

Crestone Peak Resources

DJ BASIN

S4-T1N-R65W

RUEGGE 3E-4H-N165

OH

PLAN #1

Anticollision Report

12 November, 2017

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 1,415.18usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	11/12/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,229.68	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Cathedral Energy Services

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Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
			Between Centres (usft)	Between Ellipses (usft)		
S4-T1N-R65W						
ANSCHUTZ 2 - KMG WELL - NO SURVEYS						Out of range
BANE 27N1-9HZ - KMG WELL - PLAN ONLY						Out of range
BANE 27N2-9HZ - KMG WELL - SURVEYS						Out of range
BANE 28N1-9HZ - KMG WELL - PLAN ONLY						Out of range
BANE 28N2-9HZ - KMG WELL - SURVEYS						Out of range
BANE 28N3-9HZ - KMG WELL - SURVEYS						Out of range
BANE 2N1-9HZ - KMG WELL - NO SURVEYS						Out of range
BANE 2N2-9HZ - KMG WELL - NO SURVEYS						Out of range
BANE 2N3-9HZ - KMG WELL - SURVEYS						Out of range
BAT 28C-9HZ - KMG WELL - SURVEYS	7,064.84	12,133.00	1,406.83	1,300.99	13.291	CC, ES
BAT 28C-9HZ - KMG WELL - SURVEYS	7,150.00	12,133.00	1,410.58	1,303.67	13.194	SF
BAT 28N-9HZ - KMG WELL - SURVEYS						Out of range
BAT 29C-9HZ - KMG WELL - SURVEYS	7,150.58	12,205.00	837.19	744.94	9.075	CC, ES
BAT 29C-9HZ - KMG WELL - SURVEYS	7,200.00	12,205.00	839.47	746.71	9.050	SF
BAT 29N1-9HZ - KMG WELL - SURVEYS	7,122.42	12,122.00	415.10	350.84	6.460	CC, ES, SF
BAT 29N2-9HZ - KMG WELL - SURVEYS	6,964.26	11,735.00	781.85	706.51	10.377	CC, ES
BAT 29N2-9HZ - KMG WELL - SURVEYS	7,000.00	11,735.00	783.28	707.40	10.322	SF
BAT 3N1-9HZ - KMG WELL - NO SURVEYS						Out of range
BAT 3N1-9HZX - KMG WELL - SURVEYS	7,024.70	12,010.00	961.08	859.20	9.434	CC, ES
BAT 3N1-9HZX - KMG WELL - SURVEYS	7,100.00	12,010.00	965.32	862.46	9.385	SF
BAT 3N2-9HZ - KMG WELL - SURVEYS	6,925.34	11,878.00	1,236.89	1,129.93	11.564	CC
BAT 3N2-9HZ - KMG WELL - SURVEYS	6,950.00	11,878.00	1,237.23	1,129.85	11.522	ES
BAT 3N2-9HZ - KMG WELL - SURVEYS	7,000.00	11,878.00	1,240.02	1,131.95	11.474	SF
BAT 4C-9HZ - KMG WELL - SURVEYS	7,215.15	12,230.00	488.30	430.87	8.502	CC, ES
BAT 4C-9HZ - KMG WELL - SURVEYS	7,250.00	12,230.00	490.38	432.63	8.492	SF
BOYD 1N-32HZ - KMG WELL - SURVEYS	10,657.92	9,737.02	1,247.32	1,138.27	11.438	CC
BOYD 1N-32HZ - KMG WELL - SURVEYS	12,229.68	11,297.00	1,255.69	1,097.31	7.928	ES, SF
BOYD 26N-32HZ - KMG WELL - SURVEYS	12,229.68	11,321.28	760.40	603.95	4.860	CC, ES, SF
BOYD 27C-5HZ - KMG WELL - SURVEYS						Out of range
BOYD 27N-5HZ - KMG WELL - SURVEYS						Out of range
BOYD 28C-32HZ - KMG WELL - SURVEYS						Out of range
BOYD 2N-32HZ - KMG WELL - SURVEYS						Out of range
BOYD 43-5 - KMG WELL - NO SURVEYS						Out of range
CHAPIN 33-4 - CPR WELL - GYRO						Out of range
CHAPIN 34-4 - CPR WELL - GYRO	0.00	0.00	1,371.26			
CHAPIN 34-4 - CPR WELL - GYRO	604.21	592.86	1,373.64	1,370.76	476.198	ES
CHAPIN 34-4 - CPR WELL - GYRO	1,100.00	1,087.57	1,408.63	1,403.16	257.414	SF
CHAPIN 43-4 - CPR WELL - GYRO						Out of range
CHAPIN 44-4 - CPR WELL - GYRO						Out of range
CHAVEZ 4A-4H - CPR WELL - SURVEYS						Out of range
CHAVEZ 4B-4H - CPR WELL - SURVEYS						Out of range
COLFER 13C-34HZ - KMG WELL - SURVEYS						Out of range
COLFER 13N-34HZ - KMG WELL - SURVEYS						Out of range
COLFER 14C-34HZX - KMG WELL - SURVEYS						Out of range
COLFER 14N-34HZ - KMG WELL - SURVEYS						Out of range
COLFER 35N-34HZ - KMG WELL - SURVEYS						Out of range
COLFER 36N-34HZ - KMG WELL - SURVEYS						Out of range
DREILING 27C-32HZ - KMG WELL - SURVEYS						Out of range
DREILING 27N-32HZ - KMG WELL - SURVEYS						Out of range
EARL YOUNG GAS UNIT 1 - KMG WELL - NO SURVEY						Out of range
ENGLISH FARMS 13N-9HZ - KMG WELL - SURVEYS	7,273.26	7,174.01	736.16	690.23	16.028	CC, ES, SF
ENGLISH FARMS 15C-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 15N-8HZ - KMG WELL - SURVEYS						Out of range

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

Cathedral Energy Services

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Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
			Between Centres (usft)	Between Ellipses (usft)		
S4-T1N-R65W						
ENGLISH FARMS 16N-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 34C-9HZ - KMG WELL - SURVEYS	7,450.00	7,278.77	618.71	571.84	13.200	SF
ENGLISH FARMS 34C-9HZ - KMG WELL - SURVEYS	7,454.87	7,277.82	618.69	571.82	13.201	CC, ES
ENGLISH FARMS 34N-9HZ - KMG WELL - SURVEYS	7,337.00	7,231.06	425.50	378.13	8.983	CC, ES, SF
ENGLISH FARMS 35N1-9HZ - KMG WELL - SURVEYS	7,141.16	7,210.33	122.78	75.18	2.579	CC, ES, SF
ENGLISH FARMS 36N-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 37N-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 38N-8HZ - KMG WELL - SURVEYS	8,296.42	7,705.45	1,193.43	1,134.72	20.326	CC
ENGLISH FARMS 38N-8HZ - KMG WELL - SURVEYS	8,300.00	7,703.22	1,193.43	1,134.67	20.310	ES
ENGLISH FARMS 38N-8HZ - KMG WELL - SURVEYS	9,000.00	7,330.45	1,301.61	1,233.54	19.122	SF
ENGLISH FARMS XX08-72HN - ENGLISH FARMS XX08						Out of range
GITTLEIN 1 - KMG WELL - NO SURVEYS						Out of range
GITTLEIN 11-4 - CPR WELL - GYRO	12,211.71	7,263.44	77.42	-12.72	0.859	Level 1, CC, ES, SF
GITTLEIN 12-4J - CPR WELL - SURVEYS	10,721.70	7,475.92	83.97	11.11	1.152	Level 2, CC, ES, SF
GITTLEIN 21-4J - CPR WELL - SURVEYS	11,983.53	7,454.31	1,256.27	1,159.91	13.037	CC
GITTLEIN 21-4J - CPR WELL - SURVEYS	12,000.00	7,455.90	1,256.38	1,159.84	13.015	ES
GITTLEIN 21-4J - CPR WELL - SURVEYS	12,100.00	7,465.37	1,261.61	1,164.28	12.962	SF
GITTLEIN 22-4J - CPR WELL - SURVEYS						Out of range
GITTLEIN 29N-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 30C-28HZ - KMG WELL - SURVEYS	12,229.68	7,047.39	821.34	757.98	12.963	CC, ES, SF
GITTLEIN 30N-28HZ - KMG WELL - SURVEYS	12,229.68	6,859.00	808.10	758.69	16.354	CC, ES, SF
GITTLEIN 30N-28HZX - KMG WELL - SURVEYS	12,229.68	6,859.00	807.03	756.80	16.065	CC, ES, SF
GITTLEIN 30N-28HZXX - KMG WELL - SURVEYS	12,229.68	6,859.00	808.25	758.03	16.094	CC, ES, SF
GITTLEIN 3C-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 3N-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 4C-28HZ - KMG WELL - SURVEYS	12,229.68	7,030.54	798.54	724.88	10.841	CC, ES, SF
GITTLEIN 4C-28HZX - KMG WELL - SURVEYS	12,229.68	6,965.00	832.71	760.69	11.563	CC, ES, SF
GITTLEIN 4C-28HZXX - KMG WELL - SURVEYS	12,229.68	6,965.00	838.51	765.93	11.552	CC, ES, SF
GITTLEIN 4N-28HZ - KMG WELL - SURVEYS	12,229.68	6,834.98	1,116.01	1,039.02	14.495	CC, ES, SF
GREEN XX 8-3 - KMG WELL - NO SURVEYS						Out of range
HSR-DREILING 1-5A - KMG WELL - SURVEYS						Out of range
HSR-GITTLEIN 1A - KMG WELL - NO SURVEYS						Out of range
JOKER 1N1-9HZ - KMG WELL - SURVEYS						Out of range
JOKER 1N2-9HZ - KMG WELL - SURVEYS						Out of range
JOKER 1N3-9HZ - KMG WELL - SURVEYS						Out of range
JOKER 26N1-9HZ - KMG WELL - SURVEYS						Out of range
JOKER 26N2-9HZ - KMG WELL - SURVEYS						Out of range
JOKER 27N1-9HZ - KMG WELL - SURVEYS						Out of range
JOKER 27N2-9HZ - KMG WELL - SURVEYS						Out of range
MAYER 33-9P - KMG WELL - GYRO						Out of range
MAYER X 33-15DI - KMG WELL - GYRO						Out of range
MICHAEL R DREILING 1 - AMOCO WELL - NO SURVE						Out of range
MORITZ-ANSCHUTZ 1 - KMG WELL - NO SURVEYS						Out of range
OLIN 1 - CPR WELL - GYRO						Out of range
OLIN 1-4 - CPR WELL - GYRO	11,053.75	7,261.10	936.81	863.45	12.770	CC, ES
OLIN 1-4 - CPR WELL - GYRO	11,100.00	7,261.10	937.95	864.38	12.749	SF
OLIN 31-4 - CPR WELL - SURVEYS						Out of range
OLIN 32-4 - CPR WELL - GYRO						Out of range
OLIN 41-4 - CPR WELL - SURVEYS						Out of range
OLIN 42-4A - CPR WELL - SURVEYS						Out of range
OTTESEN 1 - GREAT WESTERN - NO SURVEYS						Out of range
RANDLE RED XX 3-2D - KMG WELL - NO SURVEYS						Out of range
RANDLE RED XX 3-4DI - KMG WELL - NO SURVEYS						Out of range

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Cathedral Energy Services

Anticollision Report

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Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
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Reference Well:	RUEGGE 3E-4H-N165	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 Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
			Between Centres (usft)	Between Ellipses (usft)		
S4-T1N-R65W						
RILEY 1 - CPR WELL - GYRO						Out of range
ROCKY 11-34A - KMG WELL - NO SURVEYS						Out of range
RUEGGE 3C-4H-N165 - OH - PLAN #1	200.00	201.00	20.00	19.00	20.070	CC, ES
RUEGGE 3C-4H-N165 - OH - PLAN #1	12,229.68	12,148.53	488.16	336.30	3.214	SF
RUEGGE 3D-4H-N165 - OH - PLAN #1	400.00	401.00	10.00	7.57	4.114	CC, ES
RUEGGE 3D-4H-N165 - OH - PLAN #1	12,229.68	12,122.72	259.95	120.85	1.869	SF
RUEGGE 3F-4H-N165 - OH - PLAN #1	600.00	600.00	10.00	6.14	2.590	CC, ES
RUEGGE 3F-4H-N165 - OH - PLAN #1	6,400.00	6,408.71	70.05	21.21	1.434	Level 3, SF
RUEGGE 3G-4H-N165 - OH - PLAN #1	600.00	600.00	20.00	16.14	5.180	CC, ES
RUEGGE 3G-4H-N165 - OH - PLAN #1	12,229.68	12,021.46	488.69	344.06	3.379	SF
RUEGGE 3H-4H-N165 - OH - PLAN #1	600.00	600.00	30.00	26.14	7.770	CC, ES
RUEGGE 3H-4H-N165 - OH - PLAN #1	12,229.68	12,137.73	839.99	684.89	5.416	SF
RUEGGE 3I-4H-N165 - OH - PLAN #1	555.89	556.48	36.49	32.97	10.367	CC, ES
RUEGGE 3I-4H-N165 - OH - PLAN #1	12,229.68	11,985.47	1,126.08	972.13	7.315	SF
RUEGGE 3J-4H-N165 - OH - PLAN #1	200.00	199.00	50.00	49.01	50.537	CC
RUEGGE 3J-4H-N165 - OH - PLAN #1	400.00	398.59	50.65	48.26	21.152	ES
RUEGGE 3J-4H-N165 - OH - PLAN #1	700.00	705.41	67.23	62.63	14.625	SF
RUEGGE 3K-4H-N165 - OH - PLAN #1	105.52	104.52	60.00	59.69	192.281	CC
RUEGGE 3K-4H-N165 - OH - PLAN #1	200.00	198.77	60.09	59.11	61.234	ES
RUEGGE 3K-4H-N165 - OH - PLAN #1	700.00	708.82	88.02	83.37	18.943	SF
RUEGGE 3L-4H-N165 - OH - PLAN #1	104.87	103.87	70.00	69.69	227.739	CC
RUEGGE 3L-4H-N165 - OH - PLAN #1	200.00	198.35	70.23	69.24	71.568	ES
RUEGGE 3L-4H-N165 - OH - PLAN #1	700.00	685.43	108.11	103.57	23.787	SF
RUEGGE 3M-4H-N165 - OH - PLAN #1	400.00	399.00	80.00	77.58	33.013	CC, ES
RUEGGE 3M-4H-N165 - OH - PLAN #1	800.00	789.12	105.04	99.86	20.280	SF
RUEGGE 3N-4H-N165 - OH - PLAN #1	104.72	103.72	90.00	89.69	293.882	CC
RUEGGE 3N-4H-N165 - OH - PLAN #1	200.00	197.85	90.31	89.33	92.064	ES
RUEGGE 3N-4H-N165 - OH - PLAN #1	700.00	679.90	134.21	129.70	29.712	SF
RUEGGE 3O-4H-N165 - OH - PLAN #1	400.00	399.00	100.00	97.58	41.267	CC, ES
RUEGGE 3O-4H-N165 - OH - PLAN #1	800.00	785.19	128.23	123.06	24.809	SF
RUEGGE 3P-4H-N165 - OH - PLAN #1	104.68	103.68	110.00	109.69	359.487	CC
RUEGGE 3P-4H-N165 - OH - PLAN #1	200.00	197.47	110.34	109.36	112.555	ES
RUEGGE 3P-4H-N165 - OH - PLAN #1	800.00	768.28	178.08	172.89	34.348	SF
RUEGGE 3Q-4H-N165 - OH - PLAN #1	400.00	399.00	120.00	117.58	49.520	CC, ES
RUEGGE 3Q-4H-N165 - OH - PLAN #1	800.00	781.80	149.80	144.64	29.036	SF
RUEGGE 3R-4H-N165 - OH - PLAN #1	100.69	101.31	130.00	129.72	459.049	CC
RUEGGE 3R-4H-N165 - OH - PLAN #1	200.00	195.78	130.49	129.52	133.874	ES
RUEGGE 3R-4H-N165 - OH - PLAN #1	800.00	762.11	200.94	195.78	38.914	SF
SPARBOE 7C-3HZ - KMG WELL - SURVEYS						Out of range
SPARBOE 7N-3HZ - KMG WELL - SURVEYS						Out of range
STELLING 1 - CPR WELL - GYRO	8,848.12	7,267.40	283.25	236.09	6.007	CC, ES, SF
STELLING 13-4 - CPR WELL - GYRO	9,741.38	7,264.32	379.22	322.90	6.734	CC, ES
STELLING 13-4 - CPR WELL - GYRO	9,800.00	7,265.66	383.72	326.09	6.659	SF
STELLING 14-4 - CPR WELL - GYRO	7,993.94	7,252.80	366.42	323.83	8.603	CC, ES, SF
STELLING 23-4 - CPR WELL - GYRO						Out of range
STELLING 24-4 - CPR WELL - GYRO	1,405.70	1,387.74	33.78	26.45	4.607	CC, ES, SF
STELLING 3A-4H - CPR WELL - SURVEYS	2,053.43	2,028.01	34.39	20.57	2.488	CC, ES
STELLING 3A-4H - CPR WELL - SURVEYS	2,100.00	2,074.02	35.12	20.82	2.456	SF
STELLING 3B-4H - CPR WELL - SURVEYS	406.37	393.74	34.69	32.69	17.403	CC, ES
STELLING 3B-4H - CPR WELL - SURVEYS	800.00	783.46	56.84	52.56	13.282	SF
SUMMIT 14C-32HZ - KMG WELL - SURVEYS						Out of range
SUMMIT 36C-32HZ - KMG WELL - SURVEYS						Out of range
SUMMIT 36N-32HZ - KMG WELL - SURVEYS						Out of range

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Cathedral Energy Services

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Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S4-T1N-R65W						
YOUNG EARL 1X - KMG WELL - NO SURVEYS						Out of range
ZIEMER 35C-5HZ - KMG WELL - SURVEYS						Out of range
ZIEMER 36N-5HZ - KMG WELL - SURVEYS						Out of range

