713.66	392.52	337.31	7.110	ES
Sam 13-25 (EXISTING) - CPR WELL - SURVEYS	7,950.00	7,725.09	396.53	339.81	6.990	SF
SAM 3A-25H-M166 - OH - PLAN #1	200.00	200.00	10.21	9.21	10.280	CC, ES
SAM 3A-25H-M166 - OH - PLAN #1	12,170.36	12,018.97	217.17	14.96	1.074	Level 2, SF
SAM 3C-25H-M166 - OH - PLAN #1	300.00	300.00	9.83	8.12	5.750	CC, ES
SAM 3C-25H-M166 - OH - PLAN #1	12,170.36	11,913.53	263.86	124.50	1.893	SF
SAM 3D-25H-M166 - OH - PLAN #1	300.00	300.00	20.03	18.32	11.712	CC, ES
SAM 3D-25H-M166 - OH - PLAN #1	12,170.36	11,950.31	370.92	102.08	1.380	Level 3, SF
SAM 3E-25H-M166 - OH - PLAN #1	300.00	300.00	29.86	28.15	17.464	CC, ES
SAM 3E-25H-M166 - OH - PLAN #1	12,170.36	11,848.32	669.25	387.27	2.373	SF
SAM 3F-25H-M166 - OH - PLAN #1	300.00	300.00	40.07	38.36	23.432	CC, ES
SAM 3F-25H-M166 - OH - PLAN #1	12,170.36	11,909.47	793.25	498.36	2.690	SF
SAM 3G-25H-M166 - OH - PLAN #1	300.00	300.00	49.90	48.19	29.182	CC, ES
SAM 3G-25H-M166 - OH - PLAN #1	12,170.36	11,825.78	1,013.82	721.11	3.464	SF
SAM 3H-25H-M166 - OH - PLAN #1	300.00	300.00	60.10	58.39	35.147	CC, ES
SAM 3H-25H-M166 - OH - PLAN #1	12,170.36	12,070.04	1,194.83	892.62	3.954	SF
SAM 3I-25H-M166 - OH - PLAN #1	300.00	300.00	69.93	68.22	40.899	CC, ES
SAM 3I-25H-M166 - OH - PLAN #1	12,170.36	11,906.06	1,310.81	1,012.78	4.398	SF
SAM 3J-25H-M166 - OH - PLAN #1	300.00	300.00	79.77	78.06	46.654	CC, ES
SAM 3J-25H-M166 - OH - PLAN #1	700.00	698.70	106.85	102.25	23.248	SF
SAM 3K-25H-M166 - OH - PLAN #1	300.00	300.00	89.97	88.26	52.616	CC, ES
SAM 3K-25H-M166 - OH - PLAN #1	700.00	695.21	118.49	113.91	25.869	SF
SAM 3L-25H-M166 - OH - PLAN #1	300.00	300.00	99.81	98.10	58.374	CC, ES
SAM 3L-25H-M166 - OH - PLAN #1	700.00	690.58	133.00	128.42	29.066	SF
SAM 3M-25H-M166 - OH - PLAN #1	300.00	300.00	110.01	108.30	64.334	CC, ES
SAM 3M-25H-M166 - OH - PLAN #1	700.00	684.86	151.12	146.52	32.838	SF
SAM 3N-25H-M166 - OH - PLAN #1	300.00	300.00	119.84	118.13	70.086	CC, ES
SAM 3N-25H-M166 - OH - PLAN #1	700.00	677.95	172.10	167.43	36.912	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 3B-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 3B-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)		Separation Factor	Warning
Offset Well - Wellbore - Design						
S25-T1N-R66W (SAM)						
SAM 3O-25H-M166 - OH - PLAN #1	200.00	200.00	130.05	129.05	130.968	CC, ES
SAM 3O-25H-M166 - OH - PLAN #1	700.00	669.56	196.63	191.88	41.332	SF
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	11,708.00	7,501.00	1,076.77	931.51	7.412	CC, ES
Wenzel 1 (EXISTING) - CPR WELL - NO SURVEYS	11,800.00	7,501.00	1,080.70	933.27	7.330	SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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							
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
1,500.00	1,483.12	1,549.00	1,547.76	5.73	2.16	-6.67	1,541.04	-618.22	1,478.55	1,471.31	7.25	204.024	
1,600.00	1,581.03	1,640.73	1,639.34	6.18	2.35	-6.62	1,538.73	-613.56	1,454.20	1,446.40	7.80	186.420	
1,700.00	1,678.95	1,736.24	1,734.71	6.63	2.54	-6.57	1,536.38	-608.86	1,429.96	1,421.59	8.36	170.993	
1,800.00	1,776.86	1,891.16	1,889.24	7.08	2.91	-6.55	1,528.80	-601.18	1,403.36	1,394.31	9.05	155.014	
1,900.00	1,874.78	2,009.90	2,007.46	7.53	3.20	-6.72	1,518.33	-598.16	1,374.31	1,364.66	9.65	142.425	
2,000.00	1,972.69	2,102.65	2,099.58	7.99	3.41	-7.07	1,507.74	-599.79	1,344.57	1,334.38	10.19	131.983	
2,100.00	2,070.61	2,190.18	2,186.36	8.44	3.61	-7.53	1,497.08	-603.97	1,315.32	1,304.60	10.72	122.675	
2,200.00	2,168.52	2,314.89	2,309.57	8.89	3.92	-8.38	1,479.97	-612.72	1,285.77	1,274.45	11.32	113.574	
2,300.00	2,266.44	2,425.11	2,417.68	9.35	4.24	-9.36	1,461.18	-623.00	1,254.29	1,242.35	11.94	105.056	
2,400.00	2,364.35	2,543.07	2,532.60	9.80	4.63	-10.64	1,438.20	-636.33	1,221.84	1,209.23	12.61	96.869	
2,500.00	2,462.27	2,709.92	2,694.08	10.26	5.30	-12.60	1,399.34	-651.95	1,185.82	1,172.42	13.39	88.537	
2,600.00	2,560.18	2,846.66	2,824.47	10.71	5.99	-14.53	1,360.01	-664.02	1,145.48	1,131.30	14.18	80.800	
2,700.00	2,658.10	2,934.92	2,907.46	11.17	6.45	-16.03	1,331.30	-672.85	1,103.11	1,088.15	14.95	73.767	
2,800.00	2,756.01	3,007.92	2,976.53	11.63	6.82	-17.31	1,308.79	-679.99	1,062.65	1,046.95	15.71	67.656	
2,900.00	2,853.93	3,089.61	3,054.02	12.08	7.20	-18.81	1,284.18	-687.96	1,023.52	1,007.04	16.48	62.094	
3,000.00	2,951.84	3,158.94	3,119.88	12.54	7.53	-20.18	1,263.89	-695.48	986.36	969.07	17.29	57.049	
3,100.00	3,049.76	3,237.78	3,194.73	12.99	7.95	-21.89	1,241.24	-705.53	951.49	933.31	18.18	52.334	
3,200.00	3,147.67	3,324.62	3,276.75	13.45	8.43	-23.99	1,215.71	-718.27	918.29	899.12	19.17	47.906	
3,300.00	3,245.59	3,415.12	3,362.09	13.91	8.94	-26.33	1,188.75	-731.64	886.26	866.05	20.21	43.843	
3,400.00	3,343.50	3,506.55	3,448.49	14.37	9.44	-28.81	1,161.68	-744.40	855.46	834.18	21.27	40.213	
3,500.00	3,441.42	3,597.64	3,535.00	14.82	9.93	-31.32	1,135.47	-755.58	825.82	803.47	22.35	36.953	
3,600.00	3,539.33	3,687.60	3,620.31	15.28	10.44	-33.99	1,109.21	-766.79	797.76	774.28	23.48	33.979	
3,700.00	3,637.24	3,779.20	3,707.04	15.74	10.98	-36.89	1,081.95	-778.04	771.20	746.53	24.67	31.260	
3,800.00	3,735.16	3,867.07	3,790.08	16.19	11.50	-39.86	1,055.36	-788.89	746.60	720.72	25.88	28.847	
3,900.00	3,833.07	3,953.86	3,872.24	16.65	12.00	-42.92	1,029.46	-799.46	724.53	697.44	27.09	26.747	
4,000.00	3,930.99	4,044.29	3,957.82	17.11	12.52	-46.25	1,002.34	-810.29	704.86	676.54	28.32	24.886	
4,100.00	4,028.90	4,129.47	4,038.23	17.57	13.04	-49.58	976.27	-820.76	688.05	658.49	29.57	23.272	
4,200.00	4,126.82	4,210.80	4,114.97	18.03	13.52	-52.86	951.45	-831.23	674.92	644.18	30.74	21.959	
4,300.00	4,224.73	4,300.04	4,199.30	18.48	14.04	-56.53	924.69	-842.95	665.48	633.58	31.90	20.863	
4,400.00	4,322.65	4,393.63	4,287.81	18.94	14.58	-60.45	896.59	-854.58	658.90	625.86	33.03	19.947	
4,500.00	4,420.56	4,481.59	4,371.09	19.40	15.09	-64.15	870.25	-864.87	655.22	621.16	34.06	19.237	
4,548.78	4,468.33	4,523.97	4,411.14	19.62	15.35	-65.96	857.32	-869.94	654.80	620.27	34.53	18.963 CC	
4,600.00	4,518.48	4,573.21	4,457.56	19.86	15.66	-68.09	841.95	-875.66	655.13	620.07	35.06	18.688 ES	
4,700.00	4,616.39	4,663.78	4,542.68	20.31	16.24	-72.09	812.59	-885.51	657.94	621.98	35.96	18.295	
4,800.00	4,714.31	4,748.67	4,622.33	20.77	16.77	-75.82	784.67	-894.60	664.50	627.80	36.69	18.110	
4,900.00	4,812.22	4,833.35	4,702.18	21.23	17.28	-79.37	758.13	-904.12	675.07	637.79	37.28	18.107 SF	
5,000.00	4,910.14	4,922.09	4,786.27	21.69	17.77	-82.87	731.78	-914.45	689.06	651.26	37.80	18.229	
5,100.00	5,008.05	5,016.34	4,875.91	22.15	18.28	-86.40	704.64	-925.09	705.50	667.20	38.30	18.420	
5,200.00	5,105.97	5,113.20	4,968.49	22.60	18.79	-89.78	678.12	-935.40	723.66	684.89	38.77	18.666	
5,300.00	5,203.88	5,209.43	5,061.03	23.06	19.27	-92.86	653.72	-945.39	743.25	704.07	39.18	18.969	
5,400.00	5,301.80	5,310.31	5,158.70	23.52	19.74	-95.75	630.81	-956.02	763.95	724.34	39.61	19.288	
5,500.00	5,399.71	5,428.45	5,274.06	23.98	20.23	-98.71	608.05	-967.39	784.04	743.88	40.16	19.523	
5,518.70	5,418.03	5,452.04	5,297.23	24.07	20.32	-99.26	604.07	-969.38	787.56	747.28	40.27	19.555	
5,600.00	5,497.85	5,551.55	5,395.34	24.43	20.66	-101.59	589.32	-976.80	801.65	760.93	40.72	19.687	
5,700.00	5,596.59	5,665.67	5,508.45	24.85	21.01	-103.71	575.98	-984.04	816.61	775.42	41.19	19.826	
5,800.00	5,695.82	5,771.82	5,613.94	25.24	21.28	-105.21	566.12	-990.59	829.89	788.28	41.61	19.945	
5,900.00	5,795.42	5,906.83	5,748.54	25.59	21.57	-106.47	557.70	-996.61	839.36	797.22	42.15	19.915	
6,000.00	5,895.27	6,046.83	5,888.44	25.92	21.78	-107.13	554.22	-999.58	844.19	801.57	42.63	19.804	
6,104.76	6,000.00	6,150.78	5,992.39	26.24	21.90	-123.42	553.49	-999.65	845.22	802.16	43.06	19.628	
6,200.00	6,095.24	6,246.95	6,088.56	26.51	22.02	-123.47	552.56	-999.61	845.69	802.22	43.47	19.454	
6,300.00	6,195.24	6,347.67	6,189.27	26.80	22.15	-123.55	551.36	-999.29	846.09	802.18	43.90	19.272	
6,400.00	6,295.24	6,449.11	6,290.70	27.09	22.28	-123.65	550.05	-998.73	846.34	802.00	44.34	19.089	

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 3B-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 3B-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		
6,500.00	6,395.24	6,549.45	6,391.03	27.38	22.41	-123.75	548.71	-998.03	846.50	801.73	44.78	18.905		
6,600.00	6,495.24	6,648.82	6,490.39	27.67	22.54	-123.86	547.23	-997.21	846.64	801.43	45.21	18.725		
6,700.00	6,595.24	6,745.07	6,586.62	27.97	22.67	-123.98	545.52	-996.57	847.08	801.43	45.65	18.555		
6,800.00	6,695.24	6,841.58	6,683.11	28.26	22.81	-124.11	543.44	-996.19	847.97	801.87	46.09	18.397		
6,900.00	6,795.24	6,938.92	6,780.42	28.56	22.95	-124.25	541.05	-996.02	849.20	802.66	46.54	18.248		
6,968.56	6,863.80	7,005.65	6,847.12	28.77	23.05	-124.35	539.26	-996.01	850.23	803.39	46.84	18.151		
7,000.00	6,895.23	7,036.36	6,877.82	28.86	23.10	146.16	538.38	-996.03	851.32	804.34	46.99	18.119		
7,050.00	6,945.07	7,085.07	6,926.51	29.00	23.19	146.04	536.91	-996.06	855.47	808.25	47.22	18.116		
7,100.00	6,994.51	7,133.39	6,974.80	29.13	23.26	145.90	535.34	-996.09	862.56	815.09	47.47	18.170		
7,150.00	7,043.31	7,181.07	7,022.45	29.26	23.34	145.74	533.69	-996.12	872.58	824.84	47.73	18.280		
7,200.00	7,091.24	7,227.59	7,068.94	29.38	23.42	145.55	531.98	-996.16	885.50	837.49	48.01	18.446		
7,250.00	7,138.05	7,272.78	7,114.10	29.49	23.50	145.30	530.25	-996.24	901.31	853.03	48.29	18.666		
7,300.00	7,183.54	7,316.63	7,157.91	29.59	23.58	144.99	528.50	-996.37	919.99	871.42	48.57	18.942		
7,350.00	7,227.46	7,358.91	7,200.16	29.69	23.66	144.60	526.75	-996.53	941.46	892.61	48.86	19.270		
7,400.00	7,269.62	7,400.30	7,241.51	29.78	23.73	144.10	524.98	-996.73	965.68	916.54	49.14	19.650		
7,450.00	7,309.79	7,444.33	7,285.50	29.86	23.81	143.58	523.10	-996.84	992.42	942.98	49.44	20.073		
7,500.00	7,347.80	7,486.24	7,327.37	29.94	23.88	142.91	521.37	-996.78	1,021.52	971.79	49.73	20.541		
7,550.00	7,383.44	7,525.84	7,366.94	30.00	23.95	142.04	519.77	-996.58	1,052.91	1,002.90	50.02	21.052		
7,600.00	7,416.56	7,562.93	7,404.00	30.06	24.02	140.94	518.32	-996.25	1,086.51	1,036.22	50.29	21.605		
7,650.00	7,446.98	7,596.13	7,437.17	30.11	24.08	139.49	517.04	-995.86	1,122.20	1,071.64	50.56	22.197		
7,700.00	7,474.56	7,624.75	7,465.76	30.16	24.13	137.58	515.87	-995.46	1,159.91	1,109.10	50.81	22.830		
7,750.00	7,499.17	7,650.50	7,491.49	30.20	24.18	135.15	514.76	-995.06	1,199.49	1,148.44	51.04	23.499		
7,800.00	7,520.67	7,673.25	7,514.21	30.25	24.22	132.08	513.73	-994.67	1,240.76	1,189.49	51.27	24.202		
7,850.00	7,538.98	7,692.87	7,533.81	30.35	24.26	128.18	512.80	-994.31	1,283.54	1,232.06	51.47	24.935		
7,900.00	7,554.00	7,709.25	7,550.16	30.66	24.29	123.24	511.99	-993.99	1,327.60	1,275.94	51.66	25.697		
7,950.00	7,565.66	7,722.26	7,563.16	31.26	24.31	117.00	511.34	-993.72	1,372.76	1,320.92	51.84	26.482		
8,000.00	7,573.90	7,731.84	7,572.72	31.98	24.33	109.23	510.85	-993.52	1,418.77	1,366.78	51.99	27.288		
8,050.00	7,578.68	7,737.89	7,578.76	32.78	24.34	99.82	510.53	-993.38	1,465.43	1,413.30	52.13	28.111		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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		
6,104.76	6,000.00	10,601.01	7,499.06	26.24	58.72	-90.48	1,018.75	-320.69	1,475.30	1,443.91	31.39	47.002		
6,200.00	6,095.24	10,601.01	7,499.06	26.51	58.72	-90.48	1,018.75	-320.69	1,380.07	1,348.63	31.44	43.890		
6,300.00	6,195.24	10,601.01	7,499.06	26.80	58.72	-90.48	1,018.75	-320.69	1,280.09	1,248.58	31.51	40.624		
6,400.00	6,295.24	10,601.01	7,499.06	27.09	58.72	-90.48	1,018.75	-320.69	1,180.11	1,148.53	31.59	37.362		
6,500.00	6,395.24	10,601.01	7,499.06	27.38	58.72	-90.48	1,018.75	-320.69	1,080.14	1,048.47	31.67	34.104		
6,600.00	6,495.24	10,601.01	7,499.06	27.67	58.72	-90.48	1,018.75	-320.69	980.18	948.41	31.77	30.853		
6,700.00	6,595.24	10,601.01	7,499.06	27.97	58.72	-90.48	1,018.75	-320.69	880.22	848.34	31.88	27.610		
6,800.00	6,695.24	10,601.01	7,499.06	28.26	58.72	-90.48	1,018.75	-320.69	780.27	748.26	32.01	24.375		
6,900.00	6,795.24	10,601.01	7,499.06	28.56	58.72	-90.48	1,018.75	-320.69	680.33	648.17	32.17	21.150		
6,968.56	6,863.80	10,601.01	7,499.06	28.77	58.72	-90.48	1,018.75	-320.69	611.83	579.54	32.30	18.945		
7,000.00	6,895.23	10,601.01	7,499.06	28.86	58.72	-179.95	1,018.75	-320.69	580.46	548.08	32.38	17.926		
7,050.00	6,945.07	10,601.00	7,499.06	29.00	58.72	-179.97	1,018.76	-320.69	530.91	498.27	32.64	16.265		
7,100.00	6,994.51	10,600.99	7,499.06	29.13	58.72	-179.97	1,018.77	-320.69	482.10	448.95	33.15	14.545		
7,150.00	7,043.31	10,600.97	7,499.06	29.26	58.72	-179.97	1,018.79	-320.69	434.57	400.46	34.10	12.743		
7,200.00	7,091.24	10,600.94	7,499.06	29.38	58.72	-179.96	1,018.81	-320.69	389.06	353.20	35.86	10.850		
7,250.00	7,138.05	10,600.91	7,499.06	29.49	58.72	-179.96	1,018.85	-320.69	346.63	307.76	38.87	8.917		
7,300.00	7,183.54	10,600.87	7,499.06	29.59	58.72	-179.95	1,018.88	-320.69	308.80	265.17	43.63	7.078		
7,350.00	7,227.46	10,600.83	7,499.06	29.69	58.72	-179.95	1,018.92	-320.69	277.68	227.28	50.40	5.510		
7,400.00	7,269.62	10,600.78	7,499.06	29.78	58.72	-179.94	1,018.97	-320.69	255.91	197.10	58.80	4.352		
7,450.00	7,309.79	10,600.73	7,499.06	29.86	58.72	-179.92	1,019.03	-320.69	246.08	178.59	67.49	3.646		
7,461.74	7,318.92	10,600.72	7,499.06	29.88	58.72	-179.92	1,019.04	-320.69	245.71	176.34	69.36	3.542 CC		
7,500.00	7,347.80	10,600.67	7,499.06	29.94	58.72	-179.91	1,019.08	-320.69	249.67	175.08	74.59	3.347 ES, SF		
7,550.00	7,383.44	10,600.61	7,499.06	30.00	58.71	-179.89	1,019.15	-320.69	266.12	187.11	79.01	3.368		
7,600.00	7,416.56	10,600.54	7,499.06	30.06	58.71	-179.87	1,019.21	-320.69	293.20	212.17	81.03	3.618		
7,650.00	7,446.98	10,600.47	7,499.06	30.11	58.71	-179.84	1,019.28	-320.69	328.17	246.64	81.54	4.025		
7,700.00	7,474.56	10,600.40	7,499.06	30.16	58.71	-179.80	1,019.36	-320.69	368.66	287.33	81.34	4.532		
7,750.00	7,499.17	10,600.32	7,499.06	30.20	58.71	-179.75	1,019.44	-320.69	412.88	331.98	80.90	5.103		
7,800.00	7,520.67	10,600.24	7,499.06	30.25	58.71	-179.67	1,019.52	-320.69	459.57	379.11	80.47	5.711		
7,850.00	7,538.98	10,600.16	7,499.06	30.35	58.71	-179.52	1,019.60	-320.69	507.86	427.74	80.12	6.339		
7,900.00	7,554.00	10,600.07	7,499.06	30.66	58.71	-179.21	1,019.68	-320.69	557.12	477.23	79.89	6.974		
7,950.00	7,565.66	10,599.99	7,499.06	31.26	58.70	-178.00	1,019.77	-320.69	606.91	527.14	79.77	7.608		
8,000.00	7,573.90	10,599.90	7,499.06	31.98	58.70	-4.94	1,019.86	-320.70	656.90	577.14	79.76	8.236		
8,050.00	7,578.68	10,599.81	7,499.06	32.78	58.70	-1.17	1,019.95	-320.70	706.82	626.99	79.82	8.855		
8,093.56	7,580.00	10,599.73	7,499.06	33.51	58.70	-0.72	1,020.03	-320.70	750.09	670.16	79.93	9.384		
8,100.00	7,580.00	10,599.72	7,499.06	33.62	58.70	-0.73	1,020.04	-320.70	756.47	676.52	79.95	9.462		
8,200.00	7,580.00	10,599.54	7,499.06	35.47	58.70	-0.83	1,020.22	-320.70	855.61	775.41	80.20	10.668		
8,300.00	7,580.00	10,599.36	7,499.06	37.50	58.70	-0.92	1,020.39	-320.70	954.94	874.55	80.39	11.879		
8,400.00	7,580.00	10,599.18	7,499.06	39.69	58.69	-1.02	1,020.57	-320.70	1,054.39	973.86	80.53	13.093		
8,500.00	7,580.00	10,599.01	7,499.06	42.01	58.69	-1.12	1,020.75	-320.70	1,153.93	1,073.29	80.65	14.308		
8,600.00	7,580.00	10,598.83	7,499.06	44.44	58.69	-1.22	1,020.93	-320.70	1,253.55	1,172.81	80.74	15.525		
8,700.00	7,580.00	10,598.65	7,499.06	46.96	58.68	-1.31	1,021.11	-320.71	1,353.23	1,272.40	80.83	16.743		
8,800.00	7,580.00	10,598.47	7,499.06	49.56	58.68	-1.41	1,021.29	-320.71	1,452.95	1,372.05	80.89	17.961		

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 3B-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 3B-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		Total		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Factor		
0.00	0.00	0.00	0.00	0.00	0.00	86.40	83.40	1,325.99	1,329.18					
100.00	100.00	61.00	61.00	0.14	0.07	86.40	83.40	1,325.99	1,328.61	1,328.40	0.21	6,479.215		
200.00	200.00	161.00	161.00	0.50	0.18	86.40	83.40	1,325.99	1,328.61	1,327.94	0.67	1,972.872		
300.00	300.00	261.00	261.00	0.85	0.29	86.40	83.40	1,325.99	1,328.61	1,327.47	1.14	1,163.588 CC		
400.00	399.98	360.98	360.98	1.21	0.40	102.57	83.40	1,325.99	1,328.99	1,327.38	1.61	825.750 ES		
500.00	499.84	460.84	460.84	1.58	0.51	102.77	83.40	1,325.99	1,330.14	1,328.06	2.08	640.111		
600.00	599.45	500.00	500.00	1.94	0.55	102.83	83.40	1,325.99	1,333.47	1,330.95	2.52	529.414		
700.00	698.70	500.00	500.00	2.31	0.55	102.61	83.40	1,325.99	1,344.44	1,341.39	3.05	440.941		
800.00	797.47	500.00	500.00	2.70	0.55	102.23	83.40	1,325.99	1,363.43	1,359.78	3.65	373.824		
886.05	881.97	500.00	500.00	3.05	0.55	101.78	83.40	1,325.99	1,385.92	1,381.74	4.18	331.898		
900.00	895.63	500.00	500.00	3.11	0.55	101.78	83.40	1,325.99	1,390.07	1,385.81	4.26	326.164		
1,000.00	993.54	500.00	500.00	3.53	0.55	101.78	83.40	1,325.99	1,423.51	1,418.65	4.85	293.271		
1,100.00	1,091.46	500.00	500.00	3.96	0.55	101.78	83.40	1,325.99	1,463.02	1,457.62	5.41	270.516 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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
0.00	0.00	0.00	0.00	0.00	0.00	86.67	76.36	1,313.17	1,315.50				
100.00	100.00	83.00	83.00	0.14	0.09	86.67	76.36	1,313.17	1,315.39	1,315.15	0.23	5,713.779	
200.00	200.00	183.00	183.00	0.50	0.20	86.67	76.36	1,313.17	1,315.39	1,314.69	0.70	1,879.739	
300.00	300.00	283.00	283.00	0.85	0.31	86.67	76.36	1,313.17	1,315.39	1,314.22	1.17	1,124.908	
400.00	399.98	382.98	382.98	1.21	0.43	102.84	76.36	1,313.17	1,315.77	1,314.13	1.64	803.224	
500.00	499.84	482.84	482.84	1.58	0.54	103.04	76.36	1,313.17	1,316.95	1,314.84	2.11	624.784	
600.00	599.45	582.45	582.45	1.94	0.65	103.37	76.36	1,313.17	1,318.94	1,316.36	2.58	510.734	
700.00	698.70	681.70	681.70	2.31	0.76	103.82	76.36	1,313.17	1,321.83	1,318.76	3.07	431.103	
800.00	797.47	780.47	780.47	2.70	0.87	104.40	76.36	1,313.17	1,325.69	1,322.13	3.56	372.050	
886.05	881.97	864.97	864.97	3.05	0.96	104.98	76.36	1,313.17	1,329.87	1,325.87	4.00	332.079	
900.00	895.63	878.63	878.63	3.11	0.98	105.10	76.36	1,313.17	1,330.62	1,326.54	4.08	326.314	
1,000.00	993.54	976.54	976.54	3.53	1.08	105.92	76.36	1,313.17	1,336.16	1,331.56	4.60	290.219	
1,100.00	1,091.46	1,074.46	1,074.46	3.96	1.19	106.74	76.36	1,313.17	1,341.98	1,336.85	5.14	261.255	
1,200.00	1,189.37	1,172.37	1,172.37	4.40	1.30	107.55	76.36	1,313.17	1,348.09	1,342.42	5.67	237.609	
1,300.00	1,287.29	1,270.29	1,270.29	4.84	1.41	108.36	76.36	1,313.17	1,354.47	1,348.26	6.21	218.004	
1,400.00	1,385.20	1,368.20	1,368.20	5.29	1.52	109.15	76.36	1,313.17	1,361.13	1,354.37	6.75	201.525	
1,500.00	1,483.12	1,458.27	1,458.27	5.73	1.70	109.87	76.46	1,313.38	1,368.28	1,360.92	7.36	185.843	
1,600.00	1,581.03	1,613.73	1,613.70	6.18	2.02	111.05	78.08	1,311.90	1,374.72	1,366.57	8.16	168.530	
1,700.00	1,678.95	1,826.53	1,825.73	6.63	2.50	112.48	85.52	1,296.36	1,374.86	1,365.75	9.11	150.930	
1,800.00	1,776.86	2,019.43	2,015.99	7.08	3.05	113.59	98.65	1,267.69	1,366.98	1,356.97	10.01	136.511	
1,900.00	1,874.78	2,200.88	2,192.22	7.53	3.75	114.33	119.90	1,230.27	1,352.97	1,342.05	10.92	123.894	
2,000.00	1,972.69	2,352.61	2,337.33	7.99	4.48	114.79	142.55	1,192.22	1,334.16	1,322.38	11.78	113.251	
2,100.00	2,070.61	2,477.91	2,455.85	8.44	5.17	115.16	162.24	1,156.64	1,311.81	1,299.23	12.58	104.283	
2,200.00	2,168.52	2,568.50	2,541.34	8.89	5.66	115.41	177.28	1,130.74	1,289.30	1,275.99	13.30	96.906	
2,300.00	2,266.44	2,660.06	2,627.98	9.35	6.14	115.68	191.97	1,105.01	1,267.40	1,253.37	14.03	90.340	
2,400.00	2,364.35	2,746.29	2,709.66	9.80	6.61	115.95	205.85	1,081.13	1,245.94	1,231.20	14.74	84.500	
2,500.00	2,462.27	2,840.39	2,799.23	10.26	7.12	116.27	220.30	1,056.16	1,225.78	1,210.30	15.48	79.185	
2,600.00	2,560.18	2,952.00	2,904.94	10.71	7.77	116.64	238.15	1,025.15	1,204.25	1,188.00	16.26	74.080	
2,700.00	2,658.10	3,050.08	2,997.88	11.17	8.35	117.01	253.37	997.75	1,182.76	1,165.75	17.00	69.556	
2,800.00	2,756.01	3,159.20	3,100.95	11.63	9.03	117.37	271.59	966.91	1,160.77	1,142.98	17.79	65.247	
2,900.00	2,853.93	3,270.87	3,205.88	12.08	9.78	117.70	291.45	934.26	1,137.61	1,119.02	18.60	61.173	
3,000.00	2,951.84	3,359.97	3,289.41	12.54	10.36	117.93	308.10	908.11	1,114.19	1,094.82	19.37	57.524	
3,100.00	3,049.76	3,454.75	3,378.46	12.99	10.95	118.20	325.44	880.68	1,091.28	1,071.15	20.13	54.201	
3,200.00	3,147.67	3,548.60	3,466.77	13.45	11.54	118.51	342.17	853.65	1,068.64	1,047.75	20.89	51.146	
3,300.00	3,245.59	3,646.17	3,558.59	13.91	12.16	118.83	359.72	825.73	1,046.18	1,024.52	21.66	48.304	
3,400.00	3,343.50	3,736.46	3,643.72	14.37	12.71	119.17	375.41	800.04	1,024.05	1,001.65	22.40	45.720	
3,500.00	3,441.42	3,831.23	3,733.19	14.82	13.30	119.53	391.97	773.55	1,002.45	979.31	23.15	43.309	
3,600.00	3,539.33	3,921.86	3,818.85	15.28	13.86	119.87	407.96	748.65	981.32	957.43	23.89	41.076	
3,700.00	3,637.24	4,021.37	3,913.11	15.74	14.47	120.32	424.57	721.40	960.56	935.94	24.61	39.024	
3,800.00	3,735.16	4,119.29	4,005.89	16.19	15.07	120.84	440.12	694.22	939.66	914.34	25.32	37.112	
3,900.00	3,833.07	4,213.80	4,095.43	16.65	15.65	121.33	455.45	668.19	918.98	892.95	26.03	35.306	
4,000.00	3,930.99	4,321.36	4,197.23	17.11	16.32	121.94	472.75	638.06	897.94	871.21	26.72	33.605	
4,100.00	4,028.90	4,415.69	4,286.51	17.57	16.91	122.59	486.74	611.03	876.68	849.29	27.39	32.008	
4,200.00	4,126.82	4,518.07	4,383.34	18.03	17.56	123.28	502.66	581.82	855.48	827.42	28.05	30.494	
4,300.00	4,224.73	4,628.33	4,487.05	18.48	18.30	123.96	521.45	549.47	833.13	804.41	28.72	29.008	
4,400.00	4,322.65	4,723.32	4,576.07	18.94	18.94	124.55	538.30	520.95	810.00	780.59	29.41	27.538	
4,500.00	4,420.56	4,807.77	4,655.64	19.40	19.49	125.13	552.69	496.57	788.31	758.19	30.11	26.177	
4,600.00	4,518.48	4,902.39	4,745.13	19.86	20.08	125.86	567.89	469.86	767.67	736.91	30.76	24.955	
4,700.00	4,616.39	5,004.72	4,841.77	20.31	20.74	126.64	585.02	440.91	746.88	715.49	31.39	23.793	
4,800.00	4,714.31	5,099.96	4,931.56	20.77	21.36	127.40	601.29	413.65	725.79	693.75	32.04	22.654	
4,900.00	4,812.22	5,186.44	5,013.43	21.23	21.90	128.11	615.81	389.87	706.00	673.30	32.70	21.588	
5,000.00	4,910.14	5,272.02	5,094.83	21.69	22.40	128.86	629.72	367.39	687.78	654.42	33.35	20.621	

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 3B-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 3B-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
5,100.00	5,008.05	5,350.00	5,169.64	22.15	22.83	129.60	641.34	348.72	672.36	638.36	33.99	19.778	
5,200.00	5,105.97	5,425.73	5,242.95	22.60	23.20	130.39	651.28	332.56	660.27	625.68	34.59	19.090	
5,300.00	5,203.88	5,505.22	5,320.48	23.06	23.55	131.30	660.20	317.45	651.42	616.29	35.13	18.545	
5,400.00	5,301.80	5,585.16	5,398.93	23.52	23.86	132.28	667.64	304.07	645.71	610.09	35.62	18.128	
5,500.00	5,399.71	5,668.18	5,480.83	23.98	24.15	133.37	673.88	292.05	643.13	607.05	36.08	17.824	
5,518.70	5,418.03	5,684.53	5,497.00	24.07	24.20	133.58	675.01	289.85	642.91	606.75	36.17	17.776	
5,600.00	5,497.85	5,756.35	5,568.09	24.43	24.42	134.45	679.70	280.78	642.02	605.47	36.54	17.569	
5,700.00	5,596.59	5,844.72	5,655.73	24.85	24.68	135.36	684.64	270.57	640.34	603.34	37.00	17.307	
5,800.00	5,695.82	5,930.80	5,741.30	25.24	24.90	136.08	688.44	262.06	638.38	600.95	37.43	17.055	
5,900.00	5,795.42	6,020.71	5,830.84	25.59	25.11	136.61	691.79	254.61	635.75	597.88	37.87	16.786	
6,000.00	5,895.27	6,104.00	5,913.89	25.92	25.28	136.98	693.70	248.65	632.42	594.17	38.25	16.533	
6,104.76	6,000.00	6,196.63	6,006.38	26.24	25.43	121.08	694.66	243.83	628.62	589.97	38.66	16.261	
6,200.00	6,095.24	6,283.00	6,092.70	26.51	25.55	121.19	695.07	240.81	625.56	586.52	39.04	16.025	
6,300.00	6,195.24	6,377.00	6,186.67	26.80	25.67	121.34	694.80	238.24	623.39	583.94	39.45	15.802	
6,400.00	6,295.24	6,474.38	6,284.02	27.09	25.78	121.51	693.86	236.22	622.13	582.24	39.89	15.595	
6,500.00	6,395.24	6,571.10	6,380.71	27.38	25.88	121.69	692.50	234.66	621.49	581.16	40.33	15.410	
6,588.57	6,483.81	6,657.22	6,466.81	27.64	25.97	121.88	690.87	233.45	621.32	580.60	40.72	15.258	
6,600.00	6,495.24	6,668.33	6,477.92	27.67	25.98	121.90	690.63	233.31	621.32	580.55	40.77	15.239	
6,700.00	6,595.24	6,764.88	6,574.44	27.97	26.07	122.14	688.25	232.15	621.61	580.41	41.20	15.087	
6,800.00	6,695.24	6,860.14	6,669.64	28.26	26.16	122.42	685.18	231.33	622.61	580.99	41.62	14.960	
6,900.00	6,795.24	6,955.74	6,765.16	28.56	26.23	122.75	681.29	230.84	624.37	582.33	42.04	14.853	
6,968.56	6,863.80	7,021.71	6,831.05	28.77	26.28	123.01	678.05	230.56	625.95	583.62	42.33	14.788	
7,000.00	6,895.23	7,051.98	6,861.27	28.86	26.30	123.75	676.40	230.43	626.20	583.74	42.46	14.749	
7,050.00	6,945.07	7,100.40	6,909.61	29.00	26.34	124.25	673.65	230.26	624.35	581.69	42.66	14.637	
7,100.00	6,994.51	7,148.35	6,957.49	29.13	26.37	124.51	670.84	230.15	619.78	576.93	42.85	14.464	
7,150.00	7,043.31	7,195.28	7,004.33	29.26	26.40	124.76	668.01	230.14	612.59	569.56	43.03	14.235	
7,200.00	7,091.24	7,241.41	7,050.37	29.38	26.42	125.01	665.16	230.24	602.92	559.71	43.21	13.952	
7,250.00	7,138.05	7,286.55	7,095.41	29.49	26.45	125.26	662.29	230.44	590.92	547.52	43.40	13.616	
7,300.00	7,183.54	7,331.00	7,139.77	29.59	26.48	125.51	659.40	230.73	576.78	533.18	43.60	13.229	
7,350.00	7,227.46	7,372.11	7,180.79	29.69	26.50	125.76	656.57	231.06	560.77	516.97	43.80	12.804	
7,400.00	7,269.62	7,412.06	7,220.62	29.78	26.52	126.01	653.58	231.40	543.21	499.18	44.03	12.337	
7,450.00	7,309.79	7,450.26	7,258.70	29.86	26.53	126.26	650.51	231.73	524.47	480.15	44.32	11.834	
7,500.00	7,347.80	7,486.49	7,294.80	29.94	26.55	126.51	647.43	232.07	504.96	460.20	44.76	11.282	
7,550.00	7,383.44	7,521.00	7,329.16	30.00	26.56	126.76	644.34	232.40	485.19	439.84	45.34	10.700	
7,600.00	7,416.56	7,561.95	7,369.97	30.06	26.59	127.01	640.84	232.57	465.41	419.12	46.29	10.054	
7,650.00	7,446.98	7,599.18	7,407.09	30.11	26.61	127.26	638.12	232.29	446.08	398.67	47.42	9.408	
7,700.00	7,474.56	7,630.26	7,438.10	30.16	26.64	127.51	636.18	231.78	428.22	379.53	48.69	8.795	
7,750.00	7,499.17	7,656.34	7,464.14	30.20	26.66	127.76	634.73	231.33	412.98	362.83	50.14	8.236	
7,800.00	7,520.67	7,679.05	7,486.82	30.25	26.68	128.01	633.60	230.94	401.36	349.58	51.78	7.752	
7,850.00	7,538.98	7,698.26	7,506.00	30.35	26.70	128.26	632.73	230.62	394.29	340.78	53.51	7.369	
7,890.75	7,551.48	7,711.16	7,518.89	30.58	26.71	128.51	632.20	230.41	392.42	337.51	54.90	7.147 CC	
7,900.00	7,554.00	7,713.66	7,521.39	30.66	26.72	128.76	632.10	230.37	392.52	337.31	55.20	7.110 ES	
7,950.00	7,565.66	7,725.09	7,532.81	31.26	26.73	129.01	631.65	230.18	396.53	339.81	56.72	6.990 SF	
8,000.00	7,573.90	7,732.93	7,540.64	31.98	26.74	129.26	631.36	230.06	406.43	348.47	57.96	7.012	
8,050.00	7,578.68	7,737.13	7,544.84	32.78	26.74	129.51	631.20	229.99	421.95	363.09	58.86	7.169	
8,093.56	7,580.00	7,737.79	7,545.50	33.51	26.74	129.76	631.18	229.98	439.61	380.25	59.36	7.406	
8,100.00	7,580.00	7,737.68	7,545.39	33.62	26.74	129.91	631.18	229.98	442.52	383.11	59.41	7.449	
8,200.00	7,580.00	7,735.97	7,543.68	35.47	26.74	130.16	631.24	230.01	496.30	436.59	59.71	8.312	
8,300.00	7,580.00	7,734.24	7,541.96	37.50	26.74	130.41	631.31	230.03	562.84	503.46	59.38	9.479	
8,400.00	7,580.00	7,732.51	7,540.23	39.69	26.74	130.66	631.37	230.06	638.18	579.39	58.79	10.856	
8,500.00	7,580.00	7,730.76	7,538.48	42.01	26.74	130.91	631.44	230.09	719.54	661.41	58.13	12.378	
8,600.00	7,580.00	7,729.01	7,536.73	44.44	26.73	131.16	631.50	230.12	805.11	747.61	57.50	14.002	

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 3B-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 3B-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	
8,700.00	7,580.00	7,727.24	7,534.96	46.96	26.73	85.92	631.57	230.15	893.68	836.76	56.92	15.700	
8,800.00	7,580.00	7,725.46	7,533.18	49.56	26.73	85.66	631.64	230.17	984.44	928.02	56.42	17.450	
8,900.00	7,580.00	7,723.67	7,531.39	52.22	26.73	85.40	631.71	230.20	1,076.83	1,020.86	55.97	19.239	
9,000.00	7,580.00	7,721.86	7,529.59	54.94	26.73	85.13	631.78	230.23	1,170.47	1,114.89	55.58	21.058	
9,100.00	7,580.00	7,720.05	7,527.77	57.72	26.72	84.87	631.85	230.26	1,265.09	1,209.84	55.24	22.900	
9,200.00	7,580.00	7,718.22	7,525.95	60.53	26.72	84.61	631.92	230.29	1,360.47	1,305.52	54.95	24.760	
9,300.00	7,580.00	7,716.38	7,524.11	63.39	26.72	84.34	631.99	230.32	1,456.47	1,401.78	54.69	26.633	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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							
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	1.08	10.21	0.19	10.21				
100.00	100.00	100.00	100.00	0.14	0.14	1.08	10.21	0.19	10.21	9.93	0.28	36.981	
200.00	200.00	200.00	200.00	0.50	0.50	1.08	10.21	0.19	10.21	9.21	0.99	10.280 CC, ES	
300.00	300.00	299.62	299.60	0.85	0.85	-1.16	11.88	-0.24	11.89	10.14	1.75	6.789	
400.00	399.98	399.10	398.94	1.21	1.22	12.12	16.90	-1.54	15.30	12.76	2.54	6.029	
500.00	499.84	498.45	497.91	1.58	1.58	10.63	25.24	-3.70	18.72	15.40	3.32	5.631	
600.00	599.45	597.70	596.42	1.94	1.95	9.86	36.89	-6.71	22.15	18.03	4.11	5.386	
700.00	698.70	696.82	694.33	2.31	2.34	9.51	51.81	-10.56	25.56	20.66	4.90	5.219	
800.00	797.47	795.83	791.54	2.70	2.75	9.44	69.98	-15.26	28.96	23.27	5.68	5.095	
886.05	881.97	881.61	875.35	3.05	3.12	9.71	87.71	-19.84	31.20	24.90	6.30	4.953	
900.00	895.63	895.56	888.97	3.11	3.18	9.81	90.60	-20.59	31.38	24.98	6.40	4.902	
1,000.00	993.54	995.55	986.63	3.53	3.63	10.51	111.38	-25.96	32.62	25.50	7.12	4.582	
1,100.00	1,091.46	1,095.54	1,084.29	3.96	4.08	11.15	132.15	-31.33	33.88	26.03	7.85	4.315	
1,200.00	1,189.37	1,195.53	1,181.95	4.40	4.53	11.75	152.92	-36.70	35.13	26.54	8.59	4.089	
1,300.00	1,287.29	1,295.52	1,279.62	4.84	4.99	12.31	173.69	-42.07	36.39	27.05	9.34	3.896	
1,400.00	1,385.20	1,395.51	1,377.28	5.29	5.45	12.83	194.47	-47.44	37.66	27.56	10.10	3.729	
1,500.00	1,483.12	1,495.50	1,474.94	5.73	5.91	13.31	215.24	-52.81	38.92	28.06	10.86	3.584	
1,600.00	1,581.03	1,595.50	1,572.60	6.18	6.37	13.77	236.01	-58.18	40.19	28.57	11.63	3.457	
1,700.00	1,678.95	1,695.49	1,670.27	6.63	6.83	14.19	256.78	-63.55	41.46	29.07	12.40	3.345	
1,800.00	1,776.86	1,795.48	1,767.93	7.08	7.29	14.60	277.56	-68.92	42.74	29.57	13.17	3.245	
1,900.00	1,874.78	1,895.47	1,865.59	7.53	7.76	14.98	298.33	-74.29	44.01	30.06	13.95	3.156	
2,000.00	1,972.69	1,995.46	1,963.25	7.99	8.22	15.33	319.10	-79.66	45.29	30.56	14.73	3.075	
2,100.00	2,070.61	2,095.45	2,060.92	8.44	8.69	15.67	339.87	-85.03	46.57	31.06	15.51	3.003	
2,200.00	2,168.52	2,195.44	2,158.58	8.89	9.15	15.99	360.65	-90.40	47.85	31.56	16.29	2.937	
2,300.00	2,266.44	2,295.44	2,256.24	9.35	9.62	16.29	381.42	-95.77	49.13	32.05	17.08	2.877	
2,400.00	2,364.35	2,395.43	2,353.90	9.80	10.08	16.58	402.19	-101.14	50.41	32.55	17.86	2.822	
2,500.00	2,462.27	2,495.42	2,451.57	10.26	10.55	16.85	422.96	-106.51	51.70	33.05	18.65	2.772	
2,600.00	2,560.18	2,595.41	2,549.23	10.71	11.02	17.11	443.74	-111.88	52.98	33.54	19.44	2.725	
2,700.00	2,658.10	2,695.40	2,646.89	11.17	11.48	17.36	464.51	-117.25	54.27	34.04	20.23	2.682	
2,800.00	2,756.01	2,795.39	2,744.55	11.63	11.95	17.60	485.28	-122.62	55.56	34.53	21.02	2.643	
2,900.00	2,853.93	2,895.38	2,842.22	12.08	12.42	17.82	506.06	-127.99	56.84	35.03	21.82	2.606	
3,000.00	2,951.84	2,995.38	2,939.88	12.54	12.89	18.04	526.83	-133.36	58.13	35.52	22.61	2.571	
3,100.00	3,049.76	3,095.37	3,037.54	12.99	13.35	18.24	547.60	-138.73	59.42	36.02	23.41	2.539	
3,200.00	3,147.67	3,195.36	3,135.20	13.45	13.82	18.44	568.37	-144.10	60.71	36.51	24.20	2.509	
3,300.00	3,245.59	3,295.35	3,232.87	13.91	14.29	18.63	589.15	-149.47	62.01	37.01	25.00	2.481	
3,400.00	3,343.50	3,395.34	3,330.53	14.37	14.76	18.81	609.92	-154.84	63.30	37.50	25.79	2.454	
3,500.00	3,441.42	3,495.33	3,428.19	14.82	15.23	18.99	630.69	-160.21	64.59	38.00	26.59	2.429	
3,600.00	3,539.33	3,595.32	3,525.85	15.28	15.69	19.15	651.46	-165.58	65.88	38.49	27.39	2.405	
3,700.00	3,637.24	3,695.32	3,623.52	15.74	16.16	19.31	672.24	-170.95	67.18	38.99	28.19	2.383	
3,800.00	3,735.16	3,795.31	3,721.18	16.19	16.63	19.47	693.01	-176.32	68.47	39.48	28.99	2.362	
3,900.00	3,833.07	3,895.30	3,818.84	16.65	17.10	19.62	713.78	-181.69	69.77	39.98	29.79	2.342	
4,000.00	3,930.99	3,995.29	3,916.50	17.11	17.57	19.76	734.55	-187.06	71.06	40.47	30.59	2.323	
4,100.00	4,028.90	4,095.28	4,014.17	17.57	18.03	19.90	755.33	-192.43	72.36	40.97	31.39	2.305	
4,200.00	4,126.82	4,195.27	4,111.83	18.03	18.50	20.03	776.10	-197.80	73.65	41.46	32.19	2.288	
4,300.00	4,224.73	4,295.26	4,209.49	18.48	18.97	20.16	796.87	-203.17	74.95	41.96	32.99	2.272	
4,400.00	4,322.65	4,395.26	4,307.15	18.94	19.44	20.29	817.64	-208.54	76.25	42.45	33.79	2.256	
4,500.00	4,420.56	4,495.25	4,404.82	19.40	19.91	20.41	838.42	-213.91	77.54	42.95	34.59	2.242	
4,600.00	4,518.48	4,595.24	4,502.48	19.86	20.38	20.52	859.19	-219.27	78.84	43.44	35.40	2.227	
4,700.00	4,616.39	4,695.23	4,600.14	20.31	20.85	20.64	879.96	-224.64	80.14	43.94	36.20	2.214	
4,800.00	4,714.31	4,795.22	4,697.80	20.77	21.31	20.75	900.73	-230.01	81.44	44.43	37.00	2.201	
4,900.00	4,812.22	4,895.21	4,795.47	21.23	21.78	20.85	921.51	-235.38	82.73	44.93	37.80	2.188	
5,000.00	4,910.14	4,995.21	4,893.13	21.69	22.25	20.95	942.28	-240.75	84.03	45.43	38.61	2.177	

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 3B-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 3B-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							
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	5,008.05	5,095.20	4,990.79	22.15	22.72	21.05	963.05	-246.12	85.33	45.92	39.41	2.165	
5,200.00	5,105.97	5,195.19	5,088.45	22.60	23.19	21.15	983.82	-251.49	86.63	46.42	40.22	2.154	
5,300.00	5,203.88	5,295.18	5,186.12	23.06	23.66	21.24	1,004.60	-256.86	87.93	46.91	41.02	2.144	
5,400.00	5,301.80	5,395.17	5,283.78	23.52	24.13	21.33	1,025.37	-262.23	89.23	47.41	41.82	2.133	
5,500.00	5,399.71	5,495.16	5,381.44	23.98	24.59	21.42	1,046.14	-267.60	90.53	47.90	42.63	2.124	
5,518.70	5,418.03	5,513.86	5,399.71	24.07	24.68	21.44	1,050.03	-268.61	90.77	47.99	42.78	2.122	
5,600.00	5,497.85	5,595.13	5,479.08	24.43	25.06	21.26	1,066.91	-272.97	92.90	49.50	43.41	2.140	
5,700.00	5,596.59	5,694.96	5,576.58	24.85	25.53	20.42	1,087.65	-278.33	98.48	54.38	44.11	2.233	
5,800.00	5,695.82	5,797.85	5,677.40	25.24	26.00	19.25	1,107.56	-283.48	105.95	61.16	44.79	2.366	
5,900.00	5,795.42	5,901.35	5,779.47	25.59	26.44	18.21	1,124.06	-287.75	113.33	67.92	45.41	2.496	
6,000.00	5,895.27	6,005.14	5,882.39	25.92	26.84	17.26	1,137.01	-291.09	120.59	74.62	45.97	2.623	
6,104.76	6,000.00	6,114.18	5,990.96	26.24	27.23	0.26	1,146.71	-293.60	128.06	81.57	46.49	2.755	
6,200.00	6,095.24	6,213.67	6,090.30	26.51	27.55	-0.35	1,152.07	-294.99	133.19	86.29	46.91	2.840	
6,300.00	6,195.24	6,318.42	6,195.01	26.80	27.86	-0.57	1,154.10	-295.51	135.14	87.83	47.31	2.856	
6,400.00	6,295.24	6,418.64	6,295.24	27.09	28.14	-0.57	1,154.10	-295.51	135.14	87.19	47.95	2.818	
6,500.00	6,395.24	6,518.64	6,395.24	27.38	28.42	-0.57	1,154.10	-295.51	135.14	86.53	48.61	2.780	
6,600.00	6,495.24	6,618.64	6,495.24	27.67	28.70	-0.57	1,154.10	-295.51	135.14	85.87	49.27	2.743	
6,700.00	6,595.24	6,718.64	6,595.24	27.97	28.99	-0.57	1,154.10	-295.51	135.14	85.21	49.93	2.706	
6,716.19	6,611.43	6,734.83	6,611.43	28.02	29.03	-0.57	1,154.10	-295.51	135.14	85.10	50.04	2.701	
6,800.00	6,695.24	6,818.64	6,695.24	28.26	29.27	-0.57	1,154.10	-295.51	135.14	84.54	50.60	2.671	
6,800.10	6,695.34	6,818.74	6,695.34	28.27	29.27	-0.57	1,154.10	-295.51	135.14	84.54	50.60	2.671	
6,900.00	6,795.24	6,917.97	6,794.24	28.56	29.54	2.43	1,154.18	-288.44	135.33	83.80	51.53	2.626	
6,968.56	6,863.80	6,984.11	6,859.20	28.77	29.70	7.58	1,154.30	-276.15	136.60	84.01	52.59	2.598	
7,000.00	6,895.23	7,013.73	6,887.87	28.86	29.77	-78.93	1,154.38	-268.72	137.84	84.69	53.15	2.593	
7,050.00	6,945.07	7,060.30	6,932.26	29.00	29.88	-74.50	1,154.52	-254.65	140.51	86.53	53.98	2.603	
7,100.00	6,994.51	7,106.24	6,975.06	29.13	29.98	-70.32	1,154.69	-237.98	143.93	89.26	54.67	2.633	
7,150.00	7,043.31	7,150.00	7,014.75	29.26	30.06	-66.57	1,154.88	-219.58	147.98	92.90	55.08	2.687	
7,200.00	7,091.24	7,196.40	7,055.53	29.38	30.15	-62.88	1,155.10	-197.46	152.52	97.13	55.39	2.754	
7,250.00	7,138.05	7,240.69	7,093.04	29.49	30.22	-59.64	1,155.34	-173.92	157.43	102.03	55.40	2.842	
7,300.00	7,183.54	7,284.52	7,128.65	29.59	30.29	-56.70	1,155.60	-148.39	162.59	107.41	55.17	2.947	
7,350.00	7,227.46	7,327.90	7,162.31	29.69	30.36	-54.06	1,155.88	-121.02	167.88	113.13	54.75	3.066	
7,400.00	7,269.62	7,370.89	7,193.96	29.78	30.41	-51.69	1,156.17	-91.95	173.20	119.04	54.16	3.198	
7,450.00	7,309.79	7,413.51	7,223.57	29.86	30.46	-49.58	1,156.48	-61.29	178.47	125.04	53.44	3.340	
7,500.00	7,347.80	7,455.80	7,251.08	29.94	30.50	-47.71	1,156.81	-29.19	183.61	130.99	52.62	3.489	
7,550.00	7,383.44	7,500.00	7,277.77	30.00	30.55	-46.00	1,157.17	6.03	188.56	136.55	52.00	3.626	
7,600.00	7,416.56	7,539.49	7,299.73	30.06	30.58	-44.61	1,157.50	38.84	193.21	142.31	50.90	3.796	
7,650.00	7,446.98	7,580.96	7,320.81	30.11	30.60	-43.35	1,157.86	74.54	197.57	147.50	50.07	3.946	
7,700.00	7,474.56	7,622.20	7,339.69	30.16	30.63	-42.25	1,158.24	111.20	201.56	152.25	49.32	4.087	
7,750.00	7,499.17	7,663.25	7,356.36	30.20	30.65	-41.32	1,158.62	148.71	205.16	156.48	48.68	4.214	
7,800.00	7,520.67	7,700.00	7,369.43	30.25	30.67	-40.58	1,158.97	183.05	208.38	160.53	47.85	4.355	
7,850.00	7,538.98	7,744.89	7,382.99	30.35	30.71	-39.88	1,159.40	225.83	211.05	163.15	47.90	4.406	
7,900.00	7,554.00	7,785.52	7,392.93	30.66	30.87	-39.35	1,159.80	265.22	213.28	165.46	47.82	4.460	
7,950.00	7,565.66	7,826.07	7,400.60	31.26	31.36	-38.96	1,160.21	305.02	215.02	167.04	47.98	4.482	
8,000.00	7,573.90	7,866.54	7,406.01	31.98	31.97	-38.68	1,160.61	345.13	216.26	167.87	48.39	4.469	
8,050.00	7,578.68	7,906.97	7,409.13	32.78	32.63	-38.53	1,161.02	385.43	216.97	167.91	49.06	4.423	
8,093.56	7,580.00	7,942.20	7,410.00	33.51	33.23	-38.48	1,161.38	420.65	217.17	167.31	49.86	4.356	
8,093.59	7,580.00	7,942.20	7,410.00	33.51	33.23	-38.48	1,161.38	420.65	217.17	167.31	49.86	4.356	
8,100.00	7,580.00	7,948.61	7,410.00	33.62	33.35	-38.48	1,161.45	427.06	217.17	167.16	50.01	4.343	
8,200.00	7,580.00	8,048.61	7,410.00	35.47	35.23	-38.48	1,162.46	527.05	217.17	164.73	52.44	4.141	
8,300.00	7,580.00	8,148.61	7,410.00	37.50	37.28	-38.48	1,163.48	627.05	217.17	162.09	55.08	3.943	
8,400.00	7,580.00	8,248.61	7,410.00	39.69	39.48	-38.48	1,164.50	727.04	217.17	159.27	57.90	3.751	
8,500.00	7,580.00	8,348.61	7,410.00	42.01	41.81	-38.48	1,165.51	827.04	217.17	156.30	60.88	3.567	

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 3B-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 3B-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				Total		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Separation Factor		
8,600.00	7,580.00	8,448.61	7,410.00	44.44	44.24	-38.48	1,166.53	927.03	217.17	153.18	63.99	3.394		
8,700.00	7,580.00	8,548.61	7,410.00	46.96	46.77	-38.48	1,167.54	1,027.03	217.17	149.96	67.21	3.231		
8,800.00	7,580.00	8,648.61	7,410.00	49.56	49.38	-38.48	1,168.56	1,127.02	217.17	146.63	70.54	3.079		
8,900.00	7,580.00	8,748.61	7,410.00	52.22	52.06	-38.48	1,169.58	1,227.02	217.17	143.21	73.96	2.936		
9,000.00	7,580.00	8,848.61	7,410.00	54.94	54.79	-38.48	1,170.59	1,327.01	217.17	139.72	77.45	2.804		
9,100.00	7,580.00	8,948.61	7,410.00	57.72	57.57	-38.48	1,171.61	1,427.00	217.17	136.17	81.00	2.681		
9,200.00	7,580.00	9,048.61	7,410.00	60.53	60.39	-38.48	1,172.63	1,527.00	217.17	132.55	84.62	2.567		
9,300.00	7,580.00	9,148.61	7,410.00	63.39	63.25	-38.48	1,173.64	1,626.99	217.17	128.89	88.28	2.460		
9,400.00	7,580.00	9,248.61	7,410.00	66.27	66.14	-38.48	1,174.66	1,726.99	217.17	125.18	91.99	2.361		
9,500.00	7,580.00	9,348.61	7,410.00	69.18	69.06	-38.48	1,175.67	1,826.98	217.17	121.43	95.74	2.268		
9,600.00	7,580.00	9,448.61	7,410.00	72.12	72.00	-38.48	1,176.69	1,926.98	217.17	117.65	99.52	2.182		
9,700.00	7,580.00	9,548.61	7,410.00	75.08	74.97	-38.48	1,177.71	2,026.97	217.17	113.84	103.33	2.102		
9,800.00	7,580.00	9,648.61	7,410.00	78.06	77.95	-38.48	1,178.72	2,126.97	217.17	110.00	107.17	2.026		
9,900.00	7,580.00	9,748.61	7,410.00	81.06	80.95	-38.48	1,179.74	2,226.96	217.17	106.13	111.04	1.956		
10,000.00	7,580.00	9,848.61	7,410.00	84.07	83.97	-38.48	1,180.75	2,326.96	217.17	102.25	114.92	1.890		
10,100.00	7,580.00	9,948.61	7,410.00	87.09	86.99	-38.48	1,181.77	2,426.95	217.17	98.34	118.83	1.828		
10,200.00	7,580.00	10,048.61	7,410.00	90.13	90.04	-38.48	1,182.79	2,526.95	217.17	94.41	122.76	1.769		
10,300.00	7,580.00	10,148.61	7,410.00	93.18	93.09	-38.48	1,183.80	2,626.94	217.17	90.47	126.70	1.714		
10,400.00	7,580.00	10,248.61	7,410.00	96.24	96.15	-38.48	1,184.82	2,726.94	217.17	86.52	130.65	1.662		
10,500.00	7,580.00	10,348.61	7,410.00	99.31	99.22	-38.48	1,185.84	2,826.93	217.17	82.55	134.63	1.613		
10,600.00	7,580.00	10,448.61	7,410.00	102.39	102.30	-38.48	1,186.85	2,926.93	217.17	78.56	138.61	1.567		
10,700.00	7,580.00	10,548.61	7,410.00	105.47	105.39	-38.48	1,187.87	3,026.92	217.17	74.57	142.60	1.523		
10,800.00	7,580.00	10,648.61	7,410.00	108.56	108.48	-38.48	1,188.88	3,126.92	217.17	70.56	146.61	1.481 Level 3		
10,900.00	7,580.00	10,748.61	7,410.00	111.66	111.58	-38.48	1,189.90	3,226.91	217.17	66.55	150.62	1.442 Level 3		
11,000.00	7,580.00	10,848.61	7,410.00	114.76	114.69	-38.48	1,190.92	3,326.91	217.17	62.53	154.65	1.404 Level 3		
11,100.00	7,580.00	10,948.61	7,410.00	117.87	117.80	-38.48	1,191.93	3,426.90	217.17	58.49	158.68	1.369 Level 3		
11,200.00	7,580.00	11,048.61	7,410.00	120.99	120.92	-38.48	1,192.95	3,526.90	217.17	54.45	162.72	1.335 Level 3		
11,300.00	7,580.00	11,148.61	7,410.00	124.11	124.04	-38.48	1,193.97	3,626.89	217.17	50.41	166.76	1.302 Level 3		
11,400.00	7,580.00	11,248.61	7,410.00	127.23	127.16	-38.48	1,194.98	3,726.89	217.17	46.35	170.82	1.271 Level 3		
11,500.00	7,580.00	11,348.61	7,410.00	130.36	130.29	-38.48	1,196.00	3,826.88	217.17	42.30	174.87	1.242 Level 2		
11,600.00	7,580.00	11,448.61	7,410.00	133.49	133.43	-38.48	1,197.01	3,926.88	217.17	38.23	178.94	1.214 Level 2		
11,700.00	7,580.00	11,548.61	7,410.00	136.63	136.56	-38.48	1,198.03	4,026.87	217.17	34.16	183.01	1.187 Level 2		
11,800.00	7,580.00	11,648.61	7,410.00	139.76	139.70	-38.48	1,199.05	4,126.87	217.17	30.09	187.08	1.161 Level 2		
11,900.00	7,580.00	11,748.61	7,410.00	142.91	142.84	-38.48	1,200.06	4,226.86	217.17	26.01	191.16	1.136 Level 2		
12,000.00	7,580.00	11,848.61	7,410.00	146.05	145.99	-38.48	1,201.08	4,326.86	217.17	21.92	195.25	1.112 Level 2		
12,100.00	7,580.00	11,948.61	7,410.00	149.20	149.14	-38.48	1,202.09	4,426.85	217.17	17.83	199.34	1.089 Level 2		
12,170.36	7,580.00	12,018.97	7,410.00	151.41	151.35	-38.48	1,202.81	4,497.21	217.17	14.96	202.21	1.074 Level 2, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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		
0.00	0.00	0.00	0.00	0.00	0.00	179.50	-9.83	0.08	9.83					
100.00	100.00	100.00	100.00	0.14	0.14	179.50	-9.83	0.08	9.83	9.56	0.28	35.617		
200.00	200.00	200.00	200.00	0.50	0.50	179.50	-9.83	0.08	9.83	8.84	0.99	9.901		
300.00	300.00	300.00	300.00	0.85	0.85	179.50	-9.83	0.08	9.83	8.12	1.71	5.750	CC, ES	
400.00	399.98	399.98	399.98	1.21	1.21	-166.72	-9.83	0.08	11.52	9.09	2.43	4.746		
500.00	499.84	500.37	500.35	1.58	1.57	-169.61	-8.16	-0.45	14.94	11.78	3.17	4.717		
600.00	599.45	600.88	600.72	1.94	1.94	-171.10	-3.12	-2.06	18.39	14.46	3.93	4.677		
700.00	698.70	701.52	700.96	2.31	2.30	-171.86	5.27	-4.74	21.84	17.13	4.71	4.640		
800.00	797.47	802.28	800.96	2.70	2.68	-172.17	17.03	-8.50	25.28	19.80	5.49	4.608		
886.05	881.97	889.08	886.71	3.05	3.01	-172.22	29.84	-12.59	28.24	22.07	6.16	4.582		
900.00	895.63	903.16	900.57	3.11	3.06	-172.20	32.15	-13.33	28.68	22.41	6.27	4.573		
1,000.00	993.54	1,003.51	999.19	3.53	3.47	-171.71	49.83	-18.98	30.59	23.58	7.01	4.362		
1,100.00	1,091.46	1,103.49	1,097.41	3.96	3.88	-171.19	67.67	-24.68	32.28	24.53	7.74	4.169		
1,200.00	1,189.37	1,203.48	1,195.62	4.40	4.30	-170.73	85.51	-30.38	33.96	25.48	8.48	4.006		
1,300.00	1,287.29	1,303.46	1,293.84	4.84	4.72	-170.31	103.35	-36.08	35.65	26.43	9.22	3.866		
1,400.00	1,385.20	1,403.45	1,392.05	5.29	5.15	-169.93	121.19	-41.78	37.34	27.37	9.97	3.745		
1,500.00	1,483.12	1,503.43	1,490.27	5.73	5.58	-169.59	139.03	-47.48	39.03	28.31	10.72	3.640		
1,600.00	1,581.03	1,603.42	1,588.49	6.18	6.01	-169.27	156.86	-53.18	40.73	29.25	11.48	3.547		
1,700.00	1,678.95	1,703.40	1,686.70	6.63	6.44	-168.98	174.70	-58.88	42.42	30.18	12.24	3.465		
1,800.00	1,776.86	1,803.39	1,784.92	7.08	6.88	-168.71	192.54	-64.58	44.12	31.11	13.00	3.393		
1,900.00	1,874.78	1,903.37	1,883.13	7.53	7.31	-168.46	210.38	-70.28	45.81	32.04	13.77	3.327		
2,000.00	1,972.69	2,003.36	1,981.35	7.99	7.75	-168.22	228.22	-75.98	47.51	32.97	14.54	3.268		
2,100.00	2,070.61	2,103.34	2,079.57	8.44	8.19	-168.01	246.05	-81.67	49.21	33.90	15.30	3.215		
2,200.00	2,168.52	2,203.33	2,177.78	8.89	8.63	-167.81	263.89	-87.37	50.91	34.83	16.07	3.167		
2,300.00	2,266.44	2,303.32	2,276.00	9.35	9.07	-167.62	281.73	-93.07	52.60	35.76	16.85	3.123		
2,400.00	2,364.35	2,403.30	2,374.21	9.80	9.51	-167.44	299.57	-98.77	54.30	36.69	17.62	3.082		
2,500.00	2,462.27	2,503.29	2,472.43	10.26	9.95	-167.27	317.41	-104.47	56.00	37.61	18.39	3.045		
2,600.00	2,560.18	2,603.27	2,570.65	10.71	10.39	-167.12	335.25	-110.17	57.70	38.54	19.17	3.011		
2,700.00	2,658.10	2,703.26	2,668.86	11.17	10.83	-166.97	353.08	-115.87	59.41	39.47	19.94	2.979		
2,800.00	2,756.01	2,803.24	2,767.08	11.63	11.27	-166.83	370.92	-121.57	61.11	40.39	20.72	2.950		
2,900.00	2,853.93	2,903.23	2,865.30	12.08	11.71	-166.70	388.76	-127.27	62.81	41.32	21.49	2.922		
3,000.00	2,951.84	3,003.21	2,963.51	12.54	12.15	-166.57	406.60	-132.97	64.51	42.24	22.27	2.897		
3,100.00	3,049.76	3,103.20	3,061.73	12.99	12.60	-166.45	424.44	-138.67	66.21	43.17	23.05	2.873		
3,200.00	3,147.67	3,203.18	3,159.94	13.45	13.04	-166.34	442.27	-144.37	67.91	44.09	23.82	2.851		
3,300.00	3,245.59	3,303.17	3,258.16	13.91	13.48	-166.24	460.11	-150.07	69.62	45.01	24.60	2.830		
3,400.00	3,343.50	3,403.16	3,356.38	14.37	13.92	-166.13	477.95	-155.77	71.32	45.94	25.38	2.810		
3,500.00	3,441.42	3,503.14	3,454.59	14.82	14.36	-166.04	495.79	-161.47	73.02	46.86	26.16	2.791		
3,600.00	3,539.33	3,603.13	3,552.81	15.28	14.81	-165.94	513.63	-167.17	74.73	47.79	26.94	2.774		
3,700.00	3,637.24	3,703.11	3,651.02	15.74	15.25	-165.85	531.46	-172.87	76.43	48.71	27.72	2.757		
3,800.00	3,735.16	3,803.10	3,749.24	16.19	15.69	-165.77	549.30	-178.57	78.13	49.63	28.50	2.742		
3,900.00	3,833.07	3,903.08	3,847.46	16.65	16.14	-165.69	567.14	-184.27	79.84	50.56	29.28	2.727		
4,000.00	3,930.99	4,003.07	3,945.67	17.11	16.58	-165.61	584.98	-189.97	81.54	51.48	30.06	2.713		
4,100.00	4,028.90	4,103.05	4,043.89	17.57	17.02	-165.54	602.82	-195.67	83.25	52.41	30.84	2.699		
4,200.00	4,126.82	4,203.04	4,142.10	18.03	17.47	-165.47	620.66	-201.37	84.95	53.33	31.62	2.686		
4,300.00	4,224.73	4,303.02	4,240.32	18.48	17.91	-165.40	638.49	-207.07	86.66	54.25	32.40	2.674		
4,400.00	4,322.65	4,403.01	4,338.54	18.94	18.35	-165.33	656.33	-212.77	88.36	55.18	33.18	2.663		
4,500.00	4,420.56	4,502.99	4,436.75	19.40	18.80	-165.27	674.17	-218.47	90.06	56.10	33.97	2.652		
4,600.00	4,518.48	4,602.98	4,534.97	19.86	19.24	-165.21	692.01	-224.16	91.77	57.02	34.75	2.641		
4,700.00	4,616.39	4,702.97	4,633.18	20.31	19.68	-165.15	709.85	-229.86	93.47	57.94	35.53	2.631		
4,800.00	4,714.31	4,802.95	4,731.40	20.77	20.13	-165.09	727.68	-235.56	95.18	58.87	36.31	2.621		
4,900.00	4,812.22	4,902.94	4,829.62	21.23	20.57	-165.03	745.52	-241.26	96.88	59.79	37.09	2.612		
5,000.00	4,910.14	5,002.92	4,927.83	21.69	21.02	-164.98	763.36	-246.96	98.59	60.71	37.88	2.603		