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Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 28C-9HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 9-ISCSWA 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		
6,950.00	6,755.93	12,133.00	7,284.43	33.75	78.07	140.45	-1,173.97	125.28	1,413.63	1,310.01	103.62	13.642		
7,000.00	6,802.69	12,133.00	7,284.43	33.85	78.07	134.82	-1,173.97	125.28	1,409.01	1,304.31	104.70	13.458		
7,050.00	6,848.32	12,133.00	7,284.43	33.92	78.07	130.60	-1,173.97	125.28	1,406.95	1,301.34	105.61	13.322		
7,064.84	6,861.61	12,133.00	7,284.43	33.94	78.07	129.54	-1,173.97	125.28	1,406.83	1,300.99	105.85	13.291	CC, ES	
7,100.00	6,892.59	12,133.00	7,284.43	33.97	78.07	127.28	-1,173.97	125.28	1,407.47	1,301.12	106.35	13.234		
7,150.00	6,935.29	12,133.00	7,284.43	34.01	78.07	124.51	-1,173.97	125.28	1,410.58	1,303.67	106.91	13.194	SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 29C-9HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 20-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
6,200.00	6,029.60	12,205.00	7,304.30	30.24	79.42	-130.88	-1,186.13	-527.11	1,389.40	1,328.82	60.58	22.933	
6,300.00	6,126.26	12,205.00	7,304.30	30.78	79.42	-130.88	-1,186.13	-527.11	1,306.08	1,243.11	62.97	20.742	
6,400.00	6,222.92	12,205.00	7,304.30	31.31	79.42	-130.88	-1,186.13	-527.11	1,225.25	1,159.53	65.73	18.642	
6,500.00	6,319.58	12,205.00	7,304.30	31.85	79.42	-130.88	-1,186.13	-527.11	1,147.46	1,078.55	68.90	16.653	
6,600.00	6,416.25	12,205.00	7,304.30	32.39	79.42	-130.88	-1,186.13	-527.11	1,073.34	1,000.79	72.55	14.795	
6,639.90	6,454.81	12,205.00	7,304.30	32.60	79.42	-130.88	-1,186.13	-527.11	1,044.97	970.84	74.13	14.096	
6,650.00	6,464.59	12,205.00	7,304.30	32.66	79.42	-132.56	-1,186.13	-527.11	1,037.92	963.37	74.55	13.923	
6,700.00	6,513.25	12,205.00	7,304.30	32.91	79.42	-143.73	-1,186.13	-527.11	1,004.11	927.48	76.62	13.105	
6,750.00	6,562.18	12,205.00	7,304.30	33.13	79.42	-159.12	-1,186.13	-527.11	972.37	893.64	78.72	12.352	
6,800.00	6,611.16	12,205.00	7,304.30	33.33	79.42	-175.61	-1,186.13	-527.11	943.08	862.26	80.82	11.669	
6,850.00	6,659.93	12,205.00	7,304.30	33.50	79.42	170.57	-1,186.13	-527.11	916.62	833.77	82.85	11.064	
6,900.00	6,708.27	12,205.00	7,304.30	33.64	79.42	160.60	-1,186.13	-527.11	893.39	808.62	84.77	10.539	
6,950.00	6,755.93	12,205.00	7,304.30	33.75	79.42	153.74	-1,186.13	-527.11	873.75	787.23	86.52	10.099	
7,000.00	6,802.69	12,205.00	7,304.30	33.85	79.42	148.93	-1,186.13	-527.11	858.04	769.79	88.25	9.723	
7,050.00	6,848.32	12,205.00	7,304.30	33.92	79.42	145.38	-1,186.13	-527.11	846.58	756.63	89.95	9.412	
7,100.00	6,892.59	12,205.00	7,304.30	33.97	79.42	142.60	-1,186.13	-527.11	839.58	748.28	91.30	9.196	
7,150.00	6,935.29	12,205.00	7,304.30	34.01	79.42	140.24	-1,186.13	-527.11	837.19	744.95	92.25	9.076	
7,150.58	6,935.77	12,205.00	7,304.30	34.01	79.42	140.21	-1,186.13	-527.11	837.19	744.94	92.25	9.075 CC, ES	
7,200.00	6,976.21	12,205.00	7,304.30	34.02	79.42	138.09	-1,186.13	-527.11	839.47	746.71	92.76	9.050 SF	
7,250.00	7,015.15	12,205.00	7,304.30	34.02	79.42	136.02	-1,186.13	-527.11	846.37	753.52	92.85	9.116	
7,300.00	7,051.93	12,205.00	7,304.30	34.00	79.42	133.91	-1,186.13	-527.11	857.73	765.22	92.51	9.272	
7,350.00	7,086.36	12,205.00	7,304.30	33.96	79.42	131.69	-1,186.13	-527.11	873.34	781.54	91.79	9.514	
7,400.00	7,118.27	12,205.00	7,304.30	33.91	79.42	129.30	-1,186.13	-527.11	892.89	802.14	90.75	9.839	
7,450.00	7,147.51	12,205.00	7,304.30	33.85	79.42	126.67	-1,186.13	-527.11	916.05	826.62	89.43	10.243	
7,500.00	7,173.94	12,205.00	7,304.30	33.78	79.42	123.77	-1,186.13	-527.11	942.43	854.53	87.90	10.721	
7,550.00	7,197.43	12,205.00	7,304.30	33.69	79.42	120.57	-1,186.13	-527.11	971.66	885.44	86.23	11.269	
7,600.00	7,217.86	12,205.00	7,304.30	33.60	79.42	117.03	-1,186.13	-527.11	1,003.35	918.90	84.44	11.882	
7,650.00	7,235.14	12,205.00	7,304.30	33.50	79.42	113.14	-1,186.13	-527.11	1,037.12	954.51	82.60	12.555	
7,700.00	7,249.18	12,205.00	7,304.30	33.40	79.42	108.91	-1,186.13	-527.11	1,072.62	991.88	80.74	13.285	
7,750.00	7,259.91	12,205.00	7,304.30	33.29	79.42	104.37	-1,186.13	-527.11	1,109.53	1,030.65	78.88	14.066	
7,800.00	7,267.28	12,205.00	7,304.30	33.18	79.42	99.57	-1,186.13	-527.11	1,147.53	1,070.49	77.04	14.895	
7,850.00	7,271.25	12,205.00	7,304.30	33.07	79.42	94.60	-1,186.13	-527.11	1,186.35	1,111.10	75.25	15.766	
7,883.14	7,272.00	12,205.00	7,304.30	33.00	79.42	91.25	-1,186.13	-527.11	1,212.40	1,138.31	74.09	16.364	
7,900.00	7,272.00	12,205.00	7,304.30	32.97	79.42	91.25	-1,186.13	-527.11	1,225.74	1,152.23	73.51	16.675	
8,000.00	7,272.00	12,205.00	7,304.30	32.76	79.42	91.25	-1,186.13	-527.11	1,306.57	1,236.26	70.31	18.583	
8,100.00	7,272.00	12,205.00	7,304.30	32.58	79.42	91.25	-1,186.13	-527.11	1,389.90	1,322.42	67.49	20.595	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 29N1-9HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 20-ISOWSA 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		
6,000.00	5,836.27	12,122.00	7,136.98	29.17	82.44	-117.35	-1,152.58	-993.51	1,323.61	1,274.75	48.86	27.091		
6,100.00	5,932.93	12,122.00	7,136.98	29.70	82.44	-117.35	-1,152.58	-993.51	1,225.80	1,176.58	49.22	24.904		
6,200.00	6,029.60	12,122.00	7,136.98	30.24	82.44	-117.35	-1,152.58	-993.51	1,128.38	1,078.72	49.66	22.723		
6,300.00	6,126.26	12,122.00	7,136.98	30.78	82.44	-117.35	-1,152.58	-993.51	1,031.45	981.25	50.20	20.547		
6,400.00	6,222.92	12,122.00	7,136.98	31.31	82.44	-117.35	-1,152.58	-993.51	935.16	884.27	50.89	18.375		
6,500.00	6,319.58	12,122.00	7,136.98	31.85	82.44	-117.35	-1,152.58	-993.51	839.75	787.94	51.81	16.208		
6,600.00	6,416.25	12,122.00	7,136.98	32.39	82.44	-117.35	-1,152.58	-993.51	745.54	692.46	53.08	14.046		
6,639.90	6,454.81	12,122.00	7,136.98	32.60	82.44	-117.35	-1,152.58	-993.51	708.39	654.67	53.72	13.187		
6,650.00	6,464.59	12,122.00	7,136.98	32.66	82.44	-118.02	-1,152.58	-993.51	699.05	645.15	53.90	12.970		
6,700.00	6,513.25	12,122.00	7,136.98	32.91	82.44	-125.09	-1,152.58	-993.51	653.53	598.67	54.86	11.912		
6,750.00	6,562.18	12,122.00	7,136.98	33.13	82.44	-137.69	-1,152.58	-993.51	609.63	553.65	55.98	10.890		
6,800.00	6,611.16	12,122.00	7,136.98	33.33	82.44	-152.37	-1,152.58	-993.51	567.94	510.70	57.25	9.921		
6,850.00	6,659.93	12,122.00	7,136.98	33.50	82.44	-165.07	-1,152.58	-993.51	529.24	470.60	58.64	9.025		
6,900.00	6,708.27	12,122.00	7,136.98	33.64	82.44	-174.38	-1,152.58	-993.51	494.42	434.31	60.11	8.226		
6,950.00	6,755.93	12,122.00	7,136.98	33.75	82.44	179.11	-1,152.58	-993.51	464.54	403.02	61.52	7.551		
7,000.00	6,802.69	12,122.00	7,136.98	33.85	82.44	174.45	-1,152.58	-993.51	440.78	378.07	62.71	7.029		
7,050.00	6,848.32	12,122.00	7,136.98	33.92	82.44	170.91	-1,152.58	-993.51	424.28	360.82	63.46	6.686		
7,100.00	6,892.59	12,122.00	7,136.98	33.97	82.44	168.02	-1,152.58	-993.51	415.99	351.95	64.04	6.496		
7,122.42	6,911.94	12,122.00	7,136.98	33.99	82.44	166.85	-1,152.58	-993.51	415.10	350.84	64.26	6.460	CC, ES, SF	
7,150.00	6,935.29	12,122.00	7,136.98	34.01	82.44	165.47	-1,152.58	-993.51	416.45	352.12	64.33	6.474		
7,200.00	6,976.21	12,122.00	7,136.98	34.02	82.44	163.05	-1,152.58	-993.51	425.62	361.73	63.88	6.662		
7,250.00	7,015.15	12,122.00	7,136.98	34.02	82.44	160.58	-1,152.58	-993.51	442.91	380.04	62.88	7.044		
7,300.00	7,051.93	12,122.00	7,136.98	34.00	82.44	157.92	-1,152.58	-993.51	467.36	405.81	61.55	7.593		
7,350.00	7,086.36	12,122.00	7,136.98	33.96	82.44	154.91	-1,152.58	-993.51	497.80	437.65	60.15	8.276		
7,400.00	7,118.27	12,122.00	7,136.98	33.91	82.44	151.38	-1,152.58	-993.51	533.07	474.24	58.83	9.062		
7,450.00	7,147.51	12,122.00	7,136.98	33.85	82.44	147.12	-1,152.58	-993.51	572.12	514.45	57.68	9.920		
7,500.00	7,173.94	12,122.00	7,136.98	33.78	82.44	141.87	-1,152.58	-993.51	614.07	557.34	56.73	10.825		
7,550.00	7,197.43	12,122.00	7,136.98	33.69	82.44	135.28	-1,152.58	-993.51	658.16	602.20	55.97	11.760		
7,600.00	7,217.86	12,122.00	7,136.98	33.60	82.44	127.01	-1,152.58	-993.51	703.82	648.44	55.38	12.710		
7,650.00	7,235.14	12,122.00	7,136.98	33.50	82.44	116.80	-1,152.58	-993.51	750.54	695.62	54.92	13.666		
7,700.00	7,249.18	12,122.00	7,136.98	33.40	82.44	104.80	-1,152.58	-993.51	797.93	743.36	54.58	14.621		
7,750.00	7,259.91	12,122.00	7,136.98	33.29	82.44	91.79	-1,152.58	-993.51	845.68	791.36	54.32	15.569		
7,800.00	7,267.28	12,122.00	7,136.98	33.18	82.44	79.10	-1,152.58	-993.51	893.51	839.38	54.13	16.506		
7,850.00	7,271.25	12,122.00	7,136.98	33.07	82.44	67.88	-1,152.58	-993.51	941.19	887.19	54.00	17.429		
7,883.14	7,272.00	12,122.00	7,136.98	33.00	82.44	61.53	-1,152.58	-993.51	972.62	918.68	53.94	18.031		
7,900.00	7,272.00	12,122.00	7,136.98	32.97	82.44	61.53	-1,152.58	-993.51	988.57	934.65	53.92	18.334		
8,000.00	7,272.00	12,122.00	7,136.98	32.76	82.44	61.53	-1,152.58	-993.51	1,083.77	1,029.81	53.96	20.085		
8,100.00	7,272.00	12,122.00	7,136.98	32.58	82.44	61.53	-1,152.58	-993.51	1,179.76	1,125.59	54.17	21.777		
8,200.00	7,272.00	12,122.00	7,136.98	32.42	82.44	61.53	-1,152.58	-993.51	1,276.37	1,221.89	54.48	23.430		
8,300.00	7,272.00	12,122.00	7,136.98	32.28	82.44	61.53	-1,152.58	-993.51	1,373.46	1,318.65	54.81	25.057		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 29N2-9HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 20-ISCSWA 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	
6,000.00	5,836.27	11,735.00	7,048.01	29.17	75.23	-105.13	-1,432.67	-641.89	1,379.85	1,328.76	51.09	27.010		
6,100.00	5,932.93	11,735.00	7,048.01	29.70	75.23	-105.13	-1,432.67	-641.89	1,294.71	1,242.30	52.41	24.702		
6,200.00	6,029.60	11,735.00	7,048.01	30.24	75.23	-105.13	-1,432.67	-641.89	1,211.84	1,157.87	53.98	22.451		
6,300.00	6,126.26	11,735.00	7,048.01	30.78	75.23	-105.13	-1,432.67	-641.89	1,131.75	1,075.93	55.82	20.274		
6,400.00	6,222.92	11,735.00	7,048.01	31.31	75.23	-105.13	-1,432.67	-641.89	1,055.06	997.05	58.01	18.188		
6,500.00	6,319.58	11,735.00	7,048.01	31.85	75.23	-105.13	-1,432.67	-641.89	982.57	921.99	60.58	16.220		
6,600.00	6,416.25	11,735.00	7,048.01	32.39	75.23	-105.13	-1,432.67	-641.89	915.28	851.70	63.57	14.397		
6,639.90	6,454.81	11,735.00	7,048.01	32.60	75.23	-105.13	-1,432.67	-641.89	890.14	825.25	64.89	13.717		
6,650.00	6,464.59	11,735.00	7,048.01	32.66	75.23	-107.08	-1,432.67	-641.89	883.99	818.76	65.23	13.551		
6,700.00	6,513.25	11,735.00	7,048.01	32.91	75.23	-119.65	-1,432.67	-641.89	855.67	788.76	66.91	12.789		
6,750.00	6,562.18	11,735.00	7,048.01	33.13	75.23	-136.47	-1,432.67	-641.89	831.30	762.54	68.76	12.090		
6,800.00	6,611.16	11,735.00	7,048.01	33.33	75.23	-154.38	-1,432.67	-641.89	811.37	740.69	70.68	11.479		
6,850.00	6,659.93	11,735.00	7,048.01	33.50	75.23	-169.59	-1,432.67	-641.89	796.31	723.88	72.42	10.995		
6,900.00	6,708.27	11,735.00	7,048.01	33.64	75.23	179.11	-1,432.67	-641.89	786.46	712.55	73.91	10.641		
6,950.00	6,755.93	11,735.00	7,048.01	33.75	75.23	170.96	-1,432.67	-641.89	782.08	707.00	75.08	10.417		
6,964.26	6,769.37	11,735.00	7,048.01	33.78	75.23	169.06	-1,432.67	-641.89	781.85	706.51	75.34	10.377	CC, ES	
7,000.00	6,802.69	11,735.00	7,048.01	33.85	75.23	164.90	-1,432.67	-641.89	783.28	707.40	75.88	10.322	SF	
7,050.00	6,848.32	11,735.00	7,048.01	33.92	75.23	160.12	-1,432.67	-641.89	790.03	713.73	76.30	10.354		
7,100.00	6,892.59	11,735.00	7,048.01	33.97	75.23	156.10	-1,432.67	-641.89	802.16	725.81	76.35	10.507		
7,150.00	6,935.29	11,735.00	7,048.01	34.01	75.23	152.48	-1,432.67	-641.89	819.36	743.32	76.05	10.775		
7,200.00	6,976.21	11,735.00	7,048.01	34.02	75.23	149.01	-1,432.67	-641.89	841.26	765.81	75.45	11.150		
7,250.00	7,015.15	11,735.00	7,048.01	34.02	75.23	145.51	-1,432.67	-641.89	867.38	792.77	74.61	11.625		
7,300.00	7,051.93	11,735.00	7,048.01	34.00	75.23	141.83	-1,432.67	-641.89	897.24	823.64	73.60	12.191		
7,350.00	7,086.36	11,735.00	7,048.01	33.96	75.23	137.84	-1,432.67	-641.89	930.35	857.89	72.46	12.839		
7,400.00	7,118.27	11,735.00	7,048.01	33.91	75.23	133.44	-1,432.67	-641.89	966.21	894.97	71.24	13.562		
7,450.00	7,147.51	11,735.00	7,048.01	33.85	75.23	128.50	-1,432.67	-641.89	1,004.37	934.39	69.99	14.351		
7,500.00	7,173.94	11,735.00	7,048.01	33.78	75.23	122.97	-1,432.67	-641.89	1,044.40	975.68	68.72	15.199		
7,550.00	7,197.43	11,735.00	7,048.01	33.69	75.23	116.78	-1,432.67	-641.89	1,085.91	1,018.45	67.46	16.098		
7,600.00	7,217.86	11,735.00	7,048.01	33.60	75.23	109.98	-1,432.67	-641.89	1,128.54	1,062.32	66.22	17.042		
7,650.00	7,235.14	11,735.00	7,048.01	33.50	75.23	102.67	-1,432.67	-641.89	1,171.98	1,106.96	65.02	18.025		
7,700.00	7,249.18	11,735.00	7,048.01	33.40	75.23	95.06	-1,432.67	-641.89	1,215.94	1,152.08	63.86	19.041		
7,750.00	7,259.91	11,735.00	7,048.01	33.29	75.23	87.43	-1,432.67	-641.89	1,260.16	1,197.41	62.74	20.085		
7,800.00	7,267.28	11,735.00	7,048.01	33.18	75.23	80.08	-1,432.67	-641.89	1,304.41	1,242.73	61.67	21.151		
7,850.00	7,271.25	11,735.00	7,048.01	33.07	75.23	73.25	-1,432.67	-641.89	1,348.48	1,287.83	60.65	22.235		
7,883.14	7,272.00	11,735.00	7,048.01	33.00	75.23	69.09	-1,432.67	-641.89	1,377.50	1,317.51	59.99	22.960		
7,900.00	7,272.00	11,735.00	7,048.01	32.97	75.23	69.09	-1,432.67	-641.89	1,392.24	1,332.57	59.67	23.331		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 3N1-9HZX - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 20-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		
6,100.00	5,932.93	12,010.00	7,134.61	29.70	79.01	-130.45	-1,188.76	-314.09	1,411.86	1,344.23	67.62	20.878		
6,200.00	6,029.60	12,010.00	7,134.61	30.24	79.01	-130.45	-1,188.76	-314.09	1,337.83	1,267.18	70.65	18.937		
6,300.00	6,126.26	12,010.00	7,134.61	30.78	79.01	-130.45	-1,188.76	-314.09	1,267.37	1,193.38	73.99	17.129		
6,400.00	6,222.92	12,010.00	7,134.61	31.31	79.01	-130.45	-1,188.76	-314.09	1,201.11	1,123.45	77.66	15.467		
6,500.00	6,319.58	12,010.00	7,134.61	31.85	79.01	-130.45	-1,188.76	-314.09	1,139.78	1,058.17	81.62	13.965		
6,600.00	6,416.25	12,010.00	7,134.61	32.39	79.01	-130.45	-1,188.76	-314.09	1,084.23	998.42	85.80	12.636		
6,639.90	6,454.81	12,010.00	7,134.61	32.60	79.01	-130.45	-1,188.76	-314.09	1,063.88	976.36	87.52	12.156		
6,650.00	6,464.59	12,010.00	7,134.61	32.66	79.01	-132.46	-1,188.76	-314.09	1,058.91	970.96	87.95	12.040		
6,700.00	6,513.25	12,010.00	7,134.61	32.91	79.01	-145.17	-1,188.76	-314.09	1,035.82	945.68	90.14	11.491		
6,750.00	6,562.18	12,010.00	7,134.61	33.13	79.01	-161.97	-1,188.76	-314.09	1,015.39	922.89	92.50	10.978		
6,800.00	6,611.16	12,010.00	7,134.61	33.33	79.01	-179.76	-1,188.76	-314.09	997.89	903.17	94.72	10.535		
6,850.00	6,659.93	12,010.00	7,134.61	33.50	79.01	165.24	-1,188.76	-314.09	983.57	886.80	96.77	10.164		
6,900.00	6,708.27	12,010.00	7,134.61	33.64	79.01	154.20	-1,188.76	-314.09	972.63	874.04	98.59	9.865		
6,950.00	6,755.93	12,010.00	7,134.61	33.75	79.01	146.36	-1,188.76	-314.09	965.25	865.10	100.15	9.638		
7,000.00	6,802.69	12,010.00	7,134.61	33.85	79.01	140.65	-1,188.76	-314.09	961.54	860.15	101.39	9.484		
7,024.70	6,825.38	12,010.00	7,134.61	33.88	79.01	138.36	-1,188.76	-314.09	961.08	859.20	101.88	9.434 CC, ES		
7,050.00	6,848.32	12,010.00	7,134.61	33.92	79.01	136.27	-1,188.76	-314.09	961.56	859.26	102.30	9.400		
7,100.00	6,892.59	12,010.00	7,134.61	33.97	79.01	132.70	-1,188.76	-314.09	965.32	862.46	102.86	9.385 SF		
7,150.00	6,935.29	12,010.00	7,134.61	34.01	79.01	129.60	-1,188.76	-314.09	972.74	869.68	103.06	9.438		
7,200.00	6,976.21	12,010.00	7,134.61	34.02	79.01	126.76	-1,188.76	-314.09	983.72	880.79	102.93	9.557		
7,250.00	7,015.15	12,010.00	7,134.61	34.02	79.01	124.03	-1,188.76	-314.09	998.09	895.59	102.49	9.738		
7,300.00	7,051.93	12,010.00	7,134.61	34.00	79.01	121.30	-1,188.76	-314.09	1,015.62	913.85	101.77	9.979		
7,350.00	7,086.36	12,010.00	7,134.61	33.96	79.01	118.52	-1,188.76	-314.09	1,036.09	935.28	100.81	10.278		
7,400.00	7,118.27	12,010.00	7,134.61	33.91	79.01	115.61	-1,188.76	-314.09	1,059.21	959.57	99.64	10.630		
7,450.00	7,147.51	12,010.00	7,134.61	33.85	79.01	112.57	-1,188.76	-314.09	1,084.72	986.40	98.32	11.033		
7,500.00	7,173.94	12,010.00	7,134.61	33.78	79.01	109.35	-1,188.76	-314.09	1,112.32	1,015.46	96.86	11.483		
7,550.00	7,197.43	12,010.00	7,134.61	33.69	79.01	105.97	-1,188.76	-314.09	1,141.74	1,046.42	95.32	11.978		
7,600.00	7,217.86	12,010.00	7,134.61	33.60	79.01	102.42	-1,188.76	-314.09	1,172.71	1,078.99	93.72	12.513		
7,650.00	7,235.14	12,010.00	7,134.61	33.50	79.01	98.74	-1,188.76	-314.09	1,204.95	1,112.88	92.07	13.087		
7,700.00	7,249.18	12,010.00	7,134.61	33.40	79.01	94.94	-1,188.76	-314.09	1,238.22	1,147.81	90.41	13.695		
7,750.00	7,259.91	12,010.00	7,134.61	33.29	79.01	91.08	-1,188.76	-314.09	1,272.29	1,183.53	88.75	14.335		
7,800.00	7,267.28	12,010.00	7,134.61	33.18	79.01	87.21	-1,188.76	-314.09	1,306.92	1,219.82	87.11	15.004		
7,850.00	7,271.25	12,010.00	7,134.61	33.07	79.01	83.39	-1,188.76	-314.09	1,341.92	1,256.44	85.48	15.699		
7,883.14	7,272.00	12,010.00	7,134.61	33.00	79.01	80.90	-1,188.76	-314.09	1,365.23	1,280.81	84.42	16.173		
7,900.00	7,272.00	12,010.00	7,134.61	32.97	79.01	80.90	-1,188.76	-314.09	1,377.14	1,293.26	83.88	16.418		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 3N2-9HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 20-ISWWSA 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	
6,400.00	6,222.92	11,878.00	7,053.25	31.31	78.38	-131.48	-1,195.87	5.37	1,373.00	1,283.55	89.45	15.349		
6,500.00	6,319.58	11,878.00	7,053.25	31.85	78.38	-131.48	-1,195.87	5.37	1,330.31	1,236.92	93.39	14.245		
6,600.00	6,416.25	11,878.00	7,053.25	32.39	78.38	-131.48	-1,195.87	5.37	1,293.96	1,196.71	97.25	13.305		
6,639.90	6,454.81	11,878.00	7,053.25	32.60	78.38	-131.48	-1,195.87	5.37	1,281.35	1,182.60	98.75	12.975		
6,650.00	6,464.59	11,878.00	7,053.25	32.66	78.38	-133.69	-1,195.87	5.37	1,278.35	1,179.22	99.13	12.896		
6,700.00	6,513.25	11,878.00	7,053.25	32.91	78.38	-147.34	-1,195.87	5.37	1,264.92	1,164.01	100.91	12.535		
6,750.00	6,562.18	11,878.00	7,053.25	33.13	78.38	-165.01	-1,195.87	5.37	1,253.99	1,151.43	102.56	12.227		
6,800.00	6,611.16	11,878.00	7,053.25	33.33	78.38	176.42	-1,195.87	5.37	1,245.68	1,141.63	104.05	11.972		
6,850.00	6,659.93	11,878.00	7,053.25	33.50	78.38	160.72	-1,195.87	5.37	1,240.07	1,134.72	105.36	11.770		
6,900.00	6,708.27	11,878.00	7,053.25	33.64	78.38	149.05	-1,195.87	5.37	1,237.25	1,130.77	106.47	11.620		
6,925.34	6,732.52	11,878.00	7,053.25	33.70	78.38	144.45	-1,195.87	5.37	1,236.89	1,129.93	106.96	11.564 CC		
6,950.00	6,755.93	11,878.00	7,053.25	33.75	78.38	140.64	-1,195.87	5.37	1,237.23	1,129.85	107.38	11.522 ES		
7,000.00	6,802.69	11,878.00	7,053.25	33.85	78.38	134.43	-1,195.87	5.37	1,240.02	1,131.95	108.07	11.474 SF		
7,050.00	6,848.32	11,878.00	7,053.25	33.92	78.38	129.62	-1,195.87	5.37	1,245.58	1,137.04	108.54	11.476		
7,100.00	6,892.59	11,878.00	7,053.25	33.97	78.38	125.67	-1,195.87	5.37	1,253.86	1,145.07	108.79	11.525		
7,150.00	6,935.29	11,878.00	7,053.25	34.01	78.38	122.27	-1,195.87	5.37	1,264.75	1,155.92	108.83	11.621		
7,200.00	6,976.21	11,878.00	7,053.25	34.02	78.38	119.19	-1,195.87	5.37	1,278.15	1,169.48	108.67	11.762		
7,250.00	7,015.15	11,878.00	7,053.25	34.02	78.38	116.30	-1,195.87	5.37	1,293.90	1,185.57	108.33	11.944		
7,300.00	7,051.93	11,878.00	7,053.25	34.00	78.38	113.49	-1,195.87	5.37	1,311.85	1,204.03	107.82	12.167		
7,350.00	7,086.36	11,878.00	7,053.25	33.96	78.38	110.72	-1,195.87	5.37	1,331.82	1,224.67	107.16	12.429		
7,400.00	7,118.27	11,878.00	7,053.25	33.91	78.38	107.92	-1,195.87	5.37	1,353.63	1,247.27	106.37	12.726		
7,450.00	7,147.51	11,878.00	7,053.25	33.85	78.38	105.09	-1,195.87	5.37	1,377.09	1,271.63	105.47	13.057		
7,500.00	7,173.94	11,878.00	7,053.25	33.78	78.38	102.20	-1,195.87	5.37	1,402.01	1,297.53	104.48	13.419		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BAT 4C-9HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 20-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
6,100.00	5,932.93	12,230.00	7,301.64	29.70	82.76	-83.25	-1,197.60	-1,199.52	1,409.39	1,360.00	49.39	28.538	
6,200.00	6,029.60	12,230.00	7,301.64	30.24	82.76	-83.25	-1,197.60	-1,199.52	1,309.90	1,260.31	49.59	26.417	
6,300.00	6,126.26	12,230.00	7,301.64	30.78	82.76	-83.25	-1,197.60	-1,199.52	1,210.50	1,160.70	49.79	24.310	
6,400.00	6,222.92	12,230.00	7,301.64	31.31	82.76	-83.25	-1,197.60	-1,199.52	1,111.20	1,061.19	50.01	22.219	
6,500.00	6,319.58	12,230.00	7,301.64	31.85	82.76	-83.25	-1,197.60	-1,199.52	1,012.05	961.80	50.24	20.142	
6,600.00	6,416.25	12,230.00	7,301.64	32.39	82.76	-83.25	-1,197.60	-1,199.52	913.08	862.58	50.50	18.082	
6,639.90	6,454.81	12,230.00	7,301.64	32.60	82.76	-83.25	-1,197.60	-1,199.52	873.65	823.05	50.61	17.264	
6,650.00	6,464.59	12,230.00	7,301.64	32.66	82.76	-83.21	-1,197.60	-1,199.52	863.69	813.06	50.63	17.058	
6,700.00	6,513.25	12,230.00	7,301.64	32.91	82.76	-89.78	-1,197.60	-1,199.52	814.79	763.98	50.81	16.035	
6,750.00	6,562.18	12,230.00	7,301.64	33.13	82.76	-103.87	-1,197.60	-1,199.52	766.88	715.82	51.06	15.020	
6,800.00	6,611.16	12,230.00	7,301.64	33.33	82.76	-120.36	-1,197.60	-1,199.52	720.40	669.01	51.39	14.018	
6,850.00	6,659.93	12,230.00	7,301.64	33.50	82.76	-134.68	-1,197.60	-1,199.52	675.91	624.08	51.83	13.041	
6,900.00	6,708.27	12,230.00	7,301.64	33.64	82.76	-145.31	-1,197.60	-1,199.52	634.07	581.68	52.39	12.102	
6,950.00	6,755.93	12,230.00	7,301.64	33.75	82.76	-152.81	-1,197.60	-1,199.52	595.65	542.56	53.09	11.220	
7,000.00	6,802.69	12,230.00	7,301.64	33.85	82.76	-158.16	-1,197.60	-1,199.52	561.56	507.65	53.91	10.416	
7,050.00	6,848.32	12,230.00	7,301.64	33.92	82.76	-162.07	-1,197.60	-1,199.52	532.82	478.00	54.82	9.720	
7,100.00	6,892.59	12,230.00	7,301.64	33.97	82.76	-165.04	-1,197.60	-1,199.52	510.48	454.74	55.74	9.159	
7,150.00	6,935.29	12,230.00	7,301.64	34.01	82.76	-167.37	-1,197.60	-1,199.52	495.52	438.94	56.58	8.758	
7,200.00	6,976.21	12,230.00	7,301.64	34.02	82.76	-169.27	-1,197.60	-1,199.52	488.69	431.43	57.26	8.534	
7,215.15	6,988.23	12,230.00	7,301.64	34.02	82.76	-169.79	-1,197.60	-1,199.52	488.30	430.87	57.43	8.502 CC, ES	
7,250.00	7,015.15	12,230.00	7,301.64	34.02	82.76	-170.88	-1,197.60	-1,199.52	490.38	432.63	57.75	8.492 SF	
7,300.00	7,051.93	12,230.00	7,301.64	34.00	82.76	-172.28	-1,197.60	-1,199.52	500.47	442.44	58.04	8.623	
7,350.00	7,086.36	12,230.00	7,301.64	33.96	82.76	-173.57	-1,197.60	-1,199.52	518.45	460.25	58.20	8.909	
7,400.00	7,118.27	12,230.00	7,301.64	33.91	82.76	-174.80	-1,197.60	-1,199.52	543.43	484.84	58.60	9.274	
7,450.00	7,147.51	12,230.00	7,301.64	33.85	82.76	-176.04	-1,197.60	-1,199.52	574.41	515.19	59.22	9.699	
7,500.00	7,173.94	12,230.00	7,301.64	33.78	82.76	-177.37	-1,197.60	-1,199.52	610.32	550.55	59.77	10.211	
7,550.00	7,197.43	12,230.00	7,301.64	33.69	82.76	-178.88	-1,197.60	-1,199.52	650.19	589.94	60.25	10.791	
7,600.00	7,217.86	12,230.00	7,301.64	33.60	82.76	179.28	-1,197.60	-1,199.52	693.16	632.48	60.68	11.423	
7,650.00	7,235.14	12,230.00	7,301.64	33.50	82.76	176.84	-1,197.60	-1,199.52	738.50	677.44	61.06	12.095	
7,700.00	7,249.18	12,230.00	7,301.64	33.40	82.76	173.32	-1,197.60	-1,199.52	785.60	724.21	61.39	12.796	
7,750.00	7,259.91	12,230.00	7,301.64	33.29	82.76	167.57	-1,197.60	-1,199.52	833.95	772.27	61.69	13.519	
7,800.00	7,267.28	12,230.00	7,301.64	33.18	82.76	156.59	-1,197.60	-1,199.52	883.13	821.19	61.95	14.256	
7,850.00	7,271.25	12,230.00	7,301.64	33.07	82.76	131.20	-1,197.60	-1,199.52	932.79	870.62	62.18	15.002	
7,883.14	7,272.00	12,230.00	7,301.64	33.00	82.76	99.93	-1,197.60	-1,199.52	965.83	903.51	62.31	15.499	
7,900.00	7,272.00	12,230.00	7,301.64	32.97	82.76	99.93	-1,197.60	-1,199.52	982.64	920.26	62.38	15.752	
8,000.00	7,272.00	12,230.00	7,301.64	32.76	82.76	99.93	-1,197.60	-1,199.52	1,082.38	1,019.65	62.73	17.254	
8,100.00	7,272.00	12,230.00	7,301.64	32.58	82.76	99.93	-1,197.60	-1,199.52	1,182.17	1,119.15	63.03	18.757	
8,200.00	7,272.00	12,230.00	7,301.64	32.42	82.76	99.93	-1,197.60	-1,199.52	1,282.00	1,218.72	63.28	20.261	
8,300.00	7,272.00	12,230.00	7,301.64	32.28	82.76	99.93	-1,197.60	-1,199.52	1,381.84	1,318.35	63.49	21.764	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BOYD 1N-32HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 25-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		
7,450.00	7,147.51	6,899.00	6,857.63	33.85	14.98	-64.39	-221.73	-2,558.42	1,407.62	1,360.62	47.00	29.950		
7,500.00	7,173.94	6,920.92	6,875.11	33.78	15.05	-66.18	-208.49	-2,558.56	1,396.10	1,349.18	46.92	29.757		
7,550.00	7,197.43	6,946.00	6,894.44	33.69	15.13	-67.92	-192.52	-2,558.60	1,384.74	1,337.89	46.85	29.557		
7,600.00	7,217.86	6,971.88	6,913.55	33.60	15.23	-69.59	-175.07	-2,558.57	1,373.72	1,326.91	46.81	29.348		
7,650.00	7,235.14	6,993.00	6,928.45	33.50	15.31	-71.09	-160.11	-2,558.55	1,363.18	1,316.43	46.75	29.156		
7,700.00	7,249.18	7,015.51	6,943.65	33.40	15.42	-72.53	-143.51	-2,558.61	1,353.28	1,306.54	46.74	28.956		
7,750.00	7,259.91	7,040.00	6,959.39	33.29	15.53	-73.91	-124.75	-2,558.85	1,344.17	1,297.42	46.75	28.754		
7,800.00	7,267.28	7,064.73	6,974.51	33.18	15.66	-75.22	-105.19	-2,559.16	1,335.78	1,288.99	46.79	28.546		
7,850.00	7,271.25	7,097.61	6,993.54	33.07	15.84	-76.62	-78.38	-2,559.47	1,328.05	1,281.14	46.91	28.312		
7,883.14	7,272.00	7,123.85	7,007.87	33.00	16.00	-77.61	-56.40	-2,559.53	1,323.22	1,276.20	47.02	28.139		
7,900.00	7,272.00	7,137.43	7,014.99	32.97	16.09	-77.91	-44.83	-2,559.48	1,320.85	1,273.77	47.09	28.052		
8,000.00	7,272.00	7,211.59	7,051.06	32.76	16.62	-79.45	19.93	-2,558.86	1,308.32	1,260.76	47.56	27.509		
8,100.00	7,272.00	7,261.36	7,071.37	32.58	17.03	-80.33	65.34	-2,558.34	1,298.88	1,250.80	48.08	27.016		
8,200.00	7,272.00	7,309.52	7,086.45	32.42	17.47	-80.99	111.06	-2,558.87	1,293.86	1,245.08	48.78	26.526		
8,300.00	7,272.00	7,378.76	7,101.32	32.28	18.17	-81.65	178.64	-2,560.58	1,292.23	1,242.42	49.81	25.942		
8,316.66	7,272.00	7,389.06	7,102.98	32.25	18.28	-81.72	188.80	-2,560.87	1,292.19	1,242.19	50.00	25.843		
8,400.00	7,272.00	7,446.94	7,109.33	32.17	18.92	-82.01	246.28	-2,562.89	1,293.13	1,242.08	51.04	25.334		
8,500.00	7,272.00	7,527.93	7,113.77	32.24	19.90	-82.22	327.07	-2,566.44	1,295.96	1,243.40	52.56	24.656		
8,600.00	7,272.00	7,620.09	7,117.06	32.87	21.08	-82.39	419.05	-2,571.11	1,299.76	1,245.45	54.32	23.929		
8,700.00	7,272.00	7,713.31	7,119.73	33.66	22.36	-82.53	512.10	-2,576.16	1,304.03	1,247.79	56.24	23.188		
8,800.00	7,272.00	7,801.19	7,119.44	34.51	23.62	-82.55	599.81	-2,581.38	1,309.20	1,250.96	58.24	22.479		
8,900.00	7,272.00	7,916.67	7,117.42	35.41	25.19	-82.49	715.09	-2,587.80	1,314.21	1,253.62	60.59	21.690		
9,000.00	7,272.00	8,028.02	7,118.34	36.35	26.62	-82.56	826.32	-2,592.91	1,317.89	1,255.02	62.87	20.963		
9,100.00	7,272.00	8,126.95	7,120.29	37.32	28.00	-82.66	925.12	-2,597.36	1,321.36	1,256.18	65.18	20.271		
9,200.00	7,272.00	8,270.47	7,120.93	38.34	30.19	-82.71	1,068.57	-2,601.61	1,323.60	1,255.47	68.13	19.428		
9,300.00	7,272.00	8,383.46	7,121.27	39.39	31.86	-82.72	1,181.55	-2,602.24	1,323.37	1,252.65	70.72	18.712		
9,400.00	7,272.00	8,490.33	7,121.67	40.47	33.51	-82.73	1,288.42	-2,601.88	1,322.24	1,248.87	73.37	18.021		
9,500.00	7,272.00	8,590.47	7,120.76	41.57	35.15	-82.68	1,388.56	-2,601.25	1,321.00	1,244.90	76.10	17.360		
9,600.00	7,272.00	8,688.54	7,119.39	42.71	36.74	-82.62	1,486.61	-2,600.60	1,319.77	1,240.97	78.80	16.748		
9,700.00	7,272.00	8,791.12	7,118.20	43.87	38.36	-82.56	1,589.19	-2,600.03	1,318.63	1,237.10	81.54	16.172		
9,800.00	7,272.00	8,896.02	7,116.32	45.06	40.12	-82.47	1,694.06	-2,598.98	1,317.13	1,232.71	84.42	15.602		
9,900.00	7,272.00	9,001.54	7,113.58	46.27	41.95	-82.33	1,799.54	-2,597.39	1,315.24	1,227.86	87.38	15.052		
10,000.00	7,272.00	9,117.48	7,110.76	47.50	43.82	-82.19	1,915.41	-2,594.71	1,312.53	1,222.22	90.31	14.534		
10,100.00	7,272.00	9,252.88	7,109.52	48.74	45.94	-82.10	2,050.71	-2,589.75	1,308.44	1,215.17	93.27	14.028		
10,200.00	7,272.00	9,541.00	7,106.05	50.01	50.60	-81.66	2,335.06	-2,546.79	1,288.98	1,192.68	96.31	13.384		
10,300.00	7,272.00	9,572.00	7,105.86	51.29	51.08	-81.62	2,365.68	-2,541.99	1,271.76	1,172.53	99.23	12.817		
10,400.00	7,272.00	9,604.00	7,106.44	52.59	51.57	-81.63	2,397.51	-2,538.84	1,259.77	1,157.73	102.04	12.346		
10,500.00	7,272.00	9,654.02	7,108.72	53.90	52.37	-81.71	2,447.39	-2,535.83	1,252.11	1,147.32	104.79	11.949		
10,600.00	7,272.00	9,707.09	7,110.41	55.23	53.26	-81.77	2,500.41	-2,534.22	1,247.95	1,140.43	107.52	11.607		
10,657.92	7,272.00	9,737.02	7,110.64	56.00	53.76	-81.78	2,530.33	-2,534.16	1,247.32	1,138.27	109.05	11.438 CC		
10,698.35	7,272.00	9,761.00	7,110.84	56.54	54.16	-81.79	2,554.31	-2,534.53	1,247.58	1,137.46	110.12	11.329		
10,700.00	7,272.00	9,761.00	7,110.84	56.57	54.16	-81.79	2,554.31	-2,534.53	1,247.61	1,137.45	110.16	11.325		
10,758.58	7,272.00	9,799.54	7,111.72	57.36	54.79	-81.83	2,592.81	-2,535.79	1,248.27	1,136.55	111.72	11.173		
10,800.00	7,272.00	9,834.60	7,112.98	57.93	55.37	-81.90	2,627.81	-2,537.45	1,248.83	1,135.92	112.91	11.061		
10,900.00	7,272.00	9,940.50	7,117.11	59.31	57.16	-82.10	2,733.49	-2,542.93	1,250.62	1,134.59	116.03	10.779		
11,000.00	7,272.00	10,020.69	7,119.54	60.70	58.56	-82.22	2,813.55	-2,546.85	1,252.27	1,133.33	118.93	10.529		
11,100.00	7,272.00	10,126.38	7,117.31	62.10	60.42	-82.13	2,919.06	-2,552.19	1,254.75	1,132.61	122.14	10.273		
11,200.00	7,272.00	10,229.96	7,116.97	63.51	62.17	-82.13	3,022.53	-2,557.07	1,256.63	1,131.38	125.25	10.033		
11,300.00	7,272.00	10,334.45	7,117.65	64.93	63.98	-82.17	3,126.90	-2,561.93	1,258.33	1,129.90	128.43	9.798		
11,400.00	7,272.00	10,431.71	7,118.20	66.36	65.67	-82.21	3,224.06	-2,566.38	1,259.96	1,128.41	131.55	9.578		
11,500.00	7,272.00	10,527.76	7,118.27	67.79	67.39	-82.22	3,320.00	-2,570.97	1,261.86	1,127.15	134.71	9.367		
11,600.00	7,272.00	10,629.42	7,119.02	69.23	69.13	-82.27	3,421.52	-2,576.04	1,263.88	1,126.01	137.87	9.167		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BOYD 1N-32HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 25-ISCWSA MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
11,700.00	7,272.00	10,743.63	7,121.81	70.68	71.07	-82.41	3,535.58	-2,581.37	1,265.38	1,124.23	141.15	8.965		
11,800.00	7,272.00	10,872.77	7,124.10	72.14	73.35	-82.51	3,664.64	-2,584.91	1,265.05	1,120.43	144.62	8.747		
11,900.00	7,272.00	10,996.24	7,123.96	73.60	75.57	-82.48	3,788.11	-2,585.33	1,262.56	1,114.55	148.01	8.530		
12,000.00	7,272.00	11,088.97	7,122.55	75.06	77.23	-82.40	3,880.82	-2,584.94	1,259.52	1,108.33	151.19	8.331		
12,100.00	7,272.00	11,174.75	7,122.36	76.53	78.71	-82.38	3,966.60	-2,585.43	1,257.28	1,103.00	154.28	8.149		
12,200.00	7,272.00	11,265.53	7,123.15	78.01	80.28	-82.41	4,057.37	-2,586.93	1,255.98	1,098.58	157.40	7.979		
12,229.68	7,272.00	11,297.00	7,123.25	78.45	80.84	-82.41	4,088.83	-2,587.52	1,255.69	1,097.31	158.38	7.928 ES, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BOYD 26N-32HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 25-ISOWSA 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
4,600.00	4,483.00	4,503.53	4,487.04	21.67	10.23	52.22	-331.09	-2,096.94	1,414.09	1,384.35	29.74	47.549	
4,700.00	4,579.66	4,599.13	4,582.64	22.20	10.41	52.99	-331.59	-2,097.97	1,399.17	1,368.67	30.49	45.888	
4,800.00	4,676.32	4,715.46	4,698.96	22.74	10.63	53.95	-332.48	-2,098.82	1,384.17	1,352.95	31.23	44.326	
4,900.00	4,772.98	4,817.18	4,800.65	23.27	10.83	54.75	-334.74	-2,098.60	1,368.19	1,336.21	31.98	42.788	
5,000.00	4,869.65	4,914.85	4,898.31	23.81	11.02	55.56	-336.49	-2,098.20	1,352.38	1,319.65	32.74	41.312	
5,100.00	4,966.31	5,012.31	4,995.76	24.34	11.21	56.41	-337.80	-2,097.64	1,336.81	1,303.31	33.50	39.903	
5,200.00	5,062.97	5,106.91	5,090.35	24.88	11.40	57.26	-338.77	-2,097.06	1,321.59	1,287.30	34.28	38.549	
5,300.00	5,159.63	5,201.47	5,184.90	25.41	11.59	58.13	-339.59	-2,096.61	1,306.84	1,271.77	35.07	37.263	
5,400.00	5,256.30	5,296.02	5,279.45	25.95	11.78	59.03	-340.27	-2,096.27	1,292.59	1,256.73	35.86	36.042	
5,500.00	5,352.96	5,390.57	5,374.00	26.49	11.97	59.95	-340.79	-2,096.05	1,278.85	1,242.19	36.66	34.882	
5,600.00	5,449.62	5,470.53	5,453.96	27.02	12.13	60.72	-341.47	-2,096.57	1,266.19	1,228.71	37.49	33.777	
5,700.00	5,546.28	5,564.06	5,547.46	27.56	12.31	61.61	-342.60	-2,098.22	1,254.76	1,216.48	38.29	32.774	
5,800.00	5,642.95	5,660.60	5,643.99	28.09	12.49	62.55	-343.44	-2,099.86	1,243.74	1,204.66	39.08	31.823	
5,900.00	5,739.61	5,759.37	5,742.75	28.63	12.68	63.56	-343.85	-2,101.32	1,233.06	1,193.17	39.89	30.915	
6,000.00	5,836.27	5,858.23	5,841.60	29.17	12.88	64.62	-343.71	-2,102.37	1,222.61	1,181.92	40.69	30.045	
6,100.00	5,932.93	5,956.74	5,940.10	29.70	13.07	65.72	-343.03	-2,103.02	1,212.45	1,170.94	41.51	29.211	
6,200.00	6,029.60	6,055.17	6,038.53	30.24	13.27	66.87	-341.80	-2,103.25	1,202.62	1,160.30	42.32	28.415	
6,300.00	6,126.26	6,155.48	6,148.82	30.78	13.48	68.10	-342.14	-2,103.45	1,192.54	1,149.44	43.10	27.671	
6,400.00	6,222.92	6,252.83	6,246.17	31.31	13.68	69.17	-343.49	-2,103.61	1,182.42	1,138.51	43.91	26.931	
6,500.00	6,319.58	6,358.14	6,341.47	31.85	13.87	70.25	-344.52	-2,103.59	1,172.72	1,127.99	44.72	26.221	
6,600.00	6,416.25	6,446.98	6,430.32	32.39	14.05	71.29	-344.79	-2,103.63	1,163.92	1,118.34	45.57	25.539	
6,639.90	6,454.81	6,481.48	6,464.81	32.60	14.12	71.71	-344.63	-2,103.71	1,160.75	1,114.83	45.92	25.279	
6,650.00	6,464.59	6,490.21	6,473.54	32.66	14.14	69.31	-344.56	-2,103.73	1,159.94	1,113.94	46.00	25.214	
6,700.00	6,513.25	6,531.31	6,514.64	32.91	14.22	54.66	-344.08	-2,103.88	1,155.02	1,108.61	46.41	24.885	
6,750.00	6,562.18	6,582.95	6,566.26	33.13	14.29	35.98	-342.90	-2,103.94	1,148.86	1,102.05	46.81	24.542	
6,800.00	6,611.16	6,589.05	6,572.28	33.33	14.34	16.46	-341.02	-2,103.91	1,141.70	1,094.53	47.17	24.203	
6,850.00	6,659.93	6,619.00	6,602.00	33.50	14.40	-0.03	-337.32	-2,103.79	1,133.83	1,086.35	47.48	23.881	
6,900.00	6,708.27	6,637.89	6,620.63	33.64	14.44	-12.41	-334.17	-2,103.67	1,125.15	1,077.41	47.74	23.569	
6,950.00	6,755.93	6,686.00	6,668.14	33.75	14.50	-21.35	-328.42	-2,103.44	1,115.77	1,067.82	47.95	23.270	
7,000.00	6,802.69	6,688.05	6,669.53	33.85	14.55	-27.99	-323.07	-2,103.26	1,105.65	1,057.55	48.10	22.985	
7,050.00	6,848.32	6,713.00	6,693.52	33.92	14.60	-33.09	-316.21	-2,103.13	1,094.88	1,046.67	48.22	22.708	
7,100.00	6,892.59	6,746.12	6,724.98	33.97	14.67	-37.21	-305.89	-2,102.83	1,083.30	1,034.99	48.32	22.422	
7,150.00	6,935.29	6,778.03	6,754.87	34.01	14.74	-40.70	-294.74	-2,102.24	1,070.78	1,022.40	48.38	22.131	
7,200.00	6,976.21	6,808.00	6,782.58	34.02	14.81	-43.77	-283.33	-2,101.61	1,057.46	1,009.05	48.41	21.843	
7,250.00	7,015.15	6,833.51	6,805.77	34.02	14.87	-46.52	-272.74	-2,101.03	1,043.56	995.17	48.39	21.567	
7,300.00	7,051.93	6,855.00	6,824.94	34.00	14.92	-49.03	-263.04	-2,100.51	1,029.29	980.98	48.31	21.308	
7,350.00	7,086.36	6,882.89	6,849.22	33.96	15.00	-51.44	-249.34	-2,099.78	1,014.70	966.45	48.25	21.032	
7,400.00	7,118.27	6,902.00	6,865.41	33.91	15.05	-53.64	-239.20	-2,099.21	999.95	951.85	48.10	20.790	
7,450.00	7,147.51	6,934.41	6,892.06	33.85	15.14	-55.92	-220.81	-2,098.17	984.97	936.92	48.06	20.496	
7,500.00	7,173.94	6,949.00	6,903.74	33.78	15.19	-57.89	-212.07	-2,097.67	970.06	922.22	47.84	20.276	
7,550.00	7,197.43	6,976.73	6,925.24	33.69	15.28	-60.01	-194.57	-2,096.90	955.29	907.53	47.76	20.003	
7,600.00	7,217.86	6,997.00	6,940.28	33.60	15.35	-61.94	-180.99	-2,096.57	941.10	893.50	47.60	19.769	
7,650.00	7,235.14	7,018.03	6,955.32	33.50	15.43	-63.83	-166.29	-2,096.40	927.47	879.99	47.48	19.536	
7,700.00	7,249.18	7,044.00	6,973.11	33.40	15.53	-65.78	-147.38	-2,096.39	914.47	867.05	47.42	19.284	
7,750.00	7,259.91	7,069.15	6,989.59	33.29	15.63	-67.67	-128.39	-2,096.46	902.07	854.68	47.39	19.035	
7,800.00	7,267.28	7,098.70	7,008.07	33.18	15.77	-69.64	-105.33	-2,096.45	890.21	842.78	47.43	18.767	
7,850.00	7,271.25	7,126.34	7,024.34	33.07	15.91	-71.50	-82.99	-2,096.40	879.13	831.64	47.49	18.511	
7,883.14	7,272.00	7,138.00	7,030.89	33.00	15.97	-72.45	-73.34	-2,096.37	872.35	824.87	47.48	18.373	
7,900.00	7,272.00	7,152.59	7,038.79	32.97	16.06	-72.95	-61.08	-2,096.34	869.06	821.49	47.57	18.270	
8,000.00	7,272.00	7,211.44	7,067.33	32.76	16.43	-74.80	-9.64	-2,096.46	853.15	805.27	47.88	17.817	
8,100.00	7,272.00	7,280.00	7,093.98	32.58	16.94	-76.55	53.49	-2,096.28	841.78	793.34	48.44	17.376	
8,200.00	7,272.00	7,352.54	7,114.52	32.42	17.58	-77.91	123.03	-2,096.01	834.20	784.96	49.23	16.943	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - BOYD 26N-32HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 25-ISCWSA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,300.00	7,272.00	7,429.32	7,128.16	32.28	18.33	-78.82	198.54	-2,096.34	830.19	779.93	50.26	16.518	
8,400.00	7,272.00	7,523.68	7,133.15	32.17	19.37	-79.15	292.71	-2,095.86	827.93	776.22	51.71	16.012	
8,500.00	7,272.00	7,616.91	7,132.13	32.24	20.49	-79.06	385.92	-2,094.80	826.29	772.94	53.35	15.489	
8,600.00	7,272.00	7,712.14	7,129.24	32.87	21.73	-78.84	481.11	-2,094.00	825.31	770.13	55.18	14.957	
8,658.30	7,272.00	7,765.03	7,127.18	33.32	22.43	-78.69	533.95	-2,093.80	825.12	768.86	56.26	14.666	
8,700.00	7,272.00	7,804.54	7,125.57	33.66	22.95	-78.58	573.43	-2,093.87	825.21	768.16	57.05	14.464	
8,800.00	7,272.00	7,916.90	7,123.43	34.51	24.32	-78.41	685.77	-2,093.51	824.53	765.43	59.10	13.952	
8,900.00	7,272.00	8,015.33	7,123.74	35.41	25.55	-78.42	784.19	-2,093.12	823.34	762.27	61.07	13.483	
9,000.00	7,272.00	8,113.90	7,123.13	36.35	26.93	-78.37	882.76	-2,092.90	822.51	759.28	63.23	13.008	
9,100.00	7,272.00	8,215.49	7,124.09	37.32	28.35	-78.42	984.34	-2,092.77	821.46	756.00	65.47	12.547	
9,200.00	7,272.00	8,315.13	7,125.92	38.34	29.77	-78.53	1,083.97	-2,092.88	820.46	752.71	67.76	12.109	
9,300.00	7,272.00	8,412.88	7,126.97	39.39	31.31	-78.60	1,181.72	-2,092.88	819.52	749.32	70.20	11.674	
9,400.00	7,272.00	8,507.73	7,127.08	40.47	32.85	-78.60	1,276.56	-2,093.18	819.07	746.36	72.71	11.265	
9,415.36	7,272.00	8,522.20	7,127.06	40.64	33.08	-78.60	1,291.03	-2,093.27	819.07	745.97	73.10	11.205	
9,500.00	7,272.00	8,607.10	7,126.95	41.57	34.41	-78.59	1,375.93	-2,093.94	819.12	743.87	75.25	10.885	
9,600.00	7,272.00	8,708.98	7,127.46	42.71	35.95	-78.62	1,477.80	-2,094.65	818.97	741.19	77.77	10.530	
9,649.83	7,272.00	8,756.68	7,128.01	43.29	36.69	-78.66	1,525.50	-2,095.01	818.86	739.82	79.04	10.360	
9,700.00	7,272.00	8,802.59	7,128.08	43.87	37.42	-78.67	1,571.41	-2,095.49	818.99	738.68	80.32	10.197	
9,800.00	7,272.00	8,913.92	7,127.90	45.06	39.22	-78.66	1,682.72	-2,096.40	819.12	735.96	83.16	9.850	
9,900.00	7,272.00	9,024.87	7,128.08	46.27	41.00	-78.65	1,793.67	-2,095.51	817.57	731.52	86.05	9.501	
10,000.00	7,272.00	9,125.62	7,127.36	47.50	42.68	-78.56	1,894.40	-2,093.75	815.26	726.38	88.88	9.173	
10,100.00	7,272.00	9,219.16	7,128.40	48.74	44.20	-78.61	1,987.93	-2,092.93	813.44	721.80	91.64	8.876	
10,200.00	7,272.00	9,320.17	7,129.99	50.01	45.88	-78.70	2,088.93	-2,092.36	811.85	717.30	94.55	8.586	
10,300.00	7,272.00	9,418.10	7,131.26	51.29	47.53	-78.77	2,186.85	-2,091.79	810.29	712.83	97.46	8.314	
10,400.00	7,272.00	9,513.39	7,131.99	52.59	49.16	-78.81	2,282.13	-2,091.64	809.25	708.88	100.37	8.063	
10,500.00	7,272.00	9,610.09	7,132.09	53.90	50.85	-78.81	2,378.83	-2,091.74	808.60	705.25	103.35	7.824	
10,550.27	7,272.00	9,657.24	7,131.84	54.57	51.68	-78.79	2,425.98	-2,091.95	808.51	703.66	104.84	7.712	
10,600.00	7,272.00	9,704.52	7,131.37	55.23	52.52	-78.76	2,473.26	-2,092.30	808.59	702.27	106.32	7.605	
10,698.35	7,272.00	9,802.88	7,129.96	56.54	54.25	-78.66	2,571.60	-2,093.23	809.06	699.75	109.31	7.401	
10,700.00	7,272.00	9,804.68	7,129.92	56.57	54.28	-78.66	2,573.40	-2,093.24	809.07	699.70	109.36	7.398	
10,758.58	7,272.00	9,869.14	7,128.73	57.36	55.40	-78.56	2,637.85	-2,093.44	808.41	697.21	111.20	7.270	
10,800.00	7,272.00	9,917.63	7,128.06	57.93	56.20	-78.49	2,686.34	-2,093.24	807.19	694.71	112.49	7.176	
10,900.00	7,272.00	10,021.23	7,127.69	59.31	57.95	-78.41	2,789.93	-2,092.01	803.30	687.79	115.51	6.954	
11,000.00	7,272.00	10,122.08	7,127.60	60.70	59.67	-78.34	2,890.77	-2,090.95	799.50	680.96	118.55	6.744	
11,100.00	7,272.00	10,222.11	7,129.15	62.10	61.37	-78.40	2,990.79	-2,090.04	795.51	673.90	121.61	6.541	
11,200.00	7,272.00	10,322.95	7,129.94	63.51	63.16	-78.40	3,091.62	-2,088.96	791.51	666.77	124.74	6.345	
11,300.00	7,272.00	10,422.74	7,130.03	64.93	64.87	-78.34	3,191.39	-2,087.67	787.43	659.63	127.80	6.161	
11,400.00	7,272.00	10,528.10	7,130.64	66.36	66.64	-78.32	3,296.74	-2,086.08	783.05	652.17	130.88	5.983	
11,500.00	7,272.00	10,634.99	7,131.01	67.79	68.48	-78.26	3,403.60	-2,083.59	777.91	643.91	134.01	5.805	
11,600.00	7,272.00	10,737.89	7,131.46	69.23	70.25	-78.20	3,506.43	-2,079.99	771.59	634.50	137.10	5.628	
11,700.00	7,272.00	10,819.54	7,131.03	70.68	71.66	-78.10	3,588.06	-2,078.24	766.81	626.73	140.08	5.474	
11,800.00	7,272.00	10,909.68	7,131.00	72.14	73.21	-78.06	3,678.20	-2,078.03	763.78	620.68	143.10	5.337	
11,900.00	7,272.00	11,002.37	7,131.11	73.60	74.82	-78.04	3,770.89	-2,078.89	761.88	615.71	146.17	5.212	
12,000.00	7,272.00	11,097.41	7,130.36	75.06	76.53	-77.96	3,865.91	-2,080.31	760.72	611.42	149.30	5.095	
12,046.82	7,272.00	11,138.24	7,129.92	75.75	77.26	-77.93	3,906.73	-2,081.21	760.54	609.83	150.71	5.047	
12,100.00	7,272.00	11,184.86	7,129.49	76.53	78.09	-77.90	3,953.33	-2,082.66	760.77	608.48	152.30	4.995	
12,200.00	7,272.00	11,296.28	7,128.83	78.01	80.00	-77.84	4,064.70	-2,085.43	760.50	604.92	155.58	4.888	
12,229.68	7,272.00	11,321.28	7,128.77	78.45	80.44	-77.84	4,089.70	-2,086.05	760.40	603.95	156.46	4.860 CC, ES, SF	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - CHAPIN 34-4 - CPR WELL - GYRO												Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX												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	85.81	100.19	1,367.54	1,371.26				
100.00	100.00	75.03	75.03	0.14	0.06	85.81	100.15	1,367.87	1,371.58	1,371.39	0.20	6,986.006	
200.00	200.00	176.05	176.04	0.50	0.21	85.82	100.10	1,368.87	1,372.57	1,371.86	0.71	1,938.295	
300.00	300.00	280.29	280.29	0.85	0.40	85.81	100.27	1,369.51	1,373.19	1,371.94	1.25	1,097.291	
400.00	400.00	380.05	380.04	1.21	0.57	85.81	100.42	1,369.97	1,373.67	1,371.88	1.79	768.618	
500.00	500.00	490.45	490.44	1.57	0.77	85.81	100.46	1,370.20	1,373.88	1,371.54	2.34	587.860	
600.00	600.00	588.77	588.76	1.93	0.93	85.81	100.41	1,369.97	1,373.64	1,370.78	2.86	479.769	
604.21	604.21	592.86	592.85	1.94	0.94	-143.86	100.42	1,369.96	1,373.64	1,370.76	2.88	476.198 ES	
700.00	699.98	685.80	685.79	2.28	1.10	-143.89	100.53	1,369.94	1,375.03	1,371.66	3.38	407.239	
800.00	799.84	789.43	789.42	2.61	1.28	-143.98	100.59	1,369.92	1,379.25	1,375.36	3.89	354.132	
900.00	899.45	886.93	886.92	2.96	1.45	-144.11	100.75	1,369.77	1,386.18	1,381.77	4.41	314.377	
1,000.00	998.70	987.43	987.42	3.32	1.63	-144.29	100.86	1,369.70	1,396.03	1,391.09	4.94	282.783	
1,100.00	1,097.47	1,087.57	1,087.56	3.70	1.80	-144.51	100.59	1,369.55	1,408.63	1,403.16	5.47	257.414 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 13N-9HZ - KMG WELL - SURVEYS													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 +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
3,800.00	3,709.70	3,882.51	3,794.41	17.39	15.58	38.88	-540.42	-1,949.78	1,400.76	1,371.80	28.96	48.373		
3,900.00	3,806.36	3,958.52	3,870.24	17.93	15.74	39.56	-536.53	-1,946.44	1,376.05	1,346.30	29.75	46.251		
4,000.00	3,903.02	4,040.61	3,952.21	18.46	15.90	40.28	-533.14	-1,943.67	1,352.67	1,322.15	30.53	44.309		
4,100.00	3,999.68	4,118.67	4,030.22	18.99	16.02	40.94	-531.04	-1,941.92	1,330.68	1,299.39	31.29	42.524		
4,200.00	4,096.35	4,192.94	4,104.48	19.53	16.12	41.53	-530.21	-1,941.32	1,310.34	1,278.30	32.04	40.896		
4,300.00	4,193.01	4,281.63	4,193.17	20.06	16.23	42.24	-529.49	-1,941.87	1,291.57	1,258.80	32.77	39.408		
4,400.00	4,289.67	4,380.31	4,291.84	20.60	16.34	43.06	-528.61	-1,942.45	1,273.05	1,239.55	33.50	37.998		
4,500.00	4,386.33	4,476.38	4,387.91	21.13	16.46	43.88	-527.67	-1,942.92	1,254.69	1,220.45	34.24	36.640		
4,600.00	4,483.00	4,571.24	4,482.77	21.67	16.58	44.72	-526.75	-1,943.51	1,236.72	1,201.73	34.99	35.341		
4,700.00	4,579.66	4,666.16	4,577.68	22.20	16.69	45.58	-525.84	-1,944.23	1,219.17	1,183.42	35.75	34.102		
4,800.00	4,676.32	4,763.77	4,675.28	22.74	16.82	46.48	-524.83	-1,945.03	1,201.98	1,165.46	36.52	32.915		
4,900.00	4,772.98	4,862.41	4,773.91	23.27	16.95	47.45	-523.46	-1,945.64	1,184.94	1,147.64	37.29	31.773		
5,000.00	4,869.65	4,960.83	4,872.31	23.81	17.08	48.45	-521.74	-1,946.04	1,168.07	1,129.99	38.08	30.675		
5,100.00	4,966.31	5,063.45	4,974.90	24.34	17.25	49.55	-519.59	-1,946.08	1,151.26	1,112.38	38.88	29.610		
5,200.00	5,062.97	5,166.74	5,078.17	24.88	17.41	50.71	-517.15	-1,945.44	1,134.25	1,094.56	39.69	28.576		
5,300.00	5,159.63	5,269.63	5,181.01	25.41	17.58	51.92	-514.43	-1,944.09	1,117.07	1,076.56	40.51	27.574		
5,400.00	5,256.30	5,372.10	5,283.42	25.95	17.75	53.18	-511.44	-1,942.07	1,099.77	1,058.44	41.34	26.605		
5,500.00	5,352.96	5,465.25	5,376.51	26.49	17.91	54.37	-508.73	-1,940.10	1,082.84	1,040.63	42.21	25.655		
5,600.00	5,449.62	5,559.58	5,470.78	27.02	18.08	55.59	-506.13	-1,938.27	1,066.55	1,023.47	43.08	24.758		
5,700.00	5,546.28	5,654.05	5,565.21	27.56	18.25	56.85	-503.68	-1,936.61	1,050.92	1,006.97	43.95	23.909		
5,800.00	5,642.95	5,748.66	5,659.77	28.09	18.42	58.12	-501.39	-1,935.11	1,035.95	991.12	44.83	23.108		
5,900.00	5,739.61	5,840.43	5,751.52	28.63	18.56	59.38	-499.27	-1,933.96	1,021.82	976.11	45.71	22.354		
6,000.00	5,836.27	5,932.74	5,843.80	29.17	18.72	60.67	-497.23	-1,933.20	1,008.63	962.04	46.59	21.649		
6,100.00	5,932.93	6,025.25	5,936.29	29.70	18.87	61.98	-495.28	-1,932.83	996.37	948.91	47.47	20.991		
6,200.00	6,029.60	6,118.05	6,029.07	30.24	19.02	63.30	-493.40	-1,932.86	985.07	936.73	48.34	20.378		
6,300.00	6,126.26	6,215.18	6,126.18	30.78	19.17	64.71	-491.59	-1,933.09	974.50	925.32	49.18	19.813		
6,400.00	6,222.92	6,312.40	6,223.39	31.31	19.32	66.13	-490.00	-1,933.34	964.47	914.45	50.02	19.281		
6,500.00	6,319.58	6,409.70	6,320.68	31.85	19.48	67.57	-488.61	-1,933.59	954.99	904.13	50.85	18.779		
6,600.00	6,416.25	6,591.40	6,501.71	32.39	19.63	69.67	-497.89	-1,935.26	945.48	894.63	50.85	18.593		
6,639.90	6,454.81	6,641.64	6,550.53	32.60	19.56	69.74	-509.59	-1,936.57	938.30	887.45	50.84	18.454		
6,650.00	6,464.59	6,654.32	6,562.71	32.66	19.54	67.13	-513.09	-1,937.09	936.37	885.53	50.84	18.419		
6,700.00	6,513.25	6,721.49	6,625.93	32.91	19.40	51.05	-535.31	-1,941.10	925.31	874.63	50.68	18.256		
6,750.00	6,562.18	6,750.00	6,673.12	33.13	19.54	20.70	-725.66	-1,956.14	908.47	861.84	46.62	19.486		
6,800.00	6,611.16	7,109.80	6,914.55	33.33	17.88	-4.93	-783.65	-1,954.44	882.39	837.92	44.46	19.845		
6,850.00	6,659.93	7,135.43	6,927.98	33.50	17.78	-25.13	-805.47	-1,953.94	856.79	812.13	44.66	19.184		
6,900.00	6,708.27	7,155.11	6,937.92	33.64	17.71	-40.64	-822.45	-1,953.64	832.49	787.60	44.89	18.546		
6,950.00	6,755.93	7,174.33	6,947.32	33.75	17.63	-52.49	-839.21	-1,953.37	810.00	764.98	45.02	17.992		
7,000.00	6,802.69	7,187.64	6,953.67	33.85	17.58	-61.27	-850.91	-1,953.13	789.80	744.65	45.15	17.495		
7,050.00	6,848.32	7,194.81	6,957.03	33.92	17.56	-67.69	-857.24	-1,952.99	772.37	727.12	45.25	17.069		
7,100.00	6,892.59	7,196.81	6,957.96	33.97	17.55	-72.32	-859.01	-1,952.95	758.10	712.79	45.31	16.731		
7,150.00	6,935.29	7,194.45	6,956.86	34.01	17.56	-75.55	-856.92	-1,953.00	747.28	701.66	45.62	16.381		
7,200.00	6,976.21	7,188.41	6,954.03	34.02	17.58	-77.64	-851.59	-1,953.12	740.08	694.25	45.83	16.149		
7,250.00	7,015.15	7,179.22	6,949.67	34.02	17.61	-78.80	-843.50	-1,953.28	736.56	690.63	45.92	16.038		
7,273.26	7,032.54	7,174.01	6,947.17	34.01	17.63	-79.06	-838.93	-1,953.37	736.16	690.23	45.93	16.028 CC, ES, SF		
7,300.00	7,051.93	7,167.35	6,943.94	34.00	17.66	-79.17	-833.11	-1,953.47	736.67	690.77	45.91	16.046		
7,350.00	7,086.36	7,157.00	6,938.86	33.96	17.70	-79.15	-824.09	-1,953.62	740.30	694.56	45.74	16.184		
7,400.00	7,118.27	7,141.80	6,931.24	33.91	17.76	-78.34	-810.95	-1,953.84	747.26	701.71	45.56	16.402		
7,450.00	7,147.51	7,127.74	6,924.01	33.85	17.81	-77.22	-798.89	-1,954.08	757.33	712.03	45.30	16.719		
7,500.00	7,173.94	7,112.34	6,915.90	33.78	17.87	-75.68	-785.80	-1,954.38	770.17	725.15	45.03	17.105		
7,550.00	7,197.43	7,095.77	6,906.96	33.69	17.94	-73.77	-771.85	-1,954.76	785.46	740.69	44.77	17.544		
7,600.00	7,217.86	7,078.14	6,897.20	33.60	18.02	-71.57	-757.18	-1,955.22	802.84	758.29	44.55	18.021		
7,650.00	7,235.14	7,063.00	6,888.62	33.50	18.08	-69.33	-744.71	-1,955.65	821.97	777.59	44.38	18.521		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 13N-9HZ - KMG WELL - SURVEYS													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		
7,700.00	7,249.18	7,040.20	6,875.23	33.40	18.18	-66.52	-726.27	-1,956.29	842.46	798.17	44.29	19.021		
7,750.00	7,259.91	7,020.66	6,863.24	33.29	18.26	-63.81	-710.85	-1,956.74	864.04	819.78	44.26	19.521		
7,800.00	7,267.28	7,000.94	6,850.67	33.18	18.34	-61.04	-695.65	-1,957.10	886.43	842.13	44.30	20.010		
7,850.00	7,271.25	6,969.00	6,829.36	33.07	18.48	-57.75	-671.87	-1,957.51	909.51	865.17	44.35	20.509		
7,883.14	7,272.00	6,969.00	6,829.36	33.00	18.48	-56.48	-671.87	-1,957.51	924.76	880.25	44.51	20.775		
7,900.00	7,272.00	6,969.00	6,829.36	32.97	18.48	-56.48	-671.87	-1,957.51	932.75	888.14	44.61	20.908		
8,000.00	7,272.00	6,919.32	6,793.62	32.76	18.68	-54.41	-637.40	-1,956.83	982.54	937.57	44.97	21.849		
8,100.00	7,272.00	6,874.00	6,758.31	32.58	18.87	-52.37	-609.15	-1,954.22	1,037.38	991.98	45.40	22.851		
8,200.00	7,272.00	6,874.00	6,758.31	32.42	18.87	-52.37	-609.15	-1,954.22	1,096.96	1,050.73	46.22	23.731		
8,300.00	7,272.00	6,833.57	6,725.02	32.28	19.03	-50.51	-586.46	-1,950.91	1,160.42	1,113.68	46.74	24.827		
8,400.00	7,272.00	6,812.47	6,707.09	32.17	19.11	-49.53	-575.49	-1,949.06	1,228.04	1,180.64	47.40	25.909		
8,500.00	7,272.00	6,779.00	6,677.92	32.24	19.24	-47.99	-559.38	-1,945.96	1,299.28	1,251.34	47.94	27.103		
8,600.00	7,272.00	6,779.00	6,677.92	32.87	19.24	-47.99	-559.38	-1,945.96	1,373.08	1,324.41	48.67	28.212		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 34C-9HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISWWSA 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
3,700.00	3,613.03	3,879.99	3,791.99	16.86	15.72	37.55	-568.85	-1,904.65	1,386.66	1,358.84	27.81	49.858	
3,800.00	3,709.70	3,950.24	3,861.18	17.39	15.98	38.44	-559.01	-1,897.45	1,355.06	1,326.32	28.75	47.138	
3,900.00	3,806.36	4,023.79	3,933.71	17.93	16.23	39.41	-548.68	-1,890.94	1,325.32	1,295.62	29.70	44.629	
4,000.00	3,903.02	4,104.86	4,013.76	18.46	16.50	40.50	-537.56	-1,884.66	1,297.19	1,266.54	30.66	42.312	
4,100.00	3,999.68	4,195.40	4,103.36	18.99	16.79	41.71	-526.32	-1,878.07	1,270.15	1,238.54	31.61	40.179	
4,200.00	4,096.35	4,271.91	4,179.30	19.53	17.00	42.69	-518.62	-1,872.70	1,244.02	1,211.48	32.55	38.220	
4,300.00	4,193.01	4,339.73	4,246.79	20.06	17.17	43.53	-512.89	-1,869.33	1,220.26	1,186.79	33.47	36.455	
4,400.00	4,289.67	4,408.91	4,315.82	20.60	17.32	44.33	-508.86	-1,867.41	1,198.98	1,164.62	34.36	34.897	
4,500.00	4,386.33	4,497.12	4,403.98	21.13	17.44	45.21	-506.70	-1,866.42	1,179.50	1,144.34	35.16	33.545	
4,600.00	4,483.00	4,591.67	4,498.53	21.67	17.57	46.09	-506.44	-1,865.81	1,160.66	1,124.73	35.93	32.303	
4,700.00	4,579.66	4,686.70	4,593.56	22.20	17.69	47.02	-505.85	-1,865.28	1,142.23	1,105.52	36.71	31.118	
4,800.00	4,676.32	4,781.64	4,688.50	22.74	17.81	47.99	-504.90	-1,864.83	1,124.24	1,086.75	37.49	29.985	
4,900.00	4,772.98	4,876.48	4,783.32	23.27	17.93	49.01	-503.57	-1,864.47	1,106.74	1,068.45	38.29	28.903	
5,000.00	4,869.65	4,977.01	4,883.84	23.81	18.08	50.14	-501.87	-1,863.96	1,089.54	1,050.43	39.11	27.862	
5,100.00	4,966.31	5,078.25	4,985.06	24.34	18.24	51.32	-500.02	-1,862.94	1,072.29	1,032.37	39.93	26.857	
5,200.00	5,062.97	5,179.22	5,086.00	24.88	18.39	52.56	-498.04	-1,861.42	1,055.04	1,014.29	40.75	25.888	
5,300.00	5,159.63	5,279.92	5,186.66	25.41	18.55	53.84	-495.93	-1,859.40	1,037.81	996.22	41.59	24.954	
5,400.00	5,256.30	5,372.30	5,278.99	25.95	18.69	55.05	-494.09	-1,857.57	1,021.07	978.61	42.46	24.049	
5,500.00	5,352.96	5,465.78	5,372.45	26.49	18.84	56.29	-492.48	-1,856.01	1,005.09	961.76	43.33	23.197	
5,600.00	5,449.62	5,559.49	5,466.15	27.02	18.98	57.55	-491.11	-1,854.75	989.86	945.66	44.20	22.395	
5,700.00	5,546.28	5,653.51	5,560.15	27.56	19.13	58.84	-489.98	-1,853.80	975.39	930.32	45.07	21.642	
5,800.00	5,642.95	5,748.72	5,655.35	28.09	19.27	60.16	-488.96	-1,853.03	961.62	915.70	45.93	20.937	
5,900.00	5,739.61	5,843.99	5,750.61	28.63	19.40	61.52	-487.97	-1,852.40	948.53	901.74	46.79	20.273	
6,000.00	5,836.27	5,939.32	5,845.94	29.17	19.54	62.91	-487.01	-1,851.88	936.12	888.48	47.65	19.647	
6,100.00	5,932.93	6,034.72	5,941.33	29.70	19.68	64.33	-486.07	-1,851.49	924.42	875.92	48.50	19.058	
6,200.00	6,029.60	6,129.70	6,036.31	30.24	19.81	65.76	-485.25	-1,851.29	913.48	864.12	49.35	18.508	
6,300.00	6,126.26	6,224.87	6,131.48	30.78	19.95	67.22	-484.59	-1,851.33	903.31	853.11	50.20	17.995	
6,400.00	6,222.92	6,320.20	6,226.80	31.31	20.08	68.69	-484.09	-1,851.61	893.91	842.88	51.03	17.516	
6,500.00	6,319.58	6,415.74	6,322.34	31.85	20.22	70.17	-483.75	-1,852.13	885.30	833.44	51.86	17.072	
6,600.00	6,416.25	6,511.76	6,418.36	32.39	20.35	71.69	-483.42	-1,852.76	877.44	824.77	52.67	16.660	
6,639.90	6,454.81	6,550.06	6,456.66	32.60	20.40	72.30	-483.27	-1,853.03	874.51	821.52	52.99	16.504	
6,650.00	6,464.59	6,559.77	6,466.37	32.66	20.41	69.94	-483.23	-1,853.10	873.75	820.68	53.07	16.465	
6,700.00	6,513.25	6,608.74	6,515.34	32.91	20.48	55.53	-483.01	-1,853.44	868.91	815.48	53.43	16.262	
6,750.00	6,562.18	6,659.50	6,566.10	33.13	20.55	37.04	-482.75	-1,853.70	862.17	808.43	53.74	16.043	
6,800.00	6,611.16	6,726.44	6,633.03	33.33	20.62	17.57	-483.26	-1,853.98	853.25	799.39	53.86	15.842	
6,850.00	6,659.93	6,804.89	6,711.09	33.50	20.65	0.26	-490.45	-1,855.40	840.65	786.94	53.70	15.653	
6,900.00	6,708.27	6,863.60	6,768.75	33.64	20.62	-13.62	-501.09	-1,858.27	825.27	771.69	53.58	15.401	
6,950.00	6,755.93	6,911.28	6,890.18	33.75	20.39	-27.31	-539.29	-1,865.92	806.45	754.22	52.24	15.438	
7,000.00	6,802.69	7,177.69	7,050.17	33.85	19.82	-45.63	-633.65	-1,868.83	780.98	732.22	48.76	16.018	
7,050.00	6,848.32	7,260.32	7,111.17	33.92	19.53	-59.22	-689.24	-1,866.17	752.09	705.09	47.00	16.001	
7,100.00	6,892.59	7,281.37	7,125.44	33.97	19.43	-67.06	-704.69	-1,865.34	724.08	677.20	46.88	15.445	
7,150.00	6,935.29	7,294.51	7,134.05	34.01	19.38	-73.20	-714.60	-1,864.87	698.28	651.42	46.85	14.903	
7,200.00	6,976.21	7,300.85	7,138.12	34.02	19.36	-77.84	-719.46	-1,864.66	675.33	628.46	46.87	14.408	
7,250.00	7,015.15	7,302.26	7,139.02	34.02	19.35	-81.23	-720.54	-1,864.62	655.78	608.92	46.86	13.995	
7,300.00	7,051.93	7,299.98	7,137.57	34.00	19.36	-83.61	-718.79	-1,864.69	640.07	593.31	46.77	13.687	
7,350.00	7,086.36	7,294.92	7,134.31	33.96	19.38	-85.12	-714.91	-1,864.86	628.53	581.72	46.82	13.425	
7,400.00	7,118.27	7,287.69	7,129.61	33.91	19.41	-85.89	-709.43	-1,865.11	621.38	574.49	46.90	13.250	
7,450.00	7,147.51	7,278.77	7,123.70	33.85	19.45	-86.00	-702.75	-1,865.44	618.71	571.84	46.87	13.200 SF	
7,454.87	7,150.21	7,277.82	7,123.07	33.84	19.45	-85.98	-702.05	-1,865.47	618.69	571.82	46.87	13.201 CC, ES	
7,500.00	7,173.94	7,268.49	7,116.77	33.78	19.49	-85.53	-695.17	-1,865.84	620.48	573.72	46.77	13.268	
7,550.00	7,197.43	7,257.17	7,108.98	33.69	19.54	-84.54	-686.98	-1,866.30	626.52	579.92	46.60	13.444	
7,600.00	7,217.86	7,241.29	7,097.78	33.60	19.59	-82.75	-675.73	-1,866.95	636.51	590.04	46.47	13.696	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 34C-9HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 16-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	
7,650.00	7,235.14	7,224.77	7,085.83	33.50	19.65	-80.55	-664.34	-1,867.55	650.03	603.70	46.34	14.029	
7,700.00	7,249.18	7,207.73	7,073.20	33.40	19.71	-77.99	-652.92	-1,868.08	666.66	620.44	46.22	14.423	
7,750.00	7,259.91	7,190.26	7,059.92	33.29	19.77	-75.11	-641.58	-1,868.55	685.95	639.80	46.15	14.862	
7,800.00	7,267.28	7,172.42	7,046.04	33.18	19.84	-71.99	-630.39	-1,868.93	707.47	661.33	46.15	15.331	
7,850.00	7,271.25	7,153.29	7,030.80	33.07	19.91	-68.60	-618.82	-1,869.24	730.79	684.59	46.20	15.819	
7,883.14	7,272.00	7,139.75	7,019.82	33.00	19.95	-66.24	-610.90	-1,869.36	747.01	700.75	46.26	16.148	
7,900.00	7,272.00	7,132.94	7,014.24	32.97	19.97	-65.79	-606.99	-1,869.39	755.48	709.18	46.30	16.316	
8,000.00	7,272.00	7,096.23	6,983.50	32.76	20.09	-63.35	-586.93	-1,869.20	809.64	763.00	46.65	17.357	
8,100.00	7,272.00	7,068.00	6,959.16	32.58	20.18	-61.48	-572.65	-1,868.64	869.91	822.78	47.14	18.455	
8,200.00	7,272.00	7,040.90	6,935.25	32.42	20.25	-59.68	-559.93	-1,867.84	935.57	887.88	47.69	19.618	
8,300.00	7,272.00	7,019.69	6,916.17	32.28	20.31	-58.29	-550.68	-1,867.09	1,005.87	957.58	48.29	20.832	
8,400.00	7,272.00	7,001.12	6,899.24	32.17	20.36	-57.08	-543.10	-1,866.35	1,080.09	1,031.21	48.88	22.097	
8,500.00	7,272.00	6,973.00	6,873.20	32.24	20.44	-55.27	-532.57	-1,865.06	1,157.74	1,108.35	49.40	23.438	
8,600.00	7,272.00	6,973.00	6,873.20	32.87	20.44	-55.27	-532.57	-1,865.06	1,237.88	1,187.89	49.98	24.766	
8,700.00	7,272.00	6,973.00	6,873.20	33.66	20.44	-55.27	-532.57	-1,865.06	1,320.73	1,270.23	50.50	26.152	
8,800.00	7,272.00	6,941.67	6,843.73	34.51	20.49	-53.30	-522.06	-1,863.40	1,404.94	1,354.06	50.89	27.610	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 34N-9HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISWWSA 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
3,600.00	3,516.37	3,924.16	3,842.47	16.33	15.01	32.39	-689.32	-1,859.01	1,405.04	1,380.31	24.73	56.819	
3,700.00	3,613.03	4,001.23	3,916.60	16.86	15.40	33.47	-673.73	-1,844.84	1,362.19	1,336.52	25.67	53.067	
3,800.00	3,709.70	4,090.09	4,002.20	17.39	15.85	34.76	-656.31	-1,828.56	1,320.10	1,293.47	26.63	49.580	
3,900.00	3,806.36	4,203.67	4,111.67	17.93	16.43	36.44	-635.77	-1,806.33	1,277.81	1,250.26	27.55	46.378	
4,000.00	3,903.02	4,288.61	4,193.46	18.46	16.87	37.70	-621.90	-1,788.10	1,234.60	1,206.08	28.53	43.276	
4,100.00	3,999.68	4,358.40	4,260.85	18.99	17.21	38.79	-610.71	-1,773.79	1,192.87	1,163.30	29.57	40.339	
4,200.00	4,096.35	4,426.36	4,326.75	19.53	17.53	39.89	-600.24	-1,760.94	1,153.23	1,122.58	30.65	37.627	
4,300.00	4,193.01	4,509.51	4,407.67	20.06	17.90	41.25	-588.36	-1,745.95	1,115.15	1,083.44	31.70	35.174	
4,400.00	4,289.67	4,598.85	4,494.63	20.60	18.31	42.82	-575.53	-1,730.01	1,077.93	1,045.14	32.79	32.876	
4,500.00	4,386.33	4,670.69	4,564.54	21.13	18.63	44.18	-564.55	-1,717.64	1,042.10	1,008.12	33.98	30.668	
4,600.00	4,483.00	4,745.18	4,637.30	21.67	18.95	45.64	-553.58	-1,706.05	1,008.63	973.43	35.19	28.659	
4,700.00	4,579.66	4,826.05	4,716.50	22.20	19.28	47.29	-542.08	-1,694.38	977.16	940.74	36.42	26.833	
4,800.00	4,676.32	4,909.01	4,797.83	22.74	19.61	49.04	-530.51	-1,682.86	947.24	909.58	37.66	25.152	
4,900.00	4,772.98	4,982.22	4,869.99	23.27	19.88	50.56	-521.98	-1,673.95	919.72	880.80	38.92	23.630	
5,000.00	4,869.65	5,073.55	4,960.51	23.81	20.15	52.30	-514.85	-1,664.28	894.14	854.09	40.05	22.328	
5,100.00	4,966.31	5,139.53	5,026.16	24.34	20.31	53.48	-511.66	-1,658.52	870.70	829.47	41.23	21.118	
5,200.00	5,062.97	5,208.20	5,094.69	24.88	20.45	54.66	-509.02	-1,655.09	851.17	808.81	42.36	20.093	
5,300.00	5,159.63	5,287.27	5,173.73	25.41	20.57	55.92	-507.71	-1,653.62	834.77	791.39	43.39	19.239	
5,400.00	5,256.30	5,384.31	5,270.77	25.95	20.70	57.45	-506.80	-1,652.73	819.72	775.40	44.32	18.494	
5,500.00	5,352.96	5,481.26	5,367.71	26.49	20.84	59.04	-505.77	-1,651.71	805.20	759.94	45.26	17.789	
5,600.00	5,449.62	5,578.11	5,464.54	27.02	20.97	60.70	-504.62	-1,650.58	791.27	745.06	46.21	17.123	
5,700.00	5,546.28	5,675.24	5,561.65	27.56	21.10	62.43	-503.35	-1,649.31	777.97	730.81	47.16	16.496	
5,800.00	5,642.95	5,773.53	5,659.93	28.09	21.23	64.22	-502.39	-1,647.94	765.21	717.11	48.10	15.910	
5,900.00	5,739.61	5,871.96	5,758.35	28.63	21.37	66.04	-501.92	-1,646.48	752.94	703.91	49.02	15.359	
6,000.00	5,836.27	5,970.53	5,856.91	29.17	21.51	67.88	-501.95	-1,644.93	741.15	691.22	49.93	14.843	
6,100.00	5,932.93	6,069.23	5,955.59	29.70	21.64	69.75	-502.48	-1,643.29	729.86	679.03	50.83	14.358	
6,200.00	6,029.60	6,161.81	6,048.17	30.24	21.76	71.56	-502.74	-1,641.93	719.64	667.88	51.76	13.904	
6,300.00	6,126.26	6,256.20	6,142.55	30.78	21.89	73.46	-502.83	-1,640.68	710.49	657.83	52.66	13.493	
6,400.00	6,222.92	6,350.65	6,236.98	31.31	22.01	75.41	-502.75	-1,639.65	702.50	648.96	53.54	13.122	
6,500.00	6,319.58	6,445.47	6,331.81	31.85	22.13	77.36	-503.01	-1,639.15	695.67	641.29	54.38	12.793	
6,600.00	6,416.25	6,575.62	6,461.86	32.39	22.26	79.82	-506.83	-1,639.22	688.94	634.14	54.80	12.571	
6,639.90	6,454.81	6,626.16	6,512.10	32.60	22.27	80.54	-512.27	-1,639.36	684.42	629.53	54.89	12.469	
6,650.00	6,464.59	6,636.79	6,522.64	32.66	22.27	78.14	-513.64	-1,639.49	683.20	628.26	54.94	12.436	
6,700.00	6,513.25	6,689.63	6,574.88	32.91	22.26	63.33	-521.44	-1,640.79	675.63	620.50	55.13	12.255	
6,750.00	6,562.18	6,756.66	6,640.62	33.13	22.20	44.10	-534.18	-1,643.41	665.00	610.04	54.96	12.099	
6,800.00	6,611.16	6,828.80	6,710.49	33.33	22.11	23.23	-551.85	-1,646.67	650.73	596.20	54.53	11.933	
6,850.00	6,659.93	6,908.82	6,786.43	33.50	21.96	4.10	-576.73	-1,650.07	632.42	578.66	53.76	11.763	
6,900.00	6,708.27	7,024.73	6,889.76	33.64	21.64	-14.74	-628.52	-1,655.92	609.45	557.73	51.72	11.783	
6,950.00	6,755.93	7,153.95	6,990.20	33.75	21.20	-36.06	-709.30	-1,657.52	579.71	531.62	48.09	12.054	
7,000.00	6,802.69	7,210.16	7,027.01	33.85	20.97	-51.56	-751.75	-1,657.00	548.14	501.40	46.74	11.728	
7,050.00	6,848.32	7,236.69	7,042.52	33.92	20.87	-62.38	-773.26	-1,656.70	517.88	471.42	46.46	11.147	
7,100.00	6,892.59	7,248.40	7,048.97	33.97	20.82	-69.86	-783.03	-1,656.55	490.47	443.87	46.61	10.524	
7,150.00	6,935.29	7,251.76	7,050.78	34.01	20.81	-74.97	-785.86	-1,656.51	466.94	420.11	46.83	9.971	
7,200.00	6,976.21	7,250.01	7,049.84	34.02	20.82	-78.34	-784.39	-1,656.53	448.13	401.11	47.02	9.531	
7,250.00	7,015.15	7,244.94	7,047.09	34.02	20.83	-80.34	-780.12	-1,656.59	434.71	387.29	47.42	9.166	
7,300.00	7,051.93	7,237.58	7,043.02	34.00	20.86	-81.25	-773.99	-1,656.68	427.17	379.65	47.51	8.990	
7,337.00	7,077.64	7,231.06	7,039.33	33.97	20.89	-81.31	-768.62	-1,656.76	425.50	378.13	47.36	8.983 CC, ES, SF	
7,350.00	7,086.36	7,228.59	7,037.92	33.96	20.90	-81.22	-766.60	-1,656.79	425.70	378.43	47.27	9.005	
7,400.00	7,118.27	7,218.40	7,031.96	33.91	20.94	-80.39	-758.33	-1,656.91	430.24	383.47	46.77	9.200	
7,450.00	7,147.51	7,207.31	7,025.26	33.85	20.98	-78.84	-749.49	-1,657.03	440.41	394.30	46.11	9.552	
7,500.00	7,173.94	7,195.51	7,017.91	33.78	21.03	-76.66	-740.26	-1,657.15	455.63	410.20	45.43	10.030	
7,550.00	7,197.43	7,183.17	7,009.97	33.69	21.08	-73.93	-730.81	-1,657.28	475.19	430.35	44.84	10.598	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 34N-9HZ - KMG WELL - SURVEYS													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		
7,600.00	7,217.86	7,165.00	6,997.83	33.60	21.16	-70.11	-717.30	-1,657.44	498.40	454.03	44.37	11.234		
7,650.00	7,235.14	7,156.40	6,991.91	33.50	21.19	-67.07	-711.06	-1,657.50	524.38	480.20	44.18	11.868		
7,700.00	7,249.18	7,141.47	6,981.39	33.40	21.24	-63.09	-700.47	-1,657.57	552.57	508.44	44.14	12.520		
7,750.00	7,259.91	7,126.25	6,970.36	33.29	21.30	-58.97	-689.98	-1,657.58	582.35	538.09	44.26	13.159		
7,800.00	7,267.28	7,110.00	6,958.25	33.18	21.36	-54.76	-679.14	-1,657.52	613.22	568.72	44.50	13.780		
7,850.00	7,271.25	7,095.07	6,946.84	33.07	21.42	-50.74	-669.52	-1,657.41	644.76	599.88	44.89	14.365		
7,883.14	7,272.00	7,084.56	6,938.65	33.00	21.46	-48.10	-662.94	-1,657.30	665.87	620.70	45.17	14.740		
7,900.00	7,272.00	7,073.00	6,929.49	32.97	21.50	-47.33	-655.89	-1,657.15	676.77	631.57	45.20	14.971		
8,000.00	7,272.00	7,048.36	6,909.49	32.76	21.57	-45.70	-641.51	-1,656.65	744.18	697.91	46.27	16.083		
8,100.00	7,272.00	7,020.88	6,886.50	32.58	21.65	-43.91	-626.48	-1,655.77	816.29	769.07	47.22	17.288		
8,200.00	7,272.00	6,976.00	6,847.55	32.42	21.80	-41.05	-604.32	-1,653.59	892.82	845.00	47.82	18.670		
8,300.00	7,272.00	6,976.00	6,847.55	32.28	21.80	-41.05	-604.32	-1,653.59	971.48	922.53	48.95	19.846		
8,400.00	7,272.00	6,976.00	6,847.55	32.17	21.80	-41.05	-604.32	-1,653.59	1,053.77	1,003.89	49.87	21.129		
8,500.00	7,272.00	6,943.67	6,818.52	32.24	21.88	-39.07	-590.21	-1,651.79	1,137.59	1,087.21	50.37	22.583		
8,600.00	7,272.00	6,929.84	6,805.88	32.87	21.91	-38.27	-584.64	-1,651.08	1,223.67	1,172.72	50.95	24.016		
8,700.00	7,272.00	6,917.33	6,794.34	33.66	21.94	-37.55	-579.85	-1,650.47	1,311.33	1,259.87	51.46	25.484		
8,800.00	7,272.00	6,881.00	6,760.29	34.51	22.03	-35.57	-567.30	-1,648.87	1,401.06	1,349.29	51.77	27.061		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 35N1-9HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISWWSA 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
3,000.00	2,936.40	3,500.50	3,378.70	13.15	16.50	24.68	-757.27	-1,661.72	1,401.78	1,381.67	20.11	69.706	
3,100.00	3,033.06	3,580.63	3,454.68	13.68	16.99	25.44	-743.44	-1,640.37	1,349.47	1,328.62	20.86	64.701	
3,200.00	3,129.72	3,657.23	3,527.39	14.21	17.45	26.24	-729.95	-1,620.39	1,297.75	1,276.12	21.63	59.985	
3,300.00	3,226.38	3,746.58	3,612.13	14.74	17.99	27.29	-713.48	-1,597.36	1,246.32	1,223.89	22.43	55.562	
3,400.00	3,323.05	3,826.74	3,688.07	15.27	18.48	28.35	-698.04	-1,576.83	1,195.12	1,171.84	23.28	51.329	
3,500.00	3,419.71	3,925.09	3,781.16	15.80	19.09	29.75	-679.17	-1,551.29	1,144.03	1,119.90	24.13	47.403	
3,600.00	3,516.37	3,991.72	3,844.11	16.33	19.49	30.79	-666.14	-1,533.80	1,093.07	1,067.96	25.11	43.536	
3,700.00	3,613.03	4,069.66	3,918.11	16.86	19.97	32.14	-650.61	-1,514.92	1,044.15	1,018.04	26.11	39.986	
3,800.00	3,709.70	4,173.91	4,016.90	17.39	20.60	33.97	-631.90	-1,487.39	994.31	967.25	27.05	36.754	
3,900.00	3,806.36	4,257.43	4,095.98	17.93	21.11	35.53	-617.74	-1,464.54	944.45	916.35	28.10	33.605	
4,000.00	3,903.02	4,335.76	4,170.21	18.46	21.59	37.14	-604.50	-1,443.33	895.50	866.25	29.25	30.614	
4,100.00	3,999.68	4,410.48	4,241.20	18.99	22.04	38.82	-591.92	-1,423.72	848.01	817.51	30.50	27.800	
4,200.00	4,096.35	4,471.78	4,299.73	19.53	22.38	40.33	-581.50	-1,408.77	803.00	771.08	31.92	25.153	
4,300.00	4,193.01	4,532.34	4,357.95	20.06	22.69	41.95	-571.02	-1,395.80	761.64	728.19	33.44	22.774	
4,400.00	4,289.67	4,593.00	4,416.83	20.60	22.98	43.61	-561.41	-1,384.86	724.54	689.52	35.02	20.690	
4,500.00	4,386.33	4,673.64	4,495.63	21.13	23.32	45.88	-549.70	-1,372.37	691.04	654.47	36.57	18.898	
4,600.00	4,483.00	4,753.21	4,573.66	21.67	23.63	48.21	-539.16	-1,360.89	659.87	621.71	38.16	17.292	
4,700.00	4,579.66	4,837.48	4,656.86	22.20	23.92	50.57	-531.05	-1,350.32	631.51	591.80	39.71	15.904	
4,800.00	4,676.32	4,924.89	4,743.32	22.74	24.19	53.13	-523.35	-1,340.01	605.11	563.84	41.27	14.664	
4,900.00	4,772.98	5,007.77	4,825.63	23.27	24.41	55.47	-518.62	-1,331.58	581.03	538.23	42.80	13.575	
5,000.00	4,869.65	5,085.77	4,903.42	23.81	24.57	57.48	-516.82	-1,326.44	560.65	516.38	44.27	12.665	
5,100.00	4,966.31	5,175.74	4,993.33	24.34	24.69	59.53	-518.05	-1,323.21	543.06	497.55	45.51	11.933	
5,200.00	5,062.97	5,262.05	5,079.60	24.88	24.76	61.45	-520.22	-1,321.80	527.71	480.98	46.73	11.294	
5,300.00	5,159.63	5,357.64	5,175.16	25.41	24.84	63.71	-521.99	-1,321.14	514.25	466.35	47.89	10.738	
5,400.00	5,256.30	5,453.69	5,271.20	25.95	24.92	66.09	-523.73	-1,320.62	501.82	452.77	49.06	10.229	
5,500.00	5,352.96	5,549.79	5,367.28	26.49	25.00	68.58	-525.42	-1,320.24	490.50	440.29	50.21	9.768	
5,600.00	5,449.62	5,646.07	5,463.55	27.02	25.09	71.19	-526.97	-1,319.93	480.34	428.97	51.36	9.352	
5,700.00	5,546.28	5,742.29	5,559.76	27.56	25.18	73.92	-528.28	-1,319.62	471.40	418.90	52.49	8.980	
5,800.00	5,642.95	5,838.42	5,655.89	28.09	25.27	76.76	-529.36	-1,319.30	463.77	410.19	53.58	8.655	
5,900.00	5,739.61	5,934.54	5,752.00	28.63	25.36	79.71	-530.20	-1,318.99	457.56	402.94	54.62	8.377	
6,000.00	5,836.27	6,031.32	5,848.78	29.17	25.46	82.76	-530.90	-1,318.62	452.74	397.14	55.60	8.143	
6,100.00	5,932.93	6,128.03	5,945.48	29.70	25.55	85.89	-531.49	-1,318.14	449.31	392.81	56.50	7.953	
6,200.00	6,029.60	6,224.66	6,042.11	30.24	25.65	89.06	-531.99	-1,317.55	447.32	390.02	57.30	7.806	
6,275.79	6,102.86	6,297.30	6,114.75	30.65	25.73	91.45	-532.36	-1,317.20	446.86	389.00	57.86	7.724	
6,300.00	6,126.26	6,320.55	6,138.00	30.78	25.75	92.21	-532.48	-1,317.12	446.90	388.88	58.02	7.703	
6,400.00	6,222.92	6,416.65	6,234.10	31.31	25.85	95.33	-533.01	-1,316.95	448.08	389.45	58.63	7.642	
6,500.00	6,319.58	6,525.93	6,343.36	31.85	25.95	98.78	-534.18	-1,317.10	450.56	391.58	58.97	7.640	
6,600.00	6,416.25	6,766.09	6,575.63	32.39	25.79	102.99	-588.17	-1,318.54	435.78	380.87	54.91	7.937	
6,639.90	6,454.81	6,824.14	6,627.98	32.60	25.66	103.22	-613.22	-1,319.18	422.80	368.69	54.11	7.814	
6,650.00	6,464.59	6,837.77	6,640.04	32.66	25.62	100.62	-619.56	-1,319.50	419.21	365.27	53.94	7.772	
6,700.00	6,513.25	6,908.39	6,700.96	32.91	25.43	84.39	-655.16	-1,321.87	398.24	345.51	52.73	7.552	
6,750.00	6,562.18	6,981.26	6,760.82	33.13	25.21	62.87	-696.65	-1,323.48	371.43	320.53	50.90	7.297	
6,800.00	6,611.16	7,056.36	6,817.69	33.33	24.98	37.69	-745.63	-1,324.03	338.48	290.37	48.10	7.037	
6,850.00	6,659.93	7,099.76	6,847.99	33.50	24.84	14.15	-776.70	-1,324.09	301.35	254.03	47.32	6.368	
6,900.00	6,708.27	7,133.12	6,870.31	33.64	24.73	-7.26	-801.48	-1,324.29	262.56	215.42	47.14	5.569	
6,950.00	6,755.93	7,159.65	6,887.45	33.75	24.65	-26.99	-821.73	-1,324.55	223.42	176.05	47.37	4.716	
7,000.00	6,802.69	7,180.86	6,900.71	33.85	24.57	-44.85	-838.28	-1,324.82	185.77	137.92	47.85	3.882	
7,050.00	6,848.32	7,195.87	6,909.83	33.92	24.52	-59.08	-850.20	-1,325.02	152.70	104.23	48.46	3.151	
7,100.00	6,892.59	7,205.63	6,915.64	33.97	24.49	-68.91	-858.05	-1,325.16	129.52	80.69	48.83	2.652	
7,141.16	6,927.86	7,210.33	6,918.40	34.00	24.48	-73.77	-861.85	-1,325.23	122.78	75.18	47.60	2.579 CC, ES, SF	
7,150.00	6,935.29	7,210.99	6,918.79	34.01	24.47	-74.45	-862.38	-1,325.24	123.10	76.05	47.06	2.616	
7,200.00	6,976.21	7,212.62	6,919.74	34.02	24.47	-76.08	-863.71	-1,325.27	136.33	93.05	43.28	3.150	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - ENGLISH FARMS 35N1-9HZ - KMG WELL - SURVEYS													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		
7,250.00	7,015.15	7,211.11	6,918.86	34.02	24.47	-74.18	-862.48	-1,325.25	164.60	123.88	40.72	4.043		
7,300.00	7,051.93	7,206.94	6,916.41	34.00	24.49	-69.13	-859.10	-1,325.18	201.50	161.58	39.92	5.047		
7,350.00	7,086.36	7,200.49	6,912.60	33.96	24.51	-61.51	-853.91	-1,325.09	242.84	202.79	40.05	6.064		
7,400.00	7,118.27	7,192.10	6,907.57	33.91	24.54	-52.37	-847.19	-1,324.97	286.34	245.81	40.54	7.064		
7,450.00	7,147.51	7,182.04	6,901.44	33.85	24.57	-43.03	-839.21	-1,324.83	330.77	289.61	41.16	8.036		
7,500.00	7,173.94	7,170.54	6,894.32	33.78	24.61	-34.56	-830.19	-1,324.68	375.40	333.56	41.84	8.973		
7,550.00	7,197.43	7,160.00	6,887.68	33.69	24.65	-27.79	-822.00	-1,324.56	419.78	377.09	42.69	9.833		
7,600.00	7,217.86	7,142.82	6,876.64	33.60	24.70	-21.68	-808.83	-1,324.38	463.53	420.36	43.17	10.737		
7,650.00	7,235.14	7,126.84	6,866.17	33.50	24.75	-17.17	-796.76	-1,324.24	506.44	462.62	43.82	11.558		
7,700.00	7,249.18	7,109.84	6,854.82	33.40	24.80	-13.65	-784.11	-1,324.14	548.31	503.84	44.47	12.331		
7,750.00	7,259.91	7,091.93	6,842.63	33.29	24.86	-10.89	-771.00	-1,324.06	588.97	543.86	45.11	13.055		
7,800.00	7,267.28	7,065.00	6,823.84	33.18	24.96	-8.52	-751.70	-1,324.03	628.41	583.01	45.40	13.842		
7,850.00	7,271.25	7,065.00	6,823.84	33.07	24.96	-7.04	-751.70	-1,324.03	666.40	619.55	46.85	14.224		
7,883.14	7,272.00	7,065.00	6,823.84	33.00	24.96	-6.11	-751.70	-1,324.03	691.28	643.54	47.74	14.481		
7,900.00	7,272.00	7,039.65	6,805.55	32.97	25.03	-5.86	-734.15	-1,324.00	702.99	655.73	47.26	14.875		
8,000.00	7,272.00	7,009.37	6,782.79	32.76	25.12	-5.56	-714.18	-1,323.80	777.98	729.32	48.66	15.989		
8,100.00	7,272.00	6,970.00	6,751.80	32.58	25.25	-5.16	-689.92	-1,323.31	856.14	806.61	49.53	17.287		
8,200.00	7,272.00	6,970.00	6,751.80	32.42	25.25	-5.16	-689.92	-1,323.31	936.61	885.50	51.10	18.328		
8,300.00	7,272.00	6,927.11	6,716.65	32.28	25.37	-4.73	-665.37	-1,322.41	1,018.66	967.11	51.55	19.761		
8,400.00	7,272.00	6,901.66	6,695.27	32.17	25.45	-4.48	-651.57	-1,321.66	1,102.54	1,050.33	52.22	21.114		
8,500.00	7,272.00	6,875.00	6,672.49	32.24	25.53	-4.21	-637.76	-1,320.70	1,187.85	1,135.08	52.77	22.511		
8,600.00	7,272.00	6,875.00	6,672.49	32.87	25.53	-4.21	-637.76	-1,320.70	1,274.68	1,221.15	53.53	23.811		
8,700.00	7,272.00	6,836.66	6,639.06	33.66	25.62	-3.87	-619.04	-1,319.47	1,362.00	1,308.22	53.78	25.324		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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											S4-T1N-R65W - ENGLISH FARMS 38N-8HZ - KMG WELL - SURVEYS		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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
6,800.00	6,611.16	8,873.24	7,136.14	33.33	19.13	-19.97	-995.80	-2,453.57	1,412.77	1,367.90	44.87	31.486			
6,850.00	6,659.93	8,867.06	7,136.25	33.50	19.12	-38.28	-989.62	-2,453.74	1,386.48	1,341.12	45.36	30.569			
6,900.00	6,708.27	8,857.20	7,136.44	33.64	19.11	-51.97	-979.77	-2,454.01	1,361.79	1,315.99	45.81	29.729			
6,950.00	6,755.93	8,843.72	7,136.69	33.75	19.10	-61.80	-966.29	-2,454.38	1,338.85	1,292.63	46.22	28.967			
7,000.00	6,802.69	8,826.69	7,137.01	33.85	19.09	-68.87	-949.27	-2,454.83	1,317.75	1,271.16	46.60	28.281			
7,050.00	6,848.32	8,806.20	7,137.39	33.92	19.07	-74.00	-928.80	-2,455.35	1,298.57	1,251.64	46.93	27.671			
7,100.00	6,892.59	8,782.37	7,137.83	33.97	19.05	-77.73	-904.97	-2,455.93	1,281.33	1,234.11	47.22	27.134			
7,150.00	6,935.29	8,756.02	7,138.30	34.01	19.06	-80.46	-878.63	-2,456.54	1,266.02	1,218.52	47.50	26.653			
7,200.00	6,976.21	8,727.29	7,138.74	34.02	19.09	-82.44	-849.92	-2,457.21	1,252.62	1,204.86	47.76	26.227			
7,250.00	7,015.15	8,695.95	7,139.13	34.02	19.13	-83.81	-818.59	-2,457.94	1,241.08	1,193.09	47.99	25.862			
7,300.00	7,051.93	8,662.07	7,139.46	34.00	19.19	-84.70	-784.72	-2,458.73	1,231.29	1,183.08	48.21	25.542			
7,350.00	7,086.36	8,625.60	7,139.79	33.96	19.29	-85.22	-748.26	-2,459.56	1,223.14	1,174.71	48.43	25.253			
7,400.00	7,118.27	8,586.77	7,140.14	33.91	19.40	-85.44	-709.44	-2,460.44	1,216.48	1,167.84	48.64	25.008			
7,450.00	7,147.51	8,546.19	7,140.49	33.85	19.55	-85.45	-668.87	-2,461.34	1,211.17	1,162.30	48.87	24.784			
7,500.00	7,173.94	8,503.78	7,140.79	33.78	19.70	-85.30	-626.48	-2,462.28	1,207.04	1,157.95	49.09	24.589			
7,550.00	7,197.43	8,460.07	7,141.04	33.69	19.91	-85.05	-582.78	-2,463.25	1,203.95	1,154.60	49.35	24.397			
7,600.00	7,217.86	8,415.11	7,141.23	33.60	20.16	-84.74	-537.83	-2,464.26	1,201.76	1,152.12	49.63	24.213			
7,650.00	7,235.14	8,367.60	7,141.36	33.50	20.46	-84.39	-490.33	-2,465.34	1,200.31	1,150.32	49.99	24.012			
7,700.00	7,249.18	8,317.80	7,141.43	33.40	20.83	-84.03	-440.55	-2,466.40	1,199.40	1,148.99	50.41	23.792			
7,750.00	7,259.91	8,266.55	7,141.46	33.29	21.25	-83.72	-389.30	-2,467.39	1,198.90	1,148.02	50.89	23.559			
7,800.00	7,267.28	8,217.48	7,141.45	33.18	21.64	-83.50	-340.24	-2,468.22	1,198.68	1,147.34	51.33	23.350			
7,822.74	7,269.51	8,186.67	7,141.45	33.13	21.97	-83.40	-309.44	-2,468.68	1,198.65	1,146.92	51.73	23.171			
7,850.00	7,271.25	8,149.74	7,140.96	33.07	22.37	-83.30	-272.50	-2,468.91	1,198.51	1,146.30	52.20	22.958			
7,883.14	7,272.00	8,105.64	7,139.67	33.00	22.86	-83.23	-228.42	-2,468.70	1,198.15	1,145.38	52.77	22.705			
7,900.00	7,272.00	8,088.72	7,139.04	32.97	23.05	-83.19	-211.52	-2,468.53	1,197.93	1,144.94	52.99	22.605			
8,000.00	7,272.00	7,987.33	7,135.36	32.76	24.21	-83.01	-110.20	-2,467.48	1,196.60	1,142.25	54.35	22.015			
8,100.00	7,272.00	7,888.66	7,130.97	32.58	25.29	-82.79	-11.64	-2,466.16	1,195.08	1,139.36	55.72	21.448			
8,200.00	7,272.00	7,794.66	7,121.07	32.42	26.39	-82.30	81.80	-2,464.81	1,194.27	1,137.10	57.17	20.891			
8,296.42	7,272.00	7,705.45	7,104.10	32.29	27.47	-81.48	169.30	-2,462.24	1,193.43	1,134.72	58.72	20.326 CC			
8,300.00	7,272.00	7,703.22	7,103.53	32.28	27.50	-81.45	171.46	-2,462.17	1,193.43	1,134.67	58.76	20.310 ES			
8,400.00	7,272.00	7,643.38	7,084.28	32.17	28.22	-80.52	228.05	-2,460.60	1,195.32	1,135.19	60.13	19.880			
8,500.00	7,272.00	7,592.16	7,062.74	32.24	28.82	-79.50	274.50	-2,459.92	1,201.24	1,139.80	61.44	19.550			
8,600.00	7,272.00	7,540.00	7,037.35	32.87	29.44	-78.31	320.05	-2,460.31	1,211.82	1,149.00	62.82	19.290			
8,700.00	7,272.00	7,517.00	7,025.20	33.66	29.70	-77.75	339.57	-2,460.90	1,227.48	1,163.67	63.81	19.238			
8,800.00	7,272.00	7,464.75	6,996.11	34.51	30.28	-76.43	382.88	-2,463.53	1,248.00	1,182.83	65.17	19.149			
8,900.00	7,272.00	7,405.09	6,960.34	35.41	30.92	-74.84	430.42	-2,467.82	1,273.43	1,206.85	66.58	19.126			
9,000.00	7,272.00	7,330.45	6,911.57	36.35	31.70	-72.71	486.79	-2,471.25	1,301.61	1,233.54	68.07	19.122 SF			
9,100.00	7,272.00	7,266.77	6,867.33	37.32	32.34	-70.80	532.57	-2,472.90	1,332.94	1,263.65	69.28	19.239			
9,200.00	7,272.00	7,222.00	6,834.97	38.34	32.77	-69.43	563.49	-2,473.68	1,368.01	1,297.82	70.19	19.491			
9,300.00	7,272.00	7,183.31	6,806.09	39.39	33.13	-68.23	589.22	-2,474.50	1,407.37	1,336.44	70.93	19.841			