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 3B-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 3B-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							
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	5,008.05	5,102.91	5,026.05	22.15	21.46	-164.93	781.20	-252.66	100.29	61.64	38.66	2.594	
5,200.00	5,105.97	5,202.89	5,124.26	22.60	21.90	-164.88	799.04	-258.36	102.00	62.56	39.44	2.586	
5,300.00	5,203.88	5,302.88	5,222.48	23.06	22.35	-164.83	816.88	-264.06	103.71	63.48	40.22	2.578	
5,400.00	5,301.80	5,402.86	5,320.70	23.52	22.79	-164.79	834.71	-269.76	105.41	64.40	41.01	2.571	
5,500.00	5,399.71	5,502.85	5,418.91	23.98	23.23	-164.74	852.55	-275.46	107.12	65.33	41.79	2.563	
5,518.70	5,418.03	5,521.55	5,437.28	24.07	23.32	-164.73	855.89	-276.53	107.44	65.50	41.94	2.562	
5,600.00	5,497.85	5,600.00	5,514.43	24.43	23.66	-164.62	869.44	-280.86	108.20	65.64	42.56	2.542	
5,700.00	5,596.59	5,697.44	5,610.72	24.85	24.07	-164.49	883.62	-285.39	108.85	65.56	43.29	2.515	
5,800.00	5,695.82	5,793.93	5,706.52	25.24	24.44	-164.39	894.57	-288.89	109.37	65.42	43.95	2.489	
5,900.00	5,795.42	5,890.40	5,802.64	25.59	24.79	-164.32	902.45	-291.40	109.74	65.20	44.54	2.464	
6,000.00	5,895.27	5,986.87	5,898.97	25.92	25.11	-164.27	907.23	-292.93	109.96	64.90	45.06	2.440	
6,104.76	6,000.00	6,087.93	6,000.00	26.24	25.43	179.64	908.93	-293.48	110.04	64.51	45.53	2.417	
6,200.00	6,095.24	6,183.17	6,095.24	26.51	25.71	179.64	908.93	-293.48	110.04	63.88	46.16	2.384	
6,300.00	6,195.24	6,283.17	6,195.24	26.80	26.01	179.64	908.93	-293.48	110.04	63.22	46.83	2.350	
6,400.00	6,295.24	6,383.17	6,295.24	27.09	26.31	179.64	908.93	-293.48	110.04	62.55	47.49	2.317	
6,500.00	6,395.24	6,483.17	6,395.24	27.38	26.61	179.64	908.93	-293.48	110.04	61.89	48.16	2.285	
6,600.00	6,495.24	6,583.17	6,495.24	27.67	26.91	179.64	908.93	-293.48	110.04	61.22	48.83	2.254	
6,700.00	6,595.24	6,683.17	6,595.24	27.97	27.21	179.64	908.93	-293.48	110.04	60.55	49.49	2.223	
6,753.44	6,648.69	6,736.62	6,648.69	28.13	27.37	179.41	908.93	-293.04	110.04	60.21	49.83	2.208	
6,800.00	6,695.24	6,782.98	6,694.93	28.26	27.50	177.79	908.97	-289.93	110.09	60.08	50.01	2.201	
6,900.00	6,795.24	6,880.10	6,790.63	28.56	27.76	169.48	909.13	-273.78	111.81	61.89	49.92	2.240	
6,968.56	6,863.80	6,943.44	6,851.49	28.77	27.92	160.96	909.31	-256.32	116.66	67.15	49.51	2.356	
7,000.00	6,895.23	6,971.55	6,877.96	28.86	27.98	67.22	909.41	-246.86	120.32	71.09	49.23	2.444	
7,050.00	6,945.07	7,015.62	6,918.66	29.00	28.08	60.97	909.58	-229.97	127.37	78.70	48.68	2.617	
7,100.00	6,994.51	7,058.96	6,957.59	29.13	28.17	55.49	909.77	-210.94	135.58	87.63	47.96	2.827	
7,150.00	7,043.31	7,100.00	6,993.33	29.26	28.25	50.91	909.98	-190.79	144.61	97.83	46.78	3.091	
7,200.00	7,091.24	7,143.68	7,030.04	29.38	28.33	46.70	910.22	-167.12	154.11	108.15	45.95	3.354	
7,250.00	7,138.05	7,185.17	7,063.51	29.49	28.40	43.22	910.47	-142.62	163.87	119.18	44.68	3.667	
7,300.00	7,183.54	7,226.15	7,095.12	29.59	28.46	40.24	910.74	-116.55	173.67	130.42	43.25	4.015	
7,350.00	7,227.46	7,266.65	7,124.85	29.69	28.52	37.69	911.02	-89.04	183.37	141.68	41.69	4.398	
7,400.00	7,269.62	7,306.74	7,152.69	29.78	28.57	35.50	911.32	-60.22	192.82	152.80	40.02	4.819	
7,450.00	7,309.79	7,350.00	7,180.88	29.86	28.62	33.50	911.66	-27.41	201.96	163.05	38.92	5.190	
7,500.00	7,347.80	7,385.78	7,202.66	29.94	28.66	32.01	911.95	0.97	210.60	174.16	36.43	5.780	
7,550.00	7,383.44	7,424.82	7,224.78	30.00	28.71	30.62	912.28	33.13	218.77	184.19	34.58	6.327	
7,600.00	7,416.56	7,463.57	7,244.97	30.06	28.75	29.42	912.61	66.20	226.38	193.66	32.71	6.920	
7,650.00	7,446.98	7,500.00	7,262.29	30.11	28.80	28.44	912.94	98.24	233.39	202.87	30.52	7.647	
7,700.00	7,474.56	7,540.36	7,279.55	30.16	28.89	27.53	913.32	134.72	239.72	210.60	29.12	8.233	
7,750.00	7,499.17	7,578.46	7,293.93	30.20	29.07	26.80	913.68	169.99	245.38	217.90	27.48	8.930	
7,800.00	7,520.67	7,616.39	7,306.37	30.25	29.40	26.19	914.04	205.81	250.33	224.35	25.98	9.635	
7,850.00	7,538.98	7,650.00	7,315.80	30.35	29.79	25.72	914.37	238.07	254.58	230.38	24.20	10.520	
7,900.00	7,554.00	7,691.85	7,325.40	30.66	30.35	25.29	914.79	278.80	257.99	234.23	23.76	10.858	
7,950.00	7,565.66	7,729.43	7,331.98	31.26	30.91	24.99	915.17	315.79	260.67	237.53	23.15	11.263	
8,000.00	7,573.90	7,766.95	7,336.60	31.98	31.51	24.78	915.55	353.02	262.57	239.65	22.92	11.455	
8,050.00	7,578.68	7,800.00	7,339.06	32.78	32.05	24.66	915.89	385.97	263.73	240.76	22.97	11.480	
8,093.56	7,580.00	7,837.16	7,340.00	33.51	32.70	24.62	916.27	423.12	264.00	240.35	23.65	11.163	
8,100.00	7,580.00	7,843.60	7,340.00	33.62	32.82	24.62	916.34	429.56	264.00	240.22	23.78	11.103	
8,200.00	7,580.00	7,943.60	7,340.00	35.47	34.72	24.62	917.36	529.55	264.00	238.14	25.86	10.210	
8,300.00	7,580.00	8,043.60	7,340.00	37.50	36.79	24.62	918.39	629.55	263.99	235.90	28.10	9.396	
8,400.00	7,580.00	8,143.60	7,340.00	39.69	39.02	24.62	919.41	729.54	263.99	233.52	30.47	8.664	
8,500.00	7,580.00	8,243.60	7,340.00	42.01	41.37	24.61	920.43	829.54	263.99	231.04	32.95	8.012	
8,600.00	7,580.00	8,343.60	7,340.00	44.44	43.83	24.61	921.46	929.53	263.98	228.47	35.51	7.433	
8,700.00	7,580.00	8,443.60	7,340.00	46.96	46.38	24.61	922.48	1,029.52	263.98	225.84	38.14	6.921	

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 3B-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 3B-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	7,580.00	8,543.60	7,340.00	49.56	49.01	24.61	923.51	1,129.52	263.98	223.15	40.83	6.466		
8,900.00	7,580.00	8,643.60	7,340.00	52.22	51.70	24.61	924.53	1,229.51	263.97	220.42	43.55	6.061		
9,000.00	7,580.00	8,743.60	7,340.00	54.94	54.45	24.61	925.56	1,329.51	263.97	217.65	46.32	5.699		
9,100.00	7,580.00	8,843.60	7,340.00	57.72	57.25	24.60	926.58	1,429.50	263.97	214.85	49.11	5.375		
9,200.00	7,580.00	8,943.60	7,340.00	60.53	60.08	24.60	927.61	1,529.50	263.96	212.03	51.93	5.083		
9,300.00	7,580.00	9,043.60	7,340.00	63.39	62.95	24.60	928.63	1,629.49	263.96	209.19	54.77	4.820		
9,400.00	7,580.00	9,143.60	7,340.00	66.27	65.86	24.60	929.65	1,729.49	263.96	206.33	57.63	4.581		
9,500.00	7,580.00	9,243.60	7,340.00	69.18	68.79	24.60	930.68	1,829.48	263.95	203.45	60.50	4.363		
9,600.00	7,580.00	9,343.60	7,340.00	72.12	71.74	24.60	931.70	1,929.48	263.95	200.57	63.38	4.164		
9,700.00	7,580.00	9,443.60	7,340.00	75.08	74.72	24.59	932.73	2,029.47	263.95	197.67	66.28	3.982		
9,800.00	7,580.00	9,543.60	7,340.00	78.06	77.71	24.59	933.75	2,129.47	263.94	194.76	69.19	3.815		
9,900.00	7,580.00	9,643.60	7,340.00	81.06	80.72	24.59	934.78	2,229.46	263.94	191.84	72.10	3.661		
10,000.00	7,580.00	9,743.60	7,340.00	84.07	83.74	24.59	935.80	2,329.46	263.93	188.91	75.03	3.518		
10,100.00	7,580.00	9,843.60	7,340.00	87.09	86.78	24.59	936.83	2,429.45	263.93	185.98	77.96	3.386		
10,200.00	7,580.00	9,943.60	7,340.00	90.13	89.83	24.59	937.85	2,529.45	263.93	183.04	80.89	3.263		
10,300.00	7,580.00	10,043.60	7,340.00	93.18	92.88	24.58	938.87	2,629.44	263.92	180.09	83.83	3.148		
10,400.00	7,580.00	10,143.60	7,340.00	96.24	95.95	24.58	939.90	2,729.44	263.92	177.14	86.78	3.041		
10,500.00	7,580.00	10,243.60	7,340.00	99.31	99.03	24.58	940.92	2,829.43	263.92	174.19	89.73	2.941		
10,600.00	7,580.00	10,343.60	7,340.00	102.39	102.12	24.58	941.95	2,929.43	263.91	171.23	92.68	2.848		
10,700.00	7,580.00	10,443.60	7,340.00	105.47	105.21	24.58	942.97	3,029.42	263.91	168.27	95.64	2.759		
10,800.00	7,580.00	10,543.60	7,340.00	108.56	108.31	24.58	944.00	3,129.41	263.91	165.31	98.60	2.677		
10,900.00	7,580.00	10,643.60	7,340.00	111.66	111.41	24.57	945.02	3,229.41	263.90	162.34	101.56	2.598		
11,000.00	7,580.00	10,743.60	7,340.00	114.76	114.52	24.57	946.05	3,329.40	263.90	159.37	104.53	2.525		
11,100.00	7,580.00	10,843.60	7,340.00	117.87	117.64	24.57	947.07	3,429.40	263.90	156.40	107.50	2.455		
11,200.00	7,580.00	10,943.60	7,340.00	120.99	120.76	24.57	948.09	3,529.39	263.89	153.42	110.47	2.389		
11,300.00	7,580.00	11,043.60	7,340.00	124.11	123.89	24.57	949.12	3,629.39	263.89	150.45	113.44	2.326		
11,400.00	7,580.00	11,143.60	7,340.00	127.23	127.01	24.57	950.14	3,729.38	263.89	147.47	116.42	2.267		
11,500.00	7,580.00	11,243.60	7,340.00	130.36	130.15	24.56	951.17	3,829.38	263.88	144.49	119.39	2.210		
11,600.00	7,580.00	11,343.60	7,340.00	133.49	133.28	24.56	952.19	3,929.37	263.88	141.51	122.37	2.156		
11,700.00	7,580.00	11,443.60	7,340.00	136.63	136.42	24.56	953.22	4,029.37	263.88	138.53	125.35	2.105		
11,800.00	7,580.00	11,543.60	7,340.00	139.76	139.57	24.56	954.24	4,129.36	263.87	135.55	128.33	2.056		
11,900.00	7,580.00	11,643.60	7,340.00	142.91	142.71	24.56	955.27	4,229.36	263.87	132.56	131.31	2.010		
12,000.00	7,580.00	11,743.60	7,340.00	146.05	145.86	24.56	956.29	4,329.35	263.87	129.58	134.29	1.965		
12,100.00	7,580.00	11,843.60	7,340.00	149.20	149.01	24.55	957.31	4,429.35	263.86	126.59	137.27	1.922		
12,168.95	7,580.00	11,912.55	7,340.00	151.37	151.18	24.55	958.02	4,498.29	263.86	124.53	139.33	1.894		
12,170.36	7,580.00	11,913.53	7,340.00	151.41	151.21	24.55	958.03	4,499.27	263.86	124.50	139.36	1.893 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 3B-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 3B-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	179.50	-20.03	0.17	20.03					
100.00	100.00	100.00	100.00	0.14	0.14	179.50	-20.03	0.17	20.03	19.75	0.28	72.554		
200.00	200.00	200.00	200.00	0.50	0.50	179.50	-20.03	0.17	20.03	19.03	0.99	20.169		
300.00	300.00	300.00	300.00	0.85	0.85	179.50	-20.03	0.17	20.03	18.32	1.71	11.712 CC, ES		
400.00	399.98	399.98	399.98	1.21	1.21	-165.62	-20.03	0.17	21.71	19.28	2.43	8.944		
500.00	499.84	499.84	499.84	1.58	1.57	-168.38	-20.03	0.17	26.81	23.66	3.15	8.514		
600.00	599.45	600.61	600.59	1.94	1.93	-170.45	-18.39	-0.50	33.71	29.82	3.89	8.673		
700.00	698.70	701.63	701.47	2.31	2.30	-171.27	-13.47	-2.52	40.68	36.04	4.65	8.757		
800.00	797.47	802.90	802.33	2.70	2.67	-171.38	-5.23	-5.91	47.70	42.28	5.42	8.806		
886.05	881.97	890.23	889.02	3.05	2.99	-171.12	4.52	-9.92	53.76	47.67	6.09	8.832		
900.00	895.63	904.40	903.06	3.11	3.04	-171.05	6.33	-10.66	54.71	48.51	6.20	8.829		
1,000.00	993.54	1,004.71	1,002.25	3.53	3.42	-170.37	20.09	-16.33	60.54	53.61	6.93	8.732		
1,100.00	1,091.46	1,104.54	1,100.97	3.96	3.81	-169.78	33.90	-22.00	66.27	58.61	7.66	8.647		
1,200.00	1,189.37	1,204.37	1,199.68	4.40	4.20	-169.29	47.70	-27.68	72.01	63.61	8.40	8.569		
1,300.00	1,287.29	1,304.21	1,298.39	4.84	4.60	-168.87	61.51	-33.36	77.75	68.60	9.15	8.500		
1,400.00	1,385.20	1,404.04	1,397.10	5.29	4.99	-168.51	75.31	-39.03	83.50	73.60	9.90	8.438		
1,500.00	1,483.12	1,503.87	1,495.81	5.73	5.40	-168.19	89.12	-44.71	89.24	78.60	10.65	8.382		
1,600.00	1,581.03	1,603.71	1,594.52	6.18	5.80	-167.91	102.92	-50.39	95.00	83.59	11.40	8.332		
1,700.00	1,678.95	1,703.54	1,693.23	6.63	6.20	-167.67	116.73	-56.06	100.75	88.59	12.16	8.287		
1,800.00	1,776.86	1,803.38	1,791.95	7.08	6.61	-167.45	130.53	-61.74	106.50	93.59	12.92	8.245		
1,900.00	1,874.78	1,903.21	1,890.66	7.53	7.02	-167.25	144.34	-67.42	112.26	98.58	13.68	8.208		
2,000.00	1,972.69	2,003.04	1,989.37	7.99	7.42	-167.07	158.14	-73.09	118.02	103.58	14.44	8.174		
2,100.00	2,070.61	2,102.88	2,088.08	8.44	7.83	-166.91	171.95	-78.77	123.77	108.57	15.20	8.142		
2,200.00	2,168.52	2,202.71	2,186.79	8.89	8.24	-166.76	185.75	-84.45	129.53	113.57	15.97	8.114		
2,300.00	2,266.44	2,302.54	2,285.50	9.35	8.65	-166.63	199.56	-90.12	135.29	118.56	16.73	8.087		
2,400.00	2,364.35	2,402.38	2,384.21	9.80	9.06	-166.50	213.36	-95.80	141.05	123.56	17.50	8.062		
2,500.00	2,462.27	2,502.21	2,482.92	10.26	9.47	-166.39	227.17	-101.48	146.81	128.55	18.26	8.040		
2,600.00	2,560.18	2,602.04	2,581.64	10.71	9.88	-166.29	240.97	-107.15	152.58	133.55	19.03	8.019		
2,700.00	2,658.10	2,701.88	2,680.35	11.17	10.29	-166.19	254.78	-112.83	158.34	138.54	19.80	7.999		
2,800.00	2,756.01	2,801.71	2,779.06	11.63	10.70	-166.10	268.58	-118.51	164.10	143.54	20.56	7.980		
2,900.00	2,853.93	2,901.54	2,877.77	12.08	11.11	-166.01	282.39	-124.19	169.86	148.53	21.33	7.963		
3,000.00	2,951.84	3,001.38	2,976.48	12.54	11.52	-165.93	296.19	-129.86	175.63	153.53	22.10	7.947		
3,100.00	3,049.76	3,101.21	3,075.19	12.99	11.94	-165.86	310.00	-135.54	181.39	158.52	22.87	7.932		
3,200.00	3,147.67	3,201.04	3,173.90	13.45	12.35	-165.79	323.80	-141.22	187.16	163.52	23.64	7.918		
3,300.00	3,245.59	3,300.88	3,272.62	13.91	12.76	-165.73	337.61	-146.89	192.92	168.51	24.41	7.904		
3,400.00	3,343.50	3,400.71	3,371.33	14.37	13.17	-165.66	351.41	-152.57	198.68	173.51	25.18	7.892		
3,500.00	3,441.42	3,500.54	3,470.04	14.82	13.58	-165.61	365.22	-158.25	204.45	178.50	25.95	7.880		
3,600.00	3,539.33	3,600.38	3,568.75	15.28	14.00	-165.55	379.02	-163.92	210.21	183.50	26.72	7.868		
3,700.00	3,637.24	3,700.21	3,667.46	15.74	14.41	-165.50	392.83	-169.60	215.98	188.49	27.49	7.858		
3,800.00	3,735.16	3,800.05	3,766.17	16.19	14.82	-165.45	406.63	-175.28	221.74	193.49	28.26	7.847		
3,900.00	3,833.07	3,899.88	3,864.88	16.65	15.23	-165.40	420.44	-180.95	227.51	198.48	29.03	7.838		
4,000.00	3,930.99	3,999.71	3,963.59	17.11	15.65	-165.36	434.24	-186.63	233.27	203.48	29.80	7.828		
4,100.00	4,028.90	4,099.55	4,062.31	17.57	16.06	-165.32	448.05	-192.31	239.04	208.47	30.57	7.820		
4,200.00	4,126.82	4,199.38	4,161.02	18.03	16.47	-165.28	461.85	-197.98	244.81	213.46	31.34	7.811		
4,300.00	4,224.73	4,299.21	4,259.73	18.48	16.88	-165.24	475.66	-203.66	250.57	218.46	32.11	7.803		
4,400.00	4,322.65	4,399.05	4,358.44	18.94	17.30	-165.20	489.46	-209.34	256.34	223.45	32.88	7.795		
4,500.00	4,420.56	4,498.88	4,457.15	19.40	17.71	-165.17	503.27	-215.01	262.10	228.45	33.65	7.788		
4,600.00	4,518.48	4,598.71	4,555.86	19.86	18.12	-165.13	517.07	-220.69	267.87	233.44	34.43	7.781		
4,700.00	4,616.39	4,698.55	4,654.57	20.31	18.54	-165.10	530.88	-226.37	273.64	238.44	35.20	7.774		
4,800.00	4,714.31	4,798.38	4,753.29	20.77	18.95	-165.07	544.68	-232.05	279.40	243.43	35.97	7.768		
4,900.00	4,812.22	4,898.21	4,852.00	21.23	19.36	-165.04	558.48	-237.72	285.17	248.43	36.74	7.762		
5,000.00	4,910.14	4,998.05	4,950.71	21.69	19.78	-165.01	572.29	-243.40	290.93	253.42	37.51	7.756		

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 3B-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 3B-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
5,100.00	5,008.05	5,097.88	5,049.42	22.15	20.19	-164.98	586.09	-249.08	296.70	258.42	38.28	7.750	
5,200.00	5,105.97	5,197.71	5,148.13	22.60	20.60	-164.96	599.90	-254.75	302.47	263.41	39.06	7.744	
5,300.00	5,203.88	5,297.55	5,246.84	23.06	21.01	-164.93	613.70	-260.43	308.23	268.41	39.83	7.739	
5,400.00	5,301.80	5,397.38	5,345.55	23.52	21.43	-164.91	627.51	-266.11	314.00	273.40	40.60	7.734	
5,500.00	5,399.71	5,497.21	5,444.26	23.98	21.84	-164.89	641.31	-271.78	319.77	278.39	41.37	7.729	
5,518.70	5,418.03	5,515.89	5,462.73	24.07	21.92	-164.88	643.90	-272.84	320.85	279.33	41.52	7.728	
5,600.00	5,497.85	5,597.10	5,543.03	24.43	22.25	-164.83	655.13	-277.46	324.42	282.28	42.15	7.698	
5,700.00	5,596.59	5,690.28	5,635.26	24.85	22.64	-164.67	667.35	-282.49	326.51	283.65	42.87	7.617	
5,800.00	5,695.82	5,780.66	5,725.07	25.24	22.99	-164.55	676.69	-286.33	328.05	284.53	43.52	7.538	
5,900.00	5,795.42	5,871.02	5,815.14	25.59	23.32	-164.46	683.39	-289.09	329.16	285.04	44.12	7.461	
6,000.00	5,895.27	5,961.37	5,905.38	25.92	23.63	-164.40	687.47	-290.76	329.83	285.17	44.65	7.386	
6,104.76	6,000.00	6,056.01	6,000.00	26.24	23.94	179.51	688.91	-291.36	330.07	284.91	45.16	7.309	
6,200.00	6,095.24	6,151.25	6,095.24	26.51	24.24	179.51	688.91	-291.36	330.07	284.27	45.79	7.208	
6,300.00	6,195.24	6,251.25	6,195.24	26.80	24.56	179.51	688.91	-291.36	330.07	283.60	46.46	7.104	
6,400.00	6,295.24	6,351.25	6,295.24	27.09	24.87	179.51	688.91	-291.36	330.07	282.93	47.14	7.003	
6,500.00	6,395.24	6,451.25	6,395.24	27.38	25.19	179.51	688.91	-291.36	330.07	282.26	47.81	6.904	
6,600.00	6,495.24	6,551.25	6,495.24	27.67	25.51	179.51	688.91	-291.36	330.07	281.59	48.48	6.808	
6,700.00	6,595.24	6,651.25	6,595.24	27.97	25.83	179.51	688.91	-291.36	330.07	280.91	49.16	6.715	
6,800.00	6,695.24	6,751.25	6,695.24	28.26	26.16	179.51	688.91	-291.36	330.07	280.23	49.83	6.623	
6,827.10	6,722.34	6,778.36	6,722.34	28.35	26.24	179.41	688.92	-290.79	330.07	280.06	50.01	6.600	
6,900.00	6,795.24	6,850.66	6,794.32	28.56	26.45	178.28	688.99	-284.27	330.13	279.74	50.39	6.551	
6,968.56	6,863.80	6,916.85	6,859.33	28.77	26.64	176.15	689.11	-271.97	330.63	280.00	50.64	6.530	
7,000.00	6,895.23	6,946.50	6,888.03	28.86	26.71	85.51	689.19	-264.52	331.14	280.43	50.71	6.530	
7,050.00	6,945.07	6,993.10	6,932.44	29.00	26.83	83.61	689.33	-250.43	332.24	281.44	50.79	6.541	
7,100.00	6,994.51	7,039.07	6,975.26	29.13	26.94	81.76	689.50	-233.74	333.68	282.84	50.84	6.563	
7,150.00	7,043.31	7,084.45	7,016.40	29.26	27.04	79.96	689.70	-214.59	335.43	284.58	50.85	6.596	
7,200.00	7,091.24	7,129.28	7,055.77	29.38	27.14	78.24	689.92	-193.16	337.44	286.62	50.82	6.640	
7,250.00	7,138.05	7,173.60	7,093.29	29.49	27.22	76.59	690.16	-169.60	339.68	288.93	50.75	6.693	
7,300.00	7,183.54	7,217.45	7,128.91	29.59	27.30	75.02	690.42	-144.04	342.09	291.44	50.64	6.755	
7,350.00	7,227.46	7,260.86	7,162.57	29.69	27.38	73.53	690.70	-116.64	344.63	294.12	50.50	6.824	
7,400.00	7,269.62	7,303.87	7,194.22	29.78	27.45	72.14	691.00	-87.54	347.25	296.91	50.34	6.898	
7,450.00	7,309.79	7,346.51	7,223.82	29.86	27.52	70.84	691.32	-56.85	349.90	299.73	50.17	6.974	
7,500.00	7,347.80	7,388.81	7,251.33	29.94	27.59	69.63	691.65	-24.73	352.55	302.54	50.01	7.049	
7,550.00	7,383.44	7,430.81	7,276.72	30.00	27.68	68.52	691.99	8.72	355.14	305.26	49.88	7.120	
7,600.00	7,416.56	7,472.53	7,299.96	30.06	27.79	67.51	692.34	43.36	357.65	307.85	49.80	7.182	
7,650.00	7,446.98	7,514.00	7,321.02	30.11	27.97	66.59	692.71	79.08	360.02	310.23	49.79	7.231	
7,700.00	7,474.56	7,555.26	7,339.88	30.16	28.25	65.77	693.09	115.76	362.23	312.36	49.87	7.264	
7,750.00	7,499.17	7,600.00	7,357.92	30.20	28.65	65.01	693.50	156.70	364.28	314.06	50.22	7.254	
7,800.00	7,520.67	7,637.22	7,370.95	30.25	29.07	64.43	693.86	191.55	366.06	315.63	50.43	7.259	
7,850.00	7,538.98	7,677.97	7,383.12	30.35	29.57	63.91	694.26	230.44	367.62	316.69	50.93	7.218	
7,900.00	7,554.00	7,718.61	7,393.03	30.66	30.12	63.48	694.66	269.84	368.92	317.32	51.60	7.150	
7,950.00	7,565.66	7,759.16	7,400.68	31.26	30.72	63.15	695.07	309.65	369.94	317.50	52.44	7.054	
8,000.00	7,573.90	7,800.00	7,406.10	31.98	31.36	62.92	695.49	350.13	370.67	317.20	53.47	6.933	
8,050.00	7,578.68	7,840.07	7,409.16	32.78	32.03	62.79	695.90	390.07	371.10	316.44	54.65	6.790	
8,093.56	7,580.00	7,875.38	7,410.00	33.51	32.64	62.75	696.26	425.37	371.22	315.39	55.83	6.650	
8,100.00	7,580.00	7,881.82	7,410.00	33.62	32.75	62.75	696.32	431.81	371.22	315.19	56.03	6.625	
8,200.00	7,580.00	7,981.82	7,410.00	35.47	34.65	62.74	697.35	531.81	371.21	311.78	59.44	6.246	
8,300.00	7,580.00	8,081.82	7,410.00	37.50	36.72	62.74	698.37	631.80	371.21	308.04	63.16	5.877	
8,400.00	7,580.00	8,181.82	7,410.00	39.69	38.94	62.74	699.40	731.80	371.20	304.02	67.18	5.526	
8,500.00	7,580.00	8,281.82	7,410.00	42.01	41.29	62.74	700.42	831.79	371.19	299.76	71.43	5.197	
8,600.00	7,580.00	8,381.82	7,410.00	44.44	43.75	62.74	701.45	931.78	371.18	295.31	75.87	4.892	
8,700.00	7,580.00	8,481.82	7,410.00	46.96	46.31	62.74	702.47	1,031.78	371.18	290.69	80.49	4.612	