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 11-4 - CPR WELL - GYRO													Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
10,800.00	7,272.00	7,285.20	7,283.95	57.93	12.66	105.09	4,094.64	-1,264.85	1,413.67	1,367.95	45.72	30.920		
10,900.00	7,272.00	7,283.60	7,282.35	59.31	12.66	103.99	4,094.66	-1,264.87	1,313.84	1,267.99	45.85	28.655		
11,000.00	7,272.00	7,282.01	7,280.76	60.70	12.66	102.89	4,094.69	-1,264.89	1,214.04	1,168.04	46.00	26.390		
11,100.00	7,272.00	7,280.43	7,279.18	62.10	12.65	101.78	4,094.71	-1,264.91	1,114.27	1,068.09	46.18	24.127		
11,200.00	7,272.00	7,278.86	7,277.61	63.51	12.65	100.66	4,094.73	-1,264.93	1,014.55	968.15	46.40	21.865		
11,300.00	7,272.00	7,277.29	7,276.05	64.93	12.65	99.55	4,094.76	-1,264.95	914.89	868.22	46.67	19.605		
11,400.00	7,272.00	7,275.74	7,274.49	66.36	12.64	98.43	4,094.78	-1,264.97	815.30	768.30	47.00	17.346		
11,500.00	7,272.00	7,274.19	7,272.95	67.79	12.64	97.31	4,094.80	-1,264.99	715.83	668.38	47.44	15.088		
11,600.00	7,272.00	7,272.66	7,271.41	69.23	12.64	96.19	4,094.83	-1,265.01	616.52	568.48	48.04	12.832		
11,700.00	7,272.00	7,271.13	7,269.88	70.68	12.64	95.07	4,094.85	-1,265.03	517.48	468.56	48.92	10.579		
11,800.00	7,272.00	7,269.61	7,268.36	72.14	12.63	93.96	4,094.87	-1,265.05	418.88	368.61	50.27	8.332		
11,900.00	7,272.00	7,268.10	7,266.85	73.60	12.63	92.85	4,094.89	-1,265.07	321.15	268.52	52.63	6.102		
12,000.00	7,272.00	7,266.59	7,265.35	75.06	12.63	91.74	4,094.92	-1,265.08	225.40	168.00	57.40	3.927		
12,100.00	7,272.00	7,265.10	7,263.85	76.53	12.63	90.63	4,094.94	-1,265.10	135.90	66.66	69.24	1.963		
12,200.00	7,272.00	7,263.61	7,262.37	78.01	12.62	89.53	4,094.96	-1,265.12	78.30	-12.25	90.55	0.865 Level 1		
12,211.71	7,272.00	7,263.44	7,262.19	78.18	12.62	89.40	4,094.96	-1,265.12	77.42	-12.72	90.14	0.859 Level 1, CC, ES, SF		
12,229.68	7,272.00	7,263.17	7,261.93	78.45	12.62	89.21	4,094.97	-1,265.12	79.48	-7.27	86.74	0.916 Level 1		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 12-4J - CPR WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 1191-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		
9,400.00	7,272.00	7,515.83	7,295.34	40.47	24.84	-112.34	2,600.77	-1,386.16	1,323.04	1,264.28	58.76	22.516		
9,500.00	7,272.00	7,513.01	7,292.53	41.57	24.83	-110.75	2,600.86	-1,386.02	1,223.31	1,164.59	58.72	20.833		
9,600.00	7,272.00	7,510.17	7,289.69	42.71	24.83	-109.10	2,600.95	-1,385.88	1,123.61	1,064.94	58.67	19.150		
9,700.00	7,272.00	7,507.29	7,286.82	43.87	24.82	-107.40	2,601.04	-1,385.74	1,023.96	965.34	58.62	17.468		
9,800.00	7,272.00	7,504.39	7,283.93	45.06	24.82	-105.65	2,601.12	-1,385.59	924.38	865.83	58.56	15.786		
9,900.00	7,272.00	7,501.42	7,280.96	46.27	24.81	-103.81	2,601.22	-1,385.44	824.90	766.42	58.48	14.106		
10,000.00	7,272.00	7,498.42	7,277.96	47.50	24.81	-101.92	2,601.31	-1,385.29	725.54	667.15	58.39	12.426		
10,100.00	7,272.00	7,495.39	7,274.94	48.74	24.80	-99.97	2,601.41	-1,385.13	626.37	568.08	58.28	10.747		
10,200.00	7,272.00	7,492.33	7,271.89	50.01	24.79	-97.98	2,601.50	-1,384.97	527.49	469.33	58.16	9.069		
10,300.00	7,272.00	7,489.24	7,268.80	51.29	24.79	-95.94	2,601.60	-1,384.81	429.11	371.07	58.04	7.393		
10,400.00	7,272.00	7,486.12	7,265.69	52.59	24.78	-93.85	2,601.70	-1,384.65	331.68	273.67	58.01	5.717		
10,500.00	7,272.00	7,482.98	7,262.55	53.90	24.77	-91.73	2,601.80	-1,384.49	236.35	177.91	58.44	4.044		
10,600.00	7,272.00	7,479.80	7,259.38	55.23	24.77	-89.58	2,601.90	-1,384.32	147.29	85.94	61.35	2.401		
10,698.35	7,272.00	7,476.64	7,256.23	56.54	24.76	-87.43	2,602.01	-1,384.15	87.06	15.86	71.20	1.223 Level 2		
10,700.00	7,272.00	7,476.59	7,256.17	56.57	24.76	-87.39	2,602.01	-1,384.15	86.65	15.30	71.34	1.215 Level 2		
10,721.70	7,272.00	7,475.92	7,255.51	56.86	24.76	-86.93	2,602.03	-1,384.11	83.97	11.11	72.86	1.152 Level 2, CC, ES, SF		
10,758.58	7,272.00	7,474.76	7,254.35	57.36	24.76	-86.15	2,602.07	-1,384.05	91.49	19.00	72.49	1.262 Level 3		
10,800.00	7,272.00	7,473.45	7,253.04	57.93	24.76	-85.26	2,602.11	-1,383.98	114.23	44.30	69.92	1.634		
10,900.00	7,272.00	7,470.19	7,249.79	59.31	24.75	-83.05	2,602.22	-1,383.80	196.13	131.84	64.29	3.051		
11,000.00	7,272.00	7,466.79	7,246.40	60.70	24.74	-80.76	2,602.33	-1,383.62	289.60	227.95	61.65	4.697		
11,100.00	7,272.00	7,463.25	7,242.87	62.10	24.73	-78.39	2,602.45	-1,383.42	386.32	325.97	60.35	6.401		
11,200.00	7,272.00	7,459.56	7,239.18	63.51	24.73	-75.95	2,602.58	-1,383.22	484.35	424.73	59.62	8.124		
11,300.00	7,272.00	7,455.71	7,235.34	64.93	24.72	-73.44	2,602.72	-1,383.00	583.03	523.86	59.17	9.854		
11,400.00	7,272.00	7,451.68	7,231.32	66.36	24.71	-70.87	2,602.86	-1,382.77	682.07	623.20	58.87	11.587		
11,500.00	7,272.00	7,447.46	7,227.11	67.79	24.70	-68.26	2,603.02	-1,382.52	781.34	722.68	58.66	13.320		
11,600.00	7,272.00	7,443.04	7,222.70	69.23	24.69	-65.59	2,603.19	-1,382.26	880.76	822.25	58.51	15.053		
11,700.00	7,272.00	7,439.01	7,218.68	70.68	24.68	-63.24	2,603.34	-1,382.02	980.28	921.88	58.40	16.786		
11,800.00	7,272.00	7,435.32	7,215.00	72.14	24.68	-61.16	2,603.49	-1,381.79	1,079.87	1,021.56	58.31	18.519		
11,900.00	7,272.00	7,431.65	7,211.34	73.60	24.67	-59.16	2,603.63	-1,381.57	1,179.52	1,121.28	58.25	20.250		
12,000.00	7,272.00	7,427.99	7,207.69	75.06	24.66	-57.23	2,603.77	-1,381.34	1,279.22	1,221.02	58.20	21.980		
12,100.00	7,272.00	7,424.35	7,204.06	76.53	24.65	-55.38	2,603.91	-1,381.11	1,378.95	1,320.79	58.16	23.709		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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													S4-T1N-R65W - GITTLEIN 21-4J - CPR WELL - SURVEYS		Offset Site Error:		0.00 usft
Survey Program:													1154-ISCWSA MWD		Offset Well Error:		0.00 usft
Reference				Offset				Semi Major Axis				Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor					
11,400.00	7,272.00	7,388.51	7,192.63	66.36	22.39	86.93	3,893.99	-80.23	1,383.94	1,300.13	83.81	16.513					
11,500.00	7,272.00	7,402.76	7,206.80	67.79	22.43	87.57	3,895.46	-80.22	1,345.26	1,258.71	86.55	15.544					
11,600.00	7,272.00	7,414.54	7,218.51	69.23	22.46	88.11	3,896.65	-80.22	1,312.97	1,223.84	89.14	14.730					
11,700.00	7,272.00	7,425.44	7,229.37	70.68	22.49	88.60	3,897.73	-80.22	1,287.57	1,196.07	91.51	14.071					
11,800.00	7,272.00	7,435.96	7,239.84	72.14	22.52	89.08	3,898.74	-80.22	1,269.48	1,175.91	93.58	13.566					
11,900.00	7,272.00	7,446.11	7,249.94	73.60	22.54	89.54	3,899.71	-80.23	1,259.02	1,163.75	95.27	13.215					
11,983.53	7,272.00	7,454.31	7,258.11	74.82	22.56	89.91	3,900.48	-80.24	1,256.27	1,159.91	96.36	13.037 CC					
12,000.00	7,272.00	7,455.90	7,259.69	75.06	22.57	89.99	3,900.63	-80.24	1,256.38	1,159.84	96.54	13.015 ES					
12,100.00	7,272.00	7,465.37	7,269.12	76.53	22.59	90.42	3,901.50	-80.25	1,261.61	1,164.28	97.33	12.962 SF					
12,200.00	7,272.00	7,474.52	7,278.23	78.01	22.61	90.83	3,902.32	-80.27	1,274.63	1,176.97	97.66	13.052					
12,229.68	7,272.00	7,477.18	7,280.87	78.45	22.62	90.95	3,902.56	-80.27	1,279.95	1,182.29	97.67	13.105					

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 30C-28HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 25-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		
11,600.00	7,272.00	6,935.18	6,819.57	69.23	20.94	-39.66	4,691.98	-1,737.25	1,357.60	1,303.08	54.52	24.902	
11,700.00	7,272.00	6,951.14	6,834.34	70.68	20.95	-40.51	4,697.96	-1,736.44	1,268.11	1,212.93	55.18	22.983	
11,800.00	7,272.00	6,965.00	6,847.10	72.14	20.95	-41.29	4,703.33	-1,735.83	1,179.78	1,123.74	56.04	21.051	
11,900.00	7,272.00	6,981.84	6,862.47	73.60	20.96	-42.26	4,710.17	-1,735.17	1,092.91	1,035.76	57.15	19.124	
12,000.00	7,272.00	6,997.81	6,876.87	75.06	20.97	-43.22	4,717.06	-1,734.59	1,007.86	949.28	58.58	17.206	
12,100.00	7,272.00	7,012.00	6,889.51	76.53	20.98	-44.09	4,723.50	-1,734.11	925.00	864.57	60.43	15.306	
12,200.00	7,272.00	7,039.86	6,913.90	78.01	20.99	-45.86	4,736.91	-1,733.16	844.64	782.03	62.60	13.492	
12,229.68	7,272.00	7,047.39	6,920.41	78.45	21.00	-46.35	4,740.70	-1,732.88	821.34	757.98	63.36	12.963 CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 30N-28HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 1225-ISCWSA MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
11,600.00	7,272.00	6,741.44	6,691.32	69.23	15.49	0.20	4,697.75	-1,357.67	1,349.63	1,302.23	47.41	28.468	
11,700.00	7,272.00	6,764.00	6,711.47	70.68	15.51	0.26	4,707.89	-1,357.53	1,260.06	1,212.48	47.58	26.481	
11,800.00	7,272.00	6,764.00	6,711.47	72.14	15.51	0.26	4,707.89	-1,357.53	1,171.48	1,123.71	47.77	24.524	
11,900.00	7,272.00	6,788.70	6,733.09	73.60	15.54	0.32	4,719.83	-1,357.36	1,084.12	1,036.09	48.03	22.572	
12,000.00	7,272.00	6,811.00	6,752.20	75.06	15.57	0.37	4,731.31	-1,357.35	998.28	949.93	48.35	20.648	
12,100.00	7,272.00	6,829.30	6,767.58	76.53	15.59	0.40	4,741.24	-1,357.49	914.13	865.38	48.75	18.752	
12,200.00	7,272.00	6,859.00	6,791.87	78.01	15.64	0.41	4,758.32	-1,358.05	832.08	782.87	49.21	16.908	
12,229.68	7,272.00	6,859.00	6,791.87	78.45	15.64	0.41	4,758.32	-1,358.05	808.10	758.69	49.41	16.354 CC, ES, SF	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 30N-28HZX - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 25-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
11,600.00	7,272.00	6,741.61	6,691.48	69.23	16.52	0.21	4,696.50	-1,357.54	1,348.43	1,300.10	48.33	27.898	
11,700.00	7,272.00	6,764.00	6,711.47	70.68	16.54	0.26	4,706.57	-1,357.40	1,258.87	1,210.37	48.50	25.955	
11,800.00	7,272.00	6,764.00	6,711.47	72.14	16.54	0.26	4,706.57	-1,357.40	1,170.31	1,121.64	48.67	24.048	
11,900.00	7,272.00	6,788.94	6,733.30	73.60	16.57	0.33	4,718.62	-1,357.23	1,082.96	1,034.04	48.92	22.138	
12,000.00	7,272.00	6,811.00	6,752.21	75.06	16.60	0.38	4,729.99	-1,357.23	997.14	947.92	49.22	20.258	
12,100.00	7,272.00	6,829.60	6,767.83	76.53	16.63	0.41	4,740.08	-1,357.37	913.02	863.42	49.60	18.407	
12,200.00	7,272.00	6,859.00	6,791.87	78.01	16.67	0.42	4,756.99	-1,357.92	831.00	780.95	50.05	16.604	
12,229.68	7,272.00	6,859.00	6,791.87	78.45	16.67	0.42	4,756.99	-1,357.92	807.03	756.80	50.24	16.065 CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 30N-28HZXX - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 25-ISCWSA MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
11,600.00	7,272.00	6,741.42	6,691.30	69.23	16.52	0.12	4,697.91	-1,358.57	1,349.80	1,301.48	48.33	27.931		
11,700.00	7,272.00	6,764.00	6,711.47	70.68	16.54	0.16	4,708.06	-1,358.44	1,260.23	1,211.74	48.49	25.988		
11,800.00	7,272.00	6,764.00	6,711.47	72.14	16.54	0.16	4,708.06	-1,358.44	1,171.64	1,122.98	48.66	24.079		
11,900.00	7,272.00	6,788.67	6,733.06	73.60	16.57	0.22	4,719.98	-1,358.26	1,084.28	1,035.37	48.91	22.169		
12,000.00	7,272.00	6,811.00	6,752.21	75.06	16.60	0.27	4,731.48	-1,358.26	998.44	949.23	49.21	20.289		
12,100.00	7,272.00	6,829.26	6,767.55	76.53	16.62	0.29	4,741.38	-1,358.40	914.29	864.70	49.59	18.437		
12,200.00	7,272.00	6,859.00	6,791.87	78.01	16.67	0.30	4,758.48	-1,358.95	832.23	782.20	50.03	16.633		
12,229.68	7,272.00	6,859.00	6,791.87	78.45	16.67	0.30	4,758.48	-1,358.95	808.25	758.03	50.22	16.094	CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 4C-28HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 25-ISCWSA MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
11,500.00	7,272.00	6,915.00	6,901.12	67.79	14.57	53.08	4,649.01	-860.58	1,399.96	1,343.54	56.42	24.813		
11,600.00	7,272.00	6,915.00	6,901.12	69.23	14.57	53.08	4,649.01	-860.58	1,311.14	1,253.39	57.76	22.700		
11,700.00	7,272.00	6,932.11	6,917.32	70.68	14.59	54.27	4,654.48	-861.16	1,223.78	1,164.37	59.41	20.600		
11,800.00	7,272.00	6,947.40	6,931.68	72.14	14.61	55.35	4,659.70	-861.81	1,138.08	1,076.77	61.30	18.565		
11,900.00	7,272.00	6,963.00	6,946.21	73.60	14.63	56.46	4,665.32	-862.61	1,054.36	990.85	63.51	16.602		
12,000.00	7,272.00	6,982.42	6,964.09	75.06	14.66	57.87	4,672.78	-863.76	973.05	906.96	66.09	14.724		
12,100.00	7,272.00	7,010.00	6,989.10	76.53	14.70	59.91	4,684.27	-865.69	894.72	825.62	69.10	12.948		
12,200.00	7,272.00	7,024.04	7,001.62	78.01	14.72	60.97	4,690.52	-866.74	819.89	747.36	72.54	11.303		
12,229.68	7,272.00	7,030.54	7,007.37	78.45	14.73	61.47	4,693.52	-867.23	798.54	724.88	73.66	10.841 CC, ES, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 4C-28HZX - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 25-ISCWSA MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
11,600.00	7,272.00	6,851.92	6,835.94	69.23	14.40	48.12	4,657.54	-868.70	1,335.88	1,279.08	56.80	23.518	
11,700.00	7,272.00	6,870.00	6,852.94	70.68	14.42	49.33	4,663.54	-867.32	1,249.65	1,191.25	58.40	21.397	
11,800.00	7,272.00	6,870.00	6,852.94	72.14	14.42	49.33	4,663.54	-867.32	1,165.28	1,105.20	60.08	19.395	
11,900.00	7,272.00	6,896.29	6,877.38	73.60	14.46	51.13	4,673.05	-865.62	1,082.85	1,020.57	62.29	17.385	
12,000.00	7,272.00	6,917.00	6,896.37	75.06	14.49	52.56	4,681.24	-864.52	1,003.13	938.36	64.77	15.487	
12,100.00	7,272.00	6,935.69	6,913.32	76.53	14.52	53.88	4,689.07	-863.60	926.47	858.85	67.62	13.701	
12,200.00	7,272.00	6,965.00	6,939.59	78.01	14.56	56.02	4,701.99	-862.07	853.56	782.54	71.02	12.019	
12,229.68	7,272.00	6,965.00	6,939.59	78.45	14.56	56.02	4,701.99	-862.07	832.71	760.69	72.02	11.563 CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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													S4-T1N-R65W - GITTLEIN 4C-28HZXX - KMG WELL - SURVEYS		Offset Site Error:		0.00 usft
Survey Program:													25-ISCWSA MWD		Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor					
11,600.00	7,272.00	6,851.75	6,835.78	69.23	14.40	48.80	4,655.69	-856.60	1,338.50	1,281.37	57.14	23.426					
11,700.00	7,272.00	6,870.00	6,852.94	70.68	14.42	50.02	4,661.75	-855.20	1,252.62	1,193.85	58.77	21.312					
11,800.00	7,272.00	6,870.00	6,852.94	72.14	14.42	50.02	4,661.75	-855.20	1,168.65	1,108.16	60.49	19.319					
11,900.00	7,272.00	6,896.27	6,877.37	73.60	14.46	51.80	4,671.26	-853.51	1,086.68	1,023.94	62.74	17.320					
12,000.00	7,272.00	6,917.00	6,896.37	75.06	14.49	53.23	4,679.46	-852.40	1,007.47	942.21	65.27	15.436					
12,100.00	7,272.00	6,935.77	6,913.40	76.53	14.52	54.54	4,687.32	-851.48	931.40	863.25	68.15	13.666					
12,200.00	7,272.00	6,965.00	6,939.59	78.01	14.56	56.65	4,700.20	-849.96	859.14	787.56	71.58	12.002					
12,229.68	7,272.00	6,965.00	6,939.59	78.45	14.56	56.65	4,700.20	-849.96	838.51	765.93	72.58	11.552 CC, ES, SF					