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 3B-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 3B-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		
8,800.00	7,580.00	8,581.82	7,410.00	49.56	48.94	62.74	703.50	1,131.77	371.17	285.93	85.23	4.355		
8,900.00	7,580.00	8,681.82	7,410.00	52.22	51.63	62.74	704.52	1,231.77	371.16	281.06	90.10	4.120		
9,000.00	7,580.00	8,781.82	7,410.00	54.94	54.38	62.74	705.54	1,331.76	371.15	276.09	95.06	3.904		
9,100.00	7,580.00	8,881.82	7,410.00	57.72	57.17	62.74	706.57	1,431.76	371.15	271.04	100.10	3.708		
9,200.00	7,580.00	8,981.82	7,410.00	60.53	60.01	62.74	707.59	1,531.75	371.14	266.92	105.22	3.527		
9,300.00	7,580.00	9,081.82	7,410.00	63.39	62.89	62.74	708.62	1,631.75	371.13	260.73	110.40	3.362		
9,400.00	7,580.00	9,181.82	7,410.00	66.27	65.79	62.74	709.64	1,731.74	371.12	255.49	115.63	3.210		
9,500.00	7,580.00	9,281.82	7,410.00	69.18	68.72	62.74	710.67	1,831.74	371.12	250.21	120.91	3.069		
9,600.00	7,580.00	9,381.82	7,410.00	72.12	71.67	62.74	711.69	1,931.73	371.11	244.88	126.22	2.940		
9,700.00	7,580.00	9,481.82	7,410.00	75.08	74.65	62.74	712.72	2,031.73	371.10	239.52	131.58	2.820		
9,800.00	7,580.00	9,581.82	7,410.00	78.06	77.64	62.74	713.74	2,131.72	371.09	234.13	136.96	2.709		
9,900.00	7,580.00	9,681.82	7,410.00	81.06	80.65	62.73	714.77	2,231.72	371.09	228.71	142.37	2.606		
10,000.00	7,580.00	9,781.82	7,410.00	84.07	83.68	62.73	715.79	2,331.71	371.08	223.27	147.81	2.510		
10,100.00	7,580.00	9,881.82	7,410.00	87.09	86.71	62.73	716.81	2,431.71	371.07	217.80	153.27	2.421		
10,200.00	7,580.00	9,981.82	7,410.00	90.13	89.76	62.73	717.84	2,531.70	371.06	212.31	158.75	2.337		
10,300.00	7,580.00	10,081.82	7,410.00	93.18	92.82	62.73	718.86	2,631.70	371.06	206.81	164.25	2.259		
10,400.00	7,580.00	10,181.82	7,410.00	96.24	95.89	62.73	719.89	2,731.69	371.05	201.29	169.76	2.186		
10,500.00	7,580.00	10,281.82	7,410.00	99.31	98.97	62.73	720.91	2,831.68	371.04	195.76	175.29	2.117		
10,600.00	7,580.00	10,381.82	7,410.00	102.39	102.06	62.73	721.94	2,931.68	371.03	190.21	180.83	2.052		
10,700.00	7,580.00	10,481.82	7,410.00	105.47	105.15	62.73	722.96	3,031.67	371.03	184.65	186.38	1.991		
10,800.00	7,580.00	10,581.82	7,410.00	108.56	108.25	62.73	723.99	3,131.67	371.02	179.08	191.94	1.933		
10,900.00	7,580.00	10,681.82	7,410.00	111.66	111.35	62.73	725.01	3,231.66	371.01	173.50	197.52	1.878		
11,000.00	7,580.00	10,781.82	7,410.00	114.76	114.47	62.73	726.04	3,331.66	371.00	167.91	203.10	1.827		
11,100.00	7,580.00	10,881.82	7,410.00	117.87	117.58	62.73	727.06	3,431.65	371.00	162.31	208.69	1.778		
11,200.00	7,580.00	10,981.82	7,410.00	120.99	120.70	62.73	728.09	3,531.65	370.99	156.70	214.29	1.731		
11,300.00	7,580.00	11,081.82	7,410.00	124.11	123.83	62.73	729.11	3,631.64	370.98	151.09	219.90	1.687		
11,400.00	7,580.00	11,181.82	7,410.00	127.23	126.96	62.73	730.13	3,731.64	370.97	145.47	225.51	1.645		
11,500.00	7,580.00	11,281.82	7,410.00	130.36	130.09	62.73	731.16	3,831.63	370.97	139.84	231.13	1.605		
11,600.00	7,580.00	11,381.82	7,410.00	133.49	133.23	62.72	732.18	3,931.63	370.96	134.21	236.75	1.567		
11,700.00	7,580.00	11,481.82	7,410.00	136.63	136.37	62.72	733.21	4,031.62	370.95	128.57	242.38	1.530		
11,800.00	7,580.00	11,581.82	7,410.00	139.76	139.51	62.72	734.23	4,131.62	370.95	122.93	248.02	1.496 Level 3		
11,900.00	7,580.00	11,681.82	7,410.00	142.91	142.66	62.72	735.26	4,231.61	370.94	117.28	253.66	1.462 Level 3		
12,000.00	7,580.00	11,781.82	7,410.00	146.05	145.80	62.72	736.28	4,331.61	370.93	111.63	259.30	1.430 Level 3		
12,100.00	7,580.00	11,881.82	7,410.00	149.20	148.95	62.72	737.31	4,431.60	370.92	105.97	264.95	1.400 Level 3		
12,168.26	7,580.00	11,950.08	7,410.00	151.34	151.11	62.72	738.01	4,499.86	370.92	102.11	268.81	1.380 Level 3		
12,170.36	7,580.00	11,950.31	7,410.00	151.41	151.11	62.72	738.01	4,500.09	370.92	102.08	268.84	1.380 Level 3, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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	179.50	-29.86	0.26	29.86				
100.00	100.00	100.00	100.00	0.14	0.14	179.50	-29.86	0.26	29.86	29.59	0.28	108.187	
200.00	200.00	200.00	200.00	0.50	0.50	179.50	-29.86	0.26	29.86	28.87	0.99	30.074	
300.00	300.00	300.00	300.00	0.85	0.85	179.50	-29.86	0.26	29.86	28.15	1.71	17.464 CC, ES	
400.00	399.98	399.98	399.98	1.21	1.21	-165.24	-29.86	0.26	31.55	29.12	2.43	12.995	
500.00	499.84	499.84	499.84	1.58	1.57	-167.30	-29.86	0.26	36.63	33.48	3.15	11.631	
600.00	599.45	599.45	599.45	1.94	1.93	-169.70	-29.86	0.26	45.17	41.30	3.87	11.666	
700.00	698.70	700.46	700.44	2.31	2.29	-171.08	-28.41	-0.73	55.66	51.05	4.61	12.081	
800.00	797.47	801.80	801.63	2.70	2.65	-171.07	-23.99	-3.74	66.46	61.10	5.36	12.399	
886.05	881.97	889.19	888.70	3.05	2.97	-170.41	-17.81	-7.95	75.99	69.97	6.02	12.629	
900.00	895.63	903.05	902.49	3.11	3.02	-170.28	-16.67	-8.73	77.57	71.45	6.12	12.673	
1,000.00	993.54	1,002.40	1,001.34	3.53	3.38	-169.49	-8.47	-14.32	88.87	82.02	6.85	12.979	
1,100.00	1,091.46	1,101.75	1,100.20	3.96	3.75	-168.88	-0.27	-19.90	100.18	92.60	7.58	13.217	
1,200.00	1,189.37	1,201.11	1,199.06	4.40	4.12	-168.39	7.93	-25.49	111.50	103.18	8.32	13.406	
1,300.00	1,287.29	1,300.46	1,297.91	4.84	4.49	-168.00	16.13	-31.08	122.83	113.77	9.06	13.559	
1,400.00	1,385.20	1,399.81	1,396.77	5.29	4.86	-167.67	24.33	-36.66	134.16	124.36	9.80	13.685	
1,500.00	1,483.12	1,499.16	1,495.62	5.73	5.24	-167.39	32.53	-42.25	145.50	134.95	10.55	13.791	
1,600.00	1,581.03	1,598.52	1,594.48	6.18	5.61	-167.15	40.73	-47.84	156.84	145.54	11.30	13.881	
1,700.00	1,678.95	1,697.87	1,693.34	6.63	5.99	-166.94	48.93	-53.42	168.18	156.13	12.05	13.958	
1,800.00	1,776.86	1,797.22	1,792.19	7.08	6.37	-166.76	57.13	-59.01	179.52	166.72	12.80	14.025	
1,900.00	1,874.78	1,896.58	1,891.05	7.53	6.74	-166.60	65.33	-64.59	190.87	177.32	13.55	14.083	
2,000.00	1,972.69	1,995.93	1,989.91	7.99	7.12	-166.46	73.53	-70.18	202.22	187.91	14.31	14.135	
2,100.00	2,070.61	2,095.28	2,088.76	8.44	7.50	-166.34	81.73	-75.77	213.56	198.50	15.06	14.181	
2,200.00	2,168.52	2,194.64	2,187.62	8.89	7.88	-166.22	89.93	-81.35	224.91	209.10	15.82	14.221	
2,300.00	2,266.44	2,293.99	2,286.47	9.35	8.26	-166.12	98.13	-86.94	236.26	219.69	16.57	14.258	
2,400.00	2,364.35	2,393.34	2,385.33	9.80	8.63	-166.03	106.33	-92.53	247.61	230.29	17.33	14.291	
2,500.00	2,462.27	2,492.69	2,484.19	10.26	9.01	-165.94	114.53	-98.11	258.96	240.88	18.08	14.321	
2,600.00	2,560.18	2,592.05	2,583.04	10.71	9.39	-165.86	122.73	-103.70	270.32	251.48	18.84	14.349	
2,700.00	2,658.10	2,691.40	2,681.90	11.17	9.77	-165.79	130.93	-109.28	281.67	262.07	19.60	14.374	
2,800.00	2,756.01	2,790.75	2,780.76	11.63	10.15	-165.73	139.13	-114.87	293.02	272.67	20.35	14.397	
2,900.00	2,853.93	2,890.11	2,879.61	12.08	10.53	-165.67	147.33	-120.46	304.37	283.26	21.11	14.418	
3,000.00	2,951.84	2,989.46	2,978.47	12.54	10.91	-165.61	155.53	-126.04	315.72	293.86	21.87	14.437	
3,100.00	3,049.76	3,088.81	3,077.33	12.99	11.29	-165.56	163.73	-131.63	327.08	304.45	22.63	14.455	
3,200.00	3,147.67	3,188.17	3,176.18	13.45	11.67	-165.51	171.93	-137.22	338.43	315.05	23.38	14.472	
3,300.00	3,245.59	3,287.52	3,275.04	13.91	12.05	-165.46	180.13	-142.80	349.78	325.64	24.14	14.488	
3,400.00	3,343.50	3,386.87	3,373.89	14.37	12.43	-165.42	188.33	-148.39	361.14	336.24	24.90	14.502	
3,500.00	3,441.42	3,486.22	3,472.75	14.82	12.81	-165.38	196.53	-153.97	372.49	346.83	25.66	14.516	
3,600.00	3,539.33	3,585.58	3,571.61	15.28	13.19	-165.34	204.73	-159.56	383.85	357.43	26.42	14.529	
3,700.00	3,637.24	3,684.93	3,670.46	15.74	13.57	-165.30	212.93	-165.15	395.20	368.02	27.18	14.541	
3,800.00	3,735.16	3,784.28	3,769.32	16.19	13.95	-165.27	221.13	-170.73	406.56	378.62	27.94	14.552	
3,900.00	3,833.07	3,883.64	3,868.18	16.65	14.33	-165.24	229.33	-176.32	417.91	389.21	28.70	14.563	
4,000.00	3,930.99	3,982.99	3,967.03	17.11	14.72	-165.21	237.53	-181.91	429.26	399.81	29.46	14.573	
4,100.00	4,028.90	4,082.34	4,066.89	17.57	15.10	-165.18	245.73	-187.49	440.62	410.40	30.22	14.583	
4,200.00	4,126.82	4,181.70	4,164.75	18.03	15.48	-165.15	253.93	-193.08	451.97	421.00	30.97	14.592	
4,300.00	4,224.73	4,281.05	4,263.60	18.48	15.86	-165.13	262.13	-198.66	463.33	431.60	31.73	14.600	
4,400.00	4,322.65	4,380.40	4,362.46	18.94	16.24	-165.10	270.33	-204.25	474.68	442.19	32.49	14.609	
4,500.00	4,420.56	4,479.75	4,461.31	19.40	16.62	-165.08	278.53	-209.84	486.04	452.79	33.25	14.616	
4,600.00	4,518.48	4,579.11	4,560.17	19.86	17.00	-165.06	286.73	-215.42	497.39	463.38	34.01	14.624	
4,700.00	4,616.39	4,678.46	4,659.03	20.31	17.38	-165.03	294.93	-221.01	508.75	473.98	34.77	14.631	
4,800.00	4,714.31	4,777.81	4,757.88	20.77	17.76	-165.01	303.13	-226.60	520.11	484.57	35.53	14.637	
4,900.00	4,812.22	4,877.17	4,856.74	21.23	18.14	-164.99	311.33	-232.18	531.46	495.17	36.29	14.644	
5,000.00	4,910.14	4,976.52	4,955.60	21.69	18.52	-164.97	319.53	-237.77	542.82	505.76	37.05	14.650	

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 3B-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 3B-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	5,008.05	5,075.87	5,054.45	22.15	18.90	-164.96	327.73	-243.35	554.17	516.36	37.81	14.656		
5,200.00	5,105.97	5,175.23	5,153.31	22.60	19.28	-164.94	335.93	-248.94	565.53	526.96	38.57	14.661		
5,300.00	5,203.88	5,274.58	5,252.16	23.06	19.67	-164.92	344.13	-254.53	576.88	537.55	39.33	14.667		
5,400.00	5,301.80	5,373.93	5,351.02	23.52	20.05	-164.91	352.33	-260.11	588.24	548.15	40.09	14.672		
5,500.00	5,399.71	5,473.28	5,449.88	23.98	20.43	-164.89	360.53	-265.70	599.60	558.74	40.85	14.677		
5,518.70	5,418.03	5,491.87	5,468.37	24.07	20.50	-164.89	362.07	-266.74	601.72	560.72	41.00	14.678		
5,600.00	5,497.85	5,572.75	5,548.85	24.43	20.81	-164.89	368.74	-271.29	609.84	568.23	41.61	14.656		
5,700.00	5,596.59	5,672.50	5,648.09	24.85	21.19	-164.80	376.97	-276.90	616.80	574.43	42.37	14.559		
5,800.00	5,695.82	5,767.23	5,742.37	25.24	21.55	-164.63	384.68	-282.15	620.53	577.45	43.08	14.405		
5,900.00	5,795.42	5,851.88	5,826.78	25.59	21.87	-164.50	389.94	-285.73	622.83	579.14	43.69	14.257		
6,000.00	5,895.27	5,936.53	5,911.33	25.92	22.17	-164.43	393.13	-287.91	624.23	579.98	44.25	14.107		
6,104.76	6,000.00	6,025.21	6,000.00	26.24	22.48	179.50	394.27	-288.68	624.73	579.94	44.79	13.948		
6,200.00	6,095.24	6,120.45	6,095.24	26.51	22.80	179.50	394.27	-288.68	624.73	579.29	45.43	13.751		
6,300.00	6,195.24	6,220.45	6,195.24	26.80	23.13	179.50	394.27	-288.68	624.73	578.62	46.11	13.549		
6,400.00	6,295.24	6,320.45	6,295.24	27.09	23.47	179.50	394.27	-288.68	624.73	577.94	46.79	13.353		
6,500.00	6,395.24	6,420.45	6,395.24	27.38	23.81	179.50	394.27	-288.68	624.73	577.26	47.46	13.162		
6,600.00	6,495.24	6,520.45	6,495.24	27.67	24.15	179.50	394.27	-288.68	624.73	576.58	48.14	12.976		
6,700.00	6,595.24	6,620.45	6,595.24	27.97	24.49	179.50	394.27	-288.68	624.73	575.90	48.82	12.796		
6,763.65	6,658.89	6,684.12	6,658.89	28.16	24.70	179.42	394.28	-287.82	624.72	575.48	49.25	12.685		
6,800.00	6,695.24	6,720.30	6,694.97	28.26	24.81	179.17	394.31	-285.14	624.73	575.26	49.47	12.628		
6,900.00	6,795.24	6,817.48	6,790.72	28.56	25.10	177.69	394.47	-268.96	625.03	575.03	49.99	12.502		
6,968.56	6,863.80	6,880.85	6,851.61	28.77	25.27	176.09	394.65	-251.49	625.90	575.63	50.26	12.452		
7,000.00	6,895.23	6,908.98	6,878.10	28.86	25.34	85.80	394.74	-242.02	626.59	576.22	50.36	12.441		
7,050.00	6,945.07	6,953.07	6,918.81	29.00	25.45	84.45	394.92	-225.11	627.97	577.47	50.50	12.436		
7,100.00	6,994.51	6,996.43	6,957.75	29.13	25.56	83.13	395.11	-206.06	629.68	579.07	50.61	12.442		
7,150.00	7,043.31	7,039.11	6,994.89	29.26	25.66	81.85	395.32	-185.05	631.67	580.98	50.69	12.460		
7,200.00	7,091.24	7,081.18	7,030.21	29.38	25.76	80.61	395.55	-162.21	633.91	583.15	50.76	12.488		
7,250.00	7,138.05	7,122.68	7,063.69	29.49	25.86	79.41	395.80	-137.68	636.35	585.54	50.81	12.524		
7,300.00	7,183.54	7,163.67	7,095.29	29.59	25.96	78.27	396.07	-111.60	638.94	588.10	50.85	12.566		
7,350.00	7,227.46	7,200.00	7,122.02	29.69	26.06	77.27	396.32	-87.00	641.66	590.87	50.79	12.633		
7,400.00	7,269.62	7,244.28	7,152.86	29.78	26.22	76.16	396.64	-55.23	644.41	593.50	50.91	12.658		
7,450.00	7,309.79	7,283.99	7,178.80	29.86	26.39	75.19	396.95	-25.18	647.19	596.23	50.97	12.699		
7,500.00	7,347.80	7,323.35	7,202.83	29.94	26.60	74.29	397.26	5.99	649.95	598.90	51.05	12.732		
7,550.00	7,383.44	7,362.39	7,224.93	30.00	26.85	73.45	397.59	38.16	652.65	601.47	51.18	12.753		
7,600.00	7,416.56	7,400.00	7,244.54	30.06	27.13	72.70	397.92	70.25	655.24	603.90	51.34	12.763		
7,650.00	7,446.98	7,439.66	7,263.36	30.11	27.48	71.98	398.27	105.16	657.69	606.05	51.64	12.736		
7,700.00	7,474.56	7,477.95	7,279.67	30.16	27.86	71.35	398.62	139.79	659.98	607.97	52.01	12.690		
7,750.00	7,499.17	7,516.05	7,294.04	30.20	28.28	70.79	398.98	175.07	662.06	609.58	52.48	12.614		
7,800.00	7,520.67	7,550.00	7,305.25	30.25	28.68	70.34	399.31	207.11	663.93	610.94	52.99	12.530		
7,850.00	7,538.98	7,591.77	7,316.94	30.35	29.24	69.90	399.71	247.21	665.52	611.71	53.81	12.368		
7,900.00	7,554.00	7,629.45	7,325.46	30.66	29.78	69.57	400.09	283.90	666.86	612.18	54.68	12.196		
7,950.00	7,565.66	7,667.04	7,332.03	31.26	30.35	69.31	400.46	320.90	667.91	612.22	55.69	11.994		
8,000.00	7,573.90	7,700.00	7,336.18	31.98	30.87	69.14	400.80	353.60	668.68	611.94	56.74	11.786		
8,050.00	7,578.68	7,742.03	7,339.29	32.78	31.59	69.02	401.22	395.50	669.11	611.00	58.10	11.516		
8,093.56	7,580.00	7,774.87	7,340.00	33.51	32.16	68.98	401.56	428.34	669.24	609.93	59.31	11.283		
8,100.00	7,580.00	7,781.31	7,340.00	33.62	32.28	68.98	401.62	434.78	669.24	609.71	59.53	11.242		
8,200.00	7,580.00	7,881.31	7,340.00	35.47	34.20	68.98	402.64	534.77	669.24	606.16	63.08	10.609		
8,300.00	7,580.00	7,981.31	7,340.00	37.50	36.28	68.98	403.65	634.77	669.24	602.26	66.98	9.992		
8,400.00	7,580.00	8,081.31	7,340.00	39.69	38.52	68.98	404.67	734.76	669.24	598.07	71.16	9.404		
8,500.00	7,580.00	8,181.31	7,340.00	42.01	40.89	68.98	405.69	834.76	669.24	593.64	75.60	8.852		
8,600.00	7,580.00	8,281.31	7,340.00	44.44	43.37	68.98	406.70	934.75	669.24	589.00	80.24	8.341		
8,700.00	7,580.00	8,381.31	7,340.00	46.96	45.94	68.98	407.72	1,034.75	669.24	584.19	85.05	7.869		

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 3B-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 3B-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						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	7,580.00	8,481.31	7,340.00	49.56	48.58	68.98	408.73	1,134.74	669.24	579.23	90.01	7.435		
8,900.00	7,580.00	8,581.31	7,340.00	52.22	51.29	68.98	409.75	1,234.74	669.24	574.16	95.08	7.038		
9,000.00	7,580.00	8,681.31	7,340.00	54.94	54.05	68.98	410.77	1,334.73	669.24	568.98	100.26	6.675		
9,100.00	7,580.00	8,781.31	7,340.00	57.72	56.86	68.98	411.78	1,434.73	669.24	563.71	105.53	6.342		
9,200.00	7,580.00	8,881.31	7,340.00	60.53	59.71	68.98	412.80	1,534.72	669.24	558.36	110.88	6.036		
9,300.00	7,580.00	8,981.31	7,340.00	63.39	62.60	68.98	413.81	1,634.72	669.24	552.95	116.29	5.755		
9,400.00	7,580.00	9,081.31	7,340.00	66.27	65.51	68.98	414.83	1,734.71	669.24	547.49	121.75	5.497		
9,500.00	7,580.00	9,181.31	7,340.00	69.18	68.45	68.98	415.85	1,834.71	669.24	541.97	127.27	5.259		
9,600.00	7,580.00	9,281.31	7,340.00	72.12	71.41	68.98	416.86	1,934.70	669.24	536.42	132.82	5.039		
9,700.00	7,580.00	9,381.31	7,340.00	75.08	74.40	68.98	417.88	2,034.70	669.24	530.82	138.42	4.835		
9,800.00	7,580.00	9,481.31	7,340.00	78.06	77.40	68.98	418.90	2,134.69	669.24	525.19	144.05	4.646		
9,900.00	7,580.00	9,581.31	7,340.00	81.06	80.41	68.98	419.91	2,234.68	669.24	519.54	149.70	4.470		
10,000.00	7,580.00	9,681.31	7,340.00	84.07	83.44	68.98	420.93	2,334.68	669.24	513.85	155.39	4.307		
10,100.00	7,580.00	9,781.31	7,340.00	87.09	86.49	68.98	421.94	2,434.67	669.24	508.14	161.10	4.154		
10,200.00	7,580.00	9,881.31	7,340.00	90.13	89.54	68.98	422.96	2,534.67	669.24	502.41	166.83	4.012		
10,300.00	7,580.00	9,981.31	7,340.00	93.18	92.61	68.98	423.98	2,634.66	669.24	496.67	172.57	3.878		
10,400.00	7,580.00	10,081.31	7,340.00	96.24	95.68	68.98	424.99	2,734.66	669.24	490.90	178.34	3.753		
10,500.00	7,580.00	10,181.31	7,340.00	99.31	98.76	68.98	426.01	2,834.65	669.24	485.12	184.12	3.635		
10,600.00	7,580.00	10,281.31	7,340.00	102.39	101.85	68.98	427.02	2,934.65	669.24	479.32	189.92	3.524		
10,700.00	7,580.00	10,381.31	7,340.00	105.47	104.95	68.98	428.04	3,034.64	669.24	473.52	195.72	3.419		
10,800.00	7,580.00	10,481.31	7,340.00	108.56	108.06	68.98	429.06	3,134.64	669.24	467.70	201.54	3.321		
10,900.00	7,580.00	10,581.31	7,340.00	111.66	111.17	68.98	430.07	3,234.63	669.24	461.87	207.37	3.227		
11,000.00	7,580.00	10,681.31	7,340.00	114.76	114.28	68.98	431.09	3,334.63	669.24	456.03	213.22	3.139		
11,100.00	7,580.00	10,781.31	7,340.00	117.87	117.40	68.98	432.10	3,434.62	669.24	450.18	219.07	3.055		
11,200.00	7,580.00	10,881.31	7,340.00	120.99	120.52	68.98	433.12	3,534.62	669.24	444.32	224.92	2.975		
11,300.00	7,580.00	10,981.31	7,340.00	124.11	123.65	68.98	434.14	3,634.61	669.24	438.45	230.79	2.900		
11,400.00	7,580.00	11,081.31	7,340.00	127.23	126.79	68.98	435.15	3,734.61	669.24	432.58	236.66	2.828		
11,500.00	7,580.00	11,181.31	7,340.00	130.36	129.92	68.98	436.17	3,834.60	669.24	426.70	242.54	2.759		
11,600.00	7,580.00	11,281.31	7,340.00	133.49	133.06	68.98	437.19	3,934.60	669.24	420.81	248.43	2.694		
11,700.00	7,580.00	11,381.31	7,340.00	136.63	136.20	68.98	438.20	4,034.59	669.24	414.92	254.32	2.631		
11,800.00	7,580.00	11,481.31	7,340.00	139.76	139.35	68.98	439.22	4,134.59	669.24	409.02	260.22	2.572		
11,900.00	7,580.00	11,581.31	7,340.00	142.91	142.50	68.98	440.23	4,234.58	669.24	403.12	266.12	2.515		
12,000.00	7,580.00	11,681.31	7,340.00	146.05	145.65	68.98	441.25	4,334.58	669.24	397.21	272.03	2.460		
12,100.00	7,580.00	11,781.31	7,340.00	149.20	148.80	68.98	442.27	4,434.57	669.24	391.30	277.94	2.408		
12,106.64	7,580.00	11,787.95	7,340.00	149.40	149.01	68.98	442.33	4,441.21	669.24	390.91	278.33	2.404		
12,170.36	7,580.00	11,848.32	7,340.00	151.41	150.91	68.98	442.95	4,501.57	669.25	387.27	281.98	2.373 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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	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	399.98	399.98	399.98	1.21	1.21	-164.64	-40.07	0.07	41.75	39.32	2.43	17.196		
500.00	499.84	499.84	499.84	1.58	1.57	-166.32	-40.07	0.07	46.81	43.67	3.15	14.865		
600.00	599.45	599.45	599.45	1.94	1.93	-168.42	-40.07	0.07	55.32	51.45	3.87	14.287		
700.00	698.70	698.70	698.70	2.31	2.28	-170.46	-40.07	0.07	67.31	62.71	4.60	14.645		
800.00	797.47	797.47	797.47	2.70	2.64	-172.21	-40.07	0.07	82.78	77.46	5.32	15.561		
886.05	881.97	881.97	881.97	3.05	2.94	-173.45	-40.07	0.07	98.87	92.93	5.94	16.635		
900.00	895.63	895.63	895.63	3.11	2.99	-173.63	-40.07	0.07	101.68	95.64	6.05	16.813		
1,000.00	993.54	993.54	993.54	3.53	3.34	-174.69	-40.07	0.07	121.90	115.14	6.76	18.028		
1,100.00	1,091.46	1,095.36	1,095.35	3.96	3.70	-175.11	-38.95	-1.06	140.88	133.38	7.50	18.785		
1,200.00	1,189.37	1,198.50	1,198.34	4.40	4.07	-174.68	-35.23	-4.82	156.95	148.70	8.25	19.019		
1,300.00	1,287.29	1,299.57	1,299.07	4.84	4.43	-173.75	-29.46	-10.66	170.58	161.58	9.00	18.962		
1,400.00	1,385.20	1,398.63	1,397.78	5.29	4.79	-172.91	-23.56	-16.63	183.98	174.25	9.73	18.910		
1,500.00	1,483.12	1,497.70	1,496.49	5.73	5.15	-172.18	-17.66	-22.60	197.42	186.95	10.47	18.863		
1,600.00	1,581.03	1,596.76	1,595.20	6.18	5.51	-171.55	-11.76	-28.56	210.88	199.67	11.21	18.819		
1,700.00	1,678.95	1,695.83	1,693.91	6.63	5.87	-170.99	-5.86	-34.53	224.36	212.42	11.95	18.780		
1,800.00	1,776.86	1,794.89	1,792.62	7.08	6.24	-170.50	0.04	-40.49	237.87	225.18	12.69	18.743		
1,900.00	1,874.78	1,893.96	1,891.33	7.53	6.60	-170.06	5.93	-46.46	251.39	237.95	13.44	18.710		
2,000.00	1,972.69	1,993.02	1,990.03	7.99	6.97	-169.67	11.83	-52.42	264.92	250.73	14.18	18.679		
2,100.00	2,070.61	2,092.08	2,088.74	8.44	7.34	-169.31	17.73	-58.39	278.46	263.53	14.93	18.650		
2,200.00	2,168.52	2,191.15	2,187.45	8.89	7.71	-168.99	23.63	-64.35	292.01	276.33	15.68	18.624		
2,300.00	2,266.44	2,290.21	2,286.16	9.35	8.07	-168.69	29.53	-70.32	305.57	289.14	16.43	18.599		
2,400.00	2,364.35	2,389.28	2,384.87	9.80	8.44	-168.42	35.43	-76.29	319.14	301.96	17.18	18.576		
2,500.00	2,462.27	2,488.34	2,483.58	10.26	8.81	-168.17	41.33	-82.25	332.72	314.79	17.93	18.555		
2,600.00	2,560.18	2,587.41	2,582.29	10.71	9.18	-167.94	47.22	-88.22	346.30	327.61	18.68	18.535		
2,700.00	2,658.10	2,686.47	2,680.99	11.17	9.55	-167.73	53.12	-94.18	359.88	340.45	19.44	18.516		
2,800.00	2,756.01	2,785.54	2,779.70	11.63	9.92	-167.54	59.02	-100.15	373.47	353.28	20.19	18.499		
2,900.00	2,853.93	2,884.60	2,878.41	12.08	10.29	-167.36	64.92	-106.11	387.07	366.12	20.94	18.482		
3,000.00	2,951.84	2,983.66	2,977.12	12.54	10.66	-167.19	70.82	-112.08	400.66	378.97	21.70	18.466		
3,100.00	3,049.76	3,082.73	3,075.83	12.99	11.03	-167.03	76.72	-118.04	414.26	391.81	22.45	18.452		
3,200.00	3,147.67	3,181.79	3,174.54	13.45	11.40	-166.88	82.61	-124.01	427.87	404.66	23.21	18.438		
3,300.00	3,245.59	3,280.86	3,273.25	13.91	11.77	-166.74	88.51	-129.97	441.47	417.51	23.96	18.425		
3,400.00	3,343.50	3,379.92	3,371.96	14.37	12.15	-166.61	94.41	-135.94	455.08	430.37	24.72	18.412		
3,500.00	3,441.42	3,478.99	3,470.66	14.82	12.52	-166.48	100.31	-141.91	468.69	443.22	25.47	18.401		
3,600.00	3,539.33	3,578.05	3,569.37	15.28	12.89	-166.37	106.21	-147.87	482.31	456.08	26.23	18.389		
3,700.00	3,637.24	3,677.12	3,668.08	15.74	13.26	-166.26	112.11	-153.84	495.92	468.94	26.98	18.379		
3,800.00	3,735.16	3,776.18	3,766.79	16.19	13.63	-166.15	118.01	-159.80	509.54	481.80	27.74	18.369		
3,900.00	3,833.07	3,875.25	3,865.50	16.65	14.00	-166.06	123.90	-165.77	523.15	494.66	28.50	18.359		
4,000.00	3,930.99	3,974.31	3,964.21	17.11	14.38	-165.96	129.80	-171.73	536.77	507.52	29.25	18.350		
4,100.00	4,028.90	4,073.37	4,062.92	17.57	14.75	-165.87	135.70	-177.70	550.39	520.38	30.01	18.341		
4,200.00	4,126.82	4,172.44	4,161.62	18.03	15.12	-165.79	141.60	-183.66	564.02	533.25	30.77	18.333		
4,300.00	4,224.73	4,271.50	4,260.33	18.48	15.49	-165.71	147.50	-189.63	577.64	546.12	31.52	18.324		
4,400.00	4,322.65	4,370.57	4,359.04	18.94	15.86	-165.63	153.40	-195.60	591.26	558.98	32.28	18.317		
4,500.00	4,420.56	4,469.63	4,457.75	19.40	16.24	-165.56	159.30	-201.56	604.89	571.85	33.04	18.309		
4,600.00	4,518.48	4,568.70	4,556.46	19.86	16.61	-165.49	165.19	-207.53	618.51	584.72	33.79	18.302		
4,700.00	4,616.39	4,667.76	4,655.17	20.31	16.98	-165.42	171.09	-213.49	632.14	597.59	34.55	18.295		
4,800.00	4,714.31	4,766.83	4,753.88	20.77	17.35	-165.35	176.99	-219.46	645.77	610.46	35.31	18.289		
4,900.00	4,812.22	4,865.89	4,852.59	21.23	17.73	-165.29	182.89	-225.42	659.40	623.33	36.07	18.282		
5,000.00	4,910.14	4,964.96	4,951.29	21.69	18.10	-165.23	188.79	-231.39	673.03	636.20	36.82	18.276		