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - GITTLEIN 4N-28HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 25-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	
11,800.00	7,272.00	6,747.29	6,715.01	72.14	14.71	54.22	4,721.13	-582.94	1,397.95	1,331.75	66.19	21.119		
11,900.00	7,272.00	6,762.00	6,727.73	73.60	14.73	54.84	4,728.51	-583.38	1,326.58	1,258.19	68.39	19.398		
12,000.00	7,272.00	6,782.01	6,744.61	75.06	14.75	55.66	4,739.21	-584.20	1,258.38	1,187.60	70.78	17.779		
12,100.00	7,272.00	6,809.00	6,766.56	76.53	14.79	56.75	4,754.84	-585.62	1,193.84	1,120.46	73.39	16.268		
12,200.00	7,272.00	6,826.96	6,780.70	78.01	14.81	57.46	4,765.87	-586.66	1,133.19	1,057.05	76.14	14.884		
12,229.68	7,272.00	6,834.98	6,786.91	78.45	14.82	57.78	4,770.93	-587.12	1,116.01	1,039.02	76.99	14.495 CC, ES, SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - OLIN 1-4 - CPR WELL - GYRO													Offset Site Error: 0.00 usft	
Survey Program: 100-VESSI_GYROFLEX													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
10,100.00	7,272.00	7,260.93	7,260.03	48.74	12.59	89.82	2,961.96	-373.07	1,346.07	1,289.15	56.92	23.649		
10,200.00	7,272.00	7,260.95	7,260.05	50.01	12.59	89.82	2,961.96	-373.07	1,275.63	1,217.02	58.61	21.766		
10,300.00	7,272.00	7,260.97	7,260.07	51.29	12.59	89.82	2,961.96	-373.07	1,209.36	1,148.92	60.44	20.009		
10,400.00	7,272.00	7,260.99	7,260.09	52.59	12.59	89.82	2,961.96	-373.07	1,147.99	1,085.60	62.40	18.398		
10,500.00	7,272.00	7,261.01	7,260.11	53.90	12.59	89.82	2,961.96	-373.07	1,092.34	1,027.91	64.44	16.952		
10,600.00	7,272.00	7,261.03	7,260.13	55.23	12.59	89.82	2,961.96	-373.07	1,043.33	976.83	66.50	15.689		
10,698.35	7,272.00	7,261.05	7,260.15	56.54	12.59	89.82	2,961.96	-373.07	1,002.55	934.08	68.46	14.644		
10,700.00	7,272.00	7,261.05	7,260.15	56.57	12.59	89.82	2,961.96	-373.07	1,001.93	933.44	68.50	14.628		
10,758.58	7,272.00	7,261.06	7,260.16	57.36	12.59	89.83	2,961.96	-373.07	982.21	912.61	69.60	14.113		
10,800.00	7,272.00	7,261.06	7,260.16	57.93	12.59	89.83	2,961.96	-373.07	970.57	900.24	70.33	13.801		
10,900.00	7,272.00	7,261.08	7,260.18	59.31	12.59	89.83	2,961.96	-373.07	949.34	877.48	71.86	13.211		
11,000.00	7,272.00	7,261.09	7,260.19	60.70	12.59	89.83	2,961.96	-373.07	938.35	865.38	72.97	12.860		
11,053.75	7,272.00	7,261.10	7,260.20	61.45	12.59	89.83	2,961.96	-373.07	936.81	863.45	73.36	12.770 CC, ES		
11,100.00	7,272.00	7,261.10	7,260.20	62.10	12.59	89.83	2,961.96	-373.07	937.95	864.38	73.57	12.749 SF		
11,200.00	7,272.00	7,261.11	7,260.21	63.51	12.59	89.83	2,961.96	-373.07	948.16	874.50	73.65	12.873		
11,300.00	7,272.00	7,261.13	7,260.23	64.93	12.59	89.83	2,961.96	-373.07	968.64	895.40	73.24	13.226		
11,400.00	7,272.00	7,261.14	7,260.24	66.36	12.59	89.83	2,961.96	-373.07	998.75	926.35	72.41	13.794		
11,500.00	7,272.00	7,261.15	7,260.25	67.79	12.59	89.83	2,961.96	-373.07	1,037.67	966.42	71.25	14.563		
11,600.00	7,272.00	7,261.17	7,260.27	69.23	12.59	89.83	2,961.96	-373.07	1,084.44	1,014.55	69.89	15.517		
11,700.00	7,272.00	7,261.18	7,260.28	70.68	12.59	89.83	2,961.96	-373.07	1,138.09	1,069.69	68.40	16.638		
11,800.00	7,272.00	7,261.19	7,260.29	72.14	12.59	89.83	2,961.96	-373.07	1,197.71	1,130.83	66.88	17.908		
11,900.00	7,272.00	7,261.20	7,260.30	73.60	12.59	89.84	2,961.96	-373.07	1,262.44	1,197.07	65.38	19.310		
12,000.00	7,272.00	7,261.22	7,260.32	75.06	12.59	89.84	2,961.96	-373.07	1,331.54	1,267.62	63.93	20.829		
12,100.00	7,272.00	7,261.23	7,260.33	76.53	12.59	89.84	2,961.96	-373.07	1,404.37	1,341.81	62.56	22.449		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3C-4H-N165 - 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	1.00	1.00	0.00	0.00	-98.45	-2.94	-19.78	20.00	19.72	0.28	71.531	
100.00	100.00	101.00	101.00	0.14	0.14	-98.45	-2.94	-19.78	20.00	19.72	0.28	71.531	
200.00	200.00	201.00	201.00	0.50	0.50	-98.45	-2.94	-19.78	20.00	19.00	1.00	20.070 CC, ES	
300.00	300.00	300.31	300.29	0.85	0.85	-100.22	-3.84	-21.29	21.65	19.94	1.70	12.704	
400.00	400.00	399.39	399.23	1.21	1.20	-104.14	-6.49	-25.74	26.61	24.20	2.41	11.034	
500.00	500.00	497.99	497.45	1.57	1.55	-108.16	-10.86	-33.09	35.01	31.89	3.12	11.215	
600.00	600.00	595.89	594.63	1.93	1.93	-111.34	-16.90	-43.26	46.88	43.05	3.83	12.244	
700.00	699.98	693.13	690.70	2.28	2.32	17.09	-24.58	-56.17	60.53	56.01	4.51	13.414	
800.00	799.84	789.93	785.77	2.61	2.73	16.31	-33.88	-71.80	74.23	69.04	5.18	14.326	
900.00	899.45	886.28	879.73	2.96	3.17	16.13	-44.76	-90.10	87.93	82.07	5.86	15.015	
1,000.00	998.70	982.18	972.50	3.32	3.65	16.30	-57.19	-110.99	101.61	95.07	6.54	15.544	
1,100.00	1,097.47	1,077.66	1,063.99	3.70	4.15	16.69	-71.13	-134.43	115.26	108.05	7.22	15.976	
1,200.00	1,195.62	1,175.74	1,157.27	4.10	4.70	17.30	-86.63	-160.50	128.04	120.08	7.96	16.089	
1,300.00	1,293.06	1,275.25	1,251.86	4.53	5.28	18.26	-102.42	-187.05	137.66	128.92	8.73	15.761	
1,342.22	1,333.94	1,317.34	1,291.87	4.71	5.53	18.76	-109.10	-198.28	140.74	131.67	9.07	15.520	
1,400.00	1,389.80	1,374.96	1,346.64	4.98	5.86	19.50	-118.24	-213.65	144.58	135.05	9.53	15.165	
1,500.00	1,486.46	1,474.69	1,441.45	5.45	6.46	20.68	-134.07	-240.26	151.27	140.92	10.35	14.614	
1,600.00	1,583.12	1,574.42	1,536.25	5.93	7.06	21.76	-149.90	-266.87	158.03	146.85	11.18	14.131	
1,700.00	1,679.78	1,674.15	1,631.05	6.42	7.66	22.76	-165.72	-293.48	164.83	152.81	12.03	13.705	
1,800.00	1,776.45	1,773.88	1,725.85	6.92	8.26	23.67	-181.55	-320.08	171.69	158.80	12.88	13.328	
1,900.00	1,873.11	1,873.60	1,820.65	7.42	8.87	24.52	-197.37	-346.69	178.58	164.83	13.75	12.991	
2,000.00	1,969.77	1,973.33	1,915.46	7.93	9.48	25.30	-213.20	-373.30	185.51	170.89	14.62	12.689	
2,100.00	2,066.43	2,073.06	2,010.26	8.44	10.09	26.03	-229.02	-399.91	192.46	176.96	15.50	12.417	
2,200.00	2,163.10	2,172.79	2,105.06	8.96	10.70	26.70	-244.85	-426.52	199.45	183.07	16.39	12.171	
2,300.00	2,259.76	2,272.52	2,199.86	9.48	11.31	27.33	-260.67	-453.12	206.47	189.18	17.28	11.947	
2,400.00	2,356.42	2,372.25	2,294.66	10.00	11.93	27.92	-276.50	-479.73	213.50	195.32	18.18	11.743	
2,500.00	2,453.08	2,471.98	2,389.47	10.52	12.54	28.47	-292.32	-506.34	220.56	201.48	19.09	11.556	
2,600.00	2,549.75	2,571.71	2,484.27	11.04	13.16	28.99	-308.15	-532.95	227.64	207.64	20.00	11.384	
2,700.00	2,646.41	2,671.44	2,579.07	11.57	13.77	29.47	-323.98	-559.56	234.73	213.82	20.91	11.226	
2,800.00	2,743.07	2,771.16	2,673.87	12.09	14.39	29.93	-339.80	-586.17	241.84	220.01	21.83	11.080	
2,900.00	2,839.73	2,870.89	2,768.67	12.62	15.01	30.36	-355.63	-612.77	248.97	226.22	22.75	10.944	
3,000.00	2,936.40	2,970.62	2,863.48	13.15	15.62	30.77	-371.45	-639.38	256.10	232.43	23.67	10.818	
3,100.00	3,033.06	3,070.35	2,958.28	13.68	16.24	31.15	-387.28	-665.99	263.25	238.65	24.60	10.701	
3,200.00	3,129.72	3,170.08	3,053.08	14.21	16.86	31.51	-403.10	-692.60	270.41	244.88	25.53	10.591	
3,300.00	3,226.38	3,269.81	3,147.88	14.74	17.48	31.86	-418.93	-719.21	277.59	251.12	26.47	10.489	
3,400.00	3,323.05	3,369.54	3,242.68	15.27	18.09	32.19	-434.75	-745.81	284.77	257.37	27.40	10.393	
3,500.00	3,419.71	3,469.27	3,337.49	15.80	18.71	32.50	-450.58	-772.42	291.96	263.62	28.34	10.303	
3,600.00	3,516.37	3,569.00	3,432.29	16.33	19.33	32.80	-466.40	-799.03	299.15	269.88	29.28	10.218	
3,700.00	3,613.03	3,668.72	3,527.09	16.86	19.95	33.08	-482.23	-825.64	306.36	276.14	30.22	10.138	
3,800.00	3,709.70	3,768.45	3,621.89	17.39	20.57	33.35	-498.06	-852.25	313.57	282.41	31.16	10.062	
3,900.00	3,806.36	3,868.18	3,716.69	17.93	21.19	33.61	-513.88	-878.86	320.79	288.68	32.11	9.991	
4,000.00	3,903.02	3,967.91	3,811.50	18.46	21.81	33.85	-529.71	-905.46	328.02	294.96	33.05	9.924	
4,100.00	3,999.68	4,067.64	3,906.30	18.99	22.43	34.09	-545.53	-932.07	335.25	301.24	34.00	9.860	
4,200.00	4,096.35	4,167.37	4,001.10	19.53	23.05	34.31	-561.36	-958.68	342.48	307.53	34.95	9.799	
4,300.00	4,193.01	4,267.10	4,095.90	20.06	23.67	34.53	-577.18	-985.29	349.73	313.82	35.90	9.741	
4,400.00	4,289.67	4,366.83	4,190.70	20.60	24.29	34.74	-593.01	-1,011.90	356.97	320.12	36.85	9.686	
4,500.00	4,386.33	4,466.56	4,285.51	21.13	24.91	34.94	-608.83	-1,038.51	364.22	326.42	37.81	9.634	
4,600.00	4,483.00	4,566.29	4,380.31	21.67	25.53	35.13	-624.66	-1,065.11	371.48	332.72	38.76	9.584	
4,700.00	4,579.66	4,666.01	4,475.11	22.20	26.15	35.31	-640.48	-1,091.72	378.74	339.02	39.71	9.536	
4,800.00	4,676.32	4,765.74	4,569.91	22.74	26.77	35.49	-656.31	-1,118.33	386.00	345.33	40.67	9.491	
4,900.00	4,772.98	4,865.47	4,664.71	23.27	27.39	35.66	-672.14	-1,144.94	393.26	351.64	41.63	9.447	
5,000.00	4,869.65	4,965.20	4,759.52	23.81	28.01	35.83	-687.96	-1,171.55	400.53	357.95	42.58	9.406	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3C-4H-N165 - 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	4,966.31	5,064.93	4,854.32	24.34	28.63	35.99	-703.79	-1,198.15	407.81	364.26	43.54	9.366	
5,200.00	5,062.97	5,164.66	4,949.12	24.88	29.25	36.14	-719.61	-1,224.76	415.08	370.58	44.50	9.327	
5,300.00	5,159.63	5,264.39	5,043.92	25.41	29.87	36.29	-735.44	-1,251.37	422.36	376.90	45.46	9.291	
5,400.00	5,256.30	5,364.12	5,138.72	25.95	30.49	36.43	-751.26	-1,277.98	429.64	383.22	46.42	9.255	
5,500.00	5,352.96	5,463.85	5,233.53	26.49	31.11	36.57	-767.09	-1,304.59	436.93	389.55	47.38	9.221	
5,600.00	5,449.62	5,563.57	5,328.33	27.02	31.73	36.70	-782.91	-1,331.20	444.21	395.87	48.34	9.189	
5,700.00	5,546.28	5,663.30	5,423.13	27.56	32.35	36.83	-798.74	-1,357.80	451.50	402.20	49.30	9.157	
5,800.00	5,642.95	5,763.03	5,517.93	28.09	32.97	36.96	-814.56	-1,384.41	458.79	408.53	50.27	9.127	
5,900.00	5,739.61	5,862.76	5,612.73	28.63	33.60	37.08	-830.39	-1,411.02	466.09	414.86	51.23	9.098	
6,000.00	5,836.27	5,962.49	5,707.54	29.17	34.22	37.19	-846.22	-1,437.63	473.38	421.19	52.19	9.070	
6,100.00	5,932.93	6,062.22	5,802.34	29.70	34.84	37.31	-862.04	-1,464.24	480.68	427.52	53.16	9.043	
6,200.00	6,029.60	6,161.95	5,897.14	30.24	35.46	37.42	-877.87	-1,490.85	487.98	433.85	54.12	9.016	
6,300.00	6,126.26	6,261.68	5,991.94	30.78	36.08	37.53	-893.69	-1,517.45	495.28	440.19	55.09	8.991	
6,400.00	6,222.92	6,361.41	6,086.74	31.31	36.70	37.63	-909.52	-1,544.06	502.58	446.53	56.05	8.966	
6,500.00	6,319.58	6,461.13	6,181.55	31.85	37.32	37.73	-925.34	-1,570.67	509.88	452.87	57.02	8.943	
6,600.00	6,416.25	6,560.86	6,276.35	32.39	37.94	37.83	-941.17	-1,597.28	517.19	459.20	57.98	8.920	
6,639.90	6,454.81	6,601.10	6,314.70	32.60	38.19	37.95	-946.82	-1,608.04	520.09	461.70	58.39	8.907	
6,650.00	6,464.59	6,611.29	6,324.46	32.66	38.25	35.62	-947.91	-1,610.77	520.82	462.32	58.50	8.903	
6,700.00	6,513.25	6,661.63	6,372.82	32.91	38.53	21.45	-951.16	-1,624.32	524.43	465.42	59.01	8.887	
6,750.00	6,562.18	6,711.78	6,421.11	33.13	38.78	3.49	-950.89	-1,637.82	528.04	468.58	59.46	8.881	
6,800.00	6,611.16	6,761.75	6,469.09	33.33	39.01	-15.16	-947.12	-1,651.22	531.61	471.76	59.85	8.883	
6,850.00	6,659.93	6,811.54	6,516.54	33.50	39.20	-30.74	-939.93	-1,664.45	535.14	474.96	60.18	8.892	
6,900.00	6,708.27	6,861.16	6,563.24	33.64	39.37	-42.08	-929.37	-1,677.44	538.60	478.15	60.45	8.909	
6,950.00	6,755.93	6,910.61	6,608.97	33.75	39.51	-49.95	-915.53	-1,690.15	541.99	481.31	60.68	8.932	
7,000.00	6,802.69	6,959.90	6,653.53	33.85	39.62	-55.43	-898.52	-1,702.51	545.27	484.42	60.85	8.961	
7,050.00	6,848.32	7,009.03	6,696.73	33.92	39.72	-59.30	-878.43	-1,714.47	548.43	487.45	60.98	8.993	
7,100.00	6,892.59	7,058.00	6,738.38	33.97	39.79	-62.11	-855.40	-1,725.99	551.47	490.40	61.07	9.030	
7,150.00	6,935.29	7,106.84	6,778.31	34.01	39.84	-64.18	-829.55	-1,737.00	554.35	493.23	61.12	9.070	
7,200.00	6,976.21	7,155.54	6,816.35	34.02	39.87	-65.73	-801.02	-1,747.47	557.07	495.93	61.14	9.111	
7,250.00	7,015.15	7,204.10	6,852.34	34.02	39.88	-66.91	-769.96	-1,757.35	559.62	498.48	61.14	9.154	
7,300.00	7,051.93	7,252.55	6,886.15	34.00	39.87	-67.81	-736.53	-1,766.60	561.97	500.86	61.11	9.196	
7,350.00	7,086.36	7,300.87	6,917.63	33.96	39.85	-68.51	-700.89	-1,775.20	564.12	503.05	61.07	9.237	
7,400.00	7,118.27	7,349.09	6,946.67	33.91	39.81	-69.05	-663.23	-1,783.09	566.06	505.03	61.03	9.275	
7,450.00	7,147.51	7,397.21	6,973.15	33.85	39.76	-69.47	-623.71	-1,790.26	567.77	506.78	60.98	9.310	
7,500.00	7,173.94	7,445.24	6,996.98	33.78	39.70	-69.79	-582.52	-1,796.68	569.24	508.29	60.95	9.340	
7,550.00	7,197.43	7,493.18	7,018.06	33.69	39.63	-70.05	-539.84	-1,802.32	570.47	509.55	60.92	9.364	
7,600.00	7,217.86	7,541.05	7,036.32	33.60	39.55	-70.24	-495.87	-1,807.17	571.46	510.54	60.92	9.381	
7,650.00	7,235.14	7,588.84	7,051.70	33.50	39.46	-70.40	-450.81	-1,811.20	572.18	511.25	60.93	9.390	
7,700.00	7,249.18	7,636.58	7,064.13	33.40	39.37	-70.51	-404.84	-1,814.40	572.65	511.68	60.98	9.391	
7,750.00	7,259.91	7,684.26	7,073.58	33.29	39.28	-70.60	-358.17	-1,816.77	572.86	511.81	61.05	9.383	
7,800.00	7,267.28	7,731.89	7,080.02	33.18	39.19	-70.66	-311.01	-1,818.29	572.80	511.65	61.15	9.367	
7,850.00	7,271.25	7,779.49	7,083.42	33.07	39.09	-70.69	-263.55	-1,818.96	572.49	511.20	61.29	9.341	
7,883.14	7,272.00	7,811.13	7,084.00	33.00	39.03	-70.71	-231.91	-1,818.93	572.13	510.73	61.40	9.319	
7,900.00	7,272.00	7,827.99	7,084.00	32.97	38.99	-70.70	-215.06	-1,818.83	571.91	510.44	61.47	9.304	
8,000.00	7,272.00	7,927.98	7,084.00	32.76	38.81	-70.66	-115.07	-1,818.23	570.65	508.66	61.99	9.206	
8,100.00	7,272.00	8,027.97	7,084.00	32.58	38.66	-70.61	-15.08	-1,817.64	569.38	506.74	62.64	9.089	
8,200.00	7,272.00	8,127.96	7,084.00	32.42	38.54	-70.57	84.91	-1,817.04	568.11	504.67	63.44	8.956	
8,300.00	7,272.00	8,227.95	7,084.00	32.28	38.46	-70.52	184.90	-1,816.45	566.84	502.48	64.36	8.807	
8,400.00	7,272.00	8,327.94	7,084.00	32.17	38.41	-70.48	284.89	-1,815.85	565.57	500.16	65.42	8.646	
8,500.00	7,272.00	8,427.94	7,084.00	32.24	38.41	-70.43	384.88	-1,815.25	564.31	497.71	66.59	8.474	
8,600.00	7,272.00	8,527.93	7,084.00	32.87	38.47	-70.38	484.87	-1,814.66	563.04	495.16	67.88	8.294	
8,700.00	7,272.00	8,627.92	7,084.00	33.66	38.60	-70.34	584.86	-1,814.06	561.77	492.49	69.28	8.108	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3C-4H-N165 - 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	7,272.00	8,727.91	7,084.00	34.51	38.82	-70.29	684.85	-1,813.46	560.51	489.72	70.78	7.919		
8,900.00	7,272.00	8,827.90	7,084.00	35.41	39.15	-70.25	784.84	-1,812.87	559.24	486.86	72.38	7.726		
9,000.00	7,272.00	8,927.89	7,084.00	36.35	39.60	-70.20	884.82	-1,812.27	557.98	483.91	74.06	7.534		
9,100.00	7,272.00	9,027.88	7,084.00	37.32	40.17	-70.15	984.81	-1,811.68	556.71	480.88	75.83	7.341		
9,200.00	7,272.00	9,127.87	7,084.00	38.34	40.85	-70.11	1,084.80	-1,811.08	555.45	477.77	77.68	7.151		
9,300.00	7,272.00	9,227.86	7,084.00	39.39	41.63	-70.06	1,184.79	-1,810.48	554.18	474.59	79.59	6.963		
9,400.00	7,272.00	9,327.85	7,084.00	40.47	42.49	-70.01	1,284.78	-1,809.89	552.92	471.34	81.57	6.778		
9,500.00	7,272.00	9,427.84	7,084.00	41.57	43.42	-69.96	1,384.77	-1,809.29	551.66	468.04	83.62	6.597		
9,600.00	7,272.00	9,527.84	7,084.00	42.71	44.40	-69.91	1,484.76	-1,808.70	550.39	464.67	85.72	6.421		
9,700.00	7,272.00	9,627.83	7,084.00	43.87	45.43	-69.87	1,584.75	-1,808.10	549.13	461.26	87.87	6.249		
9,800.00	7,272.00	9,727.82	7,084.00	45.06	46.50	-69.82	1,684.74	-1,807.50	547.87	457.80	90.07	6.083		
9,900.00	7,272.00	9,827.81	7,084.00	46.27	47.60	-69.77	1,784.73	-1,806.91	546.61	454.29	92.32	5.921		
10,000.00	7,272.00	9,927.80	7,084.00	47.50	48.74	-69.72	1,884.72	-1,806.31	545.34	450.74	94.61	5.764		
10,100.00	7,272.00	10,027.79	7,084.00	48.74	49.90	-69.67	1,984.71	-1,805.71	544.08	447.15	96.93	5.613		
10,200.00	7,272.00	10,127.78	7,084.00	50.01	51.08	-69.62	2,084.69	-1,805.12	542.82	443.53	99.30	5.467		
10,300.00	7,272.00	10,227.77	7,084.00	51.29	52.29	-69.57	2,184.68	-1,804.52	541.56	439.87	101.69	5.325		
10,400.00	7,272.00	10,327.76	7,084.00	52.59	53.52	-69.52	2,284.67	-1,803.93	540.30	436.18	104.12	5.189		
10,500.00	7,272.00	10,427.75	7,084.00	53.90	54.76	-69.47	2,384.66	-1,803.33	539.04	432.47	106.57	5.058		
10,600.00	7,272.00	10,527.75	7,084.00	55.23	56.03	-69.42	2,484.65	-1,802.73	537.78	428.73	109.06	4.931		
10,698.35	7,272.00	10,626.09	7,084.00	56.54	57.28	-69.37	2,582.99	-1,802.15	536.55	425.03	111.52	4.811		
10,700.00	7,272.00	10,627.74	7,084.00	56.57	57.30	-69.37	2,584.64	-1,802.14	536.53	424.96	111.56	4.809		
10,758.58	7,272.00	10,686.30	7,084.00	57.36	58.06	-69.31	2,643.20	-1,801.79	535.20	422.16	113.04	4.735		
10,800.00	7,272.00	10,727.69	7,084.00	57.93	58.60	-69.26	2,684.60	-1,801.54	533.86	419.78	114.09	4.679		
10,900.00	7,272.00	10,827.63	7,084.00	59.31	59.90	-69.12	2,784.53	-1,800.95	530.64	414.01	116.63	4.550		
11,000.00	7,272.00	10,927.57	7,084.00	60.70	61.22	-68.99	2,884.47	-1,800.35	527.42	408.24	119.18	4.425		
11,100.00	7,272.00	11,027.52	7,084.00	62.10	62.55	-68.85	2,984.41	-1,799.75	524.20	402.45	121.76	4.305		
11,200.00	7,272.00	11,127.46	7,084.00	63.51	63.89	-68.72	3,084.35	-1,799.16	520.99	396.65	124.34	4.190		
11,300.00	7,272.00	11,227.40	7,084.00	64.93	65.24	-68.58	3,184.29	-1,798.56	517.78	390.84	126.94	4.079		
11,400.00	7,272.00	11,327.34	7,084.00	66.36	66.60	-68.44	3,284.23	-1,797.97	514.57	385.02	129.56	3.972		
11,500.00	7,272.00	11,427.28	7,084.00	67.79	67.97	-68.30	3,384.17	-1,797.37	511.37	379.19	132.18	3.869		
11,600.00	7,272.00	11,527.22	7,084.00	69.23	69.35	-68.15	3,484.11	-1,796.78	508.17	373.36	134.81	3.769		
11,700.00	7,272.00	11,627.16	7,084.00	70.68	70.74	-68.01	3,584.05	-1,796.18	504.97	367.52	137.45	3.674		
11,800.00	7,272.00	11,727.10	7,084.00	72.14	72.13	-67.86	3,683.98	-1,795.58	501.78	361.68	140.10	3.582		
11,900.00	7,272.00	11,827.04	7,084.00	73.60	73.53	-67.71	3,783.92	-1,794.99	498.59	355.83	142.75	3.493		
12,000.00	7,272.00	11,926.98	7,084.00	75.06	74.94	-67.56	3,883.86	-1,794.39	495.40	349.99	145.41	3.407		
12,100.00	7,272.00	12,026.92	7,084.00	76.53	76.35	-67.41	3,983.80	-1,793.80	492.22	344.14	148.08	3.324		
12,200.00	7,272.00	12,126.86	7,084.00	78.01	77.77	-67.25	4,083.74	-1,793.20	489.04	338.29	150.75	3.244		
12,229.68	7,272.00	12,148.53	7,084.00	78.45	78.08	-67.22	4,105.40	-1,793.07	488.16	336.30	151.86	3.214 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3D-4H-N165 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	1.00	1.00	0.00	0.00	-98.46	-1.47	-9.89	10.00				
100.00	100.00	101.00	101.00	0.14	0.14	-98.46	-1.47	-9.89	10.00	9.72	0.28	35.764	
200.00	200.00	201.00	201.00	0.50	0.50	-98.46	-1.47	-9.89	10.00	9.00	1.00	10.035	
300.00	300.00	301.00	301.00	0.85	0.86	-98.46	-1.47	-9.89	10.00	8.29	1.71	5.836	
400.00	400.00	401.00	401.00	1.21	1.22	-98.46	-1.47	-9.89	10.00	7.57	2.43	4.114 CC, ES	
500.00	500.00	500.64	500.62	1.57	1.56	-102.31	-2.47	-11.35	11.62	8.48	3.13	3.707	
600.00	600.00	600.05	599.88	1.93	1.90	-109.17	-5.44	-15.64	16.59	12.76	3.83	4.331	
700.00	699.98	699.13	698.59	2.28	2.25	17.01	-10.34	-22.73	23.42	18.91	4.51	5.190	
800.00	799.84	797.97	796.69	2.61	2.62	15.37	-17.15	-32.60	30.35	25.17	5.18	5.857	
900.00	899.45	896.58	894.10	2.96	3.00	14.87	-25.86	-45.22	37.32	31.47	5.86	6.374	
1,000.00	998.70	994.95	990.68	3.32	3.41	14.95	-36.44	-60.55	44.32	37.78	6.53	6.782	
1,100.00	1,097.47	1,093.09	1,086.35	3.70	3.84	15.39	-48.87	-78.55	51.32	44.10	7.22	7.109	
1,200.00	1,195.62	1,191.00	1,180.98	4.10	4.30	16.04	-63.12	-99.19	58.34	50.43	7.91	7.376	
1,300.00	1,293.06	1,289.73	1,275.61	4.53	4.81	16.92	-79.12	-122.36	64.99	56.35	8.64	7.520	
1,342.22	1,333.94	1,331.89	1,315.97	4.71	5.03	17.47	-86.06	-132.41	66.99	58.02	8.97	7.469	
1,400.00	1,389.80	1,389.62	1,371.22	4.98	5.33	18.31	-95.55	-146.16	69.33	59.90	9.42	7.357	
1,500.00	1,486.46	1,489.52	1,466.85	5.45	5.87	19.63	-111.99	-169.96	73.41	63.19	10.22	7.180	
1,600.00	1,583.12	1,589.42	1,562.47	5.93	6.42	20.81	-128.42	-193.77	77.53	66.49	11.04	7.022	
1,700.00	1,679.78	1,689.33	1,658.10	6.42	6.97	21.87	-144.86	-217.57	81.68	69.81	11.87	6.881	
1,800.00	1,776.45	1,789.23	1,753.72	6.92	7.53	22.83	-161.29	-241.38	85.85	73.14	12.71	6.755	
1,900.00	1,873.11	1,889.13	1,849.34	7.42	8.09	23.69	-177.72	-265.18	90.04	76.48	13.56	6.641	
2,000.00	1,969.77	1,989.04	1,944.97	7.93	8.65	24.49	-194.16	-288.98	94.26	79.84	14.42	6.537	
2,100.00	2,066.43	2,088.94	2,040.59	8.44	9.22	25.21	-210.59	-312.79	98.49	83.20	15.29	6.443	
2,200.00	2,163.10	2,188.84	2,136.21	8.96	9.79	25.87	-227.03	-336.59	102.73	86.57	16.16	6.358	
2,300.00	2,259.76	2,288.75	2,231.84	9.48	10.37	26.48	-243.46	-360.40	106.99	89.95	17.04	6.279	
2,400.00	2,356.42	2,388.65	2,327.46	10.00	10.94	27.05	-259.90	-384.20	111.26	93.33	17.92	6.207	
2,500.00	2,453.08	2,488.55	2,423.09	10.52	11.52	27.57	-276.33	-408.00	115.54	96.72	18.81	6.141	
2,600.00	2,549.75	2,588.46	2,518.71	11.04	12.09	28.05	-292.77	-431.81	119.82	100.12	19.71	6.080	
2,700.00	2,646.41	2,688.36	2,614.33	11.57	12.67	28.51	-309.20	-455.61	124.12	103.51	20.61	6.023	
2,800.00	2,743.07	2,788.26	2,709.96	12.09	13.25	28.93	-325.64	-479.42	128.42	106.91	21.51	5.971	
2,900.00	2,839.73	2,888.16	2,805.58	12.62	13.83	29.32	-342.07	-503.22	132.73	110.32	22.41	5.922	
3,000.00	2,936.40	2,988.07	2,901.20	13.15	14.41	29.69	-358.51	-527.02	137.05	113.72	23.32	5.876	
3,100.00	3,033.06	3,087.97	2,996.83	13.68	14.99	30.04	-374.94	-550.83	141.37	117.13	24.23	5.834	
3,200.00	3,129.72	3,187.87	3,092.45	14.21	15.57	30.36	-391.37	-574.63	145.69	120.55	25.15	5.794	
3,300.00	3,226.38	3,287.78	3,188.08	14.74	16.15	30.67	-407.81	-598.44	150.02	123.96	26.06	5.756	
3,400.00	3,323.05	3,387.68	3,283.70	15.27	16.73	30.96	-424.24	-622.24	154.35	127.38	26.98	5.721	
3,500.00	3,419.71	3,487.58	3,379.32	15.80	17.31	31.23	-440.68	-646.04	158.69	130.79	27.90	5.688	
3,600.00	3,516.37	3,587.49	3,474.95	16.33	17.90	31.49	-457.11	-669.85	163.03	134.21	28.82	5.657	
3,700.00	3,613.03	3,687.39	3,570.57	16.86	18.48	31.74	-473.55	-693.65	167.38	137.63	29.74	5.628	
3,800.00	3,709.70	3,787.29	3,666.19	17.39	19.06	31.97	-489.98	-717.46	171.72	141.06	30.67	5.600	
3,900.00	3,806.36	3,887.20	3,761.82	17.93	19.65	32.20	-506.42	-741.26	176.07	144.48	31.59	5.573	
4,000.00	3,903.02	3,987.10	3,857.44	18.46	20.23	32.41	-522.85	-765.06	180.42	147.91	32.52	5.548	
4,100.00	3,999.68	4,087.00	3,953.07	18.99	20.81	32.61	-539.29	-788.87	184.78	151.33	33.45	5.525	
4,200.00	4,096.35	4,186.90	4,048.69	19.53	21.40	32.80	-555.72	-812.67	189.14	154.76	34.38	5.502	
4,300.00	4,193.01	4,286.81	4,144.31	20.06	21.98	32.98	-572.15	-836.48	193.49	158.19	35.30	5.481	
4,400.00	4,289.67	4,386.71	4,239.94	20.60	22.57	33.16	-588.59	-860.28	197.85	161.62	36.24	5.460	
4,500.00	4,386.33	4,486.61	4,335.56	21.13	23.15	33.33	-605.02	-884.08	202.22	165.05	37.17	5.441	
4,600.00	4,483.00	4,586.52	4,431.18	21.67	23.74	33.49	-621.46	-907.89	206.58	168.48	38.10	5.422	
4,700.00	4,579.66	4,686.42	4,526.81	22.20	24.32	33.64	-637.89	-931.69	210.95	171.91	39.03	5.404	
4,800.00	4,676.32	4,786.32	4,622.43	22.74	24.91	33.79	-654.33	-955.50	215.31	175.34	39.97	5.387	
4,900.00	4,772.98	4,886.23	4,718.06	23.27	25.49	33.93	-670.76	-979.30	219.68	178.78	40.90	5.371	
5,000.00	4,869.65	4,986.13	4,813.68	23.81	26.08	34.07	-687.20	-1,003.10	224.05	182.21	41.84	5.355	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3D-4H-N165 - 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	4,966.31	5,086.03	4,909.30	24.34	26.66	34.20	-703.63	-1,026.91	228.42	185.65	42.77	5.340	
5,200.00	5,062.97	5,185.94	5,004.93	24.88	27.25	34.33	-720.07	-1,050.71	232.79	189.08	43.71	5.326	
5,300.00	5,159.63	5,285.84	5,100.55	25.41	27.83	34.45	-736.50	-1,074.52	237.17	192.52	44.65	5.312	
5,400.00	5,256.30	5,385.74	5,196.17	25.95	28.42	34.57	-752.94	-1,098.32	241.54	195.95	45.58	5.299	
5,500.00	5,352.96	5,485.64	5,291.80	26.49	29.00	34.68	-769.37	-1,122.13	245.91	199.39	46.52	5.286	
5,600.00	5,449.62	5,585.55	5,387.42	27.02	29.59	34.79	-785.80	-1,145.93	250.29	202.83	47.46	5.274	
5,700.00	5,546.28	5,685.45	5,483.05	27.56	30.18	34.89	-802.24	-1,169.73	254.67	206.27	48.40	5.262	
5,800.00	5,642.95	5,785.35	5,578.67	28.09	30.76	34.99	-818.67	-1,193.54	259.04	209.71	49.34	5.250	
5,900.00	5,739.61	5,885.26	5,674.29	28.63	31.35	35.09	-835.11	-1,217.34	263.42	213.14	50.28	5.239	
6,000.00	5,836.27	5,985.16	5,769.92	29.17	31.93	35.19	-851.54	-1,241.15	267.80	216.58	51.22	5.229	
6,100.00	5,932.93	6,085.06	5,865.54	29.70	32.52	35.28	-867.98	-1,264.95	272.18	220.02	52.16	5.218	
6,200.00	6,029.60	6,184.97	5,961.16	30.24	33.11	35.37	-884.41	-1,288.75	276.56	223.46	53.10	5.208	
6,300.00	6,126.26	6,284.87	6,056.79	30.78	33.69	35.46	-900.85	-1,312.56	280.94	226.90	54.04	5.199	
6,400.00	6,222.92	6,384.77	6,152.41	31.31	34.28	35.54	-917.28	-1,336.36	285.33	230.34	54.98	5.189	
6,500.00	6,319.58	6,484.68	6,248.04	31.85	34.86	35.62	-933.72	-1,360.17	289.71	233.78	55.93	5.180	
6,600.00	6,416.25	6,585.79	6,345.07	32.39	35.44	35.70	-949.59	-1,384.31	293.99	237.03	56.96	5.161	
6,639.90	6,454.81	6,626.29	6,384.28	32.60	35.65	36.85	-951.28	-1,394.05	295.54	238.01	57.53	5.137	
6,650.00	6,464.59	6,636.47	6,394.15	32.66	35.70	34.68	-951.60	-1,396.50	295.93	238.25	57.69	5.130	
6,700.00	6,513.25	6,686.58	6,442.78	32.91	35.93	21.34	-951.05	-1,408.55	297.94	239.52	58.42	5.100	
6,750.00	6,562.18	6,736.25	6,490.83	33.13	36.13	4.19	-947.05	-1,420.44	300.05	240.98	59.07	5.079	
6,800.00	6,611.16	6,785.49	6,538.09	33.33	36.29	-13.68	-939.71	-1,432.11	302.25	242.60	59.65	5.067	
6,850.00	6,659.93	6,834.30	6,584.35	33.50	36.44	-28.50	-929.14	-1,443.51	304.53	244.38	60.15	5.063	
6,900.00	6,708.27	6,882.72	6,629.45	33.64	36.55	-39.10	-915.49	-1,454.61	306.86	246.30	60.56	5.067	
6,950.00	6,755.93	6,930.76	6,673.21	33.75	36.64	-46.26	-898.87	-1,465.36	309.22	248.35	60.87	5.080	
7,000.00	6,802.69	6,978.43	6,715.47	33.85	36.71	-51.06	-879.43	-1,475.72	311.60	250.49	61.10	5.099	
7,050.00	6,848.32	7,025.75	6,756.10	33.92	36.77	-54.29	-857.31	-1,485.66	313.97	252.72	61.24	5.126	
7,100.00	6,892.59	7,072.75	6,794.96	33.97	36.80	-56.49	-832.65	-1,495.15	316.30	255.01	61.30	5.160	
7,150.00	6,935.29	7,119.44	6,831.93	34.01	36.81	-57.98	-805.62	-1,504.15	318.59	257.32	61.27	5.199	
7,200.00	6,976.21	7,165.83	6,866.91	34.02	36.81	-59.00	-776.35	-1,512.65	320.80	259.62	61.18	5.244	
7,250.00	7,015.15	7,211.96	6,899.78	34.02	36.79	-59.67	-745.01	-1,520.61	322.91	261.90	61.01	5.292	
7,300.00	7,051.93	7,257.83	6,930.48	34.00	36.76	-60.11	-711.74	-1,528.03	324.91	264.11	60.80	5.344	
7,350.00	7,086.36	7,303.48	6,958.91	33.96	36.72	-60.37	-676.70	-1,534.86	326.76	266.22	60.55	5.397	
7,400.00	7,118.27	7,348.91	6,984.99	33.91	36.67	-60.52	-640.04	-1,541.11	328.46	268.20	60.27	5.450	
7,450.00	7,147.51	7,394.15	7,008.68	33.85	36.60	-60.58	-601.92	-1,546.76	329.99	270.01	59.98	5.502	
7,500.00	7,173.94	7,439.21	7,029.91	33.78	36.53	-60.58	-562.50	-1,551.79	331.33	271.64	59.69	5.551	
7,550.00	7,197.43	7,484.12	7,048.63	33.69	36.45	-60.55	-521.93	-1,556.19	332.47	273.04	59.43	5.595	
7,600.00	7,217.86	7,528.89	7,064.81	33.60	36.36	-60.50	-480.36	-1,559.95	333.39	274.20	59.19	5.633	
7,650.00	7,235.14	7,573.55	7,078.40	33.50	36.27	-60.44	-437.94	-1,563.06	334.09	275.10	58.99	5.663	
7,700.00	7,249.18	7,618.10	7,089.38	33.40	36.18	-60.37	-394.84	-1,565.53	334.55	275.70	58.85	5.684	
7,750.00	7,259.91	7,662.58	7,097.73	33.29	36.08	-60.31	-351.20	-1,567.34	334.77	276.00	58.78	5.696	
7,800.00	7,267.28	7,706.99	7,103.42	33.18	35.99	-60.26	-307.18	-1,568.49	334.75	275.98	58.77	5.696	
7,850.00	7,271.25	7,751.36	7,106.46	33.07	35.89	-60.23	-262.92	-1,568.98	334.48	275.65	58.83	5.685	
7,883.14	7,272.00	7,780.89	7,107.00	33.00	35.83	-60.21	-233.40	-1,568.93	334.16	275.24	58.92	5.672	
7,900.00	7,272.00	7,797.74	7,107.00	32.97	35.79	-60.19	-216.55	-1,568.83	333.96	274.96	59.00	5.660	
8,000.00	7,272.00	7,902.27	7,107.00	32.76	35.59	-60.08	-116.56	-1,568.24	332.79	273.19	59.61	5.583	
8,100.00	7,272.00	8,002.28	7,107.00	32.58	35.42	-59.96	-16.57	-1,567.64	331.63	271.30	60.33	5.497	
8,200.00	7,272.00	8,102.28	7,107.00	32.42	35.28	-59.84	83.42	-1,567.04	330.47	269.29	61.17	5.402	
8,300.00	7,272.00	8,202.29	7,107.00	32.28	35.17	-59.73	183.41	-1,566.45	329.30	267.17	62.14	5.300	
8,400.00	7,272.00	8,302.30	7,107.00	32.17	35.11	-59.61	283.40	-1,565.85	328.14	264.93	63.21	5.191	
8,500.00	7,272.00	8,402.31	7,107.00	32.24	35.11	-59.49	383.39	-1,565.26	326.98	262.59	64.40	5.078	
8,600.00	7,272.00	8,502.32	7,107.00	32.87	35.20	-59.37	483.38	-1,564.66	325.83	260.14	65.68	4.961	
8,700.00	7,272.00	8,602.33	7,107.00	33.66	35.44	-59.25	583.37	-1,564.06	324.67	257.61	67.06	4.841	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3D-4H-N165 - 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				Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,800.00	7,272.00	8,702.34	7,107.00	34.51	35.86	-59.13	683.36	-1,563.47	323.51	254.99	68.53	4.721	
8,900.00	7,272.00	8,802.35	7,107.00	35.41	36.46	-59.00	783.35	-1,562.87	322.36	252.29	70.07	4.600	
9,000.00	7,272.00	8,902.36	7,107.00	36.35	37.20	-58.88	883.33	-1,562.27	321.21	249.51	71.69	4.480	
9,100.00	7,272.00	9,002.37	7,107.00	37.32	38.04	-58.76	983.32	-1,561.68	320.06	246.67	73.39	4.361	
9,200.00	7,272.00	9,102.38	7,107.00	38.34	38.95	-58.63	1,083.31	-1,561.08	318.91	243.77	75.14	4.244	
9,300.00	7,272.00	9,202.38	7,107.00	39.39	39.92	-58.50	1,183.30	-1,560.49	317.76	240.80	76.96	4.129	
9,400.00	7,272.00	9,302.39	7,107.00	40.47	40.94	-58.38	1,283.29	-1,559.89	316.62	237.79	78.83	4.017	
9,500.00	7,272.00	9,402.40	7,107.00	41.57	41.99	-58.25	1,383.28	-1,559.29	315.47	234.72	80.75	3.907	
9,600.00	7,272.00	9,502.41	7,107.00	42.71	43.08	-58.12	1,483.27	-1,558.70	314.33	231.62	82.71	3.800	
9,700.00	7,272.00	9,602.42	7,107.00	43.87	44.19	-57.99	1,583.26	-1,558.10	313.19	228.47	84.72	3.697	
9,800.00	7,272.00	9,702.43	7,107.00	45.06	45.34	-57.86	1,683.25	-1,557.50	312.05	225.28	86.77	3.596	
9,900.00	7,272.00	9,802.44	7,107.00	46.27	46.51	-57.73	1,783.24	-1,556.91	310.91	222.06	88.85	3.499	
10,000.00	7,272.00	9,902.45	7,107.00	47.50	47.70	-57.59	1,883.23	-1,556.31	309.77	218.81	90.97	3.405	
10,100.00	7,272.00	10,002.46	7,107.00	48.74	48.91	-57.46	1,983.22	-1,555.71	308.64	215.53	93.11	3.315	
10,200.00	7,272.00	10,102.47	7,107.00	50.01	50.14	-57.33	2,083.20	-1,555.12	307.51	212.23	95.28	3.227	
10,300.00	7,272.00	10,202.47	7,107.00	51.29	51.39	-57.19	2,183.19	-1,554.52	306.38	208.90	97.48	3.143	
10,400.00	7,272.00	10,302.48	7,107.00	52.59	52.66	-57.05	2,283.18	-1,553.93	305.25	205.55	99.69	3.062	
10,500.00	7,272.00	10,402.49	7,107.00	53.90	53.94	-56.92	2,383.17	-1,553.33	304.12	202.19	101.93	2.984	
10,600.00	7,272.00	10,502.50	7,107.00	55.23	55.24	-56.78	2,483.16	-1,552.73	302.99	198.81	104.19	2.908	
10,698.35	7,272.00	10,604.16	7,107.00	56.54	56.57	-56.64	2,581.50	-1,552.15	301.89	195.43	106.46	2.836	
10,700.00	7,272.00	10,602.51	7,107.00	56.57	56.55	-56.64	2,583.15	-1,552.14	301.87	195.41	106.46	2.835	
10,758.58	7,272.00	10,656.05	7,107.00	57.36	57.26	-56.47	2,641.71	-1,551.79	300.68	192.97	107.71	2.792	
10,800.00	7,272.00	10,702.55	7,107.00	57.93	57.87	-56.32	2,683.11	-1,551.54	299.49	190.82	108.67	2.756	
10,900.00	7,272.00	10,802.61	7,107.00	59.31	59.21	-55.95	2,783.04	-1,550.94	296.63	185.78	110.86	2.676	
11,000.00	7,272.00	10,902.67	7,107.00	60.70	60.55	-55.58	2,882.98	-1,550.35	293.78	180.75	113.04	2.599	
11,100.00	7,272.00	10,997.27	7,107.00	62.10	61.83	-55.20	2,982.92	-1,549.75	290.94	175.80	115.15	2.527	
11,200.00	7,272.00	11,102.79	7,107.00	63.51	63.28	-54.80	3,082.86	-1,549.16	288.12	170.74	117.38	2.455	
11,300.00	7,272.00	11,202.85	7,107.00	64.93	64.65	-54.41	3,182.80	-1,548.56	285.31	165.77	119.54	2.387	
11,400.00	7,272.00	11,302.91	7,107.00	66.36	66.03	-54.00	3,282.74	-1,547.96	282.52	160.82	121.70	2.321	
11,500.00	7,272.00	11,402.97	7,107.00	67.79	67.43	-53.58	3,382.68	-1,547.37	279.73	155.90	123.83	2.259	
11,600.00	7,272.00	11,503.03	7,107.00	69.23	68.83	-53.16	3,482.62	-1,546.77	276.97	151.01	125.96	2.199	
11,700.00	7,272.00	11,603.09	7,107.00	70.68	70.23	-52.73	3,582.56	-1,546.18	274.22	146.15	128.07	2.141	
11,800.00	7,272.00	11,703.15	7,107.00	72.14	71.65	-52.29	3,682.49	-1,545.58	271.48	141.33	130.15	2.086	
11,900.00	7,272.00	11,803.21	7,107.00	73.60	73.07	-51.84	3,782.43	-1,544.98	268.76	136.54	132.22	2.033	
12,000.00	7,272.00	11,903.27	7,107.00	75.06	74.49	-51.38	3,882.37	-1,544.39	266.06	131.79	134.27	1.982	
12,100.00	7,272.00	12,003.33	7,107.00	76.53	75.92	-50.91	3,982.31	-1,543.79	263.38	127.08	136.29	1.932	
12,200.00	7,272.00	12,096.61	7,107.00	78.01	77.26	-50.44	4,082.25	-1,543.20	260.71	122.50	138.21	1.886	
12,229.68	7,272.00	12,122.72	7,107.00	78.45	77.64	-50.31	4,108.36	-1,543.04	259.95	120.85	139.09	1.869 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3F-4H-N165 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis			
0.00	0.00	0.00	0.00	0.00	0.00	81.55	1.47	9.89	10.00					
100.00	100.00	100.00	100.00	0.14	0.14	81.55	1.47	9.89	10.00	9.72	0.28	36.228		
200.00	200.00	200.00	200.00	0.50	0.50	81.55	1.47	9.89	10.00	9.01	0.99	10.071		
300.00	300.00	300.00	300.00	0.85	0.85	81.55	1.47	9.89	10.00	8.29	1.71	5.848		
400.00	400.00	400.00	400.00	1.21	1.21	81.55	1.47	9.89	10.00	7.57	2.43	4.120		
500.00	500.00	500.00	500.00	1.57	1.57	81.55	1.47	9.89	10.00	6.86	3.14	3.181		
600.00	600.00	600.00	600.00	1.93	1.93	81.55	1.47	9.89	10.00	6.14	3.86	2.590 CC, ES		
700.00	699.98	700.02	699.98	2.28	2.29	-152.69	1.47	9.89	11.52	6.95	4.56	2.524		
800.00	799.84	799.84	799.84	2.61	2.65	-161.11	1.47	9.89	16.35	11.09	5.26	3.108		
900.00	899.45	900.26	900.24	2.96	2.99	-166.73	0.34	8.55	23.06	17.11	5.95	3.878		
1,000.00	998.70	1,000.93	1,000.76	3.32	3.33	-169.80	-3.09	4.52	29.87	23.25	6.62	4.510		
1,100.00	1,097.47	1,101.84	1,101.29	3.70	3.68	-171.73	-8.80	-2.23	36.71	29.41	7.30	5.026		
1,200.00	1,195.62	1,203.01	1,201.68	4.10	4.04	-173.04	-16.83	-11.69	43.54	35.55	7.99	5.451		
1,300.00	1,293.06	1,304.43	1,301.83	4.53	4.41	-174.00	-27.18	-23.89	50.34	41.67	8.68	5.803		
1,342.22	1,333.94	1,347.32	1,344.00	4.71	4.58	-174.33	-32.24	-29.87	53.20	44.23	8.97	5.932		
1,400.00	1,389.80	1,406.13	1,401.62	4.98	4.81	-174.68	-39.84	-38.83	56.52	47.16	9.37	6.035		
1,500.00	1,486.46	1,508.15	1,500.96	5.45	5.24	-174.96	-54.84	-56.53	59.48	49.42	10.06	5.913		
1,600.00	1,583.12	1,608.72	1,598.27	5.93	5.68	-175.01	-71.29	-75.92	59.82	49.03	10.79	5.544		
1,700.00	1,679.78	1,708.72	1,694.98	6.42	6.14	-175.04	-87.72	-95.30	60.04	48.49	11.54	5.201		
1,800.00	1,776.45	1,808.72	1,791.70	6.92	6.60	-175.08	-104.16	-114.69	60.25	47.95	12.30	4.897		
1,900.00	1,873.11	1,908.72	1,888.42	7.42	7.08	-175.11	-120.59	-134.07	60.46	47.39	13.07	4.627		
2,000.00	1,969.77	2,008.72	1,985.13	7.93	7.57	-175.15	-137.02	-153.45	60.67	46.84	13.84	4.385		
2,100.00	2,066.43	2,108.72	2,081.85	8.44	8.06	-175.18	-153.46	-172.83	60.89	46.28	14.61	4.167		
2,200.00	2,163.10	2,208.72	2,178.57	8.96	8.56	-175.21	-169.89	-192.22	61.10	45.71	15.39	3.971		
2,300.00	2,259.76	2,308.72	2,275.29	9.48	9.06	-175.24	-186.33	-211.60	61.31	45.14	16.17	3.792		
2,400.00	2,356.42	2,408.72	2,372.00	10.00	9.56	-175.28	-202.76	-230.98	61.53	44.57	16.95	3.630		
2,500.00	2,453.08	2,508.72	2,468.72	10.52	10.07	-175.31	-219.19	-250.36	61.74	44.00	17.73	3.481		
2,600.00	2,549.75	2,608.72	2,565.44	11.04	10.58	-175.34	-235.63	-269.74	61.95	43.43	18.52	3.345		
2,700.00	2,646.41	2,708.72	2,662.15	11.57	11.10	-175.37	-252.06	-289.13	62.16	42.86	19.31	3.220		
2,800.00	2,743.07	2,808.72	2,758.87	12.09	11.61	-175.41	-268.49	-308.51	62.38	42.28	20.10	3.104		
2,900.00	2,839.73	2,908.72	2,855.59	12.62	12.13	-175.44	-284.93	-327.89	62.59	41.70	20.89	2.996		
3,000.00	2,936.40	3,008.72	2,952.31	13.15	12.65	-175.47	-301.36	-347.27	62.80	41.12	21.68	2.897		
3,100.00	3,033.06	3,108.72	3,049.02	13.68	13.17	-175.50	-317.80	-366.66	63.02	40.54	22.47	2.804		
3,200.00	3,129.72	3,208.72	3,145.74	14.21	13.69	-175.53	-334.23	-386.04	63.23	39.96	23.26	2.718		
3,300.00	3,226.38	3,308.72	3,242.46	14.74	14.21	-175.56	-350.66	-405.42	63.44	39.38	24.06	2.637		
3,400.00	3,323.05	3,408.72	3,339.17	15.27	14.74	-175.59	-367.10	-424.80	63.65	38.80	24.85	2.561		
3,500.00	3,419.71	3,508.72	3,435.89	15.80	15.26	-175.62	-383.53	-444.19	63.87	38.22	25.65	2.490		
3,600.00	3,516.37	3,608.72	3,532.61	16.33	15.79	-175.65	-399.97	-463.57	64.08	37.63	26.45	2.423		
3,700.00	3,613.03	3,708.72	3,629.33	16.86	16.31	-175.68	-416.40	-482.95	64.29	37.05	27.24	2.360		
3,800.00	3,709.70	3,808.72	3,726.04	17.39	16.84	-175.71	-432.83	-502.33	64.51	36.47	28.04	2.301		
3,900.00	3,806.36	3,908.72	3,822.76	17.93	17.37	-175.74	-449.27	-521.72	64.72	35.88	28.84	2.244		
4,000.00	3,903.02	4,008.72	3,919.48	18.46	17.89	-175.77	-465.70	-541.10	64.93	35.30	29.63	2.191		
4,100.00	3,999.68	4,108.72	4,016.19	18.99	18.42	-175.80	-482.13	-560.48	65.15	34.71	30.43	2.141		
4,200.00	4,096.35	4,208.72	4,112.91	19.53	18.95	-175.83	-498.57	-579.86	65.36	34.13	31.23	2.093		
4,300.00	4,193.01	4,308.72	4,209.63	20.06	19.48	-175.86	-515.00	-599.25	65.57	33.54	32.03	2.047		
4,400.00	4,289.67	4,408.72	4,306.35	20.60	20.01	-175.89	-531.44	-618.63	65.78	32.96	32.83	2.004		
4,500.00	4,386.33	4,508.72	4,403.06	21.13	20.54	-175.92	-547.87	-638.01	66.00	32.37	33.63	1.963		
4,600.00	4,483.00	4,608.72	4,499.78	21.67	21.07	-175.94	-564.30	-657.39	66.21	31.78	34.43	1.923		
4,700.00	4,579.66	4,708.72	4,596.50	22.20	21.60	-175.97	-580.74	-676.77	66.42	31.20	35.23	1.886		
4,800.00	4,676.32	4,808.72	4,693.21	22.74	22.13	-176.00	-597.17	-696.16	66.64	30.61	36.03	1.850		
4,900.00	4,772.98	4,908.72	4,789.93	23.27	22.66	-176.03	-613.60	-715.54	66.85	30.02	36.83	1.815		
5,000.00	4,869.65	5,008.72	4,886.65	23.81	23.19	-176.06	-630.04	-734.92	67.06	29.44	37.63	1.782		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3F-4H-N165 - 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	4,966.31	5,108.72	4,983.37	24.34	23.72	-176.08	-646.47	-754.30	67.28	28.85	38.43	1.751		
5,200.00	5,062.97	5,208.71	5,080.08	24.88	24.25	-176.11	-662.91	-773.69	67.49	28.26	39.23	1.721		
5,300.00	5,159.63	5,308.71	5,176.80	25.41	24.79	-176.14	-679.34	-793.07	67.70	27.68	40.03	1.691		
5,400.00	5,256.30	5,408.71	5,273.52	25.95	25.32	-176.16	-695.77	-812.45	67.92	27.09	40.83	1.663		
5,500.00	5,352.96	5,508.71	5,370.23	26.49	25.85	-176.19	-712.21	-831.83	68.13	26.50	41.63	1.637		
5,600.00	5,449.62	5,608.71	5,466.95	27.02	26.38	-176.22	-728.64	-851.22	68.34	25.91	42.43	1.611		
5,700.00	5,546.28	5,708.71	5,563.67	27.56	26.91	-176.24	-745.08	-870.60	68.56	25.33	43.23	1.586		
5,800.00	5,642.95	5,808.71	5,660.39	28.09	27.45	-176.27	-761.51	-889.98	68.77	24.74	44.03	1.562		
5,900.00	5,739.61	5,908.71	5,757.10	28.63	27.98	-176.30	-777.94	-909.36	68.98	24.15	44.83	1.539		
6,000.00	5,836.27	6,008.71	5,853.82	29.17	28.51	-176.32	-794.38	-928.75	69.20	23.56	45.64	1.516		
6,100.00	5,932.93	6,108.71	5,950.54	29.70	29.04	-176.35	-810.81	-948.13	69.41	22.97	46.44	1.495 Level 3		
6,200.00	6,029.60	6,208.71	6,047.25	30.24	29.58	-176.37	-827.24	-967.51	69.62	22.39	47.24	1.474 Level 3		
6,300.00	6,126.26	6,308.71	6,143.97	30.78	30.11	-176.40	-843.68	-986.89	69.84	21.80	48.04	1.454 Level 3		
6,400.00	6,222.92	6,408.71	6,240.69	31.31	30.64	-176.42	-860.11	-1,006.28	70.05	21.21	48.84	1.434 Level 3, SF		
6,500.00	6,319.58	6,504.37	6,333.66	31.85	31.13	-178.66	-872.39	-1,024.88	72.51	22.96	49.55	1.463 Level 3		
6,600.00	6,416.25	6,596.24	6,423.70	32.39	31.51	173.24	-872.62	-1,042.80	83.82	33.76	50.06	1.675		
6,639.90	6,454.81	6,631.58	6,458.24	32.60	31.63	169.36	-869.58	-1,049.65	91.46	41.17	50.28	1.819		
6,650.00	6,464.59	6,640.40	6,466.83	32.66	31.65	165.84	-868.55	-1,051.35	93.64	43.30	50.34	1.860		
6,700.00	6,513.25	6,683.67	6,508.77	32.91	31.78	146.54	-861.93	-1,059.64	104.66	54.15	50.51	2.072		
6,750.00	6,562.18	6,726.35	6,549.69	33.13	31.89	124.43	-852.89	-1,067.71	115.80	65.34	50.46	2.295		
6,800.00	6,611.16	6,768.50	6,589.51	33.33	31.97	102.38	-841.54	-1,075.54	126.84	76.65	50.19	2.527		
6,850.00	6,659.93	6,810.14	6,628.15	33.50	32.05	83.97	-828.00	-1,083.11	137.64	87.95	49.68	2.770		
6,900.00	6,708.27	6,851.34	6,665.55	33.64	32.11	70.24	-812.38	-1,090.43	148.08	99.11	48.97	3.024		
6,950.00	6,755.93	6,892.12	6,701.66	33.75	32.15	60.33	-794.78	-1,097.47	158.09	110.01	48.08	3.288		
7,000.00	6,802.69	6,932.53	6,736.41	33.85	32.18	53.10	-775.31	-1,104.22	167.59	120.57	47.02	3.564		
7,050.00	6,848.32	6,972.60	6,769.75	33.92	32.20	47.70	-754.05	-1,110.68	176.54	130.71	45.82	3.853		
7,100.00	6,892.59	7,012.36	6,801.64	33.97	32.21	43.56	-731.12	-1,116.84	184.88	140.38	44.50	4.154		
7,150.00	6,935.29	7,051.86	6,832.03	34.01	32.21	40.34	-706.59	-1,122.68	192.59	149.50	43.09	4.470		
7,200.00	6,976.21	7,091.11	6,860.87	34.02	32.19	37.79	-680.56	-1,128.21	199.63	158.03	41.60	4.799		
7,250.00	7,015.15	7,130.14	6,888.14	34.02	32.17	35.74	-653.12	-1,133.41	205.98	165.93	40.05	5.142		
7,300.00	7,051.93	7,168.99	6,913.77	34.00	32.14	34.09	-624.35	-1,138.27	211.61	173.13	38.48	5.499		
7,350.00	7,086.36	7,207.68	6,937.75	33.96	32.10	32.77	-594.33	-1,142.79	216.52	179.61	36.91	5.866		
7,400.00	7,118.27	7,246.24	6,960.03	33.91	32.06	31.71	-563.14	-1,146.97	220.67	185.30	35.37	6.240		
7,450.00	7,147.51	7,284.68	6,980.58	33.85	32.01	30.87	-530.88	-1,150.79	224.06	190.18	33.88	6.613		
7,500.00	7,173.94	7,323.05	6,999.36	33.78	31.95	30.22	-497.61	-1,154.25	226.69	194.19	32.50	6.975		
7,550.00	7,197.43	7,361.35	7,016.35	33.69	31.89	29.75	-463.42	-1,157.35	228.54	197.28	31.25	7.312		
7,600.00	7,217.86	7,400.00	7,031.65	33.60	31.82	29.43	-428.05	-1,160.10	229.61	199.38	30.23	7.596		
7,650.00	7,235.14	7,437.87	7,044.80	33.50	31.75	29.25	-392.61	-1,162.43	229.90	200.55	29.35	7.832		
7,700.00	7,249.18	7,476.13	7,056.21	33.40	31.68	29.21	-356.15	-1,164.40	229.41	200.63	28.78	7.971		
7,750.00	7,259.91	7,514.43	7,065.70	33.29	31.61	29.29	-319.09	-1,165.98	228.14	199.64	28.51	8.004		
7,800.00	7,267.28	7,552.78	7,073.25	33.18	31.53	29.51	-281.51	-1,167.17	226.11	197.55	28.55	7.919		
7,850.00	7,271.25	7,591.22	7,078.82	33.07	31.45	29.86	-243.49	-1,167.97	223.31	194.38	28.93	7.718		
7,883.14	7,272.00	7,616.75	7,081.41	33.00	31.40	30.17	-218.09	-1,168.27	221.04	191.68	29.37	7.527		
7,900.00	7,272.00	7,629.77	7,082.39	32.97	31.37	30.30	-205.11	-1,168.36	219.95	190.32	29.63	7.423		
7,954.71	7,272.00	7,672.18	7,083.97	32.85	31.29	30.59	-162.74	-1,168.32	218.42	187.79	30.63	7.132		
8,000.00	7,272.00	7,715.72	7,084.00	32.76	31.20	30.75	-119.20	-1,167.97	218.75	187.77	30.98	7.060		
8,100.00	7,272.00	7,815.70	7,084.00	32.58	31.02	31.10	-19.22	-1,167.14	219.56	187.94	31.62	6.943		
8,200.00	7,272.00	7,915.69	7,084.00	32.42	30.85	31.45	80.77	-1,166.32	220.38	187.99	32.38	6.805		
8,300.00	7,272.00	8,015.68	7,084.00	32.28	30.70	31.80	180.75	-1,165.49	221.20	187.94	33.27	6.649		
8,400.00	7,272.00	8,115.67	7,084.00	32.17	30.56	32.14	280.74	-1,164.66	222.04	187.77	34.26	6.480		
8,500.00	7,272.00	8,215.65	7,084.00	32.24	30.65	32.48	380.72	-1,163.84	222.88	187.51	35.37	6.301		
8,600.00	7,272.00	8,315.64	7,084.00	32.87	31.37	32.82	480.70	-1,163.01	223.73	187.15	36.58	6.116		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3F-4H-N165 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis			
8,700.00	7,272.00	8,415.63	7,084.00	33.66	32.16	33.16	580.69	-1,162.19	224.59	186.70	37.89	5.928		
8,800.00	7,272.00	8,515.62	7,084.00	34.51	33.00	33.50	680.67	-1,161.36	225.45	186.17	39.28	5.739		
8,900.00	7,272.00	8,615.60	7,084.00	35.41	33.88	33.83	780.66	-1,160.53	226.33	185.57	40.76	5.553		
9,000.00	7,272.00	8,715.59	7,084.00	36.35	34.81	34.16	880.64	-1,159.71	227.21	184.89	42.32	5.369		
9,100.00	7,272.00	8,815.58	7,084.00	37.32	35.77	34.49	980.62	-1,158.88	228.09	184.15	43.94	5.191		
9,200.00	7,272.00	8,915.57	7,084.00	38.34	36.78	34.81	1,080.61	-1,158.05	228.99	183.35	45.64	5.018		
9,300.00	7,272.00	9,015.56	7,084.00	39.39	37.82	35.13	1,180.59	-1,157.23	229.89	182.50	47.39	4.851		
9,400.00	7,272.00	9,115.54	7,084.00	40.47	38.89	35.45	1,280.58	-1,156.40	230.80	181.59	49.21	4.690		
9,500.00	7,272.00	9,215.53	7,084.00	41.57	39.99	35.77	1,380.56	-1,155.57	231.72	180.64	51.08	4.537		
9,600.00	7,272.00	9,315.52	7,084.00	42.71	41.12	36.09	1,480.55	-1,154.75	232.64	179.65	53.00	4.390		
9,700.00	7,272.00	9,415.51	7,084.00	43.87	42.28	36.40	1,580.53	-1,153.92	233.57	178.61	54.96	4.250		
9,800.00	7,272.00	9,515.49	7,084.00	45.06	43.46	36.71	1,680.51	-1,153.10	234.51	177.54	56.97	4.116		
9,900.00	7,272.00	9,615.48	7,084.00	46.27	44.66	37.01	1,780.50	-1,152.27	235.46	176.43	59.03	3.989		
10,000.00	7,272.00	9,715.47	7,084.00	47.50	45.88	37.32	1,880.48	-1,151.44	236.41	175.29	61.12	3.868		
10,100.00	7,272.00	9,815.46	7,084.00	48.74	47.13	37.62	1,980.47	-1,150.62	237.37	174.12	63.25	3.753		
10,200.00	7,272.00	9,915.44	7,084.00	50.01	48.39	37.92	2,080.45	-1,149.79	238.33	172.92	65.41	3.644		
10,300.00	7,272.00	10,015.43	7,084.00	51.29	49.66	38.22	2,180.43	-1,148.96	239.30	171.70	67.61	3.540		
10,400.00	7,272.00	10,115.42	7,084.00	52.59	50.96	38.51	2,280.42	-1,148.14	240.28	170.45	69.83	3.441		
10,500.00	7,272.00	10,215.41	7,084.00	53.90	52.27	38.81	2,380.40	-1,147.31	241.26	169.17	72.09	3.347		
10,600.00	7,272.00	10,315.39	7,084.00	55.23	53.59	39.10	2,480.39	-1,146.48	242.25	167.87	74.38	3.257		
10,698.35	7,272.00	10,413.73	7,084.00	56.54	54.90	39.38	2,578.72	-1,145.67	243.23	166.58	76.66	3.173		
10,700.00	7,272.00	10,415.38	7,084.00	56.57	54.92	39.38	2,580.37	-1,145.66	243.25	166.56	76.69	3.172		
10,758.58	7,272.00	10,473.94	7,084.00	57.36	55.71	39.65	2,638.93	-1,145.17	244.24	166.08	78.16	3.125		
10,800.00	7,272.00	10,515.33	7,084.00	57.93	56.27	39.92	2,680.32	-1,144.83	245.22	165.94	79.27	3.093		
10,900.00	7,272.00	10,615.26	7,084.00	59.31	57.63	40.58	2,780.25	-1,144.01	247.59	165.61	81.98	3.020		
11,000.00	7,272.00	10,715.20	7,084.00	60.70	58.99	41.22	2,880.18	-1,143.18	250.00	165.28	84.72	2.951		
11,100.00	7,272.00	10,815.13	7,084.00	62.10	60.37	41.84	2,980.11	-1,142.35	252.44	164.94	87.49	2.885		
11,200.00	7,272.00	10,915.06	7,084.00	63.51	61.75	42.46	3,080.03	-1,141.53	254.91	164.61	90.30	2.823		
11,300.00	7,272.00	11,014.99	7,084.00	64.93	63.15	43.06	3,179.96	-1,140.70	257.40	164.28	93.13	2.764		
11,400.00	7,272.00	11,114.93	7,084.00	66.36	64.55	43.65	3,279.89	-1,139.88	259.93	163.95	95.98	2.708		
11,500.00	7,272.00	11,214.86	7,084.00	67.79	65.96	44.24	3,379.82	-1,139.05	262.48	163.62	98.86	2.655		
11,600.00	7,272.00	11,314.79	7,084.00	69.23	67.38	44.80	3,479.75	-1,138.23	265.06	163.29	101.77	2.604		
11,700.00	7,272.00	11,414.72	7,084.00	70.68	68.80	45.36	3,579.68	-1,137.40	267.66	162.96	104.70	2.557		
11,800.00	7,272.00	11,514.66	7,084.00	72.14	70.23	45.91	3,679.61	-1,136.57	270.29	162.64	107.65	2.511		
11,900.00	7,272.00	11,614.59	7,084.00	73.60	71.66	46.45	3,779.54	-1,135.75	272.95	162.33	110.62	2.467		
12,000.00	7,272.00	11,714.52	7,084.00	75.06	73.10	46.97	3,879.47	-1,134.92	275.62	162.02	113.61	2.426		
12,100.00	7,272.00	11,814.45	7,084.00	76.53	74.55	47.49	3,979.40	-1,134.10	278.32	161.71	116.61	2.387		
12,200.00	7,272.00	11,914.39	7,084.00	78.01	76.00	48.00	4,079.32	-1,133.27	281.04	161.41	119.63	2.349		
12,229.68	7,272.00	11,944.05	7,084.00	78.45	76.43	48.14	4,108.98	-1,133.02	281.86	161.32	120.53	2.338		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3G-4H-N165 - 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	81.55	2.94	19.78	20.00	19.72	0.28	72.456		
100.00	100.00	100.00	100.00	0.14	0.14	81.55	2.94	19.78	20.00	19.01	0.99	20.141		
200.00	200.00	200.00	200.00	0.50	0.50	81.55	2.94	19.78	20.00	18.29	1.71	11.696		
300.00	300.00	300.00	300.00	0.85	0.85	81.55	2.94	19.78	20.00	17.57	2.43	8.241		
400.00	400.00	400.00	400.00	1.21	1.21	81.55	2.94	19.78	20.00	16.86	3.14	6.362		
500.00	500.00	500.00	500.00	1.57	1.57	81.55	2.94	19.78	20.00	16.14	3.86	5.180 CC, ES		
600.00	600.00	600.00	600.00	1.93	1.93	81.55	2.94	19.78	20.00	16.94	4.56	4.711		
700.00	699.98	700.02	699.98	2.28	2.29	-150.56	2.94	19.78	21.50	20.92	5.26	4.977		
800.00	799.84	800.16	799.84	2.61	2.65	-156.16	2.94	19.78	26.19	20.92	5.26	4.977		
900.00	899.45	900.55	899.45	2.96	3.01	-161.99	2.94	19.78	34.34	28.37	5.97	5.756		
1,000.00	998.70	998.70	998.70	3.32	3.36	-166.63	2.94	19.78	46.09	39.42	6.67	6.911		
1,100.00	1,097.47	1,099.44	1,099.42	3.70	3.71	-169.46	1.63	18.66	59.82	52.46	7.36	8.124		
1,200.00	1,195.62	1,200.69	1,200.53	4.10	4.04	-170.80	-2.40	15.21	73.74	65.69	8.05	9.162		
1,300.00	1,293.06	1,302.43	1,301.87	4.53	4.39	-171.34	-9.17	9.41	87.76	79.02	8.74	10.043		
1,342.22	1,333.94	1,345.53	1,344.69	4.71	4.54	-171.41	-12.87	6.25	93.70	84.66	9.03	10.371		
1,400.00	1,389.80	1,404.74	1,403.39	4.98	4.75	-171.38	-18.74	1.22	101.27	91.83	9.44	10.733		
1,500.00	1,486.46	1,507.84	1,505.18	5.45	5.12	-170.87	-31.16	-9.42	111.69	101.56	10.14	11.020		
1,600.00	1,583.12	1,611.53	1,606.90	5.93	5.51	-169.88	-46.45	-22.51	118.72	107.87	10.85	10.945		
1,700.00	1,679.78	1,715.55	1,708.13	6.42	5.93	-168.40	-64.59	-38.04	122.37	110.81	11.57	10.579		
1,800.00	1,776.45	1,815.22	1,804.77	6.92	6.36	-166.79	-83.14	-53.93	124.62	112.27	12.34	10.097		
1,900.00	1,873.11	1,915.14	1,901.63	7.42	6.79	-165.24	-101.75	-69.86	126.95	113.82	13.13	9.669		
2,000.00	1,969.77	2,015.05	1,998.50	7.93	7.24	-163.74	-120.36	-85.80	129.37	115.44	13.93	9.286		
2,100.00	2,066.43	2,114.97	2,095.36	8.44	7.70	-162.30	-138.96	-101.73	131.88	117.13	14.75	8.942		
2,200.00	2,163.10	2,214.88	2,192.23	8.96	8.16	-160.91	-157.57	-117.66	134.47	118.89	15.58	8.631		
2,300.00	2,259.76	2,314.80	2,289.09	9.48	8.63	-159.58	-176.17	-133.60	137.13	120.71	16.42	8.350		
2,400.00	2,356.42	2,414.71	2,385.96	10.00	9.11	-158.30	-194.78	-149.53	139.86	122.58	17.28	8.095		
2,500.00	2,453.08	2,514.63	2,482.82	10.52	9.59	-157.07	-213.39	-165.46	142.67	124.52	18.15	7.862		
2,600.00	2,549.75	2,614.54	2,579.69	11.04	10.08	-155.88	-231.99	-181.40	145.53	126.50	19.03	7.649		
2,700.00	2,646.41	2,714.45	2,676.55	11.57	10.56	-154.74	-250.60	-197.33	148.46	128.54	19.92	7.454		
2,800.00	2,743.07	2,814.37	2,773.42	12.09	11.06	-153.65	-269.21	-213.26	151.44	130.62	20.82	7.275		
2,900.00	2,839.73	2,914.28	2,870.28	12.62	11.55	-152.60	-287.81	-229.19	154.47	132.75	21.73	7.110		
3,000.00	2,936.40	3,014.20	2,967.15	13.15	12.05	-151.59	-306.42	-245.13	157.56	134.91	22.64	6.958		
3,100.00	3,033.06	3,114.11	3,064.01	13.68	12.54	-150.62	-325.02	-261.06	160.69	137.12	23.57	6.817		
3,200.00	3,129.72	3,214.03	3,160.88	14.21	13.04	-149.68	-343.63	-276.99	163.86	139.36	24.50	6.687		
3,300.00	3,226.38	3,313.94	3,257.74	14.74	13.54	-148.79	-362.24	-292.93	167.08	141.63	25.45	6.566		
3,400.00	3,323.05	3,413.86	3,354.61	15.27	14.05	-147.92	-380.84	-308.86	170.34	143.94	26.40	6.453		
3,500.00	3,419.71	3,513.77	3,451.47	15.80	14.55	-147.09	-399.45	-324.79	173.63	146.28	27.35	6.348		
3,600.00	3,516.37	3,613.69	3,548.34	16.33	15.06	-146.29	-418.06	-340.73	176.96	148.65	28.31	6.250		
3,700.00	3,613.03	3,713.60	3,645.20	16.86	15.56	-145.52	-436.66	-356.66	180.32	151.04	29.28	6.159		
3,800.00	3,709.70	3,813.52	3,742.07	17.39	16.07	-144.78	-455.27	-372.59	183.72	153.47	30.25	6.073		
3,900.00	3,806.36	3,913.43	3,838.94	17.93	16.58	-144.06	-473.88	-388.53	187.14	155.91	31.23	5.993		
4,000.00	3,903.02	4,013.34	3,935.80	18.46	17.09	-143.37	-492.48	-404.46	190.59	158.39	32.21	5.918		
4,100.00	3,999.68	4,113.26	4,032.67	18.99	17.59	-142.71	-511.09	-420.39	194.07	160.88	33.19	5.847		
4,200.00	4,096.35	4,213.17	4,129.53	19.53	18.10	-142.07	-529.69	-436.32	197.57	163.39	34.18	5.780		
4,300.00	4,193.01	4,313.09	4,226.40	20.06	18.61	-141.45	-548.30	-452.26	201.10	165.93	35.17	5.718		
4,400.00	4,289.67	4,413.00	4,323.26	20.60	19.13	-140.85	-566.91	-468.19	204.65	168.48	36.17	5.658		
4,500.00	4,386.33	4,512.92	4,420.13	21.13	19.64	-140.27	-585.51	-484.12	208.22	171.06	37.17	5.602		
4,600.00	4,483.00	4,612.83	4,516.99	21.67	20.15	-139.72	-604.12	-500.06	211.82	173.65	38.17	5.549		
4,700.00	4,579.66	4,712.75	4,613.86	22.20	20.66	-139.18	-622.73	-515.99	215.43	176.25	39.17	5.499		
4,800.00	4,676.32	4,812.66	4,710.72	22.74	21.17	-138.66	-641.33	-531.92	219.06	178.88	40.18	5.452		
4,900.00	4,772.98	4,912.58	4,807.59	23.27	21.69	-138.15	-659.94	-547.86	222.70	181.52	41.19	5.407		
5,000.00	4,869.65	5,012.49	4,904.45	23.81	22.20	-137.66	-678.54	-563.79	226.37	184.17	42.20	5.364		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3G-4H-N165 - 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	4,966.31	5,112.40	5,001.32	24.34	22.71	-137.19	-697.15	-579.72	230.05	186.83	43.21	5.324	
5,200.00	5,062.97	5,212.32	5,098.18	24.88	23.23	-136.73	-715.76	-595.65	233.74	189.51	44.23	5.285	
5,300.00	5,159.63	5,312.23	5,195.05	25.41	23.74	-136.29	-734.36	-611.59	237.45	192.21	45.24	5.248	
5,400.00	5,256.30	5,412.15	5,291.91	25.95	24.26	-135.86	-752.97	-627.52	241.18	194.91	46.26	5.213	
5,500.00	5,352.96	5,512.06	5,388.78	26.49	24.77	-135.45	-771.58	-643.45	244.91	197.63	47.28	5.180	
5,600.00	5,449.62	5,611.98	5,485.64	27.02	25.29	-135.04	-790.18	-659.39	248.66	200.36	48.30	5.148	
5,700.00	5,546.28	5,711.89	5,582.51	27.56	25.80	-134.65	-808.79	-675.32	252.42	203.09	49.33	5.117	
5,800.00	5,642.95	5,811.81	5,679.37	28.09	26.32	-134.27	-827.40	-691.25	256.19	205.84	50.35	5.088	
5,900.00	5,739.61	5,911.72	5,776.24	28.63	26.83	-133.90	-846.00	-707.19	259.98	208.60	51.38	5.060	
6,000.00	5,836.27	6,011.64	5,873.10	29.17	27.35	-133.54	-864.61	-723.12	263.77	211.37	52.40	5.034	
6,100.00	5,932.93	6,111.55	5,969.97	29.70	27.86	-133.19	-883.21	-739.05	267.57	214.14	53.43	5.008	
6,200.00	6,029.60	6,211.47	6,066.83	30.24	28.38	-132.85	-901.82	-754.99	271.39	216.93	54.46	4.983	
6,300.00	6,126.26	6,311.38	6,163.70	30.78	28.90	-132.52	-920.43	-770.92	275.21	219.72	55.49	4.960	
6,400.00	6,222.92	6,411.29	6,260.57	31.31	29.41	-132.20	-939.03	-786.85	279.04	222.52	56.52	4.937	
6,500.00	6,319.58	6,515.93	6,362.94	31.85	29.90	-133.21	-951.96	-803.63	282.08	224.84	57.24	4.928	
6,600.00	6,416.25	6,617.52	6,463.10	32.39	30.26	-137.07	-949.97	-819.94	284.14	226.92	57.22	4.966	
6,639.90	6,454.81	6,656.25	6,501.07	32.60	30.36	-139.27	-945.43	-826.08	285.24	228.21	57.03	5.002	
6,650.00	6,464.59	6,665.87	6,510.46	32.66	30.38	-142.34	-943.98	-827.60	285.59	228.63	56.96	5.014	
6,700.00	6,513.25	6,712.95	6,556.09	32.91	30.49	-160.13	-935.04	-834.96	287.86	231.22	56.64	5.082	
6,750.00	6,562.18	6,759.14	6,600.20	33.13	30.57	178.37	-923.35	-842.05	290.95	234.66	56.30	5.168	
6,800.00	6,611.16	6,804.50	6,642.71	33.33	30.64	156.28	-909.08	-848.85	294.80	238.87	55.94	5.270	
6,850.00	6,659.93	6,849.10	6,683.55	33.50	30.69	137.39	-892.43	-855.37	299.31	243.76	55.56	5.387	
6,900.00	6,708.27	6,892.99	6,722.68	33.64	30.72	122.88	-873.56	-861.59	304.39	249.23	55.16	5.518	
6,950.00	6,755.93	6,936.24	6,760.06	33.75	30.74	112.00	-852.62	-867.50	309.93	255.19	54.74	5.662	
7,000.00	6,802.69	6,978.89	6,795.63	33.85	30.75	103.67	-829.78	-873.11	315.83	261.52	54.30	5.816	
7,050.00	6,848.32	7,021.00	6,829.37	33.92	30.75	97.12	-805.16	-878.40	321.98	268.14	53.85	5.980	
7,100.00	6,892.59	7,062.61	6,861.26	33.97	30.73	91.81	-778.90	-883.38	328.30	274.93	53.37	6.152	
7,150.00	6,935.29	7,103.77	6,891.27	34.01	30.71	87.41	-751.14	-888.04	334.69	281.81	52.88	6.330	
7,200.00	6,976.21	7,144.51	6,919.38	34.02	30.68	83.71	-721.97	-892.38	341.06	288.68	52.38	6.511	
7,250.00	7,015.15	7,184.88	6,945.57	34.02	30.64	80.55	-691.53	-896.39	347.34	295.46	51.88	6.694	
7,300.00	7,051.93	7,224.91	6,969.84	34.00	30.60	77.85	-659.91	-900.09	353.45	302.05	51.40	6.876	
7,350.00	7,086.36	7,264.63	6,992.16	33.96	30.55	75.51	-627.23	-903.45	359.33	308.39	50.94	7.053	
7,400.00	7,118.27	7,304.08	7,012.53	33.91	30.49	73.50	-593.59	-906.49	364.92	314.40	50.52	7.223	
7,450.00	7,147.51	7,343.29	7,030.93	33.85	30.43	71.76	-559.08	-909.20	370.17	320.02	50.15	7.382	
7,500.00	7,173.94	7,382.29	7,047.35	33.78	30.37	70.28	-523.80	-911.59	375.03	325.20	49.83	7.526	
7,550.00	7,197.43	7,421.10	7,061.80	33.69	30.31	69.02	-487.84	-913.64	379.46	329.88	49.58	7.653	
7,600.00	7,217.86	7,459.75	7,074.25	33.60	30.25	67.97	-451.29	-915.37	383.43	334.02	49.41	7.759	
7,650.00	7,235.14	7,500.00	7,085.13	33.50	30.18	67.10	-412.57	-916.82	386.91	337.59	49.32	7.846	
7,700.00	7,249.18	7,536.68	7,093.16	33.40	30.12	66.43	-376.80	-917.83	389.86	340.53	49.34	7.902	
7,750.00	7,259.91	7,575.01	7,099.62	33.29	30.06	65.92	-339.03	-918.57	392.28	342.85	49.44	7.935	
7,800.00	7,267.28	7,613.27	7,104.06	33.18	29.99	65.58	-301.03	-918.98	394.15	344.52	49.63	7.942	
7,850.00	7,271.25	7,651.51	7,106.49	33.07	29.94	65.40	-262.88	-919.06	395.46	345.55	49.91	7.923	
7,883.14	7,272.00	7,676.84	7,107.00	33.00	29.90	65.37	-237.56	-918.94	396.01	345.86	50.15	7.896	
7,900.00	7,272.00	7,706.86	7,107.00	32.97	29.86	65.39	-221.25	-918.80	396.25	346.03	50.23	7.889	
8,000.00	7,272.00	7,806.87	7,107.00	32.76	29.77	65.48	-121.27	-917.98	397.69	347.12	50.57	7.865	
8,100.00	7,272.00	7,906.88	7,107.00	32.58	29.75	65.58	-21.28	-917.15	399.12	348.05	51.07	7.815	
8,200.00	7,272.00	8,006.89	7,107.00	32.42	29.85	65.67	78.70	-916.32	400.55	348.81	51.75	7.741	
8,300.00	7,272.00	8,106.91	7,107.00	32.28	30.12	65.76	178.69	-915.50	401.99	349.41	52.58	7.645	
8,400.00	7,272.00	8,206.92	7,107.00	32.17	30.57	65.86	278.67	-914.67	403.43	349.86	53.56	7.532	
8,500.00	7,272.00	8,293.07	7,107.00	32.24	31.08	65.95	378.65	-913.85	404.86	350.25	54.61	7.414	
8,600.00	7,272.00	8,406.94	7,107.00	32.87	31.86	66.04	478.64	-913.02	406.30	350.34	55.96	7.261	
8,700.00	7,272.00	8,506.95	7,107.00	33.66	32.64	66.13	578.62	-912.19	407.74	350.39	57.35	7.109	

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

Cathedral Energy Services

Anticollision Report

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Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3G-4H-N165 - 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							
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8,800.00	7,272.00	8,806.97	7,107.00	34.51	33.47	66.22	678.61	-911.37	409.18	350.32	58.87	6.951	
8,900.00	7,272.00	8,706.98	7,107.00	35.41	34.37	66.30	778.59	-910.54	410.62	350.13	60.49	6.789	
9,000.00	7,272.00	8,806.99	7,107.00	36.35	35.31	66.39	878.57	-909.71	412.07	349.85	62.21	6.623	
9,100.00	7,272.00	8,893.00	7,107.00	37.32	36.15	66.48	978.56	-908.89	413.51	349.61	63.90	6.471	
9,200.00	7,272.00	9,007.02	7,107.00	38.34	37.31	66.57	1,078.54	-908.06	414.95	349.01	65.94	6.293	
9,300.00	7,272.00	9,107.03	7,107.00	39.39	38.37	66.65	1,178.53	-907.24	416.40	348.47	67.93	6.130	
9,400.00	7,272.00	9,207.04	7,107.00	40.47	39.47	66.74	1,278.51	-906.41	417.84	347.86	69.99	5.970	
9,500.00	7,272.00	9,307.05	7,107.00	41.57	40.59	66.82	1,378.50	-905.58	419.29	347.18	72.11	5.814	
9,600.00	7,272.00	9,407.07	7,107.00	42.71	41.74	66.91	1,478.48	-904.76	420.74	346.44	74.30	5.663	
9,700.00	7,272.00	9,507.08	7,107.00	43.87	42.92	66.99	1,578.46	-903.93	422.19	345.64	76.55	5.515	
9,800.00	7,272.00	9,607.09	7,107.00	45.06	44.12	67.08	1,678.45	-903.10	423.64	344.79	78.85	5.373	
9,900.00	7,272.00	9,707.10	7,107.00	46.27	45.34	67.16	1,778.43	-902.28	425.09	343.90	81.19	5.236	
10,000.00	7,272.00	9,807.12	7,107.00	47.50	46.58	67.24	1,878.42	-901.45	426.54	342.96	83.58	5.103	
10,100.00	7,272.00	9,892.87	7,107.00	48.74	47.66	67.32	1,978.40	-900.63	427.99	342.15	85.84	4.986	
10,200.00	7,272.00	10,007.14	7,107.00	50.01	49.12	67.40	2,078.38	-899.80	429.45	340.97	88.48	4.854	
10,300.00	7,272.00	10,107.15	7,107.00	51.29	50.41	67.48	2,178.37	-898.97	430.90	339.92	90.99	4.736	
10,400.00	7,272.00	10,207.17	7,107.00	52.59	51.72	67.56	2,278.35	-898.15	432.36	338.84	93.52	4.623	
10,500.00	7,272.00	10,307.18	7,107.00	53.90	53.05	67.64	2,378.34	-897.32	433.81	337.73	96.09	4.515	
10,600.00	7,272.00	10,407.19	7,107.00	55.23	54.38	67.72	2,478.32	-896.49	435.27	336.59	98.68	4.411	
10,698.35	7,272.00	10,508.85	7,107.00	56.54	55.75	67.80	2,576.66	-895.68	436.70	335.41	101.30	4.311	
10,700.00	7,272.00	10,507.20	7,107.00	56.57	55.73	67.80	2,578.31	-895.67	436.73	335.43	101.30	4.311	
10,758.58	7,272.00	10,551.36	7,107.00	57.36	56.33	67.87	2,636.86	-895.18	438.17	335.49	102.68	4.267	
10,800.00	7,272.00	10,607.25	7,107.00	57.93	57.09	67.94	2,678.25	-894.84	439.58	335.58	104.00	4.227	
10,900.00	7,272.00	10,707.32	7,107.00	59.31	58.46	68.12	2,778.18	-894.02	442.99	336.24	106.75	4.150	
11,000.00	7,272.00	10,807.39	7,107.00	60.70	59.84	68.29	2,878.11	-893.19	446.40	336.89	109.51	4.076	
11,100.00	7,272.00	10,907.46	7,107.00	62.10	61.23	68.47	2,978.04	-892.36	449.82	337.52	112.30	4.005	
11,200.00	7,272.00	11,007.52	7,107.00	63.51	62.63	68.64	3,077.97	-891.54	453.24	338.13	115.11	3.938	
11,300.00	7,272.00	11,107.59	7,107.00	64.93	64.04	68.81	3,177.90	-890.71	456.67	338.74	117.93	3.872	
11,400.00	7,272.00	11,207.66	7,107.00	66.36	65.45	68.97	3,277.83	-889.89	460.10	339.33	120.77	3.810	
11,500.00	7,272.00	11,307.73	7,107.00	67.79	66.87	69.13	3,377.76	-889.06	463.53	339.90	123.63	3.749	
11,600.00	7,272.00	11,407.79	7,107.00	69.23	68.30	69.30	3,477.68	-888.24	466.97	340.47	126.50	3.691	
11,700.00	7,272.00	11,507.86	7,107.00	70.68	69.74	69.45	3,577.61	-887.41	470.41	341.03	129.38	3.636	
11,800.00	7,272.00	11,607.93	7,107.00	72.14	71.18	69.61	3,677.54	-886.58	473.85	341.57	132.28	3.582	
11,900.00	7,272.00	11,708.00	7,107.00	73.60	72.62	69.76	3,777.47	-885.76	477.30	342.11	135.19	3.531	
12,000.00	7,272.00	11,808.06	7,107.00	75.06	74.07	69.91	3,877.40	-884.93	480.75	342.64	138.11	3.481	
12,100.00	7,272.00	11,891.87	7,107.00	76.53	75.29	70.06	3,977.33	-884.11	484.21	343.39	140.82	3.439	
12,200.00	7,272.00	11,991.80	7,107.00	78.01	76.75	70.21	4,077.26	-883.28	487.67	343.91	143.76	3.392	
12,229.68	7,272.00	12,021.46	7,107.00	78.45	77.18	70.25	4,106.92	-883.04	488.69	344.06	144.63	3.379 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3H-4H-N165 - 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	81.55	4.41	29.67	30.00					
100.00	100.00	100.00	100.00	0.14	0.14	81.55	4.41	29.67	30.00	29.72	0.28	108.684		
200.00	200.00	200.00	200.00	0.50	0.50	81.55	4.41	29.67	30.00	29.01	0.99	30.212		
300.00	300.00	300.00	300.00	0.85	0.85	81.55	4.41	29.67	30.00	28.29	1.71	17.544		
400.00	400.00	400.00	400.00	1.21	1.21	81.55	4.41	29.67	30.00	27.57	2.43	12.361		
500.00	500.00	500.00	500.00	1.57	1.57	81.55	4.41	29.67	30.00	26.86	3.14	9.542		
600.00	600.00	600.00	600.00	1.93	1.93	81.55	4.41	29.67	30.00	26.14	3.86	7.770 CC, ES		
700.00	699.98	700.02	699.98	2.28	2.29	-149.78	4.41	29.67	31.49	26.93	4.56	6.901		
800.00	799.84	800.16	799.84	2.61	2.65	-153.92	4.41	29.67	36.11	30.85	5.26	6.865		
900.00	899.45	900.55	899.45	2.96	3.01	-158.84	4.41	29.67	44.11	38.15	5.97	7.393		
1,000.00	998.70	1,001.30	998.70	3.32	3.37	-163.31	4.41	29.67	55.66	48.98	6.68	8.334		
1,100.00	1,097.47	1,102.53	1,097.47	3.70	3.73	-166.87	4.41	29.67	70.79	63.40	7.40	9.571		
1,200.00	1,195.62	1,195.62	1,195.62	4.10	4.07	-169.58	4.41	29.67	89.49	81.40	8.09	11.064		
1,300.00	1,293.06	1,296.26	1,296.24	4.53	4.41	-171.23	2.98	28.93	110.35	101.56	8.79	12.550		
1,342.22	1,333.94	1,338.99	1,338.93	4.71	4.55	-171.56	1.42	28.12	119.30	110.22	9.09	13.127		
1,400.00	1,389.80	1,397.77	1,397.61	4.98	4.75	-171.76	-1.64	26.53	131.11	121.62	9.49	13.819		
1,500.00	1,486.46	1,500.46	1,499.91	5.45	5.09	-171.48	-9.56	22.41	149.15	138.96	10.19	14.643		
1,600.00	1,583.12	1,604.17	1,602.83	5.93	5.44	-170.59	-20.85	16.55	164.15	153.25	10.90	15.064		
1,700.00	1,679.78	1,708.64	1,705.97	6.42	5.81	-169.19	-35.55	8.90	176.14	164.52	11.62	15.159		
1,800.00	1,776.45	1,813.45	1,808.77	6.92	6.20	-167.31	-53.64	-0.50	185.20	172.84	12.36	14.983		
1,900.00	1,873.11	1,912.94	1,906.01	7.42	6.59	-165.39	-72.33	-10.21	193.03	179.90	13.13	14.699		
2,000.00	1,969.77	2,012.43	2,003.25	7.93	6.99	-163.63	-91.01	-19.92	201.06	187.14	13.92	14.445		
2,100.00	2,066.43	2,111.92	2,100.49	8.44	7.39	-162.00	-109.69	-29.63	209.27	194.55	14.72	14.216		
2,200.00	2,163.10	2,211.42	2,197.73	8.96	7.81	-160.50	-128.37	-39.34	217.63	202.09	15.54	14.009		
2,300.00	2,259.76	2,310.91	2,294.97	9.48	8.23	-159.11	-147.05	-49.06	226.13	209.76	16.36	13.819		
2,400.00	2,356.42	2,410.40	2,392.21	10.00	8.65	-157.82	-165.73	-58.77	234.75	217.55	17.20	13.647		
2,500.00	2,453.08	2,509.90	2,489.45	10.52	9.09	-156.62	-184.41	-68.48	243.48	225.43	18.05	13.489		
2,600.00	2,549.75	2,609.39	2,586.69	11.04	9.52	-155.50	-203.10	-78.19	252.31	233.40	18.91	13.343		
2,700.00	2,646.41	2,708.88	2,683.93	11.57	9.96	-154.46	-221.78	-87.90	261.23	241.46	19.78	13.209		
2,800.00	2,743.07	2,808.37	2,781.16	12.09	10.41	-153.49	-240.46	-97.61	270.23	249.58	20.65	13.085		
2,900.00	2,839.73	2,907.87	2,878.40	12.62	10.86	-152.58	-259.14	-107.32	279.30	257.77	21.53	12.971		
3,000.00	2,936.40	3,007.36	2,975.64	13.15	11.31	-151.73	-277.82	-117.03	288.44	266.02	22.42	12.864		
3,100.00	3,033.06	3,106.85	3,072.88	13.68	11.76	-150.93	-296.50	-126.74	297.64	274.32	23.32	12.766		
3,200.00	3,129.72	3,206.35	3,170.12	14.21	12.21	-150.18	-315.19	-136.45	306.89	282.67	24.21	12.674		
3,300.00	3,226.38	3,305.84	3,267.36	14.74	12.67	-149.47	-333.87	-146.16	316.19	291.07	25.12	12.588		
3,400.00	3,323.05	3,405.33	3,364.60	15.27	13.12	-148.81	-352.55	-155.87	325.53	299.51	26.03	12.508		
3,500.00	3,419.71	3,504.83	3,461.84	15.80	13.58	-148.18	-371.23	-165.58	334.92	307.98	26.94	12.432		
3,600.00	3,516.37	3,604.32	3,559.08	16.33	14.04	-147.58	-389.91	-175.29	344.34	316.49	27.85	12.362		
3,700.00	3,613.03	3,703.81	3,656.32	16.86	14.50	-147.02	-408.59	-185.00	353.80	325.03	28.77	12.296		
3,800.00	3,709.70	3,803.30	3,753.56	17.39	14.97	-146.49	-427.28	-194.71	363.29	333.60	29.70	12.234		
3,900.00	3,806.36	3,902.80	3,850.80	17.93	15.43	-145.98	-445.96	-204.43	372.81	342.19	30.62	12.175		
4,000.00	3,903.02	4,002.29	3,948.04	18.46	15.89	-145.50	-464.64	-214.14	382.36	350.82	31.55	12.120		
4,100.00	3,999.68	4,101.78	4,045.28	18.99	16.36	-145.04	-483.32	-223.85	391.94	359.46	32.48	12.068		
4,200.00	4,096.35	4,201.28	4,142.52	19.53	16.82	-144.60	-502.00	-233.56	401.53	368.13	33.41	12.019		
4,300.00	4,193.01	4,300.77	4,239.76	20.06	17.29	-144.19	-520.68	-243.27	411.15	376.81	34.34	11.972		
4,400.00	4,289.67	4,400.26	4,337.00	20.60	17.76	-143.79	-539.37	-252.98	420.79	385.52	35.28	11.928		
4,500.00	4,386.33	4,500.25	4,434.24	21.13	18.23	-143.41	-558.05	-262.69	430.45	394.24	36.22	11.885		
4,600.00	4,483.00	4,600.75	4,531.48	21.67	18.70	-143.05	-576.73	-272.40	440.13	402.97	37.16	11.844		
4,700.00	4,579.66	4,701.26	4,628.72	22.20	19.17	-142.70	-595.41	-282.11	449.82	411.72	38.11	11.805		
4,800.00	4,676.32	4,801.77	4,725.96	22.74	19.65	-142.37	-614.09	-291.82	459.53	420.48	39.05	11.767		
4,900.00	4,772.98	4,902.27	4,823.20	23.27	20.12	-142.05	-632.77	-301.53	469.26	429.26	40.00	11.732		
5,000.00	4,869.65	5,002.78	4,920.44	23.81	20.60	-141.75	-651.45	-311.24	478.99	438.05	40.95	11.698		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3H-4H-N165 - 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	4,966.31	5,103.29	5,017.68	24.34	21.07	-141.45	-670.14	-320.95	488.75	446.85	41.90	11.665		
5,200.00	5,062.97	5,196.21	5,114.92	24.88	21.51	-141.17	-688.82	-330.66	498.51	455.69	42.81	11.644		
5,300.00	5,159.63	5,304.30	5,212.16	25.41	22.02	-140.90	-707.50	-340.37	508.28	464.48	43.80	11.605		
5,400.00	5,256.30	5,404.81	5,309.40	25.95	22.50	-140.64	-726.18	-350.08	518.07	473.32	44.75	11.576		
5,500.00	5,352.96	5,505.32	5,406.63	26.49	22.98	-140.39	-744.86	-359.80	527.86	482.16	45.71	11.549		
5,600.00	5,449.62	5,605.82	5,503.87	27.02	23.45	-140.15	-763.54	-369.51	537.67	491.01	46.66	11.523		
5,700.00	5,546.28	5,706.33	5,601.11	27.56	23.93	-139.91	-782.23	-379.22	547.48	499.87	47.61	11.498		
5,800.00	5,642.95	5,806.84	5,698.35	28.09	24.41	-139.69	-800.91	-388.93	557.31	508.74	48.57	11.474		
5,900.00	5,739.61	5,907.34	5,795.59	28.63	24.88	-139.47	-819.59	-398.64	567.14	517.61	49.53	11.451		
6,000.00	5,836.27	5,992.15	5,892.83	29.17	25.29	-139.26	-838.27	-408.35	576.98	526.56	50.41	11.445		
6,100.00	5,932.93	6,108.36	5,990.07	29.70	25.84	-139.06	-856.95	-418.06	586.82	535.38	51.44	11.408		
6,200.00	6,029.60	6,208.87	6,087.31	30.24	26.32	-138.86	-875.63	-427.77	596.68	544.28	52.40	11.387		
6,300.00	6,126.26	6,309.37	6,184.55	30.78	26.80	-138.67	-894.32	-437.48	606.54	553.18	53.36	11.367		
6,400.00	6,222.92	6,390.12	6,281.79	31.31	27.18	-138.49	-913.00	-447.19	616.40	562.18	54.23	11.367		
6,500.00	6,319.58	6,489.61	6,379.03	31.85	27.65	-138.31	-931.68	-456.90	626.27	571.09	55.18	11.350		
6,600.00	6,416.25	6,589.88	6,477.35	32.39	28.11	-138.32	-948.54	-466.70	636.12	580.03	56.09	11.341		
6,639.90	6,454.81	6,629.90	6,517.03	32.60	28.27	-138.62	-951.99	-470.63	640.01	583.63	56.38	11.352		
6,650.00	6,464.59	6,639.98	6,527.04	32.66	28.31	-141.25	-952.51	-471.62	640.99	584.55	56.44	11.357		
6,700.00	6,513.25	6,689.61	6,576.42	32.91	28.47	-156.89	-952.99	-476.48	645.97	589.24	56.72	11.388		
6,750.00	6,562.18	6,738.87	6,625.35	33.13	28.61	-176.31	-950.08	-481.26	651.07	594.12	56.95	11.432		
6,800.00	6,611.16	6,787.77	6,673.61	33.33	28.72	163.59	-943.84	-485.95	656.27	599.14	57.13	11.487		
6,850.00	6,659.93	6,836.32	6,721.01	33.50	28.82	146.58	-934.40	-490.53	661.55	604.27	57.27	11.550		
6,900.00	6,708.27	6,884.55	6,767.35	33.64	28.90	133.85	-921.84	-494.98	666.86	609.48	57.38	11.621		
6,950.00	6,755.93	6,932.47	6,812.46	33.75	28.97	124.63	-906.29	-499.29	672.19	614.73	57.46	11.698		
7,000.00	6,802.69	6,980.10	6,856.18	33.85	29.02	117.84	-887.87	-503.43	677.51	619.99	57.52	11.779		
7,050.00	6,848.32	7,027.46	6,898.35	33.92	29.06	112.69	-866.69	-507.40	682.78	625.22	57.55	11.864		
7,100.00	6,892.59	7,074.56	6,938.82	33.97	29.08	108.67	-842.90	-511.18	687.97	630.40	57.57	11.950		
7,150.00	6,935.29	7,121.44	6,977.46	34.01	29.10	105.43	-816.63	-514.76	693.05	635.48	57.57	12.038		
7,200.00	6,976.21	7,168.09	7,014.15	34.02	29.10	102.78	-788.01	-518.13	698.00	640.44	57.56	12.126		
7,250.00	7,015.15	7,214.56	7,048.76	34.02	29.10	100.56	-757.20	-521.28	702.79	645.25	57.55	12.213		
7,300.00	7,051.93	7,260.84	7,081.19	34.00	29.10	98.68	-724.32	-524.19	707.39	649.86	57.53	12.296		
7,350.00	7,086.36	7,306.96	7,111.35	33.96	29.08	97.08	-689.53	-526.87	711.78	654.27	57.51	12.376		
7,400.00	7,118.27	7,352.93	7,139.13	33.91	29.07	95.71	-652.99	-529.30	715.93	658.43	57.51	12.450		
7,450.00	7,147.51	7,398.78	7,164.45	33.85	29.05	94.53	-614.84	-531.47	719.82	662.31	57.51	12.517		
7,500.00	7,173.94	7,444.52	7,187.25	33.78	29.03	93.51	-575.24	-533.38	723.43	665.91	57.52	12.577		
7,550.00	7,197.43	7,490.17	7,207.44	33.69	29.02	92.65	-534.35	-535.03	726.73	669.18	57.55	12.627		
7,600.00	7,217.86	7,535.73	7,224.98	33.60	29.01	91.93	-492.32	-536.41	729.72	672.12	57.60	12.668		
7,650.00	7,235.14	7,581.24	7,239.80	33.50	29.01	91.32	-449.32	-537.51	732.38	674.70	57.68	12.698		
7,700.00	7,249.18	7,626.69	7,251.86	33.40	29.01	90.84	-405.52	-538.33	734.69	676.91	57.77	12.717		
7,750.00	7,259.91	7,672.11	7,261.13	33.29	29.02	90.47	-361.06	-538.88	736.64	678.74	57.89	12.724		
7,800.00	7,267.28	7,717.51	7,267.58	33.18	29.04	90.21	-316.13	-539.14	738.21	680.18	58.04	12.720		
7,850.00	7,271.25	7,762.91	7,271.18	33.07	29.07	90.05	-270.89	-539.12	739.42	681.21	58.21	12.703		
7,883.14	7,272.00	7,793.00	7,271.99	33.00	29.10	90.00	-240.81	-538.95	740.00	681.67	58.33	12.686		
7,900.00	7,272.00	7,809.42	7,272.00	32.97	29.12	90.00	-224.39	-538.81	740.27	681.87	58.40	12.677		
8,000.00	7,272.00	7,909.40	7,272.00	32.76	29.28	90.00	-124.41	-537.99	741.84	683.00	58.84	12.607		
8,100.00	7,272.00	8,009.39	7,272.00	32.58	29.54	90.00	-24.42	-537.16	743.42	683.96	59.45	12.504		
8,200.00	7,272.00	8,109.38	7,272.00	32.42	29.90	90.00	75.56	-536.34	744.99	684.77	60.23	12.370		
8,300.00	7,272.00	8,209.37	7,272.00	32.28	30.36	90.00	175.55	-535.51	746.57	685.42	61.15	12.209		
8,400.00	7,272.00	8,309.35	7,272.00	32.17	30.90	90.00	275.53	-534.68	748.14	685.92	62.22	12.023		
8,500.00	7,272.00	8,409.34	7,272.00	32.24	31.53	90.00	375.51	-533.86	749.72	686.28	63.44	11.818		
8,600.00	7,272.00	8,509.33	7,272.00	32.87	32.23	90.00	475.50	-533.03	751.29	686.51	64.78	11.598		
8,700.00	7,272.00	8,609.32	7,272.00	33.66	32.99	90.00	575.48	-532.21	752.86	686.62	66.25	11.364		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3H-4H-N165 - 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	7,272.00	8,709.30	7,272.00	34.51	33.81	90.00	675.47	-531.38	754.44	686.61	67.83	11.122		
8,900.00	7,272.00	8,809.29	7,272.00	35.41	34.69	90.00	775.45	-530.55	756.01	686.49	69.52	10.874		
9,000.00	7,272.00	8,909.28	7,272.00	36.35	35.62	90.00	875.44	-529.73	757.59	686.27	71.32	10.623		
9,100.00	7,272.00	9,009.27	7,272.00	37.32	36.59	90.00	975.42	-528.90	759.16	685.96	73.20	10.371		
9,200.00	7,272.00	9,109.25	7,272.00	38.34	37.60	90.00	1,075.40	-528.07	760.74	685.57	75.17	10.120		
9,300.00	7,272.00	9,209.24	7,272.00	39.39	38.65	90.00	1,175.39	-527.25	762.31	685.09	77.22	9.872		
9,400.00	7,272.00	9,309.23	7,272.00	40.47	39.74	90.00	1,275.37	-526.42	763.89	684.54	79.34	9.628		
9,500.00	7,272.00	9,409.22	7,272.00	41.57	40.85	90.00	1,375.36	-525.60	765.46	683.93	81.53	9.388		
9,600.00	7,272.00	9,509.20	7,272.00	42.71	42.00	90.00	1,475.34	-524.77	767.04	683.25	83.79	9.155		
9,700.00	7,272.00	9,609.19	7,272.00	43.87	43.17	90.00	1,575.32	-523.94	768.61	682.51	86.10	8.927		
9,800.00	7,272.00	9,709.18	7,272.00	45.06	44.37	90.00	1,675.31	-523.12	770.19	681.73	88.46	8.707		
9,900.00	7,272.00	9,809.17	7,272.00	46.27	45.59	90.00	1,775.29	-522.29	771.76	680.89	90.87	8.493		
10,000.00	7,272.00	9,909.16	7,272.00	47.50	46.83	90.00	1,875.28	-521.47	773.33	680.01	93.33	8.286		
10,100.00	7,272.00	10,009.14	7,272.00	48.74	48.09	90.00	1,975.26	-520.64	774.91	679.08	95.82	8.087		
10,200.00	7,272.00	10,109.13	7,272.00	50.01	49.37	90.00	2,075.25	-519.81	776.48	678.12	98.36	7.894		
10,300.00	7,272.00	10,209.12	7,272.00	51.29	50.67	90.00	2,175.23	-518.99	778.06	677.13	100.93	7.709		
10,400.00	7,272.00	10,309.11	7,272.00	52.59	51.98	90.00	2,275.21	-518.16	779.63	676.10	103.54	7.530		
10,500.00	7,272.00	10,409.09	7,272.00	53.90	53.30	90.00	2,375.20	-517.33	781.21	675.04	106.17	7.358		
10,600.00	7,272.00	10,509.08	7,272.00	55.23	54.64	90.00	2,475.18	-516.51	782.78	673.95	108.83	7.192		
10,698.35	7,272.00	10,607.42	7,272.00	56.54	55.97	90.00	2,573.52	-515.70	784.33	672.85	111.48	7.036		
10,700.00	7,272.00	10,609.07	7,272.00	56.57	55.99	90.00	2,575.17	-515.68	784.36	672.83	111.52	7.033		
10,758.58	7,272.00	10,667.63	7,272.00	57.36	56.79	90.00	2,633.72	-515.20	785.91	672.80	113.11	6.948		
10,800.00	7,272.00	10,709.02	7,272.00	57.93	57.35	90.00	2,675.11	-514.86	787.43	673.19	114.24	6.893		
10,900.00	7,272.00	10,808.95	7,272.00	59.31	58.72	90.00	2,775.04	-514.03	791.11	674.12	116.99	6.762		
11,000.00	7,272.00	10,908.88	7,272.00	60.70	60.10	90.00	2,874.97	-513.21	794.79	675.03	119.76	6.636		
11,100.00	7,272.00	11,008.82	7,272.00	62.10	61.49	90.00	2,974.90	-512.38	798.46	675.91	122.55	6.515		
11,200.00	7,272.00	11,108.75	7,272.00	63.51	62.89	90.00	3,074.83	-511.55	802.14	676.78	125.36	6.399		
11,300.00	7,272.00	11,208.68	7,272.00	64.93	64.30	90.00	3,174.76	-510.73	805.82	677.63	128.18	6.287		
11,400.00	7,272.00	11,308.61	7,272.00	66.36	65.71	90.00	3,274.69	-509.90	809.49	678.47	131.02	6.178		
11,500.00	7,272.00	11,408.55	7,272.00	67.79	67.14	90.00	3,374.62	-509.08	813.17	679.29	133.88	6.074		
11,600.00	7,272.00	11,508.48	7,272.00	69.23	68.56	90.00	3,474.55	-508.25	816.84	680.10	136.75	5.973		
11,700.00	7,272.00	11,608.41	7,272.00	70.68	70.00	90.00	3,574.47	-507.43	820.52	680.89	139.63	5.876		
11,800.00	7,272.00	11,708.34	7,272.00	72.14	71.44	90.00	3,674.40	-506.60	824.20	681.67	142.53	5.783		
11,900.00	7,272.00	11,808.28	7,272.00	73.60	72.88	90.00	3,774.33	-505.77	827.87	682.44	145.44	5.692		
12,000.00	7,272.00	11,908.21	7,272.00	75.06	74.34	90.00	3,874.26	-504.95	831.55	683.19	148.36	5.605		
12,100.00	7,272.00	12,008.14	7,272.00	76.53	75.79	90.00	3,974.19	-504.12	835.22	683.94	151.28	5.521		
12,200.00	7,272.00	12,108.07	7,272.00	78.01	77.25	90.00	4,074.12	-503.30	838.90	684.68	154.22	5.439		
12,229.68	7,272.00	12,137.73	7,272.00	78.45	77.69	90.00	4,103.78	-503.05	839.99	684.89	155.10	5.416 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3E-4H-N165 - 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	81.55	5.88	39.56	40.00				
100.00	100.00	100.00	100.00	0.14	0.14	81.55	5.88	39.56	40.00	39.72	0.28	144.912	
200.00	200.00	200.00	200.00	0.50	0.50	81.55	5.88	39.56	40.00	39.01	0.99	40.282	
300.00	300.00	300.28	300.28	0.85	0.85	82.13	5.45	39.45	39.82	38.12	1.70	23.387	
400.00	400.00	400.72	400.65	1.21	1.19	86.93	2.06	38.49	38.55	36.15	2.40	16.053	
500.00	500.00	500.79	500.47	1.57	1.55	97.29	-4.68	36.59	36.89	33.78	3.11	11.848	
555.89	555.89	556.48	555.89	1.77	1.75	105.72	-9.89	35.13	36.49	32.97	3.52	10.367 CC, ES	
600.00	600.00	600.26	599.38	1.93	1.91	113.53	-14.71	33.77	36.84	33.00	3.84	9.594	
700.00	699.98	699.08	697.25	2.28	2.29	-99.03	-27.93	30.05	41.36	36.80	4.56	9.072	
800.00	799.84	801.92	794.88	2.61	2.71	-87.59	-43.67	25.62	50.15	44.86	5.29	9.486	
900.00	899.45	902.50	892.91	2.96	3.13	-82.82	-59.63	21.13	59.88	53.86	6.02	9.947	
1,000.00	998.70	1,002.95	991.06	3.32	3.55	-82.20	-75.62	16.63	69.34	62.56	6.78	10.231	
1,100.00	1,097.47	1,103.41	1,089.21	3.70	3.98	-84.23	-91.60	12.13	78.39	70.82	7.57	10.359	
1,200.00	1,195.62	1,203.99	1,187.24	4.10	4.41	-88.08	-107.56	7.64	87.35	78.95	8.40	10.404	
1,300.00	1,293.06	1,295.19	1,285.03	4.53	4.80	-93.22	-123.49	3.16	96.81	87.58	9.23	10.493	
1,342.22	1,333.94	1,336.96	1,326.22	4.71	4.98	-95.66	-130.19	1.27	101.12	91.52	9.60	10.531	
1,400.00	1,389.80	1,405.92	1,382.54	4.98	5.28	-99.01	-139.37	-1.31	107.37	97.20	10.17	10.557	
1,500.00	1,486.46	1,507.06	1,480.00	5.45	5.71	-103.95	-155.24	-5.78	118.93	107.85	11.08	10.732	
1,600.00	1,583.12	1,608.21	1,577.47	5.93	6.15	-107.99	-171.11	-10.25	131.21	119.22	11.99	10.941	
1,700.00	1,679.78	1,709.36	1,674.94	6.42	6.59	-111.34	-186.98	-14.71	144.03	131.13	12.90	11.164	
1,800.00	1,776.45	1,789.49	1,772.41	6.92	6.94	-114.13	-202.85	-19.18	157.25	143.54	13.72	11.464	
1,900.00	1,873.11	1,888.35	1,869.88	7.42	7.37	-116.49	-218.73	-23.65	170.79	156.18	14.61	11.689	
2,000.00	1,969.77	1,987.20	1,967.35	7.93	7.80	-118.50	-234.60	-28.12	184.57	169.07	15.50	11.905	
2,100.00	2,066.43	2,086.05	2,064.81	8.44	8.23	-120.23	-250.47	-32.58	198.54	182.15	16.39	12.110	
2,200.00	2,163.10	2,184.91	2,162.28	8.96	8.66	-121.73	-266.34	-37.05	212.67	195.38	17.28	12.304	
2,300.00	2,259.76	2,283.76	2,259.75	9.48	9.09	-123.04	-282.21	-41.52	226.92	208.74	18.17	12.486	
2,400.00	2,356.42	2,382.61	2,357.22	10.00	9.52	-124.20	-298.09	-45.98	241.27	222.21	19.06	12.658	
2,500.00	2,453.08	2,481.47	2,454.69	10.52	9.95	-125.23	-313.96	-50.45	255.71	235.76	19.95	12.819	
2,600.00	2,549.75	2,580.32	2,552.16	11.04	10.39	-126.15	-329.83	-54.92	270.22	249.39	20.84	12.970	
2,700.00	2,646.41	2,679.17	2,649.62	11.57	10.82	-126.97	-345.70	-59.38	284.80	263.08	21.72	13.111	
2,800.00	2,743.07	2,778.03	2,747.09	12.09	11.25	-127.72	-361.58	-63.85	299.42	276.82	22.61	13.244	
2,900.00	2,839.73	2,876.88	2,844.56	12.62	11.68	-128.39	-377.45	-68.32	314.10	290.60	23.49	13.370	
3,000.00	2,936.40	2,975.73	2,942.03	13.15	12.11	-129.01	-393.32	-72.79	328.81	304.43	24.38	13.487	
3,100.00	3,033.06	3,074.59	3,039.50	13.68	12.55	-129.57	-409.19	-77.25	343.55	318.28	25.26	13.598	
3,200.00	3,129.72	3,173.44	3,136.97	14.21	12.98	-130.09	-425.06	-81.72	358.32	332.17	26.15	13.703	
3,300.00	3,226.38	3,272.29	3,234.44	14.74	13.41	-130.56	-440.94	-86.19	373.12	346.09	27.03	13.802	
3,400.00	3,323.05	3,371.15	3,331.90	15.27	13.84	-131.00	-456.81	-90.65	387.95	360.03	27.92	13.895	
3,500.00	3,419.71	3,470.00	3,429.37	15.80	14.28	-131.41	-472.68	-95.12	402.79	373.98	28.80	13.984	
3,600.00	3,516.37	3,568.85	3,526.84	16.33	14.71	-131.78	-488.55	-99.59	417.65	387.96	29.69	14.067	
3,700.00	3,613.03	3,667.71	3,624.31	16.86	15.14	-132.14	-504.42	-104.05	432.53	401.96	30.57	14.147	
3,800.00	3,709.70	3,766.56	3,721.78	17.39	15.57	-132.46	-520.30	-108.52	447.42	415.96	31.46	14.222	
3,900.00	3,806.36	3,865.41	3,819.25	17.93	16.01	-132.77	-536.17	-112.99	462.33	429.99	32.34	14.294	
4,000.00	3,903.02	3,964.27	3,916.71	18.46	16.44	-133.06	-552.04	-117.46	477.25	444.02	33.23	14.363	
4,100.00	3,999.68	4,063.12	4,014.18	18.99	16.87	-133.33	-567.91	-121.92	492.18	458.07	34.11	14.428	
4,200.00	4,096.35	4,161.97	4,111.65	19.53	17.30	-133.58	-583.79	-126.39	507.12	472.12	35.00	14.490	
4,300.00	4,193.01	4,260.83	4,209.12	20.06	17.74	-133.82	-599.66	-130.86	522.07	486.19	35.88	14.549	
4,400.00	4,289.67	4,359.68	4,306.59	20.60	18.17	-134.05	-615.53	-135.32	537.03	500.26	36.77	14.606	
4,500.00	4,386.33	4,458.53	4,404.06	21.13	18.60	-134.27	-631.40	-139.79	551.99	514.34	37.65	14.660	
4,600.00	4,483.00	4,557.39	4,501.52	21.67	19.04	-134.47	-647.27	-144.26	566.97	528.43	38.54	14.712	
4,700.00	4,579.66	4,656.24	4,598.99	22.20	19.47	-134.66	-663.15	-148.73	581.95	542.52	39.42	14.762	
4,800.00	4,676.32	4,755.09	4,696.46	22.74	19.90	-134.84	-679.02	-153.19	596.93	556.62	40.31	14.810	
4,900.00	4,772.98	4,853.95	4,793.93	23.27	20.33	-135.02	-694.89	-157.66	611.92	570.73	41.19	14.855	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3I-4H-N165 - 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
5,000.00	4,869.65	4,952.80	4,891.40	23.81	20.77	-135.18	-710.76	-162.13	626.92	584.84	42.08	14.899	
5,100.00	4,966.31	5,051.65	4,988.87	24.34	21.20	-135.34	-726.63	-166.59	641.92	598.96	42.96	14.942	
5,200.00	5,062.97	5,150.51	5,086.33	24.88	21.63	-135.49	-742.51	-171.06	656.93	613.08	43.85	14.982	
5,300.00	5,159.63	5,249.36	5,183.80	25.41	22.07	-135.64	-758.38	-175.53	671.94	627.21	44.73	15.022	
5,400.00	5,256.30	5,348.21	5,281.27	25.95	22.50	-135.77	-774.25	-179.99	686.95	641.34	45.62	15.059	
5,500.00	5,352.96	5,447.07	5,378.74	26.49	22.93	-135.91	-790.12	-184.46	701.97	655.47	46.50	15.096	
5,600.00	5,449.62	5,545.92	5,476.21	27.02	23.37	-136.03	-806.00	-188.93	716.99	669.60	47.39	15.131	
5,700.00	5,546.28	5,644.77	5,573.68	27.56	23.80	-136.15	-821.87	-193.40	732.02	683.74	48.27	15.165	
5,800.00	5,642.95	5,743.63	5,671.14	28.09	24.23	-136.27	-837.74	-197.86	747.04	697.89	49.16	15.197	
5,900.00	5,739.61	5,842.48	5,768.61	28.63	24.67	-136.38	-853.61	-202.33	762.07	712.03	50.04	15.229	
6,000.00	5,836.27	5,941.33	5,866.08	29.17	25.10	-136.49	-869.48	-206.80	777.11	726.18	50.93	15.259	
6,100.00	5,932.93	6,040.18	5,963.55	29.70	25.53	-136.59	-885.36	-211.26	792.14	740.33	51.81	15.289	
6,200.00	6,029.60	6,139.04	6,061.02	30.24	25.96	-136.69	-901.23	-215.73	807.18	754.48	52.70	15.318	
6,300.00	6,126.26	6,237.89	6,158.49	30.78	26.40	-136.79	-917.10	-220.20	822.22	768.64	53.58	15.345	
6,400.00	6,222.92	6,336.74	6,255.96	31.31	26.83	-136.88	-932.97	-224.66	837.27	782.80	54.47	15.372	
6,500.00	6,319.58	6,436.65	6,354.55	31.85	27.26	-137.01	-948.37	-229.18	852.29	796.94	55.35	15.399	
6,600.00	6,416.25	6,537.44	6,455.05	32.39	27.61	-137.86	-953.23	-233.69	867.11	811.07	56.04	15.474	
6,639.90	6,454.81	6,576.39	6,493.90	32.60	27.71	-138.42	-951.31	-235.40	873.04	816.81	56.23	15.526	
6,650.00	6,464.59	6,586.10	6,503.58	32.66	27.73	-141.16	-950.51	-235.83	874.56	818.29	56.28	15.541	
6,700.00	6,513.25	6,633.75	6,550.81	32.91	27.84	-157.29	-944.65	-237.88	882.25	825.79	56.46	15.625	
6,750.00	6,562.18	6,680.67	6,596.84	33.13	27.93	-177.20	-935.82	-239.85	890.20	833.59	56.61	15.726	
6,800.00	6,611.16	6,726.92	6,641.55	33.33	28.00	162.23	-924.19	-241.75	898.34	841.62	56.71	15.840	
6,850.00	6,659.93	6,772.54	6,684.83	33.50	28.07	144.78	-909.90	-243.55	906.62	849.84	56.79	15.966	
6,900.00	6,708.27	6,817.58	6,726.59	33.64	28.12	131.61	-893.12	-245.27	915.00	858.17	56.83	16.101	
6,950.00	6,755.93	6,862.11	6,766.75	33.75	28.16	121.96	-873.99	-246.90	923.41	866.57	56.85	16.244	
7,000.00	6,802.69	6,906.15	6,805.23	33.85	28.20	114.77	-852.64	-248.44	931.80	874.96	56.84	16.393	
7,050.00	6,848.32	6,949.75	6,841.97	33.92	28.23	109.24	-829.21	-249.88	940.12	883.29	56.82	16.545	
7,100.00	6,892.59	6,992.96	6,876.91	33.97	28.25	104.85	-803.84	-251.22	948.30	891.51	56.79	16.700	
7,150.00	6,935.29	7,035.80	6,909.98	34.01	28.27	101.27	-776.63	-252.47	956.30	899.56	56.74	16.854	
7,200.00	6,976.21	7,078.33	6,941.14	34.02	28.28	98.30	-747.73	-253.61	964.07	907.38	56.69	17.006	
7,250.00	7,015.15	7,120.56	6,970.33	34.02	28.30	95.78	-717.24	-254.66	971.56	914.93	56.63	17.155	
7,300.00	7,051.93	7,162.53	6,997.52	34.00	28.31	93.63	-685.28	-255.61	978.73	922.15	56.58	17.298	
7,350.00	7,086.36	7,204.28	7,022.66	33.96	28.32	91.78	-651.98	-256.45	985.53	928.99	56.53	17.432	
7,400.00	7,118.27	7,245.82	7,045.71	33.91	28.34	90.18	-617.43	-257.19	991.92	935.42	56.50	17.567	
7,450.00	7,147.51	7,287.19	7,066.64	33.85	28.36	88.79	-581.76	-257.83	997.86	941.39	56.47	17.670	
7,500.00	7,173.94	7,328.40	7,085.41	33.78	28.38	87.60	-545.08	-258.36	1,003.33	946.87	56.47	17.769	
7,550.00	7,197.43	7,369.49	7,102.00	33.69	28.41	86.58	-507.49	-258.79	1,008.29	951.81	56.48	17.852	
7,600.00	7,217.86	7,410.48	7,116.37	33.60	28.45	85.72	-469.12	-259.11	1,012.72	956.20	56.52	17.919	
7,650.00	7,235.14	7,451.37	7,128.50	33.50	28.49	85.00	-430.07	-259.33	1,016.58	960.00	56.58	17.968	
7,700.00	7,249.18	7,492.21	7,138.38	33.40	28.54	84.43	-390.45	-259.44	1,019.86	963.20	56.66	17.998	
7,750.00	7,259.91	7,532.99	7,145.97	33.29	28.60	83.99	-350.38	-259.44	1,022.55	965.77	56.78	18.009	
7,800.00	7,267.28	7,573.75	7,151.27	33.18	28.67	83.69	-309.98	-259.35	1,024.62	967.70	56.93	17.999	
7,850.00	7,271.25	7,614.50	7,154.27	33.07	28.74	83.50	-269.34	-259.14	1,026.08	968.98	57.10	17.971	
7,883.14	7,272.00	7,641.52	7,154.98	33.00	28.80	83.45	-242.34	-258.95	1,026.70	969.47	57.23	17.941	
7,900.00	7,272.00	7,657.16	7,155.00	32.97	28.83	83.46	-226.70	-258.82	1,026.95	969.66	57.29	17.925	
8,000.00	7,272.00	7,757.14	7,155.00	32.76	29.11	83.47	-126.72	-258.00	1,028.52	970.77	57.75	17.810	
8,100.00	7,272.00	7,857.13	7,155.00	32.58	29.46	83.48	-26.74	-257.17	1,030.08	971.72	58.37	17.648	
8,200.00	7,272.00	7,957.12	7,155.00	32.42	29.90	83.49	73.25	-256.35	1,031.65	972.50	59.15	17.442	
8,300.00	7,272.00	8,057.11	7,155.00	32.28	30.41	83.50	173.23	-255.52	1,033.21	973.13	60.08	17.197	
8,400.00	7,272.00	8,157.09	7,155.00	32.17	31.00	83.51	273.22	-254.69	1,034.78	973.61	61.16	16.918	
8,500.00	7,272.00	8,257.08	7,155.00	32.24	31.66	83.52	373.20	-253.87	1,036.34	973.96	62.39	16.612	
8,600.00	7,272.00	8,357.07	7,155.00	32.87	32.39	83.53	473.19	-253.04	1,037.91	974.17	63.74	16.283	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3I-4H-N165 - OH - PLAN #1												Offset Site Error: 0.00 usft	
Survey Program: O-MWD+HDGM												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis		Separation Factor
8,700.00	7,272.00	8,457.06	7,155.00	33.66	33.17	83.54	573.17	-252.22	1,039.47	974.25	65.22	15.938	
8,800.00	7,272.00	8,557.04	7,155.00	34.51	34.01	83.55	673.15	-251.39	1,041.03	974.22	66.81	15.581	
8,900.00	7,272.00	8,657.03	7,155.00	35.41	34.90	83.56	773.14	-250.56	1,042.60	974.08	68.51	15.217	
9,000.00	7,272.00	8,757.02	7,155.00	36.35	35.84	83.57	873.12	-249.74	1,044.16	973.85	70.32	14.849	
9,100.00	7,272.00	8,857.01	7,155.00	37.32	36.83	83.58	973.11	-248.91	1,045.73	973.52	72.21	14.482	
9,200.00	7,272.00	8,956.99	7,155.00	38.34	37.85	83.58	1,073.09	-248.08	1,047.29	973.10	74.19	14.116	
9,300.00	7,272.00	9,056.98	7,155.00	39.39	38.91	83.59	1,173.07	-247.26	1,048.86	972.61	76.25	13.756	
9,400.00	7,272.00	9,156.97	7,155.00	40.47	40.01	83.60	1,273.06	-246.43	1,050.42	972.04	78.38	13.401	
9,500.00	7,272.00	9,256.96	7,155.00	41.57	41.13	83.61	1,373.04	-245.61	1,051.99	971.41	80.58	13.055	
9,600.00	7,272.00	9,356.94	7,155.00	42.71	42.29	83.62	1,473.03	-244.78	1,053.55	970.71	82.84	12.718	
9,700.00	7,272.00	9,456.93	7,155.00	43.87	43.47	83.63	1,573.01	-243.95	1,055.12	969.96	85.16	12.390	
9,800.00	7,272.00	9,556.92	7,155.00	45.06	44.68	83.64	1,673.00	-243.13	1,056.68	969.16	87.52	12.073	
9,900.00	7,272.00	9,656.91	7,155.00	46.27	45.90	83.65	1,772.98	-242.30	1,058.25	968.30	89.94	11.766	
10,000.00	7,272.00	9,756.90	7,155.00	47.50	47.15	83.66	1,872.96	-241.48	1,059.81	967.41	92.40	11.469	
10,100.00	7,272.00	9,856.88	7,155.00	48.74	48.42	83.67	1,972.95	-240.65	1,061.38	966.47	94.90	11.184	
10,200.00	7,272.00	9,956.87	7,155.00	50.01	49.71	83.68	2,072.93	-239.82	1,062.94	965.50	97.44	10.908	
10,300.00	7,272.00	10,056.86	7,155.00	51.29	51.01	83.69	2,172.92	-239.00	1,064.51	964.49	100.02	10.643	
10,400.00	7,272.00	10,156.85	7,155.00	52.59	52.32	83.70	2,272.90	-238.17	1,066.07	963.44	102.63	10.388	
10,500.00	7,272.00	10,256.83	7,155.00	53.90	53.65	83.71	2,372.89	-237.35	1,067.64	962.37	105.26	10.143	
10,600.00	7,272.00	10,356.82	7,155.00	55.23	55.00	83.72	2,472.87	-236.52	1,069.20	961.27	107.93	9.907	
10,698.35	7,272.00	10,455.16	7,155.00	56.54	56.33	83.73	2,571.21	-235.71	1,070.74	960.17	110.57	9.684	
10,700.00	7,272.00	10,456.81	7,155.00	56.57	56.35	83.73	2,572.85	-235.69	1,070.77	960.15	110.62	9.680	
10,758.58	7,272.00	10,515.37	7,155.00	57.36	57.15	83.73	2,631.41	-235.21	1,072.31	960.10	112.21	9.556	
10,800.00	7,272.00	10,556.76	7,155.00	57.93	57.72	83.74	2,672.80	-234.87	1,073.83	960.48	113.34	9.474	
10,900.00	7,272.00	10,656.69	7,155.00	59.31	59.10	83.76	2,772.73	-234.04	1,077.48	961.39	116.09	9.281	
11,000.00	7,272.00	10,756.62	7,155.00	60.70	60.48	83.78	2,872.66	-233.22	1,081.13	962.27	118.87	9.095	
11,100.00	7,272.00	10,856.56	7,155.00	62.10	61.88	83.80	2,972.59	-232.39	1,084.79	963.13	121.66	8.917	
11,200.00	7,272.00	10,956.49	7,155.00	63.51	63.28	83.83	3,072.52	-231.57	1,088.44	963.98	124.47	8.745	
11,300.00	7,272.00	11,056.42	7,155.00	64.93	64.69	83.85	3,172.45	-230.74	1,092.10	964.80	127.29	8.579	
11,400.00	7,272.00	11,156.35	7,155.00	66.36	66.11	83.87	3,272.37	-229.91	1,095.75	965.62	130.14	8.420	
11,500.00	7,272.00	11,256.29	7,155.00	67.79	67.54	83.89	3,372.30	-229.09	1,099.41	966.41	133.00	8.267	
11,600.00	7,272.00	11,356.22	7,155.00	69.23	68.97	83.91	3,472.23	-228.26	1,103.06	967.20	135.87	8.119	
11,700.00	7,272.00	11,456.15	7,155.00	70.68	70.41	83.93	3,572.16	-227.44	1,106.72	967.97	138.75	7.976	
11,800.00	7,272.00	11,556.08	7,155.00	72.14	71.85	83.95	3,672.09	-226.61	1,110.37	968.73	141.65	7.839	
11,900.00	7,272.00	11,656.02	7,155.00	73.60	73.30	83.97	3,772.02	-225.79	1,114.03	969.47	144.56	7.706	
12,000.00	7,272.00	11,755.95	7,155.00	75.06	74.75	83.99	3,871.95	-224.96	1,117.69	970.21	147.48	7.579	
12,100.00	7,272.00	11,855.88	7,155.00	76.53	76.21	84.01	3,971.88	-224.14	1,121.34	970.93	150.41	7.455	
12,200.00	7,272.00	11,955.81	7,155.00	78.01	77.50	84.03	4,071.81	-223.31	1,125.00	971.83	153.17	7.345	
12,229.68	7,272.00	11,985.47	7,155.00	78.45	77.84	84.03	4,101.47	-223.06	1,126.08	972.13	153.95	7.315 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3J-4H-N165 - 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	1.00	-1.00	0.00	0.00	81.55	7.35	49.46	50.00				
100.00	100.00	101.00	99.00	0.14	0.14	81.55	7.35	49.46	50.00	49.72	0.28	178.822	
200.00	200.00	199.00	199.00	0.50	0.49	81.55	7.35	49.46	50.00	49.01	0.99	50.537 CC	
300.00	300.00	298.92	298.90	0.85	0.84	83.50	5.67	49.75	50.07	48.38	1.69	29.605	
400.00	400.00	398.59	398.43	1.21	1.19	89.35	0.57	50.65	50.65	48.26	2.39	21.152 ES	
500.00	500.00	497.79	497.25	1.57	1.54	98.60	-7.88	52.13	52.75	49.64	3.11	16.948	
600.00	600.00	596.27	595.01	1.93	1.91	109.89	-19.60	54.18	57.76	53.92	3.84	15.046	
700.00	699.98	705.41	692.19	2.28	2.35	-109.75	-34.29	56.76	67.23	62.63	4.60	14.625 SF	
800.00	799.84	806.37	790.00	2.61	2.77	-104.35	-49.61	59.44	79.41	74.09	5.32	14.931	
900.00	899.45	892.70	887.84	2.96	3.12	-102.45	-64.93	62.13	92.75	86.75	6.00	15.466	
1,000.00	998.70	1,008.32	986.60	3.32	3.61	-102.80	-80.24	64.82	106.88	100.06	6.81	15.689	
1,100.00	1,097.47	1,109.53	1,083.15	3.70	4.04	-104.59	-95.52	67.49	121.85	114.26	7.60	16.040	
1,200.00	1,195.62	1,188.92	1,180.39	4.10	4.37	-107.32	-110.75	70.17	137.96	129.64	8.32	16.577	
1,300.00	1,293.06	1,286.93	1,277.18	4.53	4.79	-110.59	-125.91	72.82	155.56	146.41	9.15	17.000	
1,342.22	1,333.94	1,328.15	1,317.88	4.71	4.96	-112.07	-132.29	73.94	163.53	154.02	9.51	17.197	
1,400.00	1,389.80	1,384.48	1,373.52	4.98	5.20	-114.19	-141.00	75.47	174.79	164.79	10.00	17.478	
1,500.00	1,486.46	1,481.98	1,469.81	5.45	5.62	-117.27	-156.08	78.11	194.75	183.90	10.86	17.939	
1,600.00	1,583.12	1,579.48	1,566.10	5.93	6.04	-119.78	-171.16	80.76	215.16	203.45	11.71	18.366	
1,700.00	1,679.78	1,676.98	1,662.39	6.42	6.45	-121.86	-186.24	83.40	235.90	223.32	12.58	18.758	
1,800.00	1,776.45	1,774.48	1,758.68	6.92	6.87	-123.60	-201.32	86.05	256.88	243.44	13.44	19.116	
1,900.00	1,873.11	1,871.97	1,854.96	7.42	7.29	-125.07	-216.41	88.69	278.06	263.76	14.30	19.443	
2,000.00	1,969.77	1,969.47	1,951.25	7.93	7.70	-126.34	-231.49	91.34	299.39	284.22	15.17	19.741	
2,100.00	2,066.43	2,066.97	2,047.54	8.44	8.12	-127.44	-246.57	93.98	320.84	304.81	16.03	20.015	
2,200.00	2,163.10	2,164.47	2,143.83	8.96	8.54	-128.40	-261.65	96.62	342.39	325.50	16.90	20.265	
2,300.00	2,259.76	2,261.97	2,240.12	9.48	8.96	-129.25	-276.73	99.27	364.03	346.26	17.76	20.495	
2,400.00	2,356.42	2,359.47	2,336.41	10.00	9.38	-130.00	-291.81	101.91	385.73	367.10	18.63	20.707	
2,500.00	2,453.08	2,456.96	2,432.70	10.52	9.80	-130.68	-306.89	104.56	407.48	387.99	19.49	20.903	
2,600.00	2,549.75	2,554.46	2,528.98	11.04	10.21	-131.28	-321.97	107.20	429.29	408.93	20.36	21.084	
2,700.00	2,646.41	2,651.96	2,625.27	11.57	10.63	-131.83	-337.05	109.85	451.13	429.91	21.23	21.253	
2,800.00	2,743.07	2,749.46	2,721.56	12.09	11.05	-132.32	-352.13	112.49	473.02	450.92	22.09	21.409	
2,900.00	2,839.73	2,846.96	2,817.85	12.62	11.47	-132.78	-367.22	115.14	494.93	471.97	22.96	21.555	
3,000.00	2,936.40	2,944.46	2,914.14	13.15	11.89	-133.19	-382.30	117.78	516.87	493.04	23.83	21.691	
3,100.00	3,033.06	3,041.95	3,010.43	13.68	12.31	-133.57	-397.38	120.42	538.83	514.14	24.70	21.818	
3,200.00	3,129.72	3,139.45	3,106.72	14.21	12.73	-133.92	-412.46	123.07	560.82	535.25	25.56	21.938	
3,300.00	3,226.38	3,236.95	3,203.00	14.74	13.15	-134.24	-427.54	125.71	582.82	556.39	26.43	22.050	
3,400.00	3,323.05	3,334.45	3,299.29	15.27	13.57	-134.54	-442.62	128.36	604.84	577.54	27.30	22.155	
3,500.00	3,419.71	3,431.95	3,395.58	15.80	13.99	-134.82	-457.70	131.00	626.87	598.71	28.17	22.255	
3,600.00	3,516.37	3,529.45	3,491.87	16.33	14.41	-135.08	-472.78	133.65	648.92	619.88	29.04	22.349	
3,700.00	3,613.03	3,626.94	3,588.16	16.86	14.82	-135.33	-487.86	136.29	670.98	641.08	29.90	22.437	
3,800.00	3,709.70	3,724.44	3,684.45	17.39	15.24	-135.56	-502.95	138.93	693.05	662.28	30.77	22.522	
3,900.00	3,806.36	3,821.94	3,780.74	17.93	15.66	-135.77	-518.03	141.58	715.13	683.49	31.64	22.601	
4,000.00	3,903.02	3,919.44	3,877.02	18.46	16.08	-135.97	-533.11	144.22	737.22	704.71	32.51	22.677	
4,100.00	3,999.68	4,016.94	3,973.31	18.99	16.50	-136.16	-548.19	146.87	759.32	725.94	33.38	22.749	
4,200.00	4,096.35	4,114.44	4,069.60	19.53	16.92	-136.34	-563.27	149.51	781.42	747.17	34.25	22.817	
4,300.00	4,193.01	4,211.93	4,165.89	20.06	17.34	-136.51	-578.35	152.16	803.53	768.41	35.12	22.882	
4,400.00	4,289.67	4,309.43	4,262.18	20.60	17.76	-136.67	-593.43	154.80	825.65	789.66	35.99	22.944	
4,500.00	4,386.33	4,406.93	4,358.47	21.13	18.18	-136.82	-608.51	157.45	847.77	810.92	36.85	23.003	
4,600.00	4,483.00	4,504.43	4,454.76	21.67	18.60	-136.96	-623.59	160.09	869.90	832.18	37.72	23.060	
4,700.00	4,579.66	4,601.93	4,551.04	22.20	19.02	-137.10	-638.67	162.73	892.03	853.44	38.59	23.114	
4,800.00	4,676.32	4,700.57	4,647.33	22.74	19.44	-137.23	-653.76	165.38	914.17	874.70	39.47	23.163	
4,900.00	4,772.98	4,803.08	4,743.62	23.27	19.88	-137.35	-668.84	168.02	936.31	895.96	40.36	23.201	
5,000.00	4,869.65	4,905.58	4,839.91	23.81	20.33	-137.47	-683.92	170.67	958.46	917.21	41.25	23.236	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3J-4H-N165 - 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	4,966.31	5,008.08	4,936.20	24.34	20.77	-137.58	-699.00	173.31	980.61	938.47	42.14	23.271		
5,200.00	5,062.97	5,089.42	5,032.49	24.88	21.12	-137.69	-714.08	175.96	1,002.76	959.82	42.94	23.353		
5,300.00	5,159.63	5,186.92	5,128.78	25.41	21.54	-137.79	-729.16	178.60	1,024.92	981.11	43.81	23.395		
5,400.00	5,256.30	5,284.42	5,225.06	25.95	21.96	-137.89	-744.24	181.24	1,047.08	1,002.40	44.68	23.436		
5,500.00	5,352.96	5,381.91	5,321.35	26.49	22.38	-137.99	-759.32	183.89	1,069.24	1,023.69	45.55	23.475		
5,600.00	5,449.62	5,479.41	5,417.64	27.02	22.80	-138.08	-774.40	186.53	1,091.41	1,044.99	46.42	23.513		
5,700.00	5,546.28	5,576.91	5,513.93	27.56	23.21	-138.16	-789.49	189.18	1,113.57	1,066.29	47.29	23.549		
5,800.00	5,642.95	5,674.41	5,610.22	28.09	23.63	-138.25	-804.57	191.82	1,135.74	1,087.59	48.16	23.584		
5,900.00	5,739.61	5,771.91	5,706.51	28.63	24.05	-138.33	-819.65	194.47	1,157.91	1,108.89	49.03	23.618		
6,000.00	5,836.27	5,869.40	5,802.80	29.17	24.47	-138.41	-834.73	197.11	1,180.09	1,130.19	49.90	23.650		
6,100.00	5,932.93	5,966.90	5,899.08	29.70	24.89	-138.48	-849.81	199.76	1,202.27	1,151.50	50.77	23.682		
6,200.00	6,029.60	6,064.40	5,995.37	30.24	25.31	-138.55	-864.89	202.40	1,224.44	1,172.81	51.64	23.712		
6,300.00	6,126.26	6,161.90	6,091.66	30.78	25.73	-138.62	-879.97	205.04	1,246.62	1,194.12	52.51	23.742		
6,400.00	6,222.92	6,259.40	6,187.95	31.31	26.15	-138.69	-895.05	207.69	1,268.80	1,215.43	53.38	23.770		
6,500.00	6,319.58	6,356.90	6,284.24	31.85	26.57	-138.75	-910.13	210.33	1,290.99	1,236.74	54.25	23.798		
6,600.00	6,416.25	6,454.39	6,380.53	32.39	26.99	-138.82	-925.22	212.98	1,313.17	1,258.05	55.12	23.824		
6,639.90	6,454.81	6,506.70	6,418.95	32.60	27.22	-138.84	-931.23	214.03	1,322.02	1,266.50	55.52	23.810		
6,650.00	6,464.59	6,503.14	6,428.67	32.66	27.20	-141.48	-932.76	214.30	1,324.27	1,268.71	55.55	23.838		