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 3B-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 3B-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	
5,100.00	5,008.05	5,064.02	5,050.00	22.15	18.47	-165.18	194.69	-237.35	686.66	649.07	37.58	18.270	
5,200.00	5,105.97	5,163.08	5,148.71	22.60	18.84	-165.12	200.58	-243.32	700.29	661.95	38.34	18.265	
5,300.00	5,203.88	5,262.15	5,247.42	23.06	19.22	-165.07	206.48	-249.29	713.92	674.82	39.10	18.259	
5,400.00	5,301.80	5,361.21	5,346.13	23.52	19.59	-165.02	212.38	-255.25	727.55	687.69	39.86	18.254	
5,500.00	5,399.71	5,460.28	5,444.84	23.98	19.96	-164.97	218.28	-261.22	741.18	700.57	40.62	18.249	
5,518.70	5,418.03	5,478.81	5,463.30	24.07	20.03	-164.96	219.38	-262.33	743.73	702.97	40.76	18.248	
5,600.00	5,497.85	5,559.48	5,543.68	24.43	20.34	-164.95	224.19	-267.19	753.71	712.34	41.37	18.218	
5,700.00	5,596.59	5,659.03	5,642.88	24.85	20.71	-164.86	230.11	-273.19	762.95	720.82	42.12	18.112	
5,800.00	5,695.82	5,758.82	5,742.31	25.24	21.09	-164.69	236.06	-279.19	768.83	725.96	42.87	17.935	
5,900.00	5,795.42	5,845.09	5,828.33	25.59	21.40	-164.53	240.57	-283.76	772.12	728.61	43.50	17.748	
6,000.00	5,895.27	5,928.97	5,912.12	25.92	21.71	-164.43	243.25	-286.47	774.10	730.02	44.09	17.559	
6,104.76	6,000.00	6,016.86	6,000.00	26.24	22.02	179.50	244.19	-287.42	774.81	730.15	44.65	17.351	
6,200.00	6,095.24	6,112.10	6,095.24	26.51	22.34	179.50	244.19	-287.42	774.81	729.51	45.30	17.105	
6,300.00	6,195.24	6,212.10	6,195.24	26.80	22.69	179.50	244.19	-287.42	774.81	728.83	45.97	16.853	
6,400.00	6,295.24	6,312.10	6,295.24	27.09	23.03	179.50	244.19	-287.42	774.81	728.15	46.65	16.608	
6,500.00	6,395.24	6,412.10	6,395.24	27.38	23.38	179.50	244.19	-287.42	774.81	727.47	47.33	16.369	
6,600.00	6,495.24	6,512.10	6,495.24	27.67	23.72	179.50	244.19	-287.42	774.81	726.79	48.01	16.137	
6,700.00	6,595.24	6,612.10	6,595.24	27.97	24.07	179.50	244.19	-287.42	774.81	726.11	48.69	15.912	
6,800.00	6,695.24	6,712.10	6,695.24	28.26	24.41	179.50	244.19	-287.42	774.81	725.43	49.38	15.692	
6,838.73	6,733.97	6,750.85	6,733.97	28.38	24.54	179.42	244.20	-286.30	774.81	725.17	49.63	15.611	
6,900.00	6,795.24	6,811.59	6,794.40	28.56	24.73	178.98	244.27	-280.32	774.83	724.83	50.00	15.496	
6,968.56	6,863.80	6,877.83	6,859.45	28.77	24.92	178.07	244.39	-268.00	775.03	724.66	50.37	15.387	
7,000.00	6,895.23	6,907.49	6,888.17	28.86	25.01	88.13	244.47	-260.55	775.24	724.72	50.52	15.345	
7,050.00	6,945.07	6,954.13	6,932.61	29.00	25.14	87.31	244.61	-246.44	775.71	724.96	50.74	15.287	
7,100.00	6,994.51	7,000.00	6,975.33	29.13	25.26	86.51	244.78	-229.77	776.32	725.37	50.95	15.237	
7,150.00	7,043.31	7,045.53	7,016.61	29.26	25.38	85.73	244.97	-210.56	777.07	725.92	51.15	15.192	
7,200.00	7,091.24	7,090.39	7,055.99	29.38	25.50	84.97	245.19	-189.10	777.93	726.60	51.34	15.154	
7,250.00	7,138.05	7,134.73	7,093.52	29.49	25.62	84.24	245.43	-165.51	778.90	727.38	51.52	15.119	
7,300.00	7,183.54	7,178.60	7,129.15	29.59	25.75	83.53	245.69	-139.93	779.95	728.25	51.70	15.085	
7,350.00	7,227.46	7,222.03	7,162.81	29.69	25.90	82.86	245.97	-112.50	781.07	729.17	51.90	15.051	
7,400.00	7,269.62	7,265.05	7,194.47	29.78	26.06	82.22	246.27	-83.37	782.23	730.12	52.11	15.012	
7,450.00	7,309.79	7,307.71	7,224.06	29.86	26.25	81.61	246.58	-52.66	783.41	731.07	52.34	14.967	
7,500.00	7,347.80	7,350.00	7,251.55	29.94	26.46	81.04	246.91	-20.53	784.60	731.98	52.62	14.911	
7,550.00	7,383.44	7,392.04	7,276.94	30.00	26.73	80.51	247.25	12.96	785.77	732.81	52.96	14.838	
7,600.00	7,416.56	7,433.77	7,300.17	30.06	27.02	80.02	247.60	47.63	786.91	733.54	53.36	14.746	
7,650.00	7,446.98	7,475.26	7,321.22	30.11	27.36	79.57	247.96	83.37	787.99	734.14	53.85	14.633	
7,700.00	7,474.56	7,516.52	7,340.06	30.16	27.75	79.17	248.33	120.07	789.01	734.58	54.44	14.495	
7,750.00	7,499.17	7,557.59	7,356.69	30.20	28.17	78.81	248.72	157.62	789.95	734.82	55.12	14.330	
7,800.00	7,520.67	7,600.00	7,371.58	30.25	28.66	78.49	249.12	197.32	790.79	734.83	55.96	14.132	
7,850.00	7,538.98	7,639.26	7,383.24	30.35	29.17	78.23	249.50	234.79	791.52	734.65	56.87	13.918	
7,900.00	7,554.00	7,679.90	7,393.13	30.66	29.73	78.01	249.90	274.21	792.13	734.20	57.93	13.674	
7,950.00	7,565.66	7,720.45	7,400.75	31.26	30.34	77.84	250.31	314.03	792.61	733.50	59.11	13.408	
8,000.00	7,573.90	7,760.93	7,406.10	31.98	30.98	77.72	250.71	354.15	792.96	732.55	60.42	13.125	
8,050.00	7,578.68	7,800.00	7,409.11	32.78	31.63	77.65	251.11	393.09	793.17	731.37	61.80	12.834	
8,093.56	7,580.00	7,836.79	7,410.00	33.51	32.28	77.62	251.48	429.86	793.24	730.09	63.14	12.563	
8,100.00	7,580.00	7,843.23	7,410.00	33.62	32.40	77.62	251.55	436.30	793.24	729.87	63.37	12.518	
8,200.00	7,580.00	7,943.23	7,410.00	35.47	34.31	77.62	252.56	536.30	793.24	726.18	67.06	11.829	
8,300.00	7,580.00	8,043.23	7,410.00	37.50	36.39	77.62	253.58	636.29	793.24	722.15	71.09	11.158	
8,400.00	7,580.00	8,143.23	7,410.00	39.69	38.63	77.62	254.60	736.29	793.24	717.81	75.43	10.516	
8,500.00	7,580.00	8,243.23	7,410.00	42.01	40.99	77.62	255.61	836.28	793.24	713.21	80.03	9.912	
8,600.00	7,580.00	8,343.23	7,410.00	44.44	43.46	77.62	256.63	936.28	793.24	708.40	84.84	9.350	
8,700.00	7,580.00	8,443.23	7,410.00	46.96	46.03	77.62	257.64	1,036.27	793.24	703.41	89.83	8.831	

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 3B-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 3B-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		
8,800.00	7,580.00	8,543.23	7,410.00	49.56	48.67	77.62	258.66	1,136.27	793.24	698.27	94.97	8.352		
8,900.00	7,580.00	8,643.23	7,410.00	52.22	51.37	77.62	259.68	1,236.26	793.24	692.99	100.24	7.913		
9,000.00	7,580.00	8,743.23	7,410.00	54.94	54.13	77.62	260.69	1,336.26	793.24	687.61	105.62	7.510		
9,100.00	7,580.00	8,843.23	7,410.00	57.72	56.94	77.62	261.71	1,436.25	793.24	682.14	111.10	7.140		
9,200.00	7,580.00	8,943.23	7,410.00	60.53	59.78	77.62	262.73	1,536.25	793.24	676.58	116.65	6.800		
9,300.00	7,580.00	9,043.23	7,410.00	63.39	62.66	77.62	263.74	1,636.24	793.24	670.96	122.28	6.487		
9,400.00	7,580.00	9,143.23	7,410.00	66.27	65.57	77.62	264.76	1,736.24	793.24	665.28	127.96	6.199		
9,500.00	7,580.00	9,243.23	7,410.00	69.18	68.51	77.62	265.77	1,836.23	793.24	659.54	133.70	5.933		
9,600.00	7,580.00	9,343.23	7,410.00	72.12	71.47	77.62	266.79	1,936.23	793.24	653.76	139.48	5.687		
9,700.00	7,580.00	9,443.23	7,410.00	75.08	74.45	77.62	267.81	2,036.22	793.24	647.93	145.30	5.459		
9,800.00	7,580.00	9,543.23	7,410.00	78.06	77.45	77.62	268.82	2,136.22	793.24	642.07	151.16	5.248		
9,900.00	7,580.00	9,643.23	7,410.00	81.06	80.47	77.62	269.84	2,236.21	793.24	636.18	157.05	5.051		
10,000.00	7,580.00	9,743.23	7,410.00	84.07	83.50	77.62	270.85	2,336.20	793.24	630.26	162.97	4.867		
10,100.00	7,580.00	9,843.23	7,410.00	87.09	86.54	77.62	271.87	2,436.20	793.24	624.32	168.92	4.696		
10,200.00	7,580.00	9,943.23	7,410.00	90.13	89.59	77.62	272.89	2,536.19	793.24	618.35	174.88	4.536		
10,300.00	7,580.00	10,043.23	7,410.00	93.18	92.66	77.62	273.90	2,636.19	793.24	612.36	180.87	4.386		
10,400.00	7,580.00	10,143.23	7,410.00	96.24	95.73	77.62	274.92	2,736.18	793.24	606.36	186.88	4.245		
10,500.00	7,580.00	10,243.23	7,410.00	99.31	98.81	77.62	275.94	2,836.18	793.24	600.33	192.90	4.112		
10,600.00	7,580.00	10,343.23	7,410.00	102.39	101.90	77.62	276.95	2,936.17	793.24	594.30	198.94	3.987		
10,700.00	7,580.00	10,443.23	7,410.00	105.47	105.00	77.62	277.97	3,036.17	793.24	588.24	204.99	3.870		
10,800.00	7,580.00	10,543.23	7,410.00	108.56	108.10	77.62	278.98	3,136.16	793.24	582.18	211.06	3.758		
10,900.00	7,580.00	10,643.23	7,410.00	111.66	111.21	77.62	280.00	3,236.16	793.24	576.10	217.14	3.653		
11,000.00	7,580.00	10,743.23	7,410.00	114.76	114.32	77.62	281.02	3,336.15	793.24	570.01	223.22	3.554		
11,100.00	7,580.00	10,843.23	7,410.00	117.87	117.44	77.62	282.03	3,436.15	793.24	563.92	229.32	3.459		
11,200.00	7,580.00	10,943.23	7,410.00	120.99	120.57	77.62	283.05	3,536.14	793.24	557.81	235.43	3.369		
11,300.00	7,580.00	11,043.23	7,410.00	124.11	123.70	77.62	284.06	3,636.14	793.24	551.69	241.54	3.284		
11,400.00	7,580.00	11,143.23	7,410.00	127.23	126.83	77.62	285.08	3,736.13	793.24	545.57	247.67	3.203		
11,500.00	7,580.00	11,243.23	7,410.00	130.36	129.96	77.62	286.10	3,836.13	793.24	539.44	253.80	3.125		
11,600.00	7,580.00	11,343.23	7,410.00	133.49	133.10	77.62	287.11	3,936.12	793.24	533.30	259.93	3.052		
11,700.00	7,580.00	11,443.23	7,410.00	136.63	136.24	77.62	288.13	4,036.12	793.24	527.16	266.08	2.981		
11,800.00	7,580.00	11,543.23	7,410.00	139.76	139.39	77.62	289.15	4,136.11	793.24	521.01	272.22	2.914		
11,900.00	7,580.00	11,643.23	7,410.00	142.91	142.54	77.62	290.16	4,236.11	793.24	514.86	278.38	2.849		
12,000.00	7,580.00	11,743.23	7,410.00	146.05	145.69	77.62	291.18	4,336.10	793.24	508.70	284.54	2.788		
12,100.00	7,580.00	11,843.23	7,410.00	149.20	148.84	77.62	292.19	4,436.10	793.24	502.54	290.70	2.729		
12,106.36	7,580.00	11,849.59	7,410.00	149.40	149.04	77.62	292.26	4,442.45	793.24	502.14	291.09	2.725		
12,170.36	7,580.00	11,909.47	7,410.00	151.41	150.93	77.62	292.87	4,502.34	793.25	498.36	294.89	2.690 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 3B-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 3B-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		
0.00	0.00	0.00	0.00	0.00	0.00	179.83	-49.90	0.15	49.90					
100.00	100.00	100.00	100.00	0.14	0.14	179.83	-49.90	0.15	49.90	49.62	0.28	180.774		
200.00	200.00	200.00	200.00	0.50	0.50	179.83	-49.90	0.15	49.90	48.91	0.99	50.251		
300.00	300.00	300.00	300.00	0.85	0.85	179.83	-49.90	0.15	49.90	48.19	1.71	29.182	CC, ES	
400.00	399.98	399.98	399.98	1.21	1.21	-164.59	-49.90	0.15	51.58	49.15	2.43	21.246		
500.00	499.84	499.84	499.84	1.58	1.57	-165.98	-49.90	0.15	56.64	53.49	3.15	17.985		
600.00	599.45	599.45	599.45	1.94	1.93	-167.80	-49.90	0.15	65.13	61.26	3.87	16.820		
700.00	698.70	698.70	698.70	2.31	2.28	-169.67	-49.90	0.15	77.09	72.49	4.60	16.773		
800.00	797.47	797.47	797.47	2.70	2.64	-171.36	-49.90	0.15	92.52	87.20	5.32	17.392		
886.05	881.97	881.95	881.94	3.05	2.93	-171.97	-50.08	-1.01	108.59	102.66	5.94	18.293		
900.00	895.63	895.60	895.58	3.11	2.98	-171.95	-50.15	-1.42	111.40	105.37	6.04	18.446		
1,000.00	993.54	993.50	993.38	3.53	3.32	-171.20	-50.84	-5.84	131.59	124.85	6.74	19.522		
1,100.00	1,091.46	1,091.42	1,091.18	3.96	3.66	-170.51	-51.59	-10.61	151.81	144.36	7.45	20.377		
1,200.00	1,189.37	1,189.34	1,188.98	4.40	4.00	-169.99	-52.34	-15.39	172.05	163.88	8.17	21.071		
1,300.00	1,287.29	1,287.26	1,286.78	4.84	4.35	-169.57	-53.09	-20.16	192.29	183.41	8.88	21.644		
1,400.00	1,385.20	1,385.18	1,384.58	5.29	4.70	-169.23	-53.84	-24.94	212.55	202.94	9.61	22.123		
1,500.00	1,483.12	1,483.10	1,482.39	5.73	5.05	-168.95	-54.60	-29.71	232.81	222.47	10.33	22.530		
1,600.00	1,581.03	1,581.02	1,580.19	6.18	5.40	-168.72	-55.35	-34.49	253.07	242.01	11.06	22.879		
1,700.00	1,678.95	1,678.94	1,677.99	6.63	5.75	-168.52	-56.10	-39.26	273.34	261.55	11.79	23.182		
1,800.00	1,776.86	1,776.87	1,775.79	7.08	6.10	-168.35	-56.85	-44.04	293.61	281.09	12.52	23.447		
1,900.00	1,874.78	1,874.79	1,873.59	7.53	6.45	-168.20	-57.60	-48.81	313.88	300.63	13.25	23.681		
2,000.00	1,972.69	1,972.71	1,971.39	7.99	6.81	-168.07	-58.35	-53.58	334.16	320.17	13.99	23.889		
2,100.00	2,070.61	2,070.63	2,069.19	8.44	7.16	-167.95	-59.10	-58.36	354.43	339.71	14.72	24.074		
2,200.00	2,168.52	2,168.55	2,166.99	8.89	7.52	-167.84	-59.85	-63.13	374.71	359.25	15.46	24.241		
2,300.00	2,266.44	2,266.47	2,264.79	9.35	7.87	-167.75	-60.61	-67.91	394.99	378.79	16.19	24.392		
2,400.00	2,364.35	2,364.39	2,362.60	9.80	8.23	-167.67	-61.36	-72.68	415.27	398.34	16.93	24.528		
2,500.00	2,462.27	2,462.31	2,460.40	10.26	8.58	-167.59	-62.11	-77.46	435.55	417.88	17.67	24.653		
2,600.00	2,560.18	2,560.23	2,558.20	10.71	8.94	-167.52	-62.86	-82.23	455.83	437.42	18.40	24.767		
2,700.00	2,658.10	2,658.15	2,656.00	11.17	9.30	-167.46	-63.61	-87.01	476.11	456.97	19.14	24.872		
2,800.00	2,756.01	2,756.07	2,753.80	11.63	9.65	-167.40	-64.36	-91.78	496.39	476.51	19.88	24.969		
2,900.00	2,853.93	2,853.99	2,851.60	12.08	10.01	-167.35	-65.11	-96.56	516.67	496.05	20.62	25.058		
3,000.00	2,951.84	2,951.91	2,949.40	12.54	10.36	-167.30	-65.86	-101.33	536.95	515.60	21.36	25.141		
3,100.00	3,049.76	3,049.83	3,047.20	12.99	10.72	-167.25	-66.61	-106.11	557.24	535.14	22.10	25.218		
3,200.00	3,147.67	3,147.75	3,145.00	13.45	11.08	-167.21	-67.37	-110.88	577.52	554.68	22.84	25.290		
3,300.00	3,245.59	3,245.67	3,242.81	13.91	11.43	-167.17	-68.12	-115.66	597.80	574.23	23.58	25.358		
3,400.00	3,343.50	3,343.59	3,340.61	14.37	11.79	-167.13	-68.87	-120.43	618.09	593.77	24.31	25.420		
3,500.00	3,441.42	3,441.51	3,438.41	14.82	12.15	-167.10	-69.62	-125.21	638.37	613.32	25.05	25.479		
3,600.00	3,539.33	3,539.43	3,536.21	15.28	12.51	-167.06	-70.37	-129.98	658.66	632.86	25.79	25.535		
3,700.00	3,637.24	3,637.35	3,634.01	15.74	12.86	-167.03	-71.12	-134.76	678.94	652.41	26.53	25.587		
3,800.00	3,735.16	3,735.27	3,731.81	16.19	13.22	-167.00	-71.87	-139.53	699.22	671.95	27.27	25.636		
3,900.00	3,833.07	3,833.20	3,829.61	16.65	13.58	-166.97	-72.62	-144.31	719.51	691.49	28.01	25.683		
4,000.00	3,930.99	3,931.12	3,927.41	17.11	13.94	-166.95	-73.38	-149.08	739.79	711.04	28.76	25.727		
4,100.00	4,028.90	4,029.04	4,025.21	17.57	14.29	-166.92	-74.13	-153.86	760.08	730.58	29.50	25.769		
4,200.00	4,126.82	4,126.96	4,123.02	18.03	14.65	-166.90	-74.88	-158.63	780.36	750.13	30.24	25.809		
4,300.00	4,224.73	4,224.88	4,220.82	18.48	15.01	-166.88	-75.63	-163.41	800.65	769.67	30.98	25.846		
4,400.00	4,322.65	4,322.80	4,318.62	18.94	15.37	-166.86	-76.38	-168.18	820.93	789.22	31.72	25.882		
4,500.00	4,420.56	4,420.72	4,416.42	19.40	15.72	-166.84	-77.13	-172.96	841.22	808.76	32.46	25.916		
4,600.00	4,518.48	4,518.64	4,514.22	19.86	16.08	-166.82	-77.88	-177.73	861.51	828.31	33.20	25.949		
4,700.00	4,616.39	4,616.56	4,612.02	20.31	16.44	-166.80	-78.63	-182.51	881.79	847.85	33.94	25.980		
4,800.00	4,714.31	4,714.48	4,709.82	20.77	16.80	-166.78	-79.38	-187.28	902.08	867.39	34.68	26.010		
4,900.00	4,812.22	4,812.40	4,807.62	21.23	17.16	-166.77	-80.14	-192.06	922.36	886.94	35.42	26.038		
5,000.00	4,910.14	4,910.32	4,905.42	21.69	17.51	-166.75	-80.89	-196.83	942.65	906.48	36.16	26.065		

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 3B-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 3B-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									
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			
5,100.00	5,008.05	5,008.24	5,003.23	22.15	17.87	-166.74	-81.64	-201.61	962.93	926.03	36.91	26.091				
5,200.00	5,105.97	5,106.16	5,101.03	22.60	18.23	-166.72	-82.39	-206.38	983.22	945.57	37.65	26.116				
5,300.00	5,203.88	5,204.08	5,198.83	23.06	18.59	-166.71	-83.14	-211.16	1,003.51	965.12	38.39	26.140				
5,400.00	5,301.80	5,302.00	5,296.63	23.52	18.95	-166.69	-83.89	-215.93	1,023.79	984.66	39.13	26.163				
5,500.00	5,399.71	5,399.92	5,394.43	23.98	19.30	-166.68	-84.64	-220.71	1,044.08	1,004.21	39.87	26.185				
5,518.70	5,418.03	5,418.24	5,412.72	24.07	19.37	-166.68	-84.78	-221.60	1,047.87	1,007.86	40.01	26.190				
5,600.00	5,497.85	5,498.06	5,492.45	24.43	19.66	-166.73	-85.40	-225.49	1,063.26	1,022.65	40.61	26.181				
5,700.00	5,596.59	5,596.77	5,591.04	24.85	20.02	-166.73	-86.15	-230.30	1,079.16	1,037.82	41.35	26.100				
5,800.00	5,695.82	5,695.96	5,690.11	25.24	20.39	-166.68	-86.91	-235.14	1,091.70	1,049.63	42.08	25.945				
5,900.00	5,795.42	5,795.49	5,789.52	25.59	20.75	-166.57	-87.68	-239.99	1,100.87	1,058.07	42.80	25.721				
6,000.00	5,895.27	5,895.25	5,889.16	25.92	21.12	-166.41	-88.44	-244.86	1,106.67	1,063.15	43.52	25.432				
6,104.76	6,000.00	5,999.87	5,993.65	26.24	21.50	177.72	-89.25	-249.96	1,109.12	1,064.86	44.26	25.062				
6,200.00	6,095.24	6,095.00	6,088.66	26.51	21.85	177.96	-89.98	-254.60	1,109.67	1,064.75	44.92	24.701				
6,300.00	6,195.24	6,194.88	6,188.41	26.80	22.21	178.21	-90.74	-259.47	1,110.28	1,064.65	45.63	24.334				
6,400.00	6,295.24	6,294.75	6,288.17	27.09	22.58	178.46	-91.51	-264.34	1,110.90	1,064.57	46.33	23.978				
6,500.00	6,395.24	6,394.63	6,387.93	27.38	22.94	178.71	-92.27	-269.21	1,111.55	1,064.51	47.03	23.633				
6,600.00	6,495.24	6,494.51	6,487.68	27.67	23.31	178.97	-93.04	-274.08	1,112.22	1,064.48	47.74	23.298				
6,700.00	6,595.24	6,594.39	6,587.44	27.97	23.67	179.22	-93.81	-278.95	1,112.91	1,064.46	48.44	22.973				
6,800.00	6,695.24	6,698.14	6,691.07	28.26	24.01	179.10	-94.33	-276.69	1,113.44	1,064.31	49.13	22.664				
6,900.00	6,795.24	6,799.20	6,790.68	28.56	24.32	178.25	-94.28	-260.13	1,113.78	1,064.05	49.73	22.394				
6,968.56	6,863.80	6,864.98	6,853.86	28.77	24.50	177.31	-93.96	-241.89	1,114.20	1,064.10	50.10	22.237				
7,000.00	6,895.23	6,894.12	6,881.26	28.86	24.58	87.39	-93.74	-231.97	1,114.51	1,064.25	50.26	22.175				
7,050.00	6,945.07	6,939.74	6,923.28	29.00	24.71	86.60	-93.32	-214.23	1,115.09	1,064.60	50.49	22.085				
7,100.00	6,994.51	6,984.53	6,963.35	29.13	24.84	85.84	-92.80	-194.25	1,115.79	1,065.08	50.71	22.003				
7,150.00	7,043.31	7,028.54	7,001.43	29.26	24.97	85.09	-92.18	-172.22	1,116.58	1,065.66	50.92	21.927				
7,200.00	7,091.24	7,071.84	7,037.51	29.38	25.10	84.37	-91.49	-148.30	1,117.45	1,066.31	51.13	21.855				
7,250.00	7,138.05	7,114.49	7,071.57	29.49	25.25	83.68	-90.72	-122.65	1,118.36	1,067.02	51.34	21.784				
7,300.00	7,183.54	7,156.54	7,103.60	29.59	25.41	83.02	-89.88	-95.42	1,119.31	1,067.76	51.55	21.712				
7,350.00	7,227.46	7,200.00	7,134.96	29.69	25.59	82.36	-88.92	-65.36	1,120.27	1,068.48	51.80	21.629				
7,400.00	7,269.62	7,239.06	7,161.55	29.78	25.78	81.79	-88.00	-36.77	1,121.22	1,069.19	52.03	21.549				
7,450.00	7,309.79	7,279.62	7,187.46	29.86	26.01	81.22	-86.97	-5.59	1,122.14	1,069.82	52.32	21.449				
7,500.00	7,347.80	7,319.76	7,211.33	29.94	26.27	80.69	-85.89	26.66	1,123.00	1,070.36	52.64	21.333				
7,550.00	7,383.44	7,359.53	7,233.15	30.00	26.55	80.20	-84.76	59.88	1,123.79	1,070.77	53.02	21.195				
7,600.00	7,416.56	7,400.00	7,253.43	30.06	26.88	79.74	-83.55	94.88	1,124.49	1,071.01	53.48	21.026				
7,650.00	7,446.98	7,438.08	7,270.68	30.11	27.25	79.34	-82.37	128.80	1,125.07	1,071.06	54.00	20.833				
7,700.00	7,474.56	7,476.93	7,286.40	30.16	27.65	78.97	-81.12	164.30	1,125.52	1,070.89	54.63	20.603				
7,750.00	7,499.17	7,515.54	7,300.09	30.20	28.10	78.64	-79.83	200.38	1,125.83	1,070.48	55.35	20.340				
7,800.00	7,520.67	7,550.00	7,310.64	30.25	28.52	78.39	-78.66	233.16	1,125.99	1,069.88	56.11	20.067				
7,850.00	7,538.98	7,592.16	7,321.39	30.35	29.10	78.13	-77.18	273.89	1,125.96	1,068.84	57.12	19.711				
7,900.00	7,554.00	7,630.21	7,329.02	30.66	29.67	77.94	-75.81	311.14	1,125.76	1,067.57	58.19	19.347				
7,950.00	7,565.66	7,668.14	7,334.64	31.26	30.26	77.79	-74.43	348.62	1,125.37	1,066.01	59.36	18.959				
8,000.00	7,573.90	7,700.00	7,337.83	31.98	30.78	77.71	-73.25	380.29	1,124.81	1,064.28	60.53	18.583				
8,050.00	7,578.68	7,743.69	7,339.90	32.78	31.54	77.65	-71.61	423.89	1,124.01	1,062.00	62.01	18.125				
8,093.56	7,580.00	7,783.28	7,340.00	33.51	32.26	77.66	-70.12	463.46	1,123.09	1,059.67	63.42	17.709				
8,100.00	7,580.00	7,789.72	7,340.00	33.62	32.38	77.65	-69.87	469.89	1,122.92	1,059.27	63.64	17.644				
8,200.00	7,580.00	7,889.68	7,340.00	35.47	34.34	77.62	-66.09	569.78	1,120.22	1,052.84	67.37	16.627				
8,300.00	7,580.00	7,989.64	7,340.00	37.50	36.47	77.59	-62.32	669.67	1,117.52	1,046.07	71.45	15.641				
8,400.00	7,580.00	8,089.60	7,340.00	39.69	38.75	77.56	-58.54	769.56	1,114.82	1,039.00	75.82	14.703				
8,500.00	7,580.00	8,189.57	7,340.00	42.01	41.15	77.53	-54.76	869.45	1,112.12	1,031.68	80.44	13.825				
8,600.00	7,580.00	8,289.53	7,340.00	44.44	43.65	77.50	-50.98	969.34	1,109.42	1,024.15	85.27	13.011				
8,700.00	7,580.00	8,389.49	7,340.00	46.96	46.24	77.47	-47.20	1,069.23	1,106.72	1,016.46	90.27	12.261				
8,800.00	7,580.00	8,489.45	7,340.00	49.56	48.90	77.44	-43.42	1,169.12	1,104.02	1,008.61	95.41	11.571				