6,700.00	6,513.25	6,551.84	6,476.76	32.91	27.41	-157.07	-940.29	215.62	1,335.44	1,279.46	55.98	23.855		
6,750.00	6,562.18	6,599.96	6,524.31	33.13	27.62	-176.32	-947.56	216.93	1,346.69	1,290.30	56.39	23.883		
6,800.00	6,611.16	6,647.56	6,571.65	33.33	27.80	163.77	-952.30	218.25	1,358.02	1,301.27	56.75	23.931		
6,850.00	6,659.93	6,695.53	6,619.57	33.50	27.96	146.95	-953.88	219.61	1,369.39	1,312.33	57.06	24.001		
6,900.00	6,708.27	6,743.90	6,667.88	33.64	28.09	134.40	-952.23	221.02	1,380.73	1,323.42	57.32	24.090		
6,950.00	6,755.93	6,792.71	6,716.40	33.75	28.20	125.34	-947.26	222.45	1,392.01	1,334.47	57.54	24.193		
7,000.00	6,802.69	6,841.99	6,764.93	33.85	28.30	118.71	-938.90	223.92	1,403.15	1,345.42	57.73	24.306		
7,050.00	6,848.32	6,891.78	6,813.26	33.92	28.39	113.72	-927.09	225.41	1,414.12	1,356.23	57.89	24.427		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3K-4H-N165 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	1.00	-1.00	0.00	0.00	81.55	8.82	59.35	60.00				
100.00	100.00	101.00	99.00	0.14	0.14	81.55	8.82	59.35	60.00	59.72	0.28	214.585	
105.52	105.52	104.52	104.52	0.16	0.15	81.55	8.82	59.35	60.00	59.69	0.31	192.281 CC	
200.00	200.00	198.77	198.76	0.50	0.49	81.93	8.43	59.50	60.09	59.11	0.98	61.234 ES	
300.00	300.00	298.17	298.11	0.85	0.83	85.06	5.25	60.74	60.98	59.29	1.68	36.195	
400.00	400.00	397.23	396.92	1.21	1.19	91.01	-1.11	63.23	63.27	60.87	2.40	26.341	
500.00	500.00	495.69	494.85	1.57	1.56	98.98	-10.58	66.93	67.89	64.76	3.13	21.698	
600.00	600.00	593.34	591.57	1.93	1.95	107.81	-23.07	71.81	75.79	71.93	3.86	19.642	
700.00	699.98	708.82	688.05	2.28	2.43	-114.29	-38.23	77.73	88.02	83.37	4.65	18.943 SF	
800.00	799.87	789.87	785.30	2.61	2.77	-110.16	-53.86	83.85	102.81	97.51	5.29	19.424	
900.00	899.45	888.51	882.50	2.96	3.19	-108.59	-69.50	89.96	119.01	112.98	6.02	19.756	
1,000.00	998.70	986.99	979.55	3.32	3.62	-108.72	-85.10	96.06	136.33	129.56	6.77	20.134	
1,100.00	1,097.47	1,085.18	1,076.30	3.70	4.05	-109.96	-100.66	102.14	154.83	147.28	7.54	20.522	
1,200.00	1,195.62	1,182.96	1,172.66	4.10	4.47	-111.92	-116.15	108.19	174.68	166.34	8.34	20.942	
1,300.00	1,293.06	1,280.22	1,268.50	4.53	4.90	-114.32	-131.57	114.22	196.15	186.99	9.16	21.406	
1,342.22	1,333.94	1,321.09	1,308.78	4.71	5.08	-115.41	-138.04	116.75	205.78	196.26	9.52	21.617	
1,400.00	1,389.80	1,376.95	1,363.82	4.98	5.32	-117.07	-146.89	120.21	219.28	209.27	10.01	21.911	
1,500.00	1,486.46	1,473.62	1,459.08	5.45	5.75	-119.51	-162.21	126.19	243.00	232.14	10.86	22.381	
1,600.00	1,583.12	1,570.29	1,554.35	5.93	6.17	-121.52	-177.53	132.18	267.06	255.35	11.71	22.803	
1,700.00	1,679.78	1,666.97	1,649.61	6.42	6.60	-123.20	-192.85	138.17	291.38	278.81	12.57	23.182	
1,800.00	1,776.45	1,763.64	1,744.87	6.92	7.02	-124.62	-208.17	144.15	315.90	302.47	13.43	23.522	
1,900.00	1,873.11	1,860.31	1,840.13	7.42	7.45	-125.83	-223.49	150.14	340.58	326.29	14.29	23.830	
2,000.00	1,969.77	1,956.98	1,935.39	7.93	7.87	-126.88	-238.81	156.13	365.39	350.23	15.16	24.108	
2,100.00	2,066.43	2,053.65	2,030.66	8.44	8.30	-127.80	-254.13	162.12	390.29	374.27	16.02	24.361	
2,200.00	2,163.10	2,150.32	2,125.92	8.96	8.73	-128.61	-269.44	168.10	415.28	398.39	16.89	24.591	
2,300.00	2,259.76	2,246.99	2,221.18	9.48	9.15	-129.32	-284.76	174.09	440.33	422.58	17.75	24.802	
2,400.00	2,356.42	2,343.66	2,316.44	10.00	9.58	-129.96	-300.08	180.08	465.45	446.83	18.62	24.995	
2,500.00	2,453.08	2,440.34	2,411.70	10.52	10.01	-130.53	-315.40	186.06	490.61	471.12	19.49	25.173	
2,600.00	2,549.75	2,537.01	2,506.96	11.04	10.43	-131.05	-330.72	192.05	515.82	495.46	20.36	25.338	
2,700.00	2,646.41	2,633.68	2,602.23	11.57	10.86	-131.52	-346.04	198.04	541.06	519.83	21.23	25.490	
2,800.00	2,743.07	2,730.35	2,697.49	12.09	11.29	-131.95	-361.36	204.02	566.33	544.23	22.10	25.631	
2,900.00	2,839.73	2,827.02	2,792.75	12.62	11.71	-132.34	-376.68	210.01	591.63	568.66	22.96	25.762	
3,000.00	2,936.40	2,923.69	2,888.01	13.15	12.14	-132.70	-391.99	216.00	616.95	593.11	23.83	25.885	
3,100.00	3,033.06	3,020.36	2,983.27	13.68	12.57	-133.03	-407.31	221.99	642.29	617.59	24.70	25.999	
3,200.00	3,129.72	3,117.04	3,078.54	14.21	12.99	-133.34	-422.63	227.97	667.65	642.08	25.57	26.106	
3,300.00	3,226.38	3,213.71	3,173.80	14.74	13.42	-133.62	-437.95	233.96	693.03	666.59	26.44	26.207	
3,400.00	3,323.05	3,310.38	3,269.06	15.27	13.85	-133.88	-453.27	239.95	718.42	691.11	27.32	26.301	
3,500.00	3,419.71	3,407.05	3,364.32	15.80	14.27	-134.13	-468.59	245.93	743.83	715.64	28.19	26.390	
3,600.00	3,516.37	3,503.72	3,459.58	16.33	14.70	-134.36	-483.91	251.92	769.25	740.19	29.06	26.474	
3,700.00	3,613.03	3,600.39	3,554.85	16.86	15.13	-134.57	-499.22	257.91	794.68	764.75	29.93	26.553	
3,800.00	3,709.70	3,702.94	3,650.11	17.39	15.58	-134.77	-514.54	263.90	820.12	789.29	30.82	26.606	
3,900.00	3,806.36	3,793.73	3,745.37	17.93	15.98	-134.96	-529.86	269.88	845.56	813.89	31.67	26.699	
4,000.00	3,903.02	3,909.59	3,840.63	18.46	16.50	-135.14	-545.18	275.87	871.02	838.39	32.62	26.698	
4,100.00	3,999.68	3,987.08	3,935.89	18.99	16.84	-135.31	-560.50	281.86	896.48	863.07	33.41	26.830	
4,200.00	4,096.35	4,083.75	4,031.16	19.53	17.27	-135.47	-575.82	287.84	921.95	887.67	34.28	26.891	
4,300.00	4,193.01	4,180.42	4,126.42	20.06	17.69	-135.62	-591.14	293.83	947.43	912.27	35.16	26.949	
4,400.00	4,289.67	4,277.09	4,221.68	20.60	18.12	-135.76	-606.46	299.82	972.91	936.88	36.03	27.004	
4,500.00	4,386.33	4,373.76	4,316.94	21.13	18.55	-135.90	-621.77	305.80	998.40	961.50	36.90	27.057	
4,600.00	4,483.00	4,470.43	4,412.20	21.67	18.98	-136.02	-637.09	311.79	1,023.89	986.12	37.77	27.107	
4,700.00	4,579.66	4,567.10	4,507.47	22.20	19.40	-136.15	-652.41	317.78	1,049.39	1,010.74	38.64	27.155	
4,800.00	4,676.32	4,663.78	4,602.73	22.74	19.83	-136.26	-667.73	323.77	1,074.89	1,035.37	39.52	27.201	
4,900.00	4,772.98	4,760.45	4,697.99	23.27	20.26	-136.37	-683.05	329.75	1,100.39	1,060.00	40.39	27.245	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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		S4-T1N-R65W - RUEGGE 3K-4H-N165 - 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		
5,000.00	4,869.65	4,857.12	4,793.25	23.81	20.69	-136.48	-698.37	335.74	1,125.90	1,084.64	41.26	27.287		
5,100.00	4,966.31	4,953.79	4,888.51	24.34	21.11	-136.58	-713.69	341.73	1,151.41	1,109.28	42.13	27.328		
5,200.00	5,062.97	5,050.46	4,983.78	24.88	21.54	-136.68	-729.01	347.71	1,176.93	1,133.92	43.01	27.366		
5,300.00	5,159.63	5,147.13	5,079.04	25.41	21.97	-136.77	-744.32	353.70	1,202.45	1,158.57	43.88	27.404		
5,400.00	5,256.30	5,243.80	5,174.30	25.95	22.40	-136.86	-759.64	359.69	1,227.97	1,183.22	44.75	27.440		
5,500.00	5,352.96	5,340.48	5,269.56	26.49	22.82	-136.94	-774.96	365.68	1,253.49	1,207.87	45.62	27.474		
5,600.00	5,449.62	5,437.15	5,364.82	27.02	23.25	-137.03	-790.28	371.66	1,279.02	1,232.52	46.50	27.507		
5,700.00	5,546.28	5,533.82	5,460.08	27.56	23.68	-137.10	-805.60	377.65	1,304.55	1,257.18	47.37	27.539		
5,800.00	5,642.95	5,630.49	5,555.35	28.09	24.11	-137.18	-820.92	383.64	1,330.08	1,281.84	48.24	27.570		
5,900.00	5,739.61	5,727.16	5,650.61	28.63	24.53	-137.25	-836.24	389.62	1,355.61	1,306.50	49.12	27.600		
6,000.00	5,836.27	5,823.83	5,745.87	29.17	24.96	-137.32	-851.56	395.61	1,381.15	1,331.16	49.99	27.629		
6,100.00	5,932.93	5,920.50	5,841.13	29.70	25.39	-137.39	-866.87	401.60	1,406.68	1,355.82	50.86	27.656		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3L-4H-N165 - 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	1.00	-1.00	0.00	0.00	81.55	10.29	69.24	70.00					
100.00	100.00	101.00	99.00	0.14	0.14	81.55	10.29	69.24	70.00	69.72	0.28	250.349		
104.87	104.87	103.87	103.87	0.16	0.15	81.55	10.29	69.24	70.00	69.69	0.31	227.739 CC		
200.00	200.00	198.35	198.35	0.50	0.48	81.83	9.98	69.51	70.23	69.24	0.98	71.568 ES		
300.00	300.00	296.91	296.85	0.85	0.83	84.06	7.47	71.73	72.15	70.47	1.68	42.831		
400.00	400.00	395.13	394.83	1.21	1.19	88.17	2.44	76.18	76.34	73.94	2.40	31.819		
500.00	500.00	492.77	491.95	1.57	1.55	93.49	-5.05	82.81	83.26	80.14	3.12	26.695		
600.00	600.00	589.61	587.89	1.93	1.93	99.26	-14.93	91.54	93.41	89.57	3.84	24.331		
700.00	699.98	685.43	682.32	2.28	2.33	-125.33	-27.08	102.29	108.11	103.57	4.54	23.787 SF		
800.00	799.84	780.41	775.34	2.61	2.75	-121.91	-41.44	114.98	128.02	122.77	5.24	24.416		
900.00	899.45	877.68	870.36	2.96	3.20	-120.13	-57.02	128.76	150.96	144.99	5.97	25.285		
1,000.00	998.70	974.58	965.02	3.32	3.66	-119.69	-72.54	142.49	175.64	168.93	6.71	26.186		
1,100.00	1,097.47	1,070.99	1,059.20	3.70	4.11	-120.12	-87.99	156.15	202.02	194.54	7.47	27.042		
1,200.00	1,195.62	1,166.80	1,152.79	4.10	4.57	-121.07	-103.34	169.72	230.16	221.91	8.25	27.892		
1,300.00	1,293.06	1,261.88	1,245.67	4.53	5.03	-122.36	-118.57	183.19	260.22	251.16	9.06	28.737		
1,342.22	1,333.94	1,301.78	1,284.65	4.71	5.22	-122.96	-124.96	188.84	273.51	264.11	9.40	29.089		
1,400.00	1,389.80	1,356.27	1,337.88	4.98	5.48	-124.06	-133.69	196.56	292.01	282.13	9.88	29.562		
1,500.00	1,486.46	1,450.59	1,430.02	5.45	5.93	-125.66	-148.80	209.92	324.22	313.52	10.71	30.286		
1,600.00	1,583.12	1,544.91	1,522.15	5.93	6.39	-126.98	-163.91	223.28	356.62	345.08	11.54	30.902		
1,700.00	1,679.78	1,639.22	1,614.29	6.42	6.85	-128.07	-179.01	236.64	389.16	376.78	12.38	31.432		
1,800.00	1,776.45	1,733.54	1,706.42	6.92	7.30	-129.00	-194.12	250.00	421.80	408.58	13.23	31.892		
1,900.00	1,873.11	1,827.86	1,798.56	7.42	7.76	-129.80	-209.23	263.36	454.54	440.46	14.07	32.295		
2,000.00	1,969.77	1,922.17	1,890.69	7.93	8.22	-130.48	-224.34	276.72	487.33	472.41	14.93	32.650		
2,100.00	2,066.43	2,016.49	1,982.83	8.44	8.68	-131.09	-239.45	290.08	520.19	504.41	15.78	32.966		
2,200.00	2,163.10	2,110.80	2,074.96	8.96	9.14	-131.62	-254.56	303.44	553.09	536.45	16.64	33.248		
2,300.00	2,259.76	2,205.12	2,167.10	9.48	9.60	-132.09	-269.67	316.80	586.03	568.53	17.49	33.501		
2,400.00	2,356.42	2,300.56	2,259.23	10.00	10.06	-132.51	-284.77	330.16	618.99	600.64	18.36	33.720		
2,500.00	2,453.08	2,406.25	2,351.36	10.52	10.58	-132.89	-299.88	343.52	651.99	632.72	19.27	33.840		
2,600.00	2,549.75	2,488.07	2,443.50	11.04	10.98	-133.23	-314.99	356.88	685.01	664.94	20.07	34.126		
2,700.00	2,646.41	2,582.39	2,535.63	11.57	11.44	-133.54	-330.10	370.24	718.05	697.11	20.93	34.299		
2,800.00	2,743.07	2,676.70	2,627.77	12.09	11.90	-133.82	-345.21	383.61	751.10	729.31	21.80	34.458		
2,900.00	2,839.73	2,771.02	2,719.90	12.62	12.36	-134.08	-360.32	396.97	784.17	761.51	22.66	34.604		
3,000.00	2,936.40	2,865.33	2,812.04	13.15	12.82	-134.32	-375.43	410.33	817.26	793.73	23.53	34.739		
3,100.00	3,033.06	2,959.65	2,904.17	13.68	13.28	-134.54	-390.54	423.69	850.35	825.96	24.39	34.864		
3,200.00	3,129.72	3,053.97	2,996.31	14.21	13.74	-134.74	-405.64	437.05	883.46	858.20	25.26	34.981		
3,300.00	3,226.38	3,148.28	3,088.44	14.74	14.20	-134.93	-420.75	450.41	916.57	890.45	26.12	35.089		
3,400.00	3,323.05	3,242.60	3,180.58	15.27	14.66	-135.11	-435.86	463.77	949.70	922.71	26.99	35.190		
3,500.00	3,419.71	3,336.92	3,272.71	15.80	15.12	-135.27	-450.97	477.13	982.83	954.97	27.85	35.285		
3,600.00	3,516.37	3,431.23	3,364.85	16.33	15.58	-135.43	-466.08	490.49	1,015.96	987.24	28.72	35.373		
3,700.00	3,613.03	3,525.55	3,456.98	16.86	16.05	-135.57	-481.19	503.85	1,049.11	1,019.52	29.59	35.457		
3,800.00	3,709.70	3,619.87	3,549.12	17.39	16.51	-135.70	-496.30	517.21	1,082.26	1,051.80	30.46	35.535		
3,900.00	3,806.36	3,714.18	3,641.25	17.93	16.97	-135.83	-511.40	530.57	1,115.41	1,084.09	31.32	35.609		
4,000.00	3,903.02	3,808.50	3,733.38	18.46	17.43	-135.95	-526.51	543.93	1,148.57	1,116.38	32.19	35.678		
4,100.00	3,999.68	3,902.81	3,825.52	18.99	17.89	-136.06	-541.62	557.29	1,181.73	1,148.67	33.06	35.744		
4,200.00	4,096.35	3,997.13	3,917.65	19.53	18.35	-136.17	-556.73	570.65	1,214.90	1,180.97	33.93	35.806		
4,300.00	4,193.01	4,108.55	4,009.79	20.06	18.90	-136.27	-571.84	584.01	1,248.07	1,213.19	34.88	35.787		
4,400.00	4,289.67	4,185.76	4,101.92	20.60	19.27	-136.37	-586.95	597.37	1,281.24	1,245.57	35.67	35.922		
4,500.00	4,386.33	4,280.08	4,194.06	21.13	19.74	-136.46	-602.06	610.73	1,314.42	1,277.88	36.54	35.975		
4,600.00	4,483.00	4,374.40	4,286.19	21.67	20.20	-136.54	-617.17	624.09	1,347.60	1,310.19	37.41	36.025		
4,700.00	4,579.66	4,468.71	4,378.33	22.20	20.66	-136.62	-632.27	637.45	1,380.78	1,342.50	38.28	36.074		
4,800.00	4,676.32	4,563.03	4,470.46	22.74	21.12	-136.70	-647.38	650.82	1,413.96	1,374.82	39.15	36.120		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3M-4H-N165 - 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	1.00	-1.00	0.00	0.00	81.55	11.76	79.13	80.00					
100.00	100.00	101.00	99.00	0.14	0.14	81.55	11.76	79.13	80.00	79.72	0.28	286.113		
200.00	200.00	201.00	199.00	0.50	0.50	81.55	11.76	79.13	80.00	79.00	1.00	80.276		
300.00	300.00	301.00	299.00	0.85	0.86	81.55	11.76	79.13	80.00	78.29	1.71	46.688		
400.00	400.00	399.00	399.00	1.21	1.21	81.55	11.76	79.13	80.00	77.58	2.42	33.013 CC, ES		
500.00	500.00	497.19	497.17	1.57	1.55	82.43	10.69	80.38	81.11	77.99	3.12	25.988		
600.00	600.00	595.12	594.97	1.93	1.89	84.95	7.43	84.17	84.59	80.78	3.81	22.187		
700.00	699.98	692.56	692.05	2.28	2.23	-141.53	2.04	90.46	92.10	87.60	4.50	20.479		
800.00	799.84	789.12	787.92	2.61	2.58	-138.82	-5.43	99.15	105.04	99.86	5.18	20.280 SF		
900.00	899.45	884.42	882.11	2.96	2.95	-136.76	-14.86	110.13	123.27	117.40	5.87	21.004		
1,000.00	998.70	978.11	974.20	3.32	3.34	-135.28	-26.11	123.24	146.61	140.05	6.56	22.336		
1,100.00	1,097.47	1,069.88	1,063.79	3.70	3.74	-134.24	-39.03	138.28	174.88	167.62	7.27	24.069		
1,200.00	1,195.62	1,161.55	1,152.68	4.10	4.16	-133.54	-53.63	155.29	207.72	199.73	7.99	26.005		
1,300.00	1,293.06	1,255.02	1,243.18	4.53	4.61	-133.39	-68.84	173.01	243.23	234.48	8.76	27.778		
1,342.22	1,333.94	1,305.80	1,281.12	4.71	4.86	-133.47	-75.21	180.43	258.91	249.77	9.14	28.330		
1,400.00	1,389.80	1,347.70	1,332.92	4.98	5.06	-133.91	-83.92	190.57	280.64	271.10	9.54	29.407		
1,500.00	1,486.46	1,440.29	1,422.58	5.45	5.53	-134.54	-98.99	208.12	318.29	307.95	10.34	30.794		
1,600.00	1,583.12	1,532.89	1,512.24	5.93	5.99	-135.03	-114.06	225.67	355.96	344.82	11.14	31.952		
1,700.00	1,679.78	1,625.48	1,601.90	6.42	6.47	-135.43	-129.12	243.23	393.65	381.69	11.95	32.929		
1,800.00	1,776.45	1,718.08	1,691.56	6.92	6.94	-135.76	-144.19	260.78	431.35	418.57	12.78	33.762		
1,900.00	1,873.11	1,810.67	1,781.22	7.42	7.42	-136.04	-159.26	278.33	469.06	455.46	13.60	34.479		
2,000.00	1,969.77	1,903.26	1,870.87	7.93	7.90	-136.28	-174.33	295.88	506.78	492.34	14.44	35.102		
2,100.00	2,066.43	2,004.14	1,960.53	8.44	8.43	-136.48	-189.40	313.43	544.51	529.19	15.31	35.559		
2,200.00	2,163.10	2,088.45	2,050.19	8.96	8.87	-136.66	-204.46	330.98	582.24	566.12	16.12	36.127		
2,300.00	2,259.76	2,181.05	2,139.85	9.48	9.36	-136.81	-219.53	348.53	619.97	603.01	16.96	36.553		
2,400.00	2,356.42	2,273.64	2,229.51	10.00	9.85	-136.95	-234.60	366.08	657.71	639.90	17.81	36.933		
2,500.00	2,453.08	2,366.24	2,319.17	10.52	10.33	-137.07	-249.67	383.63	695.46	676.80	18.66	37.274		
2,600.00	2,549.75	2,458.83	2,408.83	11.04	10.82	-137.18	-264.74	401.18	733.20	713.69	19.51	37.581		
2,700.00	2,646.41	2,551.43	2,498.48	11.57	11.31	-137.28	-279.80	418.73	770.95	750.58	20.36	37.860		
2,800.00	2,743.07	2,644.02	2,588.14	12.09	11.80	-137.37	-294.87	436.28	808.69	787.48	21.22	38.113		
2,900.00	2,839.73	2,736.61	2,677.80	12.62	12.30	-137.45	-309.94	453.83	846.45	824.37	22.07	38.344		
3,000.00	2,936.40	2,829.21	2,767.46	13.15	12.79	-137.53	-325.01	471.38	884.20	861.26	22.93	38.556		
3,100.00	3,033.06	2,921.80	2,857.12	13.68	13.28	-137.60	-340.08	488.93	921.95	898.16	23.79	38.751		
3,200.00	3,129.72	3,014.40	2,946.78	14.21	13.77	-137.66	-355.14	506.48	959.70	935.05	24.65	38.931		
3,300.00	3,226.38	3,106.99	3,036.44	14.74	14.27	-137.72	-370.21	524.03	997.46	971.95	25.51	39.097		
3,400.00	3,323.05	3,200.41	3,126.10	15.27	14.76	-137.77	-385.28	541.58	1,035.21	1,008.83	26.38	39.245		
3,500.00	3,419.71	3,307.82	3,215.75	15.80	15.34	-137.82	-400.35	559.13	1,072.97	1,045.66	27.31	39.289		
3,600.00	3,516.37	3,384.78	3,305.41	16.33	15.75	-137.87	-415.42	576.68	1,110.73	1,082.63	28.10	39.528		
3,700.00	3,613.03	3,477.37	3,395.07	16.86	16.24	-137.92	-430.48	594.23	1,148.48	1,119.52	28.96	39.652		
3,800.00	3,709.70	3,569.96	3,484.73	17.39	16.73	-137.96	-445.55	611.78	1,186.24	1,156.41	29.83	39.769		
3,900.00	3,806.36	3,662.56	3,574.39	17.93	17.23	-138.00	-460.62	629.33	1,224.00	1,193.31	30.69	39.878		
4,000.00	3,903.02	3,755.15	3,664.05	18.46	17.72	-138.03	-475.69	646.88	1,261.76	1,230.20	31.56	39.980		
4,100.00	3,999.68	3,847.75	3,753.71	18.99	18.22	-138.07	-490.75	664.43	1,299.52	1,267.09	32.43	40.077		
4,200.00	4,096.35	3,940.34	3,843.36	19.53	18.71	-138.10	-505.82	681.98	1,337.28	1,303.99	33.29	40.168		
4,300.00	4,193.01	4,032.94	3,933.02	20.06	19.21	-138.13	-520.89	699.53	1,375.04	1,340.88	34.16	40.254		
4,400.00	4,289.67	4,125.53	4,022.68	20.60	19.70	-138.16	-535.96	717.08	1,412.80	1,377.77	35.03	40.335		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3N-4H-N165 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	1.00	-1.00	0.00	0.00	81.55	13.23	89.02	90.00				
100.00	100.00	101.00	99.00	0.14	0.14	81.55	13.23	89.02	90.00	89.72	0.28	321.877	
104.72	104.72	103.72	103.72	0.15	0.15	81.55	13.23	89.02	90.00	89.69	0.31	293.882 CC	
200.00	200.00	197.85	197.85	0.50	0.48	81.71	13.02	89.36	90.31	89.33	0.98	92.064 ES	
300.00	300.00	295.39	295.32	0.85	0.83	83.02	11.29	92.16	92.92	91.23	1.68	55.176	
400.00	400.00	392.59	392.30	1.21	1.18	85.42	7.82	97.75	98.29	95.89	2.39	41.045	
500.00	500.00	489.23	488.44	1.57	1.54	88.56	2.66	106.07	106.63	103.52	3.11	34.314	
600.00	600.00	585.11	583.44	1.93	1.92	92.03	-4.14	117.06	118.16	114.34	3.82	30.937	
700.00	699.98	679.90	676.88	2.28	2.31	-134.48	-12.51	130.56	134.21	129.70	4.52	29.712 SF	
800.00	799.84	773.16	768.26	2.61	2.73	-132.31	-22.33	146.41	155.80	150.59	5.21	29.925	
900.00	899.45	864.53	857.14	2.96	3.16	-130.93	-33.46	164.38	182.61	176.71	5.90	30.969	
1,000.00	998.70	953.67	943.17	3.32	3.62	-130.10	-45.76	184.22	214.38	207.79	6.59	32.530	
1,100.00	1,097.47	1,040.81	1,026.52	3.70	4.09	-129.61	-59.13	205.80	250.92	243.64	7.28	34.470	
1,200.00	1,195.62	1,132.55	1,113.93	4.10	4.62	-129.51	-73.80	229.48	290.62	282.58	8.04	36.161	
1,300.00	1,293.06	1,223.28	1,200.38	4.53	5.15	-129.73	-88.31	252.90	332.40	323.58	8.81	37.712	
1,342.22	1,333.94	1,261.26	1,236.57	4.71	5.38	-129.89	-94.39	262.71	350.67	341.51	9.15	38.321	
1,400.00	1,389.80	1,313.09	1,285.95	4.98	5.69	-130.51	-102.68	276.09	375.95	366.34	9.61	39.126	
1,500.00	1,486.46	1,402.80	1,371.43	5.45	6.22	-131.42	-117.03	299.24	419.77	409.36	10.41	40.335	
1,600.00	1,583.12	1,492.51	1,456.90	5.93	6.76	-132.15	-131.37	322.40	463.66	452.44	11.22	41.339	
1,700.00	1,679.78	1,582.22	1,542.37	6.42	7.31	-132.76	-145.72	345.56	507.60	495.57	12.03	42.182	
1,800.00	1,776.45	1,671.93	1,627.84	6.92	7.85	-133.27	-160.07	368.71	551.58	538.73	12.86	42.899	
1,900.00	1,873.11	1,761.64	1,713.32	7.42	8.40	-133.71	-174.42	391.87	595.60	581.91	13.69	43.513	
2,000.00	1,969.77	1,851.35	1,798.79	7.93	8.95	-134.08	-188.77	415.03	639.63	625.11	14.52	44.046	
2,100.00	2,066.43	1,941.06	1,884.26	8.44	9.50	-134.41	-203.12	438.18	683.69	668.33	15.36	44.510	
2,200.00	2,163.10	2,030.77	1,969.73	8.96	10.06	-134.70	-217.46	461.34	727.76	711.55	16.20	44.918	
2,300.00	2,259.76	2,120.47	2,055.21	9.48	10.61	-134.95	-231.81	484.50	771.84	754.79	17.05	45.279	
2,400.00	2,356.42	2,210.18	2,140.68	10.00	11.16	-135.18	-246.16	507.65	815.94	798.04	17.89	45.601	
2,500.00	2,453.08	2,300.11	2,226.15	10.52	11.72	-135.38	-260.51	530.81	860.04	841.30	18.74	45.886	
2,600.00	2,549.75	2,389.60	2,311.62	11.04	12.27	-135.57	-274.86	553.97	904.15	884.56	19.59	46.148	
2,700.00	2,646.41	2,479.31	2,397.10	11.57	12.83	-135.73	-289.20	577.13	948.27	927.83	20.44	46.382	
2,800.00	2,743.07	2,569.02	2,482.57	12.09	13.39	-135.88	-303.55	600.28	992.39	971.10	21.30	46.595	
2,900.00	2,839.73	2,658.73	2,568.04	12.62	13.94	-136.02	-317.90	623.44	1,036.52	1,014.37	22.15	46.788	
3,000.00	2,936.40	2,748.44	2,653.51	13.15	14.50	-136.15	-332.25	646.60	1,080.66	1,057.65	23.01	46.966	
3,100.00	3,033.06	2,838.14	2,738.99	13.68	15.06	-136.27	-346.60	669.75	1,124.80	1,100.93	23.87	47.128	
3,200.00	3,129.72	2,927.85	2,824.46	14.21	15.61	-136.38	-360.95	692.91	1,168.94	1,144.21	24.72	47.278	
3,300.00	3,226.38	3,017.56	2,909.93	14.74	16.17	-136.48	-375.29	716.07	1,213.08	1,187.50	25.58	47.416	
3,400.00	3,323.05	3,107.27	2,995.40	15.27	16.73	-136.57	-389.64	739.22	1,257.23	1,230.79	26.44	47.544	
3,500.00	3,419.71	3,203.02	3,080.88	15.80	17.32	-136.66	-403.99	762.38	1,301.38	1,274.05	27.33	47.611	
3,600.00	3,516.37	3,286.69	3,166.35	16.33	17.85	-136.74	-418.34	785.54	1,345.54	1,317.37	28.17	47.773	
3,700.00	3,613.03	3,376.40	3,251.82	16.86	18.40	-136.82	-432.69	808.69	1,389.69	1,360.66	29.03	47.876	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 30-4H-N165 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	1.00	-1.00	0.00	0.00	81.55	14.70	98.91	100.00				
100.00	100.00	101.00	99.00	0.14	0.14	81.55	14.70	98.91	100.00	99.72	0.28	357.644	
200.00	200.00	201.00	199.00	0.50	0.50	81.55	14.70	98.91	100.00	99.00	1.00	100.346	
300.00	300.00	301.00	299.00	0.85	0.86	81.55	14.70	98.91	100.00	98.29	1.71	58.360	
400.00	400.00	399.00	399.00	1.21	1.21	81.55	14.70	98.91	100.00	97.58	2.42	41.267 CC, ES	
500.00	500.00	496.24	496.23	1.57	1.55	82.08	13.95	100.35	101.35	98.23	3.12	32.487	
600.00	600.00	593.24	593.09	1.93	1.88	83.63	11.69	104.69	105.51	101.70	3.81	27.689	
700.00	699.98	689.71	689.22	2.28	2.22	-144.13	7.94	111.89	114.01	109.51	4.49	25.381	
800.00	799.84	785.19	784.04	2.61	2.58	-142.59	2.75	121.85	128.23	123.06	5.17	24.809 SF	
900.00	899.45	879.26	877.03	2.96	2.94	-141.46	-3.78	134.39	148.05	142.20	5.85	25.309	
1,000.00	998.70	971.51	967.72	3.32	3.32	-140.68	-11.55	149.30	173.29	166.76	6.53	26.530	
1,100.00	1,097.47	1,061.56	1,055.70	3.70	3.71	-140.15	-20.43	166.36	203.81	196.59	7.22	28.246	
1,200.00	1,195.62	1,149.09	1,140.59	4.10	4.12	-139.76	-30.29	185.28	239.40	231.51	7.90	30.318	
1,300.00	1,293.06	1,233.83	1,222.10	4.53	4.54	-139.44	-40.97	205.78	279.90	271.31	8.58	32.616	
1,342.22	1,333.94	1,268.70	1,255.45	4.71	4.72	-139.32	-45.68	214.83	298.41	289.54	8.87	33.626	
1,400.00	1,389.80	1,315.71	1,300.20	4.98	4.98	-139.47	-52.34	227.61	324.69	315.42	9.27	35.041	
1,500.00	1,486.46	1,395.47	1,375.56	5.45	5.44	-139.54	-64.40	250.77	371.87	361.93	9.94	37.418	
1,600.00	1,583.12	1,479.47	1,454.29	5.93	5.95	-139.44	-77.91	276.71	420.72	410.05	10.67	39.421	
1,700.00	1,679.78	1,566.64	1,535.97	6.42	6.51	-139.35	-92.00	303.75	469.70	458.25	11.45	41.009	
1,800.00	1,776.45	1,653.82	1,617.64	6.92	7.07	-139.28	-106.09	330.80	518.69	506.45	12.25	42.355	
1,900.00	1,873.11	1,741.00	1,699.31	7.42	7.65	-139.22	-120.18	357.84	567.68	554.63	13.05	43.505	
2,000.00	1,969.77	1,828.17	1,780.98	7.93	8.23	-139.18	-134.26	384.89	616.67	602.81	13.86	44.497	
2,100.00	2,066.43	1,915.35	1,862.65	8.44	8.81	-139.13	-148.35	411.93	665.66	650.98	14.68	45.359	
2,200.00	2,163.10	2,002.53	1,944.32	8.96	9.40	-139.10	-162.44	438.97	714.65	699.15	15.50	46.113	
2,300.00	2,259.76	2,089.71	2,025.99	9.48	10.00	-139.07	-176.52	466.02	763.64	747.31	16.33	46.777	
2,400.00	2,356.42	2,176.88	2,107.66	10.00	10.60	-139.04	-190.61	493.06	812.63	795.47	17.16	47.366	
2,500.00	2,453.08	2,264.06	2,189.33	10.52	11.20	-139.01	-204.70	520.11	861.62	843.63	17.99	47.891	
2,600.00	2,549.75	2,351.24	2,271.00	11.04	11.80	-138.99	-218.79	547.15	910.61	891.78	18.83	48.361	
2,700.00	2,646.41	2,438.42	2,352.67	11.57	12.41	-138.97	-232.87	574.19	959.60	939.93	19.67	48.785	
2,800.00	2,743.07	2,525.59	2,434.34	12.09	13.01	-138.95	-246.96	601.24	1,008.59	988.07	20.51	49.168	
2,900.00	2,839.73	2,612.77	2,516.01	12.62	13.62	-138.94	-261.05	628.28	1,057.58	1,036.22	21.36	49.516	
3,000.00	2,936.40	2,700.05	2,597.68	13.15	14.23	-138.92	-275.13	655.33	1,106.57	1,084.36	22.21	49.833	
3,100.00	3,033.06	2,787.13	2,679.35	13.68	14.84	-138.91	-289.22	682.37	1,155.56	1,132.50	23.05	50.124	
3,200.00	3,129.72	2,874.30	2,761.02	14.21	15.45	-138.90	-303.31	709.41	1,204.55	1,180.64	23.90	50.390	
3,300.00	3,226.38	2,961.48	2,842.69	14.74	16.07	-138.88	-317.40	736.46	1,253.54	1,228.78	24.76	50.635	
3,400.00	3,323.05	3,048.66	2,924.37	15.27	16.68	-138.87	-331.48	763.50	1,302.53	1,276.92	25.61	50.862	
3,500.00	3,419.71	3,135.84	3,006.04	15.80	17.29	-138.86	-345.57	790.55	1,351.52	1,325.05	26.46	51.071	
3,600.00	3,516.37	3,223.01	3,087.71	16.33	17.91	-138.85	-359.66	817.59	1,400.51	1,373.19	27.32	51.266	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3P-4H-N165 - 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		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	1.00	-1.00	0.00	0.00	81.55	16.17	108.80	110.00				
100.00	100.00	101.00	99.00	0.14	0.14	81.55	16.17	108.80	110.00	109.72	0.28	393.407	
104.68	104.68	103.68	103.68	0.15	0.15	81.55	16.17	108.80	110.00	109.69	0.31	359.487 CC	
200.00	200.00	197.47	197.47	0.50	0.48	81.66	16.00	109.16	110.34	109.36	0.98	112.555 ES	
300.00	300.00	294.25	294.19	0.85	0.83	82.56	14.64	112.10	113.15	111.47	1.68	67.270	
400.00	400.00	390.70	390.42	1.21	1.18	84.24	11.91	117.97	118.88	116.49	2.39	49.743	
500.00	500.00	486.60	485.83	1.57	1.53	86.46	7.84	126.71	127.64	124.54	3.10	41.191	
600.00	600.00	581.76	580.12	1.93	1.91	88.98	2.47	138.25	139.55	135.75	3.81	36.666	
700.00	699.98	675.81	672.87	2.28	2.30	-138.30	-4.13	152.43	155.99	151.49	4.50	34.668	
800.00	799.84	768.28	763.50	2.61	2.71	-136.63	-11.87	169.06	178.08	172.89	5.18	34.348 SF	
900.00	899.45	858.78	851.57	2.96	3.14	-135.52	-20.64	187.89	205.55	199.68	5.87	35.024	
1,000.00	998.70	946.94	936.70	3.32	3.59	-134.83	-30.30	208.66	238.18	231.63	6.56	36.334	
1,100.00	1,097.47	1,032.45	1,018.56	3.70	4.05	-134.40	-40.72	231.06	275.76	268.54	7.23	38.151	
1,200.00	1,195.62	1,115.06	1,096.91	4.10	4.54	-134.11	-51.77	254.79	318.10	310.19	7.91	40.217	
1,300.00	1,293.06	1,194.54	1,171.55	4.53	5.04	-133.89	-63.29	279.55	364.98	356.39	8.59	42.490	
1,342.22	1,333.94	1,227.12	1,201.92	4.71	5.26	-133.80	-68.26	290.24	386.09	377.21	8.88	43.473	
1,400.00	1,389.80	1,273.70	1,245.14	4.98	5.58	-134.14	-75.59	305.98	415.78	406.48	9.29	44.734	
1,500.00	1,486.46	1,359.31	1,324.51	5.45	6.19	-134.66	-89.12	335.06	467.35	457.29	10.07	46.433	
1,600.00	1,583.12	1,444.92	1,403.88	5.93	6.80	-135.07	-102.66	364.15	518.95	508.10	10.85	47.832	
1,700.00	1,679.78	1,530.52	1,483.26	6.42	7.42	-135.41	-116.19	393.23	570.56	558.91	11.64	48.998	
1,800.00	1,776.45	1,616.13	1,562.63	6.92	8.05	-135.69	-129.72	422.31	622.18	609.73	12.45	49.980	
1,900.00	1,873.11	1,701.74	1,642.00	7.42	8.68	-135.93	-143.26	451.39	673.81	660.55	13.26	50.816	
2,000.00	1,969.77	1,787.35	1,721.37	7.93	9.32	-136.13	-156.79	480.47	725.45	711.38	14.08	51.532	
2,100.00	2,066.43	1,872.95	1,800.74	8.44	9.95	-136.31	-170.32	509.55	777.10	762.20	14.90	52.152	
2,200.00	2,163.10	1,958.56	1,880.11	8.96	10.60	-136.47	-183.86	538.63	828.75	813.02	15.73	52.693	
2,300.00	2,259.76	2,044.17	1,959.48	9.48	11.24	-136.60	-197.39	567.72	880.41	863.85	16.56	53.168	
2,400.00	2,356.42	2,129.78	2,038.86	10.00	11.88	-136.73	-210.92	596.80	932.06	914.67	17.39	53.588	
2,500.00	2,453.08	2,215.38	2,118.23	10.52	12.53	-136.84	-224.46	625.88	983.73	965.50	18.23	53.961	
2,600.00	2,549.75	2,300.99	2,197.60	11.04	13.17	-136.93	-237.99	654.96	1,035.39	1,016.32	19.07	54.295	
2,700.00	2,646.41	2,386.60	2,276.97	11.57	13.82	-137.02	-251.52	684.04	1,087.05	1,067.14	19.91	54.594	
2,800.00	2,743.07	2,472.21	2,356.34	12.09	14.47	-137.11	-265.06	713.12	1,138.72	1,117.97	20.76	54.864	
2,900.00	2,839.73	2,557.82	2,435.71	12.62	15.12	-137.18	-278.59	742.20	1,190.39	1,168.79	21.60	55.109	
3,000.00	2,936.40	2,643.42	2,515.08	13.15	15.77	-137.25	-292.12	771.29	1,242.06	1,219.61	22.45	55.332	
3,100.00	3,033.06	2,729.03	2,594.45	13.68	16.42	-137.31	-305.66	800.37	1,293.73	1,270.44	23.30	55.535	
3,200.00	3,129.72	2,814.64	2,673.83	14.21	17.07	-137.37	-319.19	829.45	1,345.40	1,321.26	24.15	55.721	
3,300.00	3,226.38	2,900.25	2,753.20	14.74	17.73	-137.42	-332.72	858.53	1,397.08	1,372.08	25.00	55.892	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3Q-4H-N165 - 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	1.00	-1.00	0.00	0.00	81.55	17.64	118.70	120.00				
100.00	100.00	101.00	99.00	0.14	0.14	81.55	17.64	118.70	120.00	119.72	0.28	429.171	
200.00	200.00	201.00	199.00	0.50	0.50	81.55	17.64	118.70	120.00	119.00	1.00	120.415	
300.00	300.00	301.00	299.00	0.85	0.86	81.55	17.64	118.70	120.00	118.29	1.71	70.032	
400.00	400.00	399.00	399.00	1.21	1.21	81.55	17.64	118.70	120.00	117.58	2.42	49.520 CC, ES	
500.00	500.00	495.42	495.40	1.57	1.55	81.89	17.12	120.20	121.47	118.35	3.12	38.955	
600.00	600.00	591.58	591.44	1.93	1.88	82.89	15.56	124.75	125.95	122.14	3.81	33.078	
700.00	699.98	687.21	686.73	2.28	2.22	-145.57	12.97	132.30	134.93	130.44	4.49	30.077	
800.00	799.84	781.80	780.67	2.61	2.57	-144.68	9.38	142.72	149.80	144.64	5.16	29.036 SF	
900.00	899.45	874.89	872.72	2.96	2.93	-144.10	4.88	155.84	170.43	164.59	5.83	29.213	
1,000.00	998.70	966.04	962.37	3.32	3.30	-143.75	-0.47	171.41	196.66	190.16	6.51	30.221	
1,100.00	1,097.47	1,054.86	1,049.17	3.70	3.69	-143.54	-6.58	189.17	228.35	221.17	7.18	31.807	
1,200.00	1,195.62	1,141.00	1,132.77	4.10	4.09	-143.40	-13.33	208.82	265.29	257.45	7.85	33.817	
1,300.00	1,293.06	1,224.16	1,212.84	4.53	4.50	-143.27	-20.62	230.04	307.30	298.79	8.51	36.118	
1,342.22	1,333.94	1,258.32	1,245.53	4.71	4.68	-143.21	-23.83	239.39	326.50	317.71	8.79	37.139	
1,400.00	1,389.80	1,304.31	1,289.37	4.98	4.92	-143.44	-28.36	252.56	353.74	344.57	9.17	38.590	
1,500.00	1,486.46	1,382.25	1,363.11	5.45	5.37	-143.65	-36.54	276.39	402.61	392.80	9.81	41.039	
1,600.00	1,583.12	1,458.05	1,434.16	5.93	5.84	-143.68	-45.13	301.39	453.57	443.12	10.45	43.405	
1,700.00	1,679.78	1,531.70	1,502.50	6.42	6.33	-143.60	-54.06	327.36	506.56	495.48	11.08	45.709	
1,800.00	1,776.45	1,603.21	1,568.14	6.92	6.83	-143.43	-63.27	354.16	561.47	549.77	11.71	47.966	
1,900.00	1,873.11	1,672.57	1,631.13	7.42	7.37	-143.22	-72.70	381.63	618.24	605.91	12.32	50.165	
2,000.00	1,969.77	1,739.80	1,691.49	7.93	7.91	-142.97	-82.32	409.63	676.78	663.85	12.93	52.341	
2,100.00	2,066.43	1,817.59	1,760.80	8.44	8.57	-142.67	-93.80	443.03	736.45	722.78	13.67	53.867	
2,200.00	2,163.10	1,902.24	1,832.22	8.96	9.31	-142.41	-105.63	477.47	796.16	781.68	14.47	55.006	
2,300.00	2,259.76	1,977.93	1,903.65	9.48	9.98	-142.19	-117.47	511.92	855.87	840.64	15.24	56.174	
2,400.00	2,356.42	2,058.10	1,975.07	10.00	10.70	-141.99	-129.30	546.36	915.60	899.57	16.03	57.121	
2,500.00	2,453.08	2,138.28	2,046.49	10.52	11.42	-141.82	-141.14	580.80	975.32	958.50	16.83	57.961	
2,600.00	2,549.75	2,218.45	2,117.91	11.04	12.16	-141.67	-152.97	615.24	1,035.06	1,017.43	17.63	58.709	
2,700.00	2,646.41	2,301.38	2,189.33	11.57	12.92	-141.54	-164.80	649.69	1,094.79	1,076.34	18.45	59.329	
2,800.00	2,743.07	2,378.79	2,260.75	12.09	13.63	-141.41	-176.64	684.13	1,154.54	1,135.29	19.25	59.980	
2,900.00	2,839.73	2,458.96	2,332.18	12.62	14.38	-141.31	-188.47	718.57	1,214.28	1,194.22	20.06	60.523	
3,000.00	2,936.40	2,539.13	2,403.60	13.15	15.13	-141.21	-200.31	753.01	1,274.03	1,253.15	20.88	61.015	
3,100.00	3,033.06	2,619.30	2,475.02	13.68	15.88	-141.12	-212.14	787.46	1,333.77	1,312.07	21.70	61.464	
3,200.00	3,129.72	2,700.53	2,546.44	14.21	16.64	-141.03	-223.98	821.90	1,393.53	1,371.00	22.53	61.857	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - RUEGGE 3R-4H-N165 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	2.00	-2.00	0.00	0.00	81.55	19.11	128.59	130.00				
100.00	100.00	102.00	98.00	0.14	0.15	81.55	19.11	128.59	130.00	129.72	0.28	459.049	
100.69	100.69	101.31	98.69	0.14	0.14	81.55	19.11	128.59	130.00	129.72	0.28	459.049	CC
200.00	200.00	195.78	195.78	0.50	0.48	81.66	18.92	129.09	130.49	129.52	0.97	133.874	ES
300.00	300.00	291.84	291.77	0.85	0.82	82.39	17.68	132.35	133.67	131.99	1.68	79.755	
400.00	400.00	387.56	387.25	1.21	1.17	83.70	15.31	138.58	139.84	137.45	2.38	58.713	
500.00	500.00	482.72	481.91	1.57	1.52	85.42	11.83	147.73	149.07	145.98	3.09	48.280	
600.00	600.00	577.14	575.44	1.93	1.90	87.39	7.28	159.70	161.45	157.66	3.79	42.579	
700.00	699.98	670.44	667.41	2.28	2.29	-140.35	1.71	174.36	178.35	173.87	4.48	39.790	
800.00	799.84	762.11	757.23	2.61	2.69	-138.97	-4.80	191.48	200.94	195.78	5.16	38.914	SF
900.00	899.45	851.75	844.45	2.96	3.12	-138.04	-12.15	210.81	229.00	223.15	5.84	39.186	
1,000.00	998.70	938.99	928.68	3.32	3.57	-137.44	-20.23	232.06	262.30	255.77	6.52	40.201	
1,100.00	1,097.47	1,023.53	1,009.59	3.70	4.03	-137.04	-28.93	254.93	300.63	293.44	7.19	41.811	
1,200.00	1,195.62	1,105.08	1,086.93	4.10	4.51	-136.76	-38.12	279.10	343.80	335.94	7.86	43.733	
1,300.00	1,293.06	1,183.44	1,160.52	4.53	5.02	-136.53	-47.68	304.25	391.59	383.06	8.53	45.907	
1,342.22	1,333.94	1,215.52	1,190.43	4.71	5.23	-136.43	-51.80	315.09	413.10	404.28	8.82	46.860	
1,400.00	1,389.80	1,258.64	1,230.43	4.98	5.53	-136.74	-57.53	330.15	443.42	434.22	9.20	48.220	
1,500.00	1,486.46	1,331.55	1,297.49	5.45	6.07	-137.11	-67.70	356.89	497.51	487.66	9.84	50.536	
1,600.00	1,583.12	1,415.21	1,360.88	5.93	6.72	-137.32	-77.98	383.92	553.55	543.00	10.55	52.491	
1,700.00	1,679.78	1,483.28	1,435.02	6.42	7.28	-137.48	-90.47	416.77	610.70	599.45	11.24	54.309	
1,800.00	1,776.45	1,565.33	1,509.16	6.92	7.97	-137.60	-102.96	449.62	667.85	655.82	12.03	55.534	
1,900.00	1,873.11	1,647.38	1,583.30	7.42	8.66	-137.71	-115.45	482.48	725.01	712.19	12.82	56.569	
2,000.00	1,969.77	1,729.43	1,657.44	7.93	9.36	-137.81	-127.94	515.33	782.16	768.55	13.61	57.452	
2,100.00	2,066.43	1,811.48	1,731.58	8.44	10.07	-137.89	-140.43	548.18	839.32	824.90	14.42	58.213	
2,200.00	2,163.10	1,906.48	1,805.72	8.96	10.89	-137.95	-152.93	581.04	896.48	881.18	15.30	58.604	
2,300.00	2,259.76	1,975.57	1,879.86	9.48	11.49	-138.02	-165.42	613.89	953.64	937.60	16.04	59.445	
2,400.00	2,356.42	2,057.62	1,954.00	10.00	12.20	-138.07	-177.91	646.74	1,010.80	993.94	16.86	59.950	
2,500.00	2,453.08	2,139.67	2,028.14	10.52	12.92	-138.12	-190.40	679.60	1,067.96	1,050.28	17.68	60.397	
2,600.00	2,549.75	2,221.72	2,102.28	11.04	13.64	-138.16	-202.89	712.45	1,125.12	1,106.62	18.51	60.794	
2,700.00	2,646.41	2,303.77	2,176.42	11.57	14.36	-138.20	-215.39	745.30	1,182.29	1,162.95	19.33	61.149	
2,800.00	2,743.07	2,385.82	2,250.56	12.09	15.09	-138.24	-227.88	778.15	1,239.45	1,219.29	20.16	61.467	
2,900.00	2,839.73	2,467.87	2,324.70	12.62	15.81	-138.27	-240.37	811.01	1,296.61	1,275.62	21.00	61.754	
3,000.00	2,936.40	2,549.92	2,398.84	13.15	16.54	-138.30	-252.86	843.86	1,353.78	1,331.95	21.83	62.014	
3,100.00	3,033.06	2,631.97	2,472.98	13.68	17.26	-138.33	-265.35	876.71	1,410.94	1,388.27	22.67	62.250	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 1 - CPR WELL - GYRO													Offset Site Error:	0.00 usft
Survey Program: 77-VESI_GYROFLEX													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	-58.29	640.40	-1,036.30	1,218.24					
100.00	100.00	89.67	89.67	0.14	0.08	-58.29	640.26	-1,036.44	1,218.25	1,218.03	0.22	5,567.693		
200.00	200.00	188.41	188.41	0.50	0.26	-58.31	640.12	-1,036.72	1,218.42	1,217.67	0.75	1,623.400		
300.00	300.00	287.35	287.35	0.85	0.43	-58.30	640.35	-1,036.86	1,218.66	1,217.38	1.28	949.669		
400.00	400.00	385.00	385.00	1.21	0.60	-58.28	640.92	-1,036.99	1,219.08	1,217.27	1.81	672.185		
500.00	500.00	489.01	489.01	1.57	0.78	-58.27	641.39	-1,037.10	1,219.41	1,217.05	2.36	517.715		
600.00	600.00	589.50	589.49	1.93	0.96	-58.24	641.96	-1,036.95	1,219.59	1,216.70	2.89	422.069		
700.00	699.98	692.63	692.62	2.28	1.14	72.22	642.52	-1,036.56	1,219.01	1,215.60	3.41	357.197		
800.00	799.84	790.74	790.73	2.61	1.31	72.51	642.99	-1,036.20	1,217.37	1,213.45	3.92	310.522		
900.00	899.45	890.27	890.25	2.96	1.49	72.99	643.85	-1,035.69	1,214.80	1,210.36	4.44	273.535		
1,000.00	998.70	990.59	990.57	3.32	1.67	73.66	644.65	-1,035.12	1,211.23	1,206.26	4.98	243.409		
1,100.00	1,097.47	1,087.38	1,087.36	3.70	1.84	74.48	645.45	-1,034.59	1,206.89	1,201.37	5.52	218.592		
1,200.00	1,195.62	1,182.18	1,182.14	4.10	2.01	75.47	646.74	-1,033.99	1,202.11	1,196.03	6.08	197.584		
1,300.00	1,293.06	1,285.15	1,285.09	4.53	2.19	76.76	648.75	-1,032.74	1,196.72	1,190.03	6.69	178.956		
1,342.22	1,333.94	1,327.57	1,327.49	4.71	2.26	77.36	649.67	-1,031.99	1,194.23	1,187.28	6.95	171.852		
1,400.00	1,389.80	1,385.60	1,385.49	4.98	2.37	78.13	650.90	-1,030.84	1,190.80	1,183.49	7.31	162.808		
1,500.00	1,486.46	1,482.97	1,482.82	5.45	2.54	79.45	652.98	-1,028.70	1,185.24	1,177.28	7.95	149.028		
1,600.00	1,583.12	1,583.08	1,582.89	5.93	2.72	80.81	654.75	-1,026.48	1,180.09	1,171.48	8.61	137.068		
1,700.00	1,679.78	1,673.30	1,673.07	6.42	2.88	82.04	656.43	-1,024.51	1,175.68	1,166.42	9.26	126.968		
1,800.00	1,776.45	1,770.51	1,770.24	6.92	3.05	83.37	658.18	-1,022.67	1,172.11	1,162.18	9.93	118.043		
1,900.00	1,873.11	1,865.52	1,865.25	7.42	3.22	84.63	659.27	-1,021.41	1,169.16	1,158.56	10.60	110.280		
2,000.00	1,969.77	1,959.85	1,959.56	7.93	3.38	85.89	660.36	-1,020.32	1,166.97	1,155.69	11.28	103.477		
2,100.00	2,066.43	2,059.30	2,059.00	8.44	3.56	87.21	661.40	-1,019.29	1,165.40	1,153.43	11.97	97.399		
2,200.00	2,163.10	2,153.83	2,153.53	8.96	3.73	88.44	661.88	-1,018.64	1,164.30	1,151.65	12.65	92.061		
2,287.27	2,247.45	2,236.20	2,235.89	9.41	3.87	89.51	662.46	-1,018.16	1,164.02	1,150.77	13.24	87.893		
2,300.00	2,259.76	2,248.29	2,247.98	9.48	3.90	89.67	662.55	-1,018.10	1,164.02	1,150.69	13.33	87.320		
2,400.00	2,356.42	2,341.37	2,341.06	10.00	4.06	90.87	663.18	-1,017.88	1,164.53	1,150.52	14.01	83.103		
2,500.00	2,453.08	2,441.10	2,440.79	10.52	4.24	92.13	663.73	-1,018.05	1,165.77	1,151.06	14.71	79.261		
2,600.00	2,549.75	2,537.12	2,536.81	11.04	4.41	93.35	663.97	-1,018.02	1,167.24	1,151.84	15.40	75.816		
2,700.00	2,646.41	2,637.56	2,637.25	11.57	4.58	94.63	664.56	-1,017.79	1,169.43	1,153.34	16.09	72.683		
2,800.00	2,743.07	2,738.83	2,738.52	12.09	4.76	95.92	664.56	-1,017.30	1,171.58	1,154.80	16.78	69.815		
2,900.00	2,839.73	2,839.90	2,839.58	12.62	4.94	97.20	664.49	-1,016.48	1,174.07	1,156.60	17.47	67.204		
3,000.00	2,936.40	2,936.34	2,936.02	13.15	5.11	98.44	664.32	-1,015.21	1,176.81	1,158.66	18.15	64.844		
3,100.00	3,033.06	3,029.63	3,029.29	13.68	5.27	99.65	664.51	-1,013.85	1,180.38	1,161.56	18.82	62.726		
3,200.00	3,129.72	3,119.18	3,118.83	14.21	5.43	100.83	665.17	-1,012.29	1,184.86	1,165.38	19.48	60.834		
3,300.00	3,226.38	3,208.03	3,207.67	14.74	5.59	101.97	666.30	-1,011.31	1,190.69	1,170.56	20.13	59.148		
3,400.00	3,323.05	3,302.79	3,302.41	15.27	5.76	103.15	667.43	-1,010.88	1,197.32	1,176.53	20.79	57.583		
3,500.00	3,419.71	3,394.95	3,394.56	15.80	5.92	104.29	668.85	-1,010.47	1,204.83	1,183.38	21.45	56.181		
3,600.00	3,516.37	3,493.65	3,493.25	16.33	6.10	105.51	670.47	-1,009.99	1,212.95	1,190.84	22.11	54.865		
3,700.00	3,613.03	3,598.34	3,597.92	16.86	6.28	106.81	672.05	-1,008.60	1,221.18	1,198.40	22.78	53.612		
3,800.00	3,709.70	3,703.29	3,702.84	17.39	6.47	108.11	672.98	-1,006.60	1,229.21	1,205.76	23.44	52.436		
3,900.00	3,806.36	3,800.60	3,800.14	17.93	6.64	109.27	673.21	-1,005.36	1,237.43	1,213.35	24.09	51.377		
4,000.00	3,903.02	3,893.94	3,893.48	18.46	6.80	110.35	673.39	-1,004.58	1,246.27	1,221.55	24.72	50.424		
4,100.00	3,999.68	3,985.08	3,984.61	18.99	6.96	111.39	673.89	-1,003.91	1,255.96	1,230.62	25.34	49.571		
4,200.00	4,096.35	4,082.19	4,081.72	19.53	7.14	112.48	674.59	-1,003.19	1,266.29	1,240.32	25.97	48.765		
4,300.00	4,193.01	4,170.39	4,169.91	20.06	7.29	113.48	675.59	-1,002.27	1,277.39	1,250.82	26.57	48.077		
4,400.00	4,289.67	4,263.36	4,262.87	20.60	7.46	114.52	677.08	-1,001.26	1,289.39	1,262.21	27.18	47.441		
4,500.00	4,386.33	4,358.20	4,357.69	21.13	7.63	115.53	678.59	-1,000.96	1,302.01	1,274.22	27.79	46.851		
4,600.00	4,483.00	4,458.62	4,458.10	21.67	7.80	116.53	679.89	-1,001.55	1,314.99	1,286.57	28.42	46.275		
4,700.00	4,579.66	4,554.71	4,554.18	22.20	7.97	117.48	680.92	-1,002.15	1,328.15	1,299.12	29.03	45.756		
4,800.00	4,676.32	4,661.68	4,661.15	22.74	8.16	118.52	681.90	-1,002.41	1,341.47	1,311.81	29.66	45.223		
4,900.00	4,772.98	4,751.54	4,751.01	23.27	8.32	119.38	682.41	-1,002.61	1,354.81	1,324.57	30.25	44.791		