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 3B-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 3B-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	
8,900.00	7,580.00	8,589.41	7,340.00	52.22	51.62	77.41	-39.65	1,269.01	1,101.33	1,000.65	100.68	10.939	
9,000.00	7,580.00	8,689.37	7,340.00	54.94	54.40	77.38	-35.87	1,368.91	1,098.63	992.58	106.05	10.359	
9,100.00	7,580.00	8,789.34	7,340.00	57.72	57.21	77.35	-32.09	1,468.80	1,095.93	984.42	111.51	9.828	
9,200.00	7,580.00	8,889.30	7,340.00	60.53	60.07	77.31	-28.31	1,568.69	1,093.23	976.18	117.05	9.340	
9,300.00	7,580.00	8,989.26	7,340.00	63.39	62.95	77.28	-24.53	1,668.58	1,090.54	967.88	122.66	8.891	
9,400.00	7,580.00	9,089.22	7,340.00	66.27	65.87	77.25	-20.76	1,768.47	1,087.84	959.52	128.32	8.478	
9,500.00	7,580.00	9,189.18	7,340.00	69.18	68.81	77.22	-16.98	1,868.36	1,085.15	951.12	134.03	8.096	
9,600.00	7,580.00	9,289.15	7,340.00	72.12	71.77	77.19	-13.20	1,968.25	1,082.45	942.67	139.78	7.744	
9,700.00	7,580.00	9,389.11	7,340.00	75.08	74.75	77.15	-9.42	2,068.14	1,079.76	934.18	145.57	7.417	
9,800.00	7,580.00	9,489.07	7,340.00	78.06	77.75	77.12	-5.64	2,168.03	1,077.06	925.66	151.40	7.114	
9,900.00	7,580.00	9,589.03	7,340.00	81.06	80.76	77.09	-1.86	2,267.92	1,074.37	917.11	157.25	6.832	
10,000.00	7,580.00	9,688.99	7,340.00	84.07	83.79	77.05	1.91	2,367.81	1,071.67	908.54	163.13	6.569	
10,100.00	7,580.00	9,788.95	7,340.00	87.09	86.83	77.02	5.69	2,467.70	1,068.98	899.94	169.04	6.324	
10,200.00	7,580.00	9,888.92	7,340.00	90.13	89.88	76.99	9.47	2,567.59	1,066.29	891.33	174.96	6.094	
10,300.00	7,580.00	9,988.88	7,340.00	93.18	92.93	76.95	13.25	2,667.48	1,063.59	882.69	180.90	5.879	
10,400.00	7,580.00	10,088.84	7,340.00	96.24	96.00	76.92	17.03	2,767.37	1,060.90	874.04	186.86	5.678	
10,500.00	7,580.00	10,188.80	7,340.00	99.31	99.08	76.89	20.81	2,867.26	1,058.21	865.37	192.83	5.488	
10,600.00	7,580.00	10,288.76	7,340.00	102.39	102.16	76.85	24.58	2,967.15	1,055.52	856.70	198.82	5.309	
10,700.00	7,580.00	10,388.73	7,340.00	105.47	105.25	76.82	28.36	3,067.04	1,052.82	848.01	204.82	5.140	
10,800.00	7,580.00	10,488.69	7,340.00	108.56	108.35	76.78	32.14	3,166.93	1,050.13	839.31	210.83	4.981	
10,900.00	7,580.00	10,588.65	7,340.00	111.66	111.45	76.75	35.92	3,266.82	1,047.44	830.60	216.85	4.830	
11,000.00	7,580.00	10,688.61	7,340.00	114.76	114.55	76.71	39.70	3,366.71	1,044.75	821.88	222.87	4.688	
11,100.00	7,580.00	10,788.57	7,340.00	117.87	117.67	76.68	43.48	3,466.60	1,042.06	813.16	228.91	4.552	
11,200.00	7,580.00	10,888.53	7,340.00	120.99	120.78	76.64	47.25	3,566.49	1,039.37	804.42	234.95	4.424	
11,300.00	7,580.00	10,988.50	7,340.00	124.11	123.90	76.61	51.03	3,666.38	1,036.68	795.69	241.00	4.302	
11,400.00	7,580.00	11,088.46	7,340.00	127.23	127.02	76.57	54.81	3,766.27	1,034.00	786.94	247.05	4.185	
11,500.00	7,580.00	11,188.42	7,340.00	130.36	130.15	76.54	58.59	3,866.16	1,031.31	778.20	253.11	4.075	
11,600.00	7,580.00	11,288.38	7,340.00	133.49	133.28	76.50	62.37	3,966.05	1,028.62	769.45	259.17	3.969	
11,700.00	7,580.00	11,388.34	7,340.00	136.63	136.41	76.47	66.14	4,065.95	1,025.93	760.69	265.24	3.868	
11,800.00	7,580.00	11,488.31	7,340.00	139.76	139.55	76.43	69.92	4,165.84	1,023.24	751.93	271.31	3.771	
11,900.00	7,580.00	11,588.27	7,340.00	142.91	142.69	76.39	73.70	4,265.73	1,020.56	743.17	277.38	3.679	
12,000.00	7,580.00	11,688.23	7,340.00	146.05	145.83	76.36	77.48	4,365.62	1,017.87	734.41	283.46	3.591	
12,100.00	7,580.00	11,788.19	7,340.00	149.20	148.97	76.32	81.26	4,465.51	1,015.18	725.64	289.54	3.506	
12,164.84	7,580.00	11,825.78	7,340.00	151.24	150.15	76.31	82.68	4,503.07	1,013.81	721.23	292.58	3.465	
12,170.36	7,580.00	11,825.78	7,340.00	151.41	150.15	76.31	82.68	4,503.07	1,013.82	721.11	292.71	3.464 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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		
0.00	0.00	0.00	0.00	0.00	0.00	179.77	-60.10	0.24	60.10					
100.00	100.00	100.00	100.00	0.14	0.14	179.77	-60.10	0.24	60.10	59.82	0.28	217.726		
200.00	200.00	200.00	200.00	0.50	0.50	179.77	-60.10	0.24	60.10	59.10	0.99	60.523		
300.00	300.00	300.00	300.00	0.85	0.85	179.77	-60.10	0.24	60.10	58.39	1.71	35.147	CC, ES	
400.00	399.98	399.98	399.98	1.21	1.21	-164.56	-60.10	0.24	61.78	59.35	2.43	25.448		
500.00	499.84	499.84	499.84	1.58	1.57	-165.73	-60.10	0.24	66.84	63.69	3.15	21.223		
600.00	599.45	599.45	599.45	1.94	1.93	-167.33	-60.10	0.24	75.32	71.44	3.87	19.450		
700.00	698.70	698.70	698.70	2.31	2.28	-169.04	-60.10	0.24	87.25	82.65	4.60	18.984		
800.00	797.47	797.47	797.47	2.70	2.64	-170.65	-60.10	0.24	102.65	97.33	5.32	19.296		
886.05	881.97	881.97	881.97	3.05	2.94	-171.87	-60.10	0.24	118.69	112.74	5.94	19.967		
900.00	895.63	895.63	895.63	3.11	2.99	-172.06	-60.10	0.24	121.49	115.44	6.05	20.086		
1,000.00	993.54	992.50	992.49	3.53	3.33	-172.58	-60.66	-1.14	141.99	135.24	6.75	21.041		
1,100.00	1,091.46	1,089.13	1,088.99	3.96	3.66	-171.84	-62.44	-5.52	163.26	155.81	7.44	21.935		
1,200.00	1,189.37	1,186.72	1,186.40	4.40	3.99	-170.86	-64.73	-11.14	184.88	176.73	8.15	22.687		
1,300.00	1,287.29	1,284.31	1,283.80	4.84	4.33	-170.09	-67.02	-16.76	206.54	197.68	8.86	23.308		
1,400.00	1,385.20	1,381.90	1,381.20	5.29	4.68	-169.47	-69.31	-22.38	228.23	218.65	9.58	23.827		
1,500.00	1,483.12	1,479.50	1,478.61	5.73	5.02	-168.95	-71.60	-28.00	249.94	239.64	10.30	24.267		
1,600.00	1,581.03	1,577.09	1,576.01	6.18	5.37	-168.52	-73.89	-33.62	271.67	260.65	11.02	24.644		
1,700.00	1,678.95	1,674.68	1,673.41	6.63	5.72	-168.15	-76.18	-39.23	293.41	281.66	11.75	24.970		
1,800.00	1,776.86	1,772.27	1,770.81	7.08	6.07	-167.83	-78.47	-44.85	315.16	302.68	12.48	25.255		
1,900.00	1,874.78	1,869.86	1,868.22	7.53	6.43	-167.55	-80.76	-50.47	336.92	323.71	13.21	25.506		
2,000.00	1,972.69	1,967.46	1,965.62	7.99	6.78	-167.31	-83.05	-56.09	358.69	344.74	13.94	25.728		
2,100.00	2,070.61	2,065.05	2,063.02	8.44	7.13	-167.09	-85.34	-61.71	380.46	365.78	14.68	25.925		
2,200.00	2,168.52	2,162.64	2,160.43	8.89	7.49	-166.90	-87.63	-67.33	402.23	386.82	15.41	26.103		
2,300.00	2,266.44	2,260.23	2,257.83	9.35	7.85	-166.72	-89.92	-72.95	424.01	407.87	16.14	26.263		
2,400.00	2,364.35	2,357.82	2,355.23	9.80	8.20	-166.57	-92.21	-78.57	445.80	428.92	16.88	26.408		
2,500.00	2,462.27	2,455.42	2,452.64	10.26	8.56	-166.43	-94.50	-84.19	467.58	449.96	17.62	26.540		
2,600.00	2,560.18	2,553.01	2,550.04	10.71	8.92	-166.30	-96.79	-89.80	489.37	471.02	18.36	26.661		
2,700.00	2,658.10	2,650.60	2,647.44	11.17	9.27	-166.18	-99.08	-95.42	511.16	492.07	19.09	26.771		
2,800.00	2,756.01	2,748.19	2,744.84	11.63	9.63	-166.07	-101.37	-101.04	532.95	513.12	19.83	26.873		
2,900.00	2,853.93	2,845.78	2,842.25	12.08	9.99	-165.97	-103.66	-106.66	554.75	534.18	20.57	26.967		
3,000.00	2,951.84	2,943.37	2,939.65	12.54	10.35	-165.88	-105.95	-112.28	576.54	555.23	21.31	27.054		
3,100.00	3,049.76	3,040.97	3,037.05	12.99	10.71	-165.80	-108.24	-117.90	598.34	576.29	22.05	27.135		
3,200.00	3,147.67	3,138.56	3,134.46	13.45	11.07	-165.72	-110.53	-123.52	620.14	597.35	22.79	27.210		
3,300.00	3,245.59	3,236.15	3,231.86	13.91	11.43	-165.64	-112.82	-129.14	641.94	618.41	23.53	27.281		
3,400.00	3,343.50	3,333.74	3,329.26	14.37	11.79	-165.57	-115.11	-134.76	663.74	639.47	24.27	27.346		
3,500.00	3,441.42	3,431.33	3,426.67	14.82	12.14	-165.51	-117.40	-140.37	685.54	660.53	25.01	27.408		
3,600.00	3,539.33	3,528.93	3,524.07	15.28	12.50	-165.45	-119.69	-145.99	707.34	681.59	25.75	27.466		
3,700.00	3,637.24	3,626.52	3,621.47	15.74	12.86	-165.39	-121.98	-151.61	729.14	702.65	26.50	27.520		
3,800.00	3,735.16	3,724.11	3,718.88	16.19	13.22	-165.34	-124.27	-157.23	750.95	723.71	27.24	27.571		
3,900.00	3,833.07	3,821.70	3,816.28	16.65	13.58	-165.28	-126.56	-162.85	772.75	744.77	27.98	27.620		
4,000.00	3,930.99	3,919.29	3,913.68	17.11	13.94	-165.24	-128.85	-168.47	794.55	765.83	28.72	27.665		
4,100.00	4,028.90	4,016.88	4,011.08	17.57	14.30	-165.19	-131.14	-174.09	816.36	786.90	29.46	27.709		
4,200.00	4,126.82	4,114.48	4,108.49	18.03	14.67	-165.15	-133.43	-179.71	838.16	807.96	30.20	27.750		
4,300.00	4,224.73	4,212.07	4,205.89	18.48	15.03	-165.11	-135.72	-185.33	859.97	829.02	30.95	27.789		
4,400.00	4,322.65	4,309.66	4,303.29	18.94	15.39	-165.07	-138.01	-190.94	881.77	850.09	31.69	27.826		
4,500.00	4,420.56	4,407.25	4,400.70	19.40	15.75	-165.03	-140.30	-196.56	903.58	871.15	32.43	27.861		
4,600.00	4,518.48	4,504.84	4,498.10	19.86	16.11	-165.00	-142.59	-202.18	925.39	892.21	33.17	27.895		
4,700.00	4,616.39	4,602.44	4,595.50	20.31	16.47	-164.96	-144.88	-207.80	947.19	913.28	33.92	27.927		
4,800.00	4,714.31	4,700.03	4,692.91	20.77	16.83	-164.93	-147.17	-213.42	969.00	934.34	34.66	27.957		
4,900.00	4,812.22	4,797.62	4,790.31	21.23	17.19	-164.90	-149.46	-219.04	990.81	955.41	35.40	27.987		
5,000.00	4,910.14	4,895.21	4,887.71	21.69	17.55	-164.87	-151.75	-224.66	1,012.62	976.47	36.15	28.015		

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 3B-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 3B-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	5,008.05	4,992.80	4,985.11	22.15	17.91	-164.84	-154.04	-230.28	1,034.43	997.54	36.89	28.041	
5,200.00	5,105.97	5,090.39	5,082.52	22.60	18.27	-164.82	-156.33	-235.90	1,056.23	1,018.60	37.63	28.067	
5,300.00	5,203.88	5,187.99	5,179.92	23.06	18.63	-164.79	-158.62	-241.52	1,078.04	1,039.67	38.38	28.092	
5,400.00	5,301.80	5,285.58	5,277.32	23.52	19.00	-164.76	-160.91	-247.13	1,099.85	1,060.73	39.12	28.115	
5,500.00	5,399.71	5,383.17	5,374.73	23.98	19.36	-164.74	-163.20	-252.75	1,121.66	1,081.80	39.86	28.138	
5,518.70	5,418.03	5,401.42	5,392.94	24.07	19.42	-164.74	-163.63	-253.80	1,125.74	1,085.74	40.00	28.142	
5,600.00	5,497.85	5,480.99	5,472.36	24.43	19.72	-164.79	-165.50	-258.39	1,142.38	1,101.78	40.60	28.134	
5,700.00	5,596.59	5,579.44	5,570.61	24.85	20.08	-164.80	-167.81	-264.05	1,159.86	1,118.51	41.34	28.056	
5,800.00	5,695.82	5,678.39	5,669.38	25.24	20.45	-164.75	-170.13	-269.75	1,174.01	1,131.93	42.07	27.904	
5,900.00	5,795.42	5,777.74	5,768.53	25.59	20.82	-164.64	-172.46	-275.47	1,184.83	1,142.03	42.80	27.684	
6,000.00	5,895.27	5,885.71	5,876.33	25.92	21.21	-164.48	-174.80	-281.21	1,192.14	1,148.57	43.57	27.359	
6,104.76	6,000.00	6,009.43	6,000.00	26.24	21.65	179.50	-175.81	-283.68	1,194.82	1,150.40	44.42	26.898	
6,200.00	6,095.24	6,104.67	6,095.24	26.51	21.96	179.50	-175.81	-283.68	1,194.82	1,149.77	45.05	26.521	
6,300.00	6,195.24	6,204.67	6,195.24	26.80	22.30	179.50	-175.81	-283.68	1,194.82	1,149.11	45.72	26.135	
6,400.00	6,295.24	6,304.67	6,295.24	27.09	22.63	179.50	-175.81	-283.68	1,194.82	1,148.44	46.38	25.759	
6,500.00	6,395.24	6,404.67	6,395.24	27.38	22.97	179.50	-175.81	-283.68	1,194.82	1,147.77	47.05	25.393	
6,600.00	6,495.24	6,504.67	6,495.24	27.67	23.30	179.50	-175.81	-283.68	1,194.82	1,147.10	47.72	25.037	
6,700.00	6,595.24	6,604.67	6,595.24	27.97	23.64	179.50	-175.81	-283.68	1,194.82	1,146.43	48.39	24.690	
6,800.00	6,695.24	6,704.67	6,695.24	28.26	23.98	179.50	-175.81	-283.68	1,194.82	1,145.76	49.07	24.352	
6,900.00	6,795.24	6,804.67	6,795.24	28.56	24.31	179.50	-175.81	-283.68	1,194.82	1,145.08	49.74	24.022	
6,968.56	6,863.80	6,873.23	6,863.80	28.77	24.55	179.50	-175.81	-283.68	1,194.82	1,144.62	50.20	23.800	
7,000.00	6,895.23	6,904.74	6,895.31	28.86	24.65	90.08	-175.80	-282.99	1,194.82	1,144.42	50.41	23.704	
7,050.00	6,945.07	6,954.86	6,945.25	29.00	24.81	90.08	-175.76	-279.03	1,194.82	1,144.11	50.72	23.559	
7,100.00	6,994.51	7,004.97	6,994.80	29.13	24.96	90.08	-175.68	-271.60	1,194.82	1,143.81	51.02	23.420	
7,150.00	7,043.31	7,055.08	7,043.71	29.26	25.11	90.08	-175.57	-260.72	1,194.82	1,143.51	51.31	23.286	
7,200.00	7,091.24	7,105.19	7,091.73	29.38	25.25	90.08	-175.43	-246.44	1,194.82	1,143.23	51.60	23.157	
7,250.00	7,138.05	7,155.30	7,138.64	29.49	25.39	90.07	-175.25	-228.85	1,194.82	1,142.94	51.88	23.031	
7,300.00	7,183.54	7,205.41	7,184.20	29.59	25.53	90.07	-175.04	-208.02	1,194.82	1,142.66	52.17	22.905	
7,350.00	7,227.46	7,255.51	7,228.19	29.69	25.67	90.07	-174.79	-184.06	1,194.82	1,142.36	52.46	22.776	
7,400.00	7,269.62	7,305.61	7,270.39	29.78	25.82	90.07	-174.52	-157.09	1,194.82	1,142.05	52.77	22.642	
7,450.00	7,309.79	7,355.70	7,310.60	29.86	25.99	90.06	-174.22	-127.23	1,194.82	1,141.71	53.11	22.496	
7,500.00	7,347.80	7,405.79	7,348.62	29.94	26.17	90.06	-173.89	-94.64	1,194.82	1,141.32	53.50	22.334	
7,550.00	7,383.44	7,455.87	7,384.27	30.00	26.38	90.05	-173.53	-59.48	1,194.82	1,140.88	53.94	22.150	
7,600.00	7,416.56	7,505.95	7,417.37	30.06	26.63	90.05	-173.15	-21.92	1,194.82	1,140.36	54.46	21.939	
7,650.00	7,446.98	7,556.02	7,447.76	30.11	26.93	90.05	-172.74	17.86	1,194.82	1,139.75	55.07	21.696	
7,700.00	7,474.56	7,606.08	7,475.30	30.16	27.29	90.04	-172.32	59.65	1,194.82	1,139.03	55.79	21.418	
7,750.00	7,499.17	7,656.14	7,499.84	30.20	27.71	90.04	-171.87	103.27	1,194.82	1,138.20	56.62	21.101	
7,800.00	7,520.67	7,706.19	7,521.28	30.25	28.20	90.03	-171.41	148.48	1,194.82	1,137.23	57.59	20.747	
7,850.00	7,538.98	7,756.23	7,539.50	30.35	28.76	90.03	-170.94	195.07	1,194.82	1,136.13	58.70	20.356	
7,900.00	7,554.00	7,806.26	7,554.43	30.66	29.38	90.02	-170.46	242.82	1,194.82	1,134.88	59.94	19.934	
7,950.00	7,565.66	7,856.29	7,565.98	31.26	30.08	90.02	-169.96	291.48	1,194.82	1,133.50	61.32	19.486	
8,000.00	7,573.90	7,906.31	7,574.11	31.98	30.84	90.01	-169.46	340.82	1,194.82	1,132.00	62.82	19.019	
8,050.00	7,578.68	7,956.32	7,578.77	32.78	31.66	90.00	-168.95	390.60	1,194.82	1,130.38	64.44	18.542	
8,093.56	7,580.00	7,999.88	7,580.00	33.51	32.41	90.00	-168.51	434.13	1,194.82	1,128.90	65.93	18.124	
8,100.00	7,580.00	8,006.32	7,580.00	33.62	32.53	90.00	-168.45	440.57	1,194.82	1,128.66	66.16	18.060	
8,200.00	7,580.00	8,106.32	7,580.00	35.47	34.42	90.00	-167.43	540.57	1,194.82	1,124.94	69.88	17.097	
8,300.00	7,580.00	8,206.32	7,580.00	37.50	36.49	90.00	-166.41	640.56	1,194.82	1,120.84	73.98	16.151	
8,400.00	7,580.00	8,306.32	7,580.00	39.69	38.72	90.00	-165.40	740.56	1,194.82	1,116.43	78.39	15.243	
8,500.00	7,580.00	8,406.32	7,580.00	42.01	41.08	90.00	-164.38	840.55	1,194.82	1,111.77	83.05	14.386	
8,600.00	7,580.00	8,506.32	7,580.00	44.44	43.54	90.00	-163.36	940.55	1,194.82	1,106.88	87.94	13.586	
8,700.00	7,580.00	8,606.32	7,580.00	46.96	46.10	90.00	-162.35	1,040.54	1,194.82	1,101.80	93.02	12.845	
8,800.00	7,580.00	8,706.32	7,580.00	49.56	48.73	90.00	-161.33	1,140.54	1,194.82	1,096.57	98.25	12.162	

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 3B-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 3B-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		
8,900.00	7,580.00	8,806.32	7,580.00	52.22	51.43	90.00	-160.31	1,240.53	1,194.82	1,091.21	103.61	11.532		
9,000.00	7,580.00	8,906.32	7,580.00	54.94	54.18	90.00	-159.30	1,340.53	1,194.82	1,085.73	109.09	10.953		
9,100.00	7,580.00	9,006.32	7,580.00	57.72	56.99	90.00	-158.28	1,440.52	1,194.82	1,080.16	114.66	10.421		
9,200.00	7,580.00	9,106.32	7,580.00	60.53	59.83	90.00	-157.27	1,540.52	1,194.82	1,074.50	120.32	9.931		
9,300.00	7,580.00	9,206.32	7,580.00	63.39	62.71	90.00	-156.25	1,640.51	1,194.82	1,068.77	126.05	9.479		
9,400.00	7,580.00	9,306.32	7,580.00	66.27	65.61	90.00	-155.23	1,740.51	1,194.82	1,062.98	131.84	9.063		
9,500.00	7,580.00	9,406.32	7,580.00	69.18	68.55	90.00	-154.22	1,840.50	1,194.82	1,057.13	137.69	8.678		
9,600.00	7,580.00	9,506.32	7,580.00	72.12	71.51	90.00	-153.20	1,940.50	1,194.82	1,051.23	143.58	8.321		
9,700.00	7,580.00	9,606.32	7,580.00	75.08	74.48	90.00	-152.18	2,040.49	1,194.82	1,045.30	149.52	7.991		
9,800.00	7,580.00	9,706.32	7,580.00	78.06	77.48	90.00	-151.17	2,140.49	1,194.82	1,039.32	155.50	7.684		
9,900.00	7,580.00	9,806.32	7,580.00	81.06	80.49	90.00	-150.15	2,240.48	1,194.82	1,033.31	161.51	7.398		
10,000.00	7,580.00	9,906.32	7,580.00	84.07	83.52	90.00	-149.13	2,340.48	1,194.82	1,027.27	167.55	7.131		
10,100.00	7,580.00	10,006.32	7,580.00	87.09	86.56	90.00	-148.12	2,440.47	1,194.82	1,021.20	173.61	6.882		
10,200.00	7,580.00	10,106.32	7,580.00	90.13	89.61	90.00	-147.10	2,540.47	1,194.82	1,015.11	179.70	6.649		
10,300.00	7,580.00	10,206.32	7,580.00	93.18	92.67	90.00	-146.09	2,640.46	1,194.82	1,009.00	185.82	6.430		
10,400.00	7,580.00	10,306.32	7,580.00	96.24	95.75	90.00	-145.07	2,740.45	1,194.82	1,002.87	191.95	6.225		
10,500.00	7,580.00	10,406.32	7,580.00	99.31	98.83	90.00	-144.05	2,840.45	1,194.82	996.72	198.10	6.031		
10,600.00	7,580.00	10,506.32	7,580.00	102.39	101.91	90.00	-143.04	2,940.44	1,194.82	990.55	204.26	5.849		
10,700.00	7,580.00	10,606.32	7,580.00	105.47	105.01	90.00	-142.02	3,040.44	1,194.82	984.37	210.44	5.678		
10,800.00	7,580.00	10,706.32	7,580.00	108.56	108.11	90.00	-141.00	3,140.43	1,194.82	978.18	216.64	5.515		
10,900.00	7,580.00	10,806.32	7,580.00	111.66	111.22	90.00	-139.99	3,240.43	1,194.82	971.97	222.84	5.362		
11,000.00	7,580.00	10,906.32	7,580.00	114.76	114.33	90.00	-138.97	3,340.42	1,194.82	965.75	229.06	5.216		
11,100.00	7,580.00	11,006.32	7,580.00	117.87	117.45	90.00	-137.95	3,440.42	1,194.81	959.53	235.29	5.078		
11,200.00	7,580.00	11,106.32	7,580.00	120.99	120.57	90.00	-136.94	3,540.41	1,194.81	953.29	241.53	4.947		
11,300.00	7,580.00	11,206.32	7,580.00	124.11	123.70	90.00	-135.92	3,640.41	1,194.81	947.04	247.77	4.822		
11,400.00	7,580.00	11,306.32	7,580.00	127.23	126.83	90.00	-134.91	3,740.40	1,194.81	940.79	254.03	4.703		
11,500.00	7,580.00	11,406.32	7,580.00	130.36	129.96	90.00	-133.89	3,840.40	1,194.81	934.52	260.29	4.590		
11,600.00	7,580.00	11,506.32	7,580.00	133.49	133.10	90.00	-132.87	3,940.39	1,194.81	928.25	266.56	4.482		
11,700.00	7,580.00	11,606.32	7,580.00	136.63	136.24	90.00	-131.86	4,040.39	1,194.81	921.98	272.84	4.379		
11,800.00	7,580.00	11,706.32	7,580.00	139.76	139.39	90.00	-130.84	4,140.38	1,194.81	915.69	279.12	4.281		
11,900.00	7,580.00	11,806.32	7,580.00	142.91	142.53	90.00	-129.82	4,240.38	1,194.81	909.40	285.41	4.186		
12,000.00	7,580.00	11,906.32	7,580.00	146.05	145.68	90.00	-128.81	4,340.37	1,194.81	903.11	291.70	4.096		
12,100.00	7,580.00	12,006.32	7,580.00	149.20	148.84	90.00	-127.79	4,440.37	1,194.81	896.81	298.00	4.009		
12,161.39	7,580.00	12,067.71	7,580.00	151.13	150.77	90.00	-127.17	4,501.75	1,194.81	892.94	301.87	3.958		
12,170.36	7,580.00	12,070.04	7,580.00	151.41	150.84	90.00	-127.14	4,504.08	1,194.83	892.62	302.21	3.954 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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 3I-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	179.73	-69.93	0.32	69.93				
100.00	100.00	100.00	100.00	0.14	0.14	179.73	-69.93	0.32	69.93	69.66	0.28	253.358	
200.00	200.00	200.00	200.00	0.50	0.50	179.73	-69.93	0.32	69.93	68.94	0.99	70.428	
300.00	300.00	300.00	300.00	0.85	0.85	179.73	-69.93	0.32	69.93	68.22	1.71	40.899	CC, ES
400.00	399.98	399.98	399.98	1.21	1.21	-164.53	-69.93	0.32	71.61	69.19	2.43	29.499	
500.00	499.84	499.84	499.84	1.58	1.57	-165.55	-69.93	0.32	76.67	73.52	3.15	24.345	
600.00	599.45	599.45	599.45	1.94	1.93	-166.98	-69.93	0.32	85.14	81.27	3.87	21.987	
700.00	698.70	698.70	698.70	2.31	2.28	-168.55	-69.93	0.32	97.05	92.46	4.60	21.117	
800.00	797.47	797.47	797.47	2.70	2.64	-170.08	-69.93	0.32	112.43	107.11	5.32	21.133	
886.05	881.97	880.21	880.20	3.05	2.92	-170.80	-70.60	-0.58	129.00	123.07	5.93	21.759	
900.00	895.63	893.53	893.51	3.11	2.97	-170.84	-70.84	-0.90	132.00	125.97	6.03	21.889	
1,000.00	993.54	988.62	988.49	3.53	3.29	-170.46	-73.63	-4.66	154.44	147.73	6.72	22.997	
1,100.00	1,091.46	1,083.71	1,083.26	3.96	3.62	-169.31	-78.23	-10.84	178.45	171.05	7.41	24.093	
1,200.00	1,189.37	1,180.60	1,179.76	4.40	3.96	-168.21	-83.38	-17.78	202.95	194.84	8.11	25.019	
1,300.00	1,287.29	1,277.49	1,276.26	4.84	4.30	-167.35	-88.54	-24.72	227.50	218.68	8.82	25.785	
1,400.00	1,385.20	1,374.38	1,372.77	5.29	4.65	-166.65	-93.70	-31.66	252.09	242.55	9.54	26.424	
1,500.00	1,483.12	1,471.27	1,469.27	5.73	5.00	-166.08	-98.86	-38.60	276.71	266.45	10.26	26.965	
1,600.00	1,581.03	1,568.15	1,565.77	6.18	5.36	-165.61	-104.01	-45.54	301.35	290.36	10.99	27.428	
1,700.00	1,678.95	1,665.04	1,662.27	6.63	5.72	-165.20	-109.17	-52.48	326.01	314.29	11.71	27.829	
1,800.00	1,776.86	1,761.93	1,758.77	7.08	6.08	-164.85	-114.33	-59.42	350.68	338.23	12.44	28.178	
1,900.00	1,874.78	1,858.82	1,855.28	7.53	6.44	-164.55	-119.49	-66.36	375.36	362.18	13.18	28.486	
2,000.00	1,972.69	1,955.71	1,951.78	7.99	6.80	-164.29	-124.64	-73.30	400.05	386.13	13.91	28.758	
2,100.00	2,070.61	2,052.60	2,048.28	8.44	7.16	-164.05	-129.80	-80.24	424.74	410.10	14.65	29.001	
2,200.00	2,168.52	2,149.49	2,144.78	8.89	7.52	-163.84	-134.96	-87.18	449.44	434.06	15.38	29.218	
2,300.00	2,266.44	2,246.38	2,241.28	9.35	7.89	-163.66	-140.12	-94.12	474.15	458.03	16.12	29.414	
2,400.00	2,364.35	2,343.26	2,337.79	9.80	8.25	-163.49	-145.27	-101.06	498.86	482.00	16.86	29.592	
2,500.00	2,462.27	2,440.15	2,434.29	10.26	8.62	-163.34	-150.43	-108.00	523.58	505.98	17.60	29.753	
2,600.00	2,560.18	2,537.04	2,530.79	10.71	8.99	-163.20	-155.59	-114.94	548.30	529.96	18.34	29.900	
2,700.00	2,658.10	2,633.93	2,627.29	11.17	9.35	-163.07	-160.75	-121.88	573.02	553.94	19.08	30.036	
2,800.00	2,756.01	2,730.82	2,723.80	11.63	9.72	-162.95	-165.90	-128.82	597.74	577.92	19.82	30.160	
2,900.00	2,853.93	2,827.71	2,820.30	12.08	10.09	-162.85	-171.06	-135.76	622.47	601.90	20.56	30.275	
3,000.00	2,951.84	2,924.60	2,916.80	12.54	10.46	-162.75	-176.22	-142.70	647.19	625.89	21.30	30.381	
3,100.00	3,049.76	3,021.49	3,013.30	12.99	10.82	-162.66	-181.38	-149.64	671.92	649.88	22.04	30.480	
3,200.00	3,147.67	3,118.37	3,109.80	13.45	11.19	-162.57	-186.54	-156.58	696.65	673.86	22.79	30.572	
3,300.00	3,245.59	3,215.26	3,206.31	13.91	11.56	-162.49	-191.69	-163.52	721.38	697.85	23.53	30.657	
3,400.00	3,343.50	3,312.15	3,302.81	14.37	11.93	-162.42	-196.85	-170.46	746.12	721.84	24.27	30.737	
3,500.00	3,441.42	3,409.04	3,399.31	14.82	12.30	-162.35	-202.01	-177.40	770.85	745.83	25.02	30.812	
3,600.00	3,539.33	3,505.93	3,495.81	15.28	12.67	-162.28	-207.17	-184.34	795.59	769.83	25.76	30.883	
3,700.00	3,637.24	3,602.82	3,592.31	15.74	13.04	-162.22	-212.32	-191.28	820.32	793.82	26.51	30.949	
3,800.00	3,735.16	3,699.71	3,688.82	16.19	13.41	-162.17	-217.48	-198.22	845.06	817.81	27.25	31.011	
3,900.00	3,833.07	3,796.60	3,785.32	16.65	13.78	-162.11	-222.64	-205.16	869.80	841.80	27.99	31.070	
4,000.00	3,930.99	3,893.48	3,881.82	17.11	14.14	-162.06	-227.80	-212.10	894.54	865.80	28.74	31.126	
4,100.00	4,028.90	3,990.37	3,978.32	17.57	14.51	-162.01	-232.95	-219.04	919.28	889.79	29.48	31.179	
4,200.00	4,126.82	4,087.26	4,074.83	18.03	14.88	-161.97	-238.11	-225.98	944.01	913.79	30.23	31.229	
4,300.00	4,224.73	4,184.15	4,171.33	18.48	15.25	-161.92	-243.27	-232.92	968.75	937.78	30.97	31.276	
4,400.00	4,322.65	4,281.04	4,267.83	18.94	15.62	-161.88	-248.43	-239.86	993.50	961.78	31.72	31.321	
4,500.00	4,420.56	4,377.93	4,364.33	19.40	15.99	-161.84	-253.58	-246.80	1,018.24	985.77	32.47	31.364	
4,600.00	4,518.48	4,474.82	4,460.83	19.86	16.37	-161.80	-258.74	-253.74	1,042.98	1,009.77	33.21	31.405	
4,700.00	4,616.39	4,571.71	4,557.34	20.31	16.74	-161.77	-263.90	-260.68	1,067.72	1,033.76	33.96	31.444	
4,800.00	4,714.31	4,668.59	4,653.84	20.77	17.11	-161.73	-269.06	-267.62	1,092.46	1,057.76	34.70	31.481	
4,900.00	4,812.22	4,767.41	4,752.26	21.23	17.48	-161.70	-274.31	-274.69	1,117.20	1,081.74	35.46	31.504	
5,000.00	4,910.14	4,896.13	4,880.71	21.69	17.96	-161.79	-279.23	-281.31	1,140.42	1,104.00	36.42	31.309	

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 3B-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 3B-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 3I-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	5,008.05	5,023.51	5,008.05	22.15	18.41	-162.10	-280.71	-283.31	1,160.94	1,123.61	37.33	31.101	
5,200.00	5,105.97	5,121.43	5,105.97	22.60	18.72	-162.40	-280.71	-283.31	1,180.32	1,142.29	38.03	31.037	
5,300.00	5,203.88	5,219.34	5,203.88	23.06	19.04	-162.70	-280.71	-283.31	1,199.74	1,161.01	38.73	30.976	
5,400.00	5,301.80	5,317.26	5,301.80	23.52	19.36	-162.98	-280.71	-283.31	1,219.18	1,179.75	39.43	30.917	
5,500.00	5,399.71	5,415.17	5,399.71	23.98	19.68	-163.25	-280.71	-283.31	1,238.66	1,198.52	40.14	30.860	
5,518.70	5,418.03	5,433.48	5,418.03	24.07	19.74	-163.30	-280.71	-283.31	1,242.30	1,202.03	40.27	30.849	
5,600.00	5,497.85	5,513.31	5,497.85	24.43	20.00	-163.59	-280.71	-283.31	1,257.07	1,216.23	40.84	30.780	
5,700.00	5,596.59	5,612.05	5,596.59	24.85	20.32	-163.88	-280.71	-283.31	1,272.26	1,230.72	41.54	30.629	
5,800.00	5,695.82	5,711.28	5,695.82	25.24	20.65	-164.10	-280.71	-283.31	1,284.14	1,241.91	42.23	30.408	
5,900.00	5,795.42	5,810.88	5,795.42	25.59	20.98	-164.25	-280.71	-283.31	1,292.68	1,249.77	42.92	30.121	
6,000.00	5,895.27	5,910.72	5,895.27	25.92	21.31	-164.34	-280.71	-283.31	1,297.88	1,254.29	43.59	29.772	
6,104.76	6,000.00	6,015.46	6,000.00	26.24	21.65	179.52	-280.71	-283.31	1,299.73	1,255.43	44.30	29.342	
6,200.00	6,095.24	6,110.70	6,095.24	26.51	21.97	179.52	-280.71	-283.31	1,299.73	1,254.80	44.93	28.928	
6,300.00	6,195.24	6,210.70	6,195.24	26.80	22.30	179.52	-280.71	-283.31	1,299.73	1,254.13	45.60	28.504	
6,400.00	6,295.24	6,310.70	6,295.24	27.09	22.64	179.52	-280.71	-283.31	1,299.73	1,253.46	46.27	28.092	
6,500.00	6,395.24	6,410.70	6,395.24	27.38	22.97	179.52	-280.71	-283.31	1,299.73	1,252.79	46.94	27.691	
6,600.00	6,495.24	6,510.70	6,495.24	27.67	23.31	179.52	-280.71	-283.31	1,299.73	1,252.12	47.61	27.300	
6,700.00	6,595.24	6,610.70	6,595.24	27.97	23.65	179.52	-280.71	-283.31	1,299.73	1,251.45	48.28	26.920	
6,800.00	6,695.24	6,710.71	6,695.25	28.26	23.98	179.52	-280.71	-283.30	1,299.73	1,250.77	48.96	26.549	
6,856.46	6,751.70	6,767.22	6,751.70	28.43	24.17	179.42	-280.69	-280.96	1,299.73	1,250.40	49.33	26.350	
6,900.00	6,795.24	6,810.36	6,794.56	28.56	24.30	179.21	-280.64	-276.18	1,299.73	1,250.14	49.60	26.205	
6,968.56	6,863.80	6,876.70	6,859.72	28.77	24.50	178.66	-280.51	-263.82	1,299.84	1,249.84	50.01	25.994	
7,000.00	6,895.23	6,906.41	6,888.47	28.86	24.58	88.93	-280.44	-256.34	1,299.96	1,249.78	50.18	25.905	
7,050.00	6,945.07	6,953.11	6,932.97	29.00	24.72	88.44	-280.29	-242.19	1,300.23	1,249.79	50.44	25.776	
7,100.00	6,994.51	7,000.00	6,976.62	29.13	24.85	87.96	-280.12	-225.10	1,300.59	1,249.89	50.70	25.652	
7,150.00	7,043.31	7,044.64	7,017.06	29.26	24.97	87.50	-279.93	-206.21	1,301.03	1,250.08	50.94	25.540	
7,200.00	7,091.24	7,089.55	7,056.47	29.38	25.09	87.04	-279.71	-184.70	1,301.54	1,250.35	51.18	25.429	
7,250.00	7,138.05	7,133.94	7,094.03	29.49	25.21	86.60	-279.47	-161.05	1,302.11	1,250.68	51.43	25.320	
7,300.00	7,183.54	7,177.86	7,129.67	29.59	25.34	86.18	-279.21	-135.41	1,302.74	1,251.06	51.68	25.209	
7,350.00	7,227.46	7,221.33	7,163.34	29.69	25.49	85.77	-278.93	-107.92	1,303.40	1,251.46	51.94	25.093	
7,400.00	7,269.62	7,264.39	7,194.99	29.78	25.65	85.38	-278.63	-78.73	1,304.09	1,251.86	52.23	24.967	
7,450.00	7,309.79	7,307.09	7,224.58	29.86	25.83	85.01	-278.32	-47.96	1,304.80	1,252.25	52.56	24.827	
7,500.00	7,347.80	7,350.00	7,252.42	29.94	26.05	84.66	-277.99	-15.32	1,305.51	1,252.59	52.93	24.665	
7,550.00	7,383.44	7,391.48	7,277.43	30.00	26.30	84.34	-277.65	17.76	1,306.22	1,252.86	53.36	24.480	
7,600.00	7,416.56	7,433.24	7,300.63	30.06	26.60	84.04	-277.30	52.48	1,306.91	1,253.04	53.87	24.262	
7,650.00	7,446.98	7,474.75	7,321.64	30.11	26.94	83.77	-276.94	88.27	1,307.57	1,253.11	54.46	24.011	
7,700.00	7,474.56	7,516.03	7,340.46	30.16	27.32	83.52	-276.56	125.01	1,308.18	1,253.04	55.14	23.724	
7,750.00	7,499.17	7,557.12	7,357.04	30.20	27.75	83.29	-276.18	162.59	1,308.75	1,252.83	55.93	23.400	
7,800.00	7,520.67	7,600.00	7,372.03	30.25	28.24	83.09	-275.77	202.76	1,309.27	1,252.41	56.86	23.027	
7,850.00	7,538.98	7,638.81	7,383.50	30.35	28.75	82.93	-275.40	239.83	1,309.72	1,251.86	57.86	22.637	
7,900.00	7,554.00	7,679.47	7,393.34	30.66	29.32	82.80	-274.99	279.27	1,310.09	1,251.09	59.00	22.205	
7,950.00	7,565.66	7,720.03	7,400.91	31.26	29.94	82.69	-274.59	319.11	1,310.39	1,250.14	60.26	21.747	
8,000.00	7,573.90	7,760.51	7,406.21	31.98	30.59	82.61	-274.18	359.24	1,310.61	1,249.00	61.62	21.270	
8,050.00	7,578.68	7,800.00	7,409.18	32.78	31.26	82.57	-273.78	398.61	1,310.75	1,247.69	63.06	20.786	
8,093.56	7,580.00	7,836.61	7,410.00	33.51	31.91	82.55	-273.41	435.20	1,310.80	1,246.37	64.43	20.344	
8,100.00	7,580.00	7,843.05	7,410.00	33.62	32.03	82.55	-273.34	441.64	1,310.80	1,246.13	64.66	20.272	
8,200.00	7,580.00	7,943.05	7,410.00	35.47	33.97	82.55	-272.33	541.63	1,310.80	1,242.38	68.42	19.159	
8,300.00	7,580.00	8,043.05	7,410.00	37.50	36.07	82.55	-271.31	641.63	1,310.80	1,238.28	72.52	18.075	
8,400.00	7,580.00	8,143.05	7,410.00	39.69	38.33	82.55	-270.30	741.62	1,310.80	1,233.87	76.93	17.039	
8,500.00	7,580.00	8,243.05	7,410.00	42.01	40.72	82.55	-269.28	841.62	1,310.80	1,229.20	81.60	16.064	
8,600.00	7,580.00	8,343.05	7,410.00	44.44	43.21	82.55	-268.26	941.61	1,310.80	1,224.31	86.48	15.157	
8,700.00	7,580.00	8,443.05	7,410.00	46.96	45.79	82.55	-267.25	1,041.61	1,310.80	1,219.25	91.55	14.318	

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 3B-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 3B-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 3I-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	7,580.00	8,543.05	7,410.00	49.56	48.45	82.55	-266.23	1,141.60	1,310.80	1,214.03	96.77	13.546		
8,900.00	7,580.00	8,643.05	7,410.00	52.22	51.16	82.55	-265.21	1,241.60	1,310.80	1,208.68	102.11	12.837		
9,000.00	7,580.00	8,743.05	7,410.00	54.94	53.94	82.55	-264.20	1,341.59	1,310.80	1,203.22	107.57	12.185		
9,100.00	7,580.00	8,843.05	7,410.00	57.72	56.76	82.55	-263.18	1,441.59	1,310.80	1,197.67	113.13	11.587		
9,200.00	7,580.00	8,943.05	7,410.00	60.53	59.61	82.55	-262.17	1,541.58	1,310.80	1,192.03	118.76	11.037		
9,300.00	7,580.00	9,043.05	7,410.00	63.39	62.51	82.55	-261.15	1,641.58	1,310.80	1,186.33	124.46	10.531		
9,400.00	7,580.00	9,143.05	7,410.00	66.27	65.43	82.55	-260.13	1,741.57	1,310.80	1,180.57	130.23	10.065		
9,500.00	7,580.00	9,243.05	7,410.00	69.18	68.37	82.55	-259.12	1,841.57	1,310.79	1,174.75	136.05	9.635		
9,600.00	7,580.00	9,343.05	7,410.00	72.12	71.34	82.55	-258.10	1,941.56	1,310.79	1,168.88	141.91	9.237		
9,700.00	7,580.00	9,443.05	7,410.00	75.08	74.33	82.55	-257.08	2,041.56	1,310.79	1,162.98	147.82	8.868		
9,800.00	7,580.00	9,543.05	7,410.00	78.06	77.34	82.55	-256.07	2,141.55	1,310.79	1,157.03	153.76	8.525		
9,900.00	7,580.00	9,643.05	7,410.00	81.06	80.36	82.55	-255.05	2,241.55	1,310.79	1,151.06	159.74	8.206		
10,000.00	7,580.00	9,743.05	7,410.00	84.07	83.40	82.55	-254.04	2,341.54	1,310.79	1,145.06	165.74	7.909		
10,100.00	7,580.00	9,843.05	7,410.00	87.09	86.44	82.55	-253.02	2,441.53	1,310.79	1,139.03	171.77	7.631		
10,200.00	7,580.00	9,943.05	7,410.00	90.13	89.50	82.55	-252.00	2,541.53	1,310.79	1,132.98	177.82	7.371		
10,300.00	7,580.00	10,043.05	7,410.00	93.18	92.57	82.55	-250.99	2,641.52	1,310.79	1,126.90	183.89	7.128		
10,400.00	7,580.00	10,143.05	7,410.00	96.24	95.65	82.55	-249.97	2,741.52	1,310.79	1,120.81	189.98	6.900		
10,500.00	7,580.00	10,243.05	7,410.00	99.31	98.74	82.55	-248.95	2,841.51	1,310.79	1,114.70	196.09	6.685		
10,600.00	7,580.00	10,343.05	7,410.00	102.39	101.83	82.55	-247.94	2,941.51	1,310.79	1,108.58	202.22	6.482		
10,700.00	7,580.00	10,443.05	7,410.00	105.47	104.93	82.55	-246.92	3,041.50	1,310.79	1,102.44	208.36	6.291		
10,800.00	7,580.00	10,543.05	7,410.00	108.56	108.04	82.55	-245.91	3,141.50	1,310.79	1,096.29	214.51	6.111		
10,900.00	7,580.00	10,643.05	7,410.00	111.66	111.15	82.55	-244.89	3,241.49	1,310.79	1,090.12	220.67	5.940		
11,000.00	7,580.00	10,743.05	7,410.00	114.76	114.27	82.55	-243.87	3,341.49	1,310.79	1,083.95	226.84	5.778		
11,100.00	7,580.00	10,843.05	7,410.00	117.87	117.39	82.55	-242.86	3,441.48	1,310.79	1,077.77	233.03	5.625		
11,200.00	7,580.00	10,943.05	7,410.00	120.99	120.51	82.55	-241.84	3,541.48	1,310.79	1,071.57	239.22	5.479		
11,300.00	7,580.00	11,043.05	7,410.00	124.11	123.65	82.55	-240.83	3,641.47	1,310.79	1,065.37	245.42	5.341		
11,400.00	7,580.00	11,143.05	7,410.00	127.23	126.78	82.55	-239.81	3,741.47	1,310.79	1,059.16	251.63	5.209		
11,500.00	7,580.00	11,243.05	7,410.00	130.36	129.92	82.55	-238.79	3,841.46	1,310.79	1,052.94	257.85	5.084		
11,600.00	7,580.00	11,343.05	7,410.00	133.49	133.06	82.55	-237.78	3,941.46	1,310.79	1,046.72	264.08	4.964		
11,700.00	7,580.00	11,443.05	7,410.00	136.63	136.20	82.55	-236.76	4,041.45	1,310.79	1,040.49	270.31	4.849		
11,800.00	7,580.00	11,543.05	7,410.00	139.76	139.35	82.55	-235.74	4,141.45	1,310.79	1,034.25	276.54	4.740		
11,900.00	7,580.00	11,643.05	7,410.00	142.91	142.50	82.55	-234.73	4,241.44	1,310.79	1,028.01	282.78	4.635		
12,000.00	7,580.00	11,743.05	7,410.00	146.05	145.65	82.55	-233.71	4,341.44	1,310.79	1,021.76	289.03	4.535		
12,100.00	7,580.00	11,843.05	7,410.00	149.20	148.23	82.55	-232.70	4,441.43	1,310.79	1,016.08	294.71	4.448		
12,161.80	7,580.00	11,904.84	7,410.00	151.14	149.36	82.55	-232.07	4,503.22	1,310.79	1,013.03	297.76	4.402		
12,170.36	7,580.00	11,906.06	7,410.00	151.41	149.38	82.55	-232.05	4,504.45	1,310.81	1,012.78	298.03	4.398 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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: 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		
0.00	0.00	0.00	0.00	0.00	0.00	179.91	-79.77	0.13	79.77					
100.00	100.00	100.00	100.00	0.14	0.14	179.91	-79.77	0.13	79.77	79.50	0.28	289.011		
200.00	200.00	200.00	200.00	0.50	0.50	179.91	-79.77	0.13	79.77	78.78	0.99	80.339		
300.00	300.00	300.00	300.00	0.85	0.85	179.91	-79.77	0.13	79.77	78.06	1.71	46.654	CC, ES	
400.00	399.98	399.98	399.98	1.21	1.21	-164.32	-79.77	0.13	81.45	79.03	2.43	33.552		
500.00	499.84	499.84	499.84	1.58	1.57	-165.23	-79.77	0.13	86.50	83.35	3.15	27.467		
600.00	599.45	599.45	599.45	1.94	1.93	-166.53	-79.77	0.13	94.96	91.09	3.87	24.523		
700.00	698.70	698.70	698.70	2.31	2.28	-168.00	-79.77	0.13	106.85	102.25	4.60	23.248	SF	
800.00	797.47	794.31	794.29	2.70	2.61	-168.96	-81.07	-0.73	123.45	118.15	5.30	23.287		
886.05	881.97	875.31	875.20	3.05	2.88	-169.11	-84.25	-2.83	142.47	136.57	5.90	24.141		
900.00	895.63	888.31	888.17	3.11	2.93	-169.10	-84.94	-3.28	145.92	139.92	6.00	24.312		
1,000.00	993.54	980.81	980.36	3.53	3.24	-168.69	-91.25	-7.45	172.09	165.41	6.68	25.747		
1,100.00	1,091.46	1,076.41	1,075.47	3.96	3.58	-168.02	-99.32	-12.78	199.75	192.38	7.37	27.099		
1,200.00	1,189.37	1,172.48	1,171.05	4.40	3.92	-167.52	-107.45	-18.15	227.43	219.37	8.07	28.197		
1,300.00	1,287.29	1,268.55	1,266.62	4.84	4.27	-167.12	-115.58	-23.51	255.14	246.37	8.77	29.096		
1,400.00	1,385.20	1,364.63	1,362.20	5.29	4.62	-166.80	-123.71	-28.88	282.85	273.37	9.48	29.847		
1,500.00	1,483.12	1,460.70	1,457.78	5.73	4.98	-166.54	-131.84	-34.25	310.56	300.37	10.19	30.482		
1,600.00	1,581.03	1,556.77	1,553.36	6.18	5.34	-166.32	-139.97	-39.62	338.28	327.38	10.90	31.024		
1,700.00	1,678.95	1,652.85	1,648.94	6.63	5.70	-166.13	-148.10	-44.98	366.01	354.39	11.62	31.493		
1,800.00	1,776.86	1,748.92	1,744.51	7.08	6.06	-165.97	-156.23	-50.35	393.74	381.40	12.34	31.902		
1,900.00	1,874.78	1,844.99	1,840.09	7.53	6.43	-165.83	-164.36	-55.72	421.47	408.41	13.06	32.261		
2,000.00	1,972.69	1,941.07	1,935.67	7.99	6.79	-165.71	-172.49	-61.09	449.20	435.42	13.79	32.579		
2,100.00	2,070.61	2,037.14	2,031.25	8.44	7.16	-165.60	-180.62	-66.46	476.94	462.43	14.51	32.862		
2,200.00	2,168.52	2,133.21	2,126.83	8.89	7.53	-165.51	-188.75	-71.82	504.67	489.44	15.24	33.116		
2,300.00	2,266.44	2,229.29	2,222.40	9.35	7.90	-165.42	-196.88	-77.19	532.41	516.45	15.97	33.345		
2,400.00	2,364.35	2,325.36	2,317.98	9.80	8.27	-165.34	-205.01	-82.56	560.15	543.46	16.70	33.552		
2,500.00	2,462.27	2,421.43	2,413.56	10.26	8.63	-165.27	-213.14	-87.93	587.89	570.47	17.42	33.740		
2,600.00	2,560.18	2,517.51	2,509.14	10.71	9.01	-165.21	-221.27	-93.29	615.63	597.48	18.15	33.912		
2,700.00	2,658.10	2,613.58	2,604.72	11.17	9.38	-165.15	-229.40	-98.66	643.37	624.49	18.88	34.070		
2,800.00	2,756.01	2,709.65	2,700.29	11.63	9.75	-165.10	-237.53	-104.03	671.11	651.50	19.61	34.215		
2,900.00	2,853.93	2,805.73	2,795.87	12.08	10.12	-165.05	-245.66	-109.40	698.85	678.51	20.35	34.349		
3,000.00	2,951.84	2,901.80	2,891.45	12.54	10.49	-165.00	-253.79	-114.76	726.60	705.52	21.08	34.473		
3,100.00	3,049.76	2,997.87	2,987.03	12.99	10.86	-164.96	-261.92	-120.13	754.34	732.53	21.81	34.588		
3,200.00	3,147.67	3,093.95	3,082.61	13.45	11.23	-164.92	-270.05	-125.50	782.08	759.54	22.54	34.695		
3,300.00	3,245.59	3,190.02	3,178.18	13.91	11.61	-164.88	-278.18	-130.87	809.82	786.55	23.27	34.795		
3,400.00	3,343.50	3,286.09	3,273.76	14.37	11.98	-164.85	-286.31	-136.23	837.57	813.56	24.01	34.888		
3,500.00	3,441.42	3,382.17	3,369.34	14.82	12.35	-164.82	-294.44	-141.60	865.31	840.57	24.74	34.975		
3,600.00	3,539.33	3,478.24	3,464.92	15.28	12.73	-164.79	-302.57	-146.97	893.06	867.58	25.47	35.058		
3,700.00	3,637.24	3,574.31	3,560.50	15.74	13.10	-164.76	-310.70	-152.34	920.80	894.59	26.21	35.135		
3,800.00	3,735.16	3,670.39	3,656.08	16.19	13.47	-164.73	-318.83	-157.70	948.54	921.60	26.94	35.207		
3,900.00	3,833.07	3,766.46	3,751.65	16.65	13.85	-164.71	-326.96	-163.07	976.29	948.61	27.68	35.276		
4,000.00	3,930.99	3,862.53	3,847.23	17.11	14.22	-164.69	-335.09	-168.44	1,004.03	975.62	28.41	35.341		
4,100.00	4,028.90	3,958.61	3,942.81	17.57	14.59	-164.66	-343.22	-173.81	1,031.78	1,002.63	29.14	35.402		
4,200.00	4,126.82	4,054.68	4,038.39	18.03	14.97	-164.64	-351.35	-179.18	1,059.52	1,029.64	29.88	35.461		
4,300.00	4,224.73	4,150.75	4,133.97	18.48	15.34	-164.62	-359.48	-184.54	1,087.27	1,056.66	30.61	35.516		
4,400.00	4,322.65	4,246.83	4,229.54	18.94	15.71	-164.60	-367.61	-189.91	1,115.01	1,083.67	31.35	35.568		
4,500.00	4,420.56	4,342.90	4,325.12	19.40	16.09	-164.58	-375.74	-195.28	1,142.76	1,110.68	32.08	35.618		
4,600.00	4,518.48	4,438.97	4,420.70	19.86	16.46	-164.57	-383.87	-200.65	1,170.50	1,137.69	32.82	35.666		
4,700.00	4,616.39	4,535.05	4,516.28	20.31	16.84	-164.55	-392.00	-206.01	1,198.25	1,164.70	33.55	35.711		
4,800.00	4,714.31	4,631.12	4,611.86	20.77	17.21	-164.54	-400.13	-211.38	1,226.00	1,191.71	34.29	35.755		
4,900.00	4,812.22	4,727.19	4,707.43	21.23	17.59	-164.52	-408.26	-216.75	1,253.74	1,218.72	35.02	35.796		
5,000.00	4,910.14	4,823.27	4,803.01	21.69	17.96	-164.51	-416.39	-222.12	1,281.49	1,245.73	35.76	35.836		

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 3B-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 3B-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:											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			
5,100.00	5,008.05	4,919.34	4,898.59	22.15	18.33	-164.49	-424.52	-227.48	1,309.23	1,272.74	36.50	35.873				
5,200.00	5,105.97	5,015.41	4,994.17	22.60	18.71	-164.48	-432.65	-232.85	1,336.98	1,299.75	37.23	35.910				
5,300.00	5,203.88	5,111.49	5,089.75	23.06	19.08	-164.47	-440.78	-238.22	1,364.73	1,326.76	37.97	35.945				
5,400.00	5,301.80	5,207.56	5,185.32	23.52	19.46	-164.45	-448.91	-243.59	1,392.47	1,353.77	38.70	35.978				
5,500.00	5,399.71	5,303.63	5,280.90	23.98	19.83	-164.44	-457.04	-248.95	1,420.22	1,380.78	39.44	36.010				
5,518.70	5,418.03	5,321.60	5,298.78	24.07	19.90	-164.44	-458.56	-249.96	1,425.41	1,385.83	39.58	36.016				
5,600.00	5,497.85	5,400.00	5,376.78	24.43	20.21	-164.54	-465.20	-254.34	1,446.89	1,406.72	40.17	36.016				
5,700.00	5,596.59	5,497.19	5,473.46	24.85	20.59	-164.61	-473.42	-259.77	1,470.37	1,429.47	40.90	35.947				
5,800.00	5,695.82	5,595.10	5,570.86	25.24	20.97	-164.62	-481.71	-265.24	1,490.57	1,448.94	41.63	35.805				

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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		
0.00	0.00	0.00	0.00	0.00	0.00	179.86	-89.97	0.22	89.97					
100.00	100.00	100.00	100.00	0.14	0.14	179.86	-89.97	0.22	89.97	89.69	0.28	325.947		
200.00	200.00	200.00	200.00	0.50	0.50	179.86	-89.97	0.22	89.97	88.98	0.99	90.606		
300.00	300.00	300.00	300.00	0.85	0.85	179.86	-89.97	0.22	89.97	88.26	1.71	52.616	CC, ES	
400.00	399.98	399.98	399.98	1.21	1.21	-164.33	-89.97	0.22	91.65	89.22	2.43	37.752		
500.00	499.84	499.84	499.84	1.58	1.57	-165.14	-89.97	0.22	96.70	93.55	3.15	30.704		
600.00	599.45	599.45	599.45	1.94	1.93	-166.32	-89.97	0.22	105.15	101.27	3.87	27.154		
700.00	698.70	695.21	695.19	2.31	2.26	-167.27	-91.42	-0.41	118.49	113.91	4.58	25.869	SF	
800.00	797.47	789.50	789.36	2.70	2.57	-167.67	-95.72	-2.27	138.12	132.84	5.28	26.139		
886.05	881.97	869.07	868.67	3.05	2.85	-167.68	-101.56	-4.79	159.94	154.05	5.89	27.150		
900.00	895.63	881.81	881.36	3.11	2.89	-167.67	-102.68	-5.28	163.87	157.87	5.99	27.343		
1,000.00	993.54	972.29	971.25	3.53	3.21	-167.41	-112.14	-9.37	193.55	186.87	6.68	28.993		
1,100.00	1,091.46	1,065.37	1,063.44	3.96	3.55	-166.94	-123.92	-14.46	225.27	217.92	7.35	30.633		
1,200.00	1,189.37	1,160.15	1,157.29	4.40	3.90	-166.56	-136.04	-19.70	257.14	249.10	8.04	32.001		
1,300.00	1,287.29	1,254.92	1,251.14	4.84	4.27	-166.26	-148.17	-24.95	289.01	280.28	8.73	33.107		
1,400.00	1,385.20	1,349.70	1,344.99	5.29	4.64	-166.02	-160.29	-30.19	320.89	311.46	9.43	34.034		
1,500.00	1,483.12	1,444.47	1,438.84	5.73	5.01	-165.83	-172.41	-35.43	352.78	342.64	10.13	34.817		
1,600.00	1,581.03	1,539.25	1,532.69	6.18	5.38	-165.67	-184.53	-40.67	384.66	373.82	10.84	35.486		
1,700.00	1,678.95	1,634.02	1,626.54	6.63	5.76	-165.53	-196.66	-45.91	416.55	405.00	11.55	36.062		
1,800.00	1,776.86	1,728.79	1,720.38	7.08	6.14	-165.41	-208.78	-51.15	448.44	436.18	12.26	36.565		
1,900.00	1,874.78	1,823.57	1,814.23	7.53	6.52	-165.31	-220.90	-56.40	480.34	467.36	12.98	37.005		
2,000.00	1,972.69	1,918.34	1,908.08	7.99	6.91	-165.22	-233.02	-61.64	512.23	498.53	13.70	37.395		
2,100.00	2,070.61	2,013.12	2,001.93	8.44	7.29	-165.14	-245.15	-66.88	544.13	529.71	14.42	37.742		
2,200.00	2,168.52	2,107.89	2,095.78	8.89	7.68	-165.07	-257.27	-72.12	576.02	560.89	15.14	38.052		
2,300.00	2,266.44	2,202.67	2,189.63	9.35	8.06	-165.01	-269.39	-77.36	607.92	592.06	15.86	38.332		
2,400.00	2,364.35	2,297.44	2,283.48	9.80	8.45	-164.95	-281.51	-82.60	639.82	623.24	16.58	38.584		
2,500.00	2,462.27	2,392.22	2,377.33	10.26	8.84	-164.90	-293.64	-87.85	671.72	654.41	17.31	38.814		
2,600.00	2,560.18	2,486.99	2,471.18	10.71	9.23	-164.85	-305.76	-93.09	703.61	685.58	18.03	39.023		
2,700.00	2,658.10	2,581.77	2,565.03	11.17	9.62	-164.81	-317.88	-98.33	735.51	716.76	18.76	39.215		
2,800.00	2,756.01	2,676.54	2,658.88	11.63	10.01	-164.77	-330.01	-103.57	767.41	747.93	19.48	39.392		
2,900.00	2,853.93	2,771.31	2,752.73	12.08	10.40	-164.74	-342.13	-108.81	799.31	779.10	20.21	39.554		
3,000.00	2,951.84	2,866.09	2,846.58	12.54	10.79	-164.70	-354.25	-114.05	831.21	810.28	20.93	39.705		
3,100.00	3,049.76	2,960.86	2,940.43	12.99	11.18	-164.67	-366.37	-119.30	863.11	841.45	21.66	39.844		
3,200.00	3,147.67	3,055.64	3,034.28	13.45	11.57	-164.64	-378.50	-124.54	895.01	872.62	22.39	39.974		
3,300.00	3,245.59	3,150.41	3,128.13	13.91	11.96	-164.62	-390.62	-129.78	926.91	903.79	23.12	40.095		
3,400.00	3,343.50	3,245.19	3,221.98	14.37	12.35	-164.59	-402.74	-135.02	958.81	934.97	23.85	40.208		
3,500.00	3,441.42	3,339.96	3,315.83	14.82	12.74	-164.57	-414.86	-140.26	990.71	966.14	24.57	40.314		
3,600.00	3,539.33	3,434.74	3,409.68	15.28	13.14	-164.55	-426.99	-145.50	1,022.61	997.31	25.30	40.413		
3,700.00	3,637.24	3,529.51	3,503.53	15.74	13.53	-164.53	-439.11	-150.75	1,054.51	1,028.48	26.03	40.506		
3,800.00	3,735.16	3,624.29	3,597.38	16.19	13.92	-164.51	-451.23	-155.99	1,086.42	1,059.65	26.76	40.594		
3,900.00	3,833.07	3,719.06	3,691.23	16.65	14.31	-164.49	-463.35	-161.23	1,118.32	1,090.82	27.49	40.677		
4,000.00	3,930.99	3,813.83	3,785.08	17.11	14.70	-164.47	-475.48	-166.47	1,150.22	1,121.99	28.22	40.755		
4,100.00	4,028.90	3,908.61	3,878.93	17.57	15.10	-164.46	-487.60	-171.71	1,182.12	1,153.17	28.95	40.830		
4,200.00	4,126.82	4,003.38	3,972.78	18.03	15.49	-164.44	-499.72	-176.95	1,214.02	1,184.34	29.68	40.900		
4,300.00	4,224.73	4,098.16	4,066.63	18.48	15.88	-164.43	-511.84	-182.19	1,245.92	1,215.51	30.41	40.966		
4,400.00	4,322.65	4,192.93	4,160.48	18.94	16.28	-164.41	-523.97	-187.44	1,277.82	1,246.68	31.14	41.030		
4,500.00	4,420.56	4,287.71	4,254.33	19.40	16.67	-164.40	-536.09	-192.68	1,309.72	1,277.85	31.87	41.090		
4,600.00	4,518.48	4,382.48	4,348.18	19.86	17.06	-164.39	-548.21	-197.92	1,341.63	1,309.02	32.61	41.147		
4,700.00	4,616.39	4,477.26	4,442.03	20.31	17.45	-164.38	-560.34	-203.16	1,373.53	1,340.19	33.34	41.201		
4,800.00	4,714.31	4,572.03	4,535.88	20.77	17.85	-164.36	-572.46	-208.40	1,405.43	1,371.36	34.07	41.254		
4,900.00	4,812.22	4,666.81	4,629.73	21.23	18.24	-164.35	-584.58	-213.64	1,437.33	1,402.53	34.80	41.303		
5,000.00	4,910.14	4,761.58	4,723.58	21.69	18.63	-164.34	-596.70	-218.89	1,469.23	1,433.70	35.53	41.351		

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 3B-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 3B-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 3B-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 3B-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	179.99	-99.81	0.02	99.81					
100.00	100.00	100.00	100.00	0.14	0.14	179.99	-99.81	0.02	99.81	99.54	0.28	361.617		
200.00	200.00	200.00	200.00	0.50	0.50	179.99	-99.81	0.02	99.81	98.82	0.99	100.522		
300.00	300.00	300.00	300.00	0.85	0.85	179.99	-99.81	0.02	99.81	98.10	1.71	58.374 CC, ES		
400.00	399.98	399.98	399.98	1.21	1.21	-164.17	-99.81	0.02	101.49	99.07	2.43	41.807		
500.00	499.84	499.84	499.84	1.58	1.57	-164.91	-99.81	0.02	106.54	103.39	3.15	33.829		
600.00	599.45	595.81	595.80	1.94	1.90	-165.68	-101.34	-0.48	116.53	112.67	3.86	30.182		
700.00	698.70	690.58	690.44	2.31	2.22	-166.14	-105.83	-1.97	133.00	128.42	4.58	29.066 SF		
800.00	797.47	783.56	783.10	2.70	2.54	-166.32	-113.12	-4.39	155.79	150.50	5.29	29.439		
886.05	881.97	861.76	860.80	3.05	2.82	-166.31	-121.47	-7.16	180.35	174.45	5.90	30.547		
900.00	895.63	874.26	873.20	3.11	2.86	-166.31	-122.99	-7.66	184.72	178.72	6.01	30.750		
1,000.00	993.54	963.09	961.08	3.53	3.19	-166.20	-135.26	-11.73	217.62	210.94	6.69	32.543		
1,100.00	1,091.46	1,057.07	1,053.85	3.96	3.56	-165.99	-149.53	-16.47	251.80	244.44	7.35	34.238		
1,200.00	1,189.37	1,151.05	1,146.61	4.40	3.93	-165.83	-163.79	-21.20	285.97	277.94	8.03	35.592		
1,300.00	1,287.29	1,245.02	1,239.38	4.84	4.31	-165.70	-178.05	-25.93	320.15	311.43	8.72	36.703		
1,400.00	1,385.20	1,339.00	1,332.15	5.29	4.69	-165.60	-192.31	-30.66	354.33	344.91	9.42	37.628		
1,500.00	1,483.12	1,432.97	1,424.91	5.73	5.07	-165.52	-206.58	-35.39	388.51	378.39	10.12	38.406		
1,600.00	1,581.03	1,526.95	1,517.68	6.18	5.46	-165.45	-220.84	-40.12	422.69	411.87	10.82	39.069		
1,700.00	1,678.95	1,620.93	1,610.45	6.63	5.86	-165.39	-235.10	-44.85	456.87	445.34	11.53	39.639		
1,800.00	1,776.86	1,714.90	1,703.22	7.08	6.25	-165.34	-249.37	-49.58	491.05	478.81	12.23	40.135		
1,900.00	1,874.78	1,808.88	1,795.98	7.53	6.64	-165.29	-263.63	-54.31	525.23	512.28	12.95	40.568		
2,000.00	1,972.69	1,902.86	1,888.75	7.99	7.04	-165.26	-277.89	-59.04	559.41	545.75	13.66	40.951		
2,100.00	2,070.61	1,996.83	1,981.52	8.44	7.44	-165.22	-292.16	-63.77	593.59	579.21	14.38	41.291		
2,200.00	2,168.52	2,090.81	2,074.28	8.89	7.84	-165.19	-306.42	-68.50	627.77	612.68	15.09	41.595		
2,300.00	2,266.44	2,184.79	2,167.05	9.35	8.24	-165.16	-320.68	-73.23	661.95	646.14	15.81	41.868		
2,400.00	2,364.35	2,278.76	2,259.82	9.80	8.64	-165.14	-334.94	-77.96	696.13	679.60	16.53	42.115		
2,500.00	2,462.27	2,372.74	2,352.59	10.26	9.04	-165.11	-349.21	-82.69	730.31	713.06	17.25	42.338		
2,600.00	2,560.18	2,466.71	2,445.35	10.71	9.44	-165.09	-363.47	-87.42	764.50	746.53	17.97	42.542		
2,700.00	2,658.10	2,560.69	2,538.12	11.17	9.84	-165.08	-377.73	-92.15	798.68	779.99	18.69	42.729		
2,800.00	2,756.01	2,654.67	2,630.89	11.63	10.24	-165.06	-392.00	-96.88	832.86	813.44	19.41	42.900		
2,900.00	2,853.93	2,748.64	2,723.65	12.08	10.64	-165.04	-406.26	-101.61	867.04	846.90	20.14	43.058		
3,000.00	2,951.84	2,842.62	2,816.42	12.54	11.05	-165.03	-420.52	-106.34	901.22	880.36	20.86	43.203		
3,100.00	3,049.76	2,936.60	2,909.19	12.99	11.45	-165.01	-434.78	-111.08	935.40	913.82	21.58	43.338		
3,200.00	3,147.67	3,030.57	3,001.96	13.45	11.85	-165.00	-449.05	-115.81	969.59	947.28	22.31	43.464		
3,300.00	3,245.59	3,124.55	3,094.72	13.91	12.26	-164.99	-463.31	-120.54	1,003.77	980.74	23.03	43.580		
3,400.00	3,343.50	3,218.52	3,187.49	14.37	12.66	-164.98	-477.57	-125.27	1,037.95	1,014.19	23.76	43.689		
3,500.00	3,441.42	3,312.50	3,280.26	14.82	13.06	-164.97	-491.84	-130.00	1,072.13	1,047.65	24.48	43.791		
3,600.00	3,539.33	3,406.48	3,373.02	15.28	13.47	-164.96	-506.10	-134.73	1,106.32	1,081.11	25.21	43.887		
3,700.00	3,637.24	3,500.45	3,465.79	15.74	13.87	-164.95	-520.36	-139.46	1,140.50	1,114.56	25.93	43.977		
3,800.00	3,735.16	3,594.43	3,558.56	16.19	14.28	-164.94	-534.63	-144.19	1,174.68	1,148.02	26.66	44.061		
3,900.00	3,833.07	3,688.41	3,651.33	16.65	14.68	-164.93	-548.89	-148.92	1,208.86	1,181.48	27.39	44.141		
4,000.00	3,930.99	3,782.38	3,744.09	17.11	15.09	-164.93	-563.15	-153.65	1,243.04	1,214.93	28.11	44.216		
4,100.00	4,028.90	3,876.36	3,836.86	17.57	15.49	-164.92	-577.41	-158.38	1,277.23	1,248.39	28.84	44.287		
4,200.00	4,126.82	3,970.34	3,929.63	18.03	15.89	-164.91	-591.68	-163.11	1,311.41	1,281.84	29.57	44.354		
4,300.00	4,224.73	4,064.31	4,022.39	18.48	16.30	-164.90	-605.94	-167.84	1,345.59	1,315.30	30.29	44.418		
4,400.00	4,322.65	4,158.29	4,115.16	18.94	16.70	-164.90	-620.20	-172.57	1,379.77	1,348.75	31.02	44.479		
4,500.00	4,420.56	4,252.26	4,207.93	19.40	17.11	-164.89	-634.47	-177.30	1,413.96	1,382.21	31.75	44.536		
4,600.00	4,518.48	4,346.24	4,300.70	19.86	17.51	-164.89	-648.73	-182.03	1,448.14	1,415.66	32.48	44.591		
4,700.00	4,616.39	4,440.22	4,393.46	20.31	17.92	-164.88	-662.99	-186.76	1,482.32	1,449.12	33.20	44.643		

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 3B-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 3B-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		
0.00	0.00	0.00	0.00	0.00	0.00	179.94	-110.01	0.11	110.01					
100.00	100.00	100.00	100.00	0.14	0.14	179.94	-110.01	0.11	110.01	109.73	0.28	398.538		
200.00	200.00	200.00	200.00	0.50	0.50	179.94	-110.01	0.11	110.01	109.01	0.99	110.785		
300.00	300.00	300.00	300.00	0.85	0.85	179.94	-110.01	0.11	110.01	108.30	1.71	64.334 CC, ES		
400.00	399.98	399.98	399.98	1.21	1.21	-164.19	-110.01	0.11	111.68	109.26	2.43	46.005		
500.00	499.84	496.06	496.04	1.58	1.54	-164.60	-111.55	-0.34	118.33	115.19	3.14	37.649		
600.00	599.45	591.22	591.07	1.94	1.87	-164.90	-116.14	-1.65	131.51	127.64	3.87	33.980		
700.00	698.70	684.86	684.39	2.31	2.19	-165.06	-123.60	-3.81	151.12	146.52	4.60	32.838 SF		
800.00	797.47	776.45	775.36	2.70	2.52	-165.10	-133.74	-6.72	177.02	171.69	5.33	33.230		
886.05	881.97	853.23	851.34	3.05	2.81	-165.07	-144.39	-9.79	204.20	198.26	5.94	34.374		
900.00	895.63	867.08	865.01	3.11	2.86	-165.08	-146.51	-10.40	209.00	202.97	6.04	34.629		
1,000.00	993.54	959.20	955.91	3.53	3.23	-165.15	-160.88	-14.54	243.59	236.89	6.70	36.342		
1,100.00	1,091.46	1,053.02	1,048.49	3.96	3.61	-165.19	-175.52	-18.75	278.18	270.81	7.37	37.727		
1,200.00	1,189.37	1,146.85	1,141.07	4.40	3.99	-165.23	-190.15	-22.97	312.78	304.72	8.06	38.828		
1,300.00	1,287.29	1,240.67	1,233.65	4.84	4.38	-165.26	-204.79	-27.18	347.38	338.63	8.74	39.725		
1,400.00	1,385.20	1,334.50	1,326.23	5.29	4.77	-165.29	-219.42	-31.40	381.97	372.53	9.44	40.465		
1,500.00	1,483.12	1,428.32	1,418.81	5.73	5.16	-165.31	-234.06	-35.61	416.57	406.43	10.14	41.084		
1,600.00	1,581.03	1,522.15	1,511.39	6.18	5.56	-165.32	-248.69	-39.82	451.16	440.32	10.84	41.609		
1,700.00	1,678.95	1,615.97	1,603.97	6.63	5.96	-165.34	-263.33	-44.04	485.76	474.21	11.55	42.059		
1,800.00	1,776.86	1,709.80	1,696.55	7.08	6.35	-165.35	-277.96	-48.25	520.35	508.09	12.26	42.448		
1,900.00	1,874.78	1,803.62	1,789.14	7.53	6.75	-165.36	-292.60	-52.47	554.95	541.98	12.97	42.787		
2,000.00	1,972.69	1,897.45	1,881.72	7.99	7.16	-165.37	-307.23	-56.68	589.55	575.86	13.68	43.086		
2,100.00	2,070.61	1,991.27	1,974.30	8.44	7.56	-165.38	-321.87	-60.89	624.14	609.74	14.40	43.350		
2,200.00	2,168.52	2,085.10	2,066.88	8.89	7.96	-165.39	-336.50	-65.11	658.74	643.62	15.11	43.585		
2,300.00	2,266.44	2,178.92	2,159.46	9.35	8.36	-165.40	-351.14	-69.32	693.33	677.50	15.83	43.796		
2,400.00	2,364.35	2,272.75	2,252.04	9.80	8.76	-165.40	-365.77	-73.54	727.93	711.38	16.55	43.987		
2,500.00	2,462.27	2,366.57	2,344.62	10.26	9.17	-165.41	-380.41	-77.75	762.52	745.26	17.27	44.159		
2,600.00	2,560.18	2,460.40	2,437.20	10.71	9.57	-165.42	-395.04	-81.97	797.12	779.13	17.99	44.315		
2,700.00	2,658.10	2,554.22	2,529.78	11.17	9.98	-165.42	-409.68	-86.18	831.72	813.01	18.71	44.458		
2,800.00	2,756.01	2,648.05	2,622.36	11.63	10.38	-165.43	-424.31	-90.39	866.31	846.88	19.43	44.589		
2,900.00	2,853.93	2,741.87	2,714.94	12.08	10.79	-165.43	-438.95	-94.61	900.91	880.76	20.15	44.709		
3,000.00	2,951.84	2,835.70	2,807.52	12.54	11.19	-165.43	-453.58	-98.82	935.50	914.63	20.87	44.820		
3,100.00	3,049.76	2,929.52	2,900.10	12.99	11.60	-165.44	-468.22	-103.04	970.10	948.50	21.59	44.923		
3,200.00	3,147.67	3,023.35	2,992.68	13.45	12.00	-165.44	-482.85	-107.25	1,004.70	982.38	22.32	45.018		
3,300.00	3,245.59	3,117.17	3,085.26	13.91	12.41	-165.44	-497.49	-111.46	1,039.29	1,016.25	23.04	45.107		
3,400.00	3,343.50	3,211.00	3,177.84	14.37	12.81	-165.45	-512.12	-115.68	1,073.89	1,050.12	23.76	45.190		
3,500.00	3,441.42	3,304.82	3,270.43	14.82	13.22	-165.45	-526.76	-119.89	1,108.48	1,084.00	24.49	45.267		
3,600.00	3,539.33	3,398.65	3,363.01	15.28	13.62	-165.45	-541.39	-124.11	1,143.08	1,117.87	25.21	45.339		
3,700.00	3,637.24	3,492.47	3,455.59	15.74	14.03	-165.45	-556.03	-128.32	1,177.67	1,151.74	25.94	45.407		
3,800.00	3,735.16	3,586.30	3,548.17	16.19	14.44	-165.46	-570.66	-132.53	1,212.27	1,185.61	26.66	45.470		
3,900.00	3,833.07	3,680.12	3,640.75	16.65	14.84	-165.46	-585.30	-136.75	1,246.87	1,219.48	27.39	45.530		
4,000.00	3,930.99	3,773.95	3,733.33	17.11	15.25	-165.46	-599.93	-140.96	1,281.46	1,253.35	28.11	45.587		
4,100.00	4,028.90	3,867.77	3,825.91	17.57	15.65	-165.46	-614.57	-145.18	1,316.06	1,287.22	28.84	45.640		
4,200.00	4,126.82	3,961.60	3,918.49	18.03	16.06	-165.46	-629.20	-149.39	1,350.65	1,321.09	29.56	45.691		
4,300.00	4,224.73	4,055.42	4,011.07	18.48	16.47	-165.47	-643.84	-153.60	1,385.25	1,354.96	30.29	45.738		
4,400.00	4,322.65	4,149.25	4,103.65	18.94	16.87	-165.47	-658.47	-157.82	1,419.85	1,388.83	31.01	45.784		
4,500.00	4,420.56	4,243.07	4,196.23	19.40	17.28	-165.47	-673.11	-162.03	1,454.44	1,422.70	31.74	45.827		
4,600.00	4,518.48	4,336.90	4,288.81	19.86	17.69	-165.47	-687.74	-166.25	1,489.04	1,456.57	32.46	45.868		

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 3B-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 3B-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	
0.00	0.00	0.00	0.00	0.00	0.00	179.91	-119.84	0.20	119.84					
100.00	100.00	100.00	100.00	0.14	0.14	179.91	-119.84	0.20	119.84	119.56	0.28	434.169		
200.00	200.00	200.00	200.00	0.50	0.50	179.91	-119.84	0.20	119.84	118.85	0.99	120.690		
300.00	300.00	300.00	300.00	0.85	0.85	179.91	-119.84	0.20	119.84	118.13	1.71	70.086 CC, ES		
400.00	399.98	396.01	395.99	1.21	1.18	-163.99	-121.40	-0.22	123.14	120.71	2.43	50.733		
500.00	499.84	491.40	491.26	1.58	1.51	-164.00	-126.02	-1.44	133.00	129.83	3.17	41.960		
600.00	599.45	585.57	585.10	1.94	1.84	-164.01	-133.59	-3.44	149.36	145.44	3.92	38.110		
700.00	698.70	677.95	676.85	2.31	2.18	-163.99	-143.91	-6.16	172.10	167.43	4.66	36.912 SF		
800.00	797.47	768.01	765.93	2.70	2.53	-163.96	-156.72	-9.55	201.04	195.65	5.39	37.295		
886.05	881.97	847.86	844.65	3.05	2.85	-163.96	-169.67	-12.97	230.13	224.15	5.98	38.488		
900.00	895.63	860.92	857.52	3.11	2.91	-164.00	-171.79	-13.53	235.05	228.97	6.08	38.679		
1,000.00	993.54	954.50	949.77	3.53	3.29	-164.23	-187.02	-17.55	270.27	263.54	6.73	40.146		
1,100.00	1,091.46	1,048.09	1,042.02	3.96	3.68	-164.41	-202.24	-21.57	305.50	298.10	7.41	41.250		
1,200.00	1,189.37	1,141.67	1,134.27	4.40	4.08	-164.56	-217.47	-25.59	340.73	332.64	8.09	42.125		
1,300.00	1,287.29	1,235.26	1,226.52	4.84	4.48	-164.68	-232.69	-29.61	375.97	367.19	8.78	42.829		
1,400.00	1,385.20	1,328.84	1,318.77	5.29	4.88	-164.77	-247.92	-33.64	411.20	401.73	9.47	43.404		
1,500.00	1,483.12	1,422.43	1,411.02	5.73	5.28	-164.85	-263.15	-37.66	446.43	436.26	10.17	43.881		
1,600.00	1,581.03	1,516.01	1,503.28	6.18	5.68	-164.92	-278.37	-41.68	481.67	470.79	10.88	44.282		
1,700.00	1,678.95	1,609.60	1,595.53	6.63	6.09	-164.98	-293.60	-45.70	516.91	505.32	11.58	44.623		
1,800.00	1,776.86	1,703.18	1,687.78	7.08	6.49	-165.04	-308.83	-49.72	552.14	539.85	12.29	44.916		
1,900.00	1,874.78	1,796.77	1,780.03	7.53	6.90	-165.08	-324.05	-53.74	587.38	574.37	13.00	45.169		
2,000.00	1,972.69	1,890.35	1,872.28	7.99	7.30	-165.12	-339.28	-57.77	622.62	608.90	13.72	45.391		
2,100.00	2,070.61	1,983.94	1,964.53	8.44	7.71	-165.16	-354.50	-61.79	657.85	643.42	14.43	45.586		
2,200.00	2,168.52	2,077.52	2,056.78	8.89	8.12	-165.19	-369.73	-65.81	693.09	677.94	15.15	45.759		
2,300.00	2,266.44	2,171.11	2,149.03	9.35	8.53	-165.22	-384.96	-69.83	728.33	712.46	15.86	45.913		
2,400.00	2,364.35	2,264.69	2,241.28	9.80	8.93	-165.25	-400.18	-73.85	763.57	746.98	16.58	46.052		
2,500.00	2,462.27	2,358.28	2,333.53	10.26	9.34	-165.27	-415.41	-77.87	798.80	781.50	17.30	46.176		
2,600.00	2,560.18	2,451.87	2,425.78	10.71	9.75	-165.30	-430.63	-81.90	834.04	816.02	18.02	46.289		
2,700.00	2,658.10	2,545.45	2,518.03	11.17	10.16	-165.32	-445.86	-85.92	869.28	850.54	18.74	46.392		
2,800.00	2,756.01	2,639.04	2,610.28	11.63	10.57	-165.34	-461.09	-89.94	904.52	885.06	19.46	46.485		
2,900.00	2,853.93	2,732.62	2,702.53	12.08	10.98	-165.35	-476.31	-93.96	939.76	919.58	20.18	46.571		
3,000.00	2,951.84	2,826.21	2,794.78	12.54	11.39	-165.37	-491.54	-97.98	974.99	954.09	20.90	46.650		
3,100.00	3,049.76	2,919.79	2,887.04	12.99	11.80	-165.38	-506.76	-102.00	1,010.23	988.61	21.62	46.723		
3,200.00	3,147.67	3,013.38	2,979.29	13.45	12.21	-165.40	-521.99	-106.03	1,045.47	1,023.13	22.34	46.790		
3,300.00	3,245.59	3,106.96	3,071.54	13.91	12.62	-165.41	-537.22	-110.05	1,080.71	1,057.64	23.07	46.852		
3,400.00	3,343.50	3,200.55	3,163.79	14.37	13.03	-165.42	-552.44	-114.07	1,115.95	1,092.16	23.79	46.910		
3,500.00	3,441.42	3,294.13	3,256.04	14.82	13.44	-165.44	-567.67	-118.09	1,151.19	1,126.68	24.51	46.964		
3,600.00	3,539.33	3,387.72	3,348.29	15.28	13.85	-165.45	-582.89	-122.11	1,186.43	1,161.19	25.24	47.014		
3,700.00	3,637.24	3,481.30	3,440.54	15.74	14.26	-165.46	-598.12	-126.13	1,221.67	1,195.71	25.96	47.062		
3,800.00	3,735.16	3,574.89	3,532.79	16.19	14.67	-165.47	-613.35	-130.16	1,256.90	1,230.22	26.68	47.106		
3,900.00	3,833.07	3,668.47	3,625.04	16.65	15.08	-165.48	-628.57	-134.18	1,292.14	1,264.74	27.41	47.147		
4,000.00	3,930.99	3,762.06	3,717.29	17.11	15.49	-165.49	-643.80	-138.20	1,327.38	1,299.25	28.13	47.186		
4,100.00	4,028.90	3,855.64	3,809.54	17.57	15.90	-165.49	-659.02	-142.22	1,362.62	1,333.77	28.86	47.223		
4,200.00	4,126.82	3,949.23	3,901.79	18.03	16.31	-165.50	-674.25	-146.24	1,397.86	1,368.28	29.58	47.258		
4,300.00	4,224.73	4,042.81	3,994.04	18.48	16.72	-165.51	-689.48	-150.26	1,433.10	1,402.79	30.30	47.290		
4,400.00	4,322.65	4,136.40	4,086.29	18.94	17.13	-165.52	-704.70	-154.29	1,468.34	1,437.31	31.03	47.321		

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 3B-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 3B-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				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	180.00	-130.05	0.00	130.05					
100.00	100.00	100.00	100.00	0.14	0.14	180.00	-130.05	0.00	130.05	129.77	0.28	471.143		
200.00	200.00	200.00	200.00	0.50	0.50	180.00	-130.05	0.00	130.05	129.05	0.99	130.968	CC, ES	
300.00	300.00	295.74	295.72	0.85	0.83	-179.84	-131.60	-0.38	131.67	129.95	1.72	76.489		
400.00	399.98	391.15	391.01	1.21	1.16	-163.42	-136.24	-1.51	138.21	135.73	2.48	55.753		
500.00	499.84	485.64	485.17	1.58	1.50	-163.20	-143.87	-3.37	151.29	148.04	3.25	46.572		
600.00	599.45	578.63	577.53	1.94	1.85	-163.05	-154.32	-5.93	170.82	166.80	4.01	42.592		
700.00	698.70	669.56	667.46	2.31	2.21	-162.96	-167.35	-9.11	196.63	191.88	4.76	41.332	SF	
800.00	797.47	760.06	756.53	2.70	2.58	-162.90	-182.91	-12.91	228.43	222.96	5.46	41.803		
886.05	881.97	840.53	835.62	3.05	2.93	-162.97	-197.31	-16.43	258.88	252.86	6.03	42.944		
900.00	895.63	853.50	848.37	3.11	2.98	-163.02	-199.63	-17.00	264.01	257.88	6.13	43.096		
1,000.00	993.54	946.50	939.78	3.53	3.39	-163.33	-216.27	-21.06	300.75	293.96	6.79	44.312		
1,100.00	1,091.46	1,039.49	1,031.18	3.96	3.79	-163.58	-232.90	-25.13	337.50	330.04	7.46	45.262		
1,200.00	1,189.37	1,132.49	1,122.59	4.40	4.20	-163.77	-249.54	-29.19	374.25	366.11	8.14	46.000		
1,300.00	1,287.29	1,225.48	1,213.99	4.84	4.62	-163.93	-266.17	-33.26	411.00	402.18	8.82	46.584		
1,400.00	1,385.20	1,318.48	1,305.40	5.29	5.03	-164.07	-282.81	-37.32	447.76	438.24	9.52	47.055		
1,500.00	1,483.12	1,411.47	1,396.80	5.73	5.45	-164.18	-299.44	-41.38	484.52	474.30	10.21	47.440		
1,600.00	1,581.03	1,504.47	1,488.21	6.18	5.86	-164.28	-316.08	-45.45	521.27	510.36	10.91	47.759		
1,700.00	1,678.95	1,597.46	1,579.61	6.63	6.28	-164.37	-332.71	-49.51	558.04	546.42	11.62	48.027		
1,800.00	1,776.86	1,690.46	1,671.01	7.08	6.70	-164.44	-349.35	-53.58	594.80	582.47	12.33	48.254		
1,900.00	1,874.78	1,783.45	1,762.42	7.53	7.11	-164.51	-365.99	-57.64	631.56	618.52	13.04	48.448		
2,000.00	1,972.69	1,876.45	1,853.82	7.99	7.53	-164.57	-382.62	-61.71	668.32	654.58	13.75	48.616		
2,100.00	2,070.61	1,969.44	1,945.23	8.44	7.95	-164.62	-399.26	-65.77	705.09	690.63	14.46	48.762		
2,200.00	2,168.52	2,062.44	2,036.63	8.89	8.37	-164.67	-415.89	-69.84	741.85	726.68	15.17	48.890		
2,300.00	2,266.44	2,155.43	2,128.04	9.35	8.79	-164.71	-432.53	-73.90	778.62	762.73	15.89	49.003		
2,400.00	2,364.35	2,248.43	2,219.44	9.80	9.21	-164.75	-449.16	-77.96	815.38	798.78	16.61	49.104		
2,500.00	2,462.27	2,341.42	2,310.85	10.26	9.63	-164.78	-465.80	-82.03	852.15	834.82	17.32	49.193		
2,600.00	2,560.18	2,434.42	2,402.25	10.71	10.05	-164.82	-482.44	-86.09	888.91	870.87	18.04	49.274		
2,700.00	2,658.10	2,527.41	2,493.66	11.17	10.47	-164.85	-499.07	-90.16	925.68	906.92	18.76	49.346		
2,800.00	2,756.01	2,620.41	2,585.06	11.63	10.89	-164.87	-515.71	-94.22	962.44	942.96	19.48	49.412		
2,900.00	2,853.93	2,713.40	2,676.47	12.08	11.31	-164.90	-532.34	-98.29	999.21	979.01	20.20	49.471		
3,000.00	2,951.84	2,806.40	2,767.87	12.54	11.73	-164.92	-548.98	-102.35	1,035.97	1,015.06	20.92	49.526		
3,100.00	3,049.76	2,899.39	2,859.28	12.99	12.15	-164.95	-565.61	-106.42	1,072.74	1,051.10	21.64	49.576		
3,200.00	3,147.67	2,992.39	2,950.68	13.45	12.57	-164.97	-582.25	-110.48	1,109.51	1,087.15	22.36	49.621		
3,300.00	3,245.59	3,085.39	3,042.09	13.91	12.99	-164.99	-598.89	-114.55	1,146.27	1,123.19	23.08	49.663		
3,400.00	3,343.50	3,178.38	3,133.49	14.37	13.41	-165.00	-615.52	-118.61	1,183.04	1,159.24	23.80	49.702		
3,500.00	3,441.42	3,271.38	3,224.90	14.82	13.83	-165.02	-632.16	-122.67	1,219.81	1,195.28	24.52	49.738		
3,600.00	3,539.33	3,364.37	3,316.30	15.28	14.25	-165.04	-648.79	-126.74	1,256.57	1,231.33	25.25	49.771		
3,700.00	3,637.24	3,457.37	3,407.70	15.74	14.67	-165.05	-665.43	-130.80	1,293.34	1,267.37	25.97	49.802		
3,800.00	3,735.16	3,550.36	3,499.11	16.19	15.09	-165.07	-682.06	-134.87	1,330.11	1,303.42	26.69	49.831		
3,900.00	3,833.07	3,643.36	3,590.51	16.65	15.51	-165.08	-698.70	-138.93	1,366.88	1,339.46	27.42	49.858		
4,000.00	3,930.99	3,736.35	3,681.92	17.11	15.93	-165.09	-715.34	-143.00	1,403.64	1,375.50	28.14	49.883		
4,100.00	4,028.90	3,829.35	3,773.32	17.57	16.35	-165.11	-731.97	-147.06	1,440.41	1,411.55	28.86	49.907		
4,200.00	4,126.82	3,922.34	3,864.73	18.03	16.78	-165.12	-748.61	-151.13	1,477.18	1,447.59	29.59	49.929		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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		
10,700.00	7,580.00	7,501.00	7,501.00	105.47	8.42	90.00	-13.74	4,047.18	1,474.96	1,385.05	89.91	16.406		
10,800.00	7,580.00	7,501.00	7,501.00	108.56	8.42	90.00	-13.74	4,047.18	1,408.51	1,313.15	95.36	14.771		
10,900.00	7,580.00	7,501.00	7,501.00	111.66	8.42	90.00	-13.74	4,047.18	1,346.22	1,245.07	101.14	13.310		
11,000.00	7,580.00	7,501.00	7,501.00	114.76	8.42	90.00	-13.74	4,047.18	1,288.68	1,181.47	107.21	12.020		
11,100.00	7,580.00	7,501.00	7,501.00	117.87	8.42	90.00	-13.74	4,047.18	1,236.57	1,123.12	113.45	10.899		
11,200.00	7,580.00	7,501.00	7,501.00	120.99	8.42	90.00	-13.74	4,047.18	1,190.59	1,070.84	119.75	9.942		
11,300.00	7,580.00	7,501.00	7,501.00	124.11	8.42	90.00	-13.74	4,047.18	1,151.48	1,025.55	125.92	9.144		
11,400.00	7,580.00	7,501.00	7,501.00	127.23	8.42	90.00	-13.74	4,047.18	1,119.96	988.19	131.77	8.500		
11,500.00	7,580.00	7,501.00	7,501.00	130.36	8.42	90.00	-13.74	4,047.18	1,096.68	959.64	137.04	8.003		
11,600.00	7,580.00	7,501.00	7,501.00	133.49	8.42	90.00	-13.74	4,047.18	1,082.18	940.65	141.53	7.646		
11,700.00	7,580.00	7,501.00	7,501.00	136.63	8.42	90.00	-13.74	4,047.18	1,076.80	931.77	145.03	7.425		
11,708.00	7,580.00	7,501.00	7,501.00	136.88	8.42	90.00	-13.74	4,047.18	1,076.77	931.51	145.26	7.412 CC, ES		
11,800.00	7,580.00	7,501.00	7,501.00	139.76	8.42	90.00	-13.74	4,047.18	1,080.70	933.27	147.43	7.330 SF		
11,900.00	7,580.00	7,501.00	7,501.00	142.91	8.42	90.00	-13.74	4,047.18	1,093.76	945.08	148.68	7.356		
12,000.00	7,580.00	7,501.00	7,501.00	146.05	8.42	90.00	-13.74	4,047.18	1,115.67	966.83	148.84	7.496		
12,100.00	7,580.00	7,501.00	7,501.00	149.20	8.42	90.00	-13.74	4,047.18	1,145.91	997.90	148.01	7.742		
12,170.36	7,580.00	7,501.00	7,501.00	151.41	8.42	90.00	-13.74	4,047.18	1,171.85	1,024.92	146.93	7.976		

Cathedral Energy Services

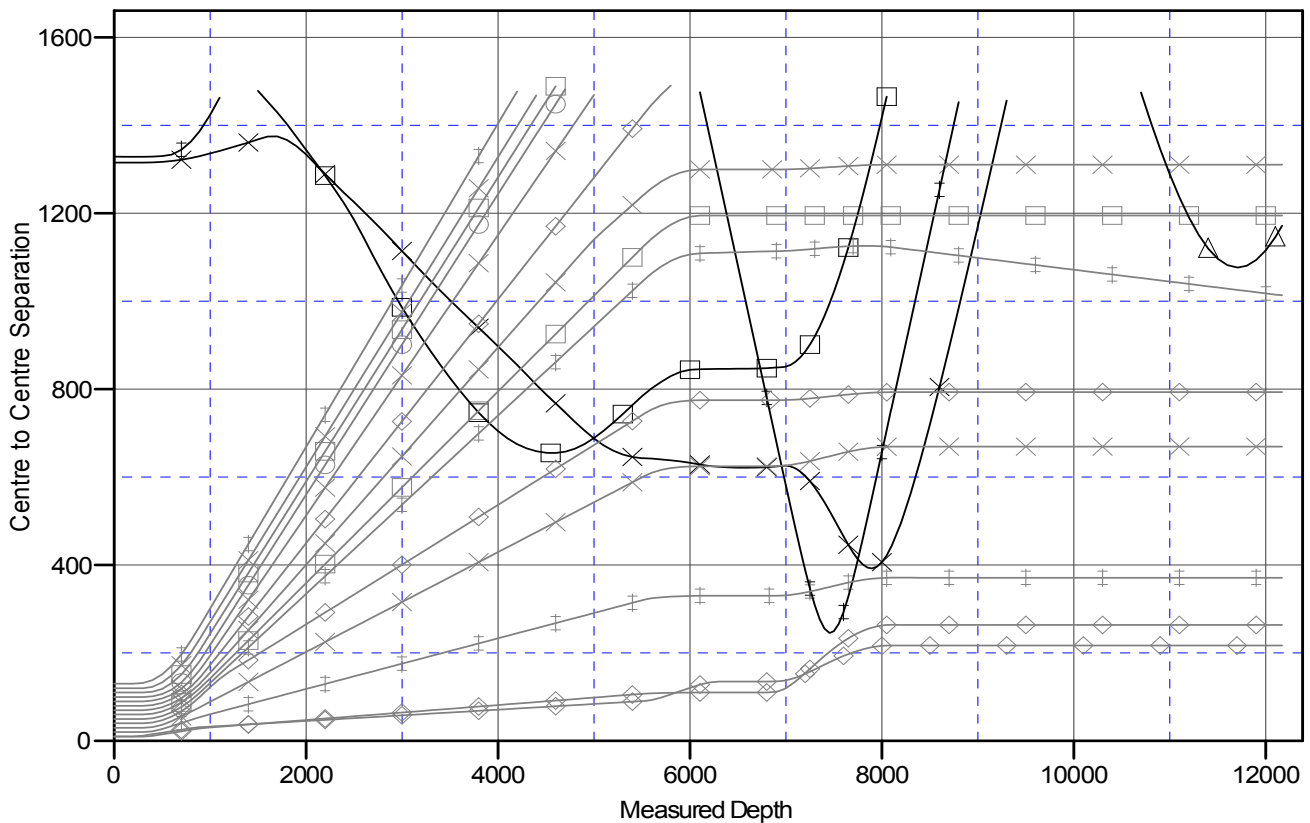
Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well SAM 3B-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 3B-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 3B-25H-M166
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.50°

Ladder Plot



LEGEND

ere 2 (EXISTING), CPR WELL, SURVEYS V0	✕ SAM3E-25H-M166, OH, PLAN#1 V0	◊ SAM3L-25H-M166, OH, PLAN#1 V0
ere KE 26-361HN, GWOG WELL, GWOG WELL V0	◊ SAM3F-25H-M166, OH, PLAN#1 V0	◻ SAM3M-25H-M166, OH, PLAN#1 V0
ni 1 (EXISTING), CPR WELL, NO SURVEYS V0	✕ SAM3G-25H-M166, OH, PLAN#1 V0	✕ SAM3N-25H-M166, OH, PLAN#1 V0
ni 13-25 (EXISTING), CPR WELL, SURVEYS V0	◻ SAM3H-25H-M166, OH, PLAN#1 V0	✕ SAM3O-25H-M166, OH, PLAN#1 V0
M3A-25H-M166, OH, PLAN#1 V0	✕ SAM3I-25H-M166, OH, PLAN#1 V0	▲ Wenzel 1 (EXISTING), CPR WELL, NO SURV
M3C-25H-M166, OH, PLAN#1 V0	◊ SAM3J-25H-M166, OH, PLAN#1 V0	
M3D-25H-M166, OH, PLAN#1 V0	✕ SAM3K-25H-M166, OH, PLAN#1 V0	