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 1 - CPR WELL - GYRO												Offset Site Error: 0.00 usft	
Survey Program: 77-VESSI_GYROFLEX												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis				Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis		Separation Factor
5,000.00	4,869.65	4,854.08	4,853.54	23.81	8.50	120.33	683.25	-1,003.16	1,368.81	1,337.95	30.86	44.349	
5,100.00	4,966.31	4,945.48	4,944.94	24.34	8.65	121.16	683.68	-1,003.77	1,382.83	1,351.38	31.45	43.976	
5,200.00	5,062.97	5,034.57	5,034.01	24.88	8.81	121.95	684.66	-1,004.48	1,397.78	1,365.76	32.02	43.659	
5,300.00	5,159.63	5,128.33	5,127.77	25.41	8.97	122.75	686.05	-1,005.38	1,413.42	1,380.82	32.60	43.361	
7,450.00	7,147.51	7,084.38	7,083.30	33.85	12.43	29.56	723.44	-1,002.56	1,389.03	1,345.97	43.06	32.260	
7,500.00	7,173.94	7,109.22	7,108.12	33.78	12.48	31.15	724.44	-1,002.40	1,349.85	1,306.73	43.12	31.304	
7,550.00	7,197.43	7,131.75	7,130.63	33.69	12.52	33.34	725.42	-1,002.31	1,308.88	1,265.70	43.18	30.314	
7,600.00	7,217.86	7,151.85	7,150.70	33.60	12.55	36.28	726.34	-1,002.28	1,266.30	1,223.08	43.23	29.295	
7,650.00	7,235.14	7,169.36	7,168.20	33.50	12.58	40.17	727.18	-1,002.29	1,222.31	1,179.05	43.27	28.249	
7,700.00	7,249.18	7,185.44	7,184.26	33.40	12.61	45.42	727.97	-1,002.33	1,177.11	1,133.80	43.31	27.176	
7,750.00	7,259.91	7,199.41	7,198.20	33.29	12.64	52.41	728.66	-1,002.39	1,130.88	1,087.53	43.36	26.082	
7,800.00	7,267.28	7,209.80	7,208.59	33.18	12.66	61.42	729.17	-1,002.44	1,083.87	1,040.47	43.40	24.975	
7,850.00	7,271.25	7,216.59	7,215.37	33.07	12.67	72.58	729.50	-1,002.48	1,036.31	992.87	43.43	23.860	
7,883.14	7,272.00	7,219.10	7,217.87	33.00	12.67	80.96	729.63	-1,002.50	1,004.59	961.14	43.45	23.118	
7,900.00	7,272.00	7,219.96	7,218.74	32.97	12.67	81.13	729.67	-1,002.50	988.45	944.99	43.47	22.741	
8,000.00	7,272.00	7,225.09	7,223.86	32.76	12.68	82.14	729.92	-1,002.54	893.22	849.68	43.54	20.517	
8,100.00	7,272.00	7,230.19	7,228.95	32.58	12.69	83.15	730.16	-1,002.58	799.12	755.49	43.63	18.314	
8,200.00	7,272.00	7,235.26	7,234.02	32.42	12.70	84.16	730.41	-1,002.62	706.61	662.84	43.77	16.143	
8,300.00	7,272.00	7,240.30	7,239.05	32.28	12.71	85.17	730.65	-1,002.66	616.41	572.44	43.97	14.018	
8,400.00	7,272.00	7,245.31	7,244.05	32.17	12.72	86.18	730.89	-1,002.70	529.69	485.42	44.27	11.966	
8,500.00	7,272.00	7,250.29	7,249.03	32.24	12.73	87.18	731.13	-1,002.75	448.48	403.77	44.72	10.030	
8,600.00	7,272.00	7,255.24	7,253.97	32.87	12.74	88.17	731.36	-1,002.80	376.36	330.99	45.38	8.294	
8,700.00	7,272.00	7,260.16	7,258.89	33.66	12.74	89.17	731.60	-1,002.85	319.56	273.31	46.25	6.910	
8,800.00	7,272.00	7,265.05	7,263.77	34.51	12.75	90.16	731.83	-1,002.90	287.30	240.29	47.00	6.112	
8,848.12	7,272.00	7,267.40	7,266.11	34.94	12.76	90.63	731.94	-1,002.93	283.25	236.09	47.15	6.007	CC, ES, SF
8,900.00	7,272.00	7,269.92	7,268.63	35.41	12.76	91.14	732.06	-1,002.96	287.95	240.88	47.07	6.117	
9,000.00	7,272.00	7,274.75	7,273.46	36.35	12.77	92.12	732.29	-1,003.02	321.32	274.89	46.43	6.921	
9,100.00	7,272.00	7,279.57	7,278.27	37.32	12.78	93.09	732.51	-1,003.07	378.85	333.22	45.63	8.302	
9,200.00	7,272.00	7,284.39	7,283.09	38.34	12.79	94.06	732.74	-1,003.14	451.41	406.41	45.00	10.031	
9,300.00	7,272.00	7,289.23	7,287.92	39.39	12.80	95.03	732.97	-1,003.20	532.88	488.31	44.56	11.958	
9,400.00	7,272.00	7,294.07	7,292.76	40.47	12.80	96.00	733.19	-1,003.26	619.76	575.49	44.27	13.999	
9,500.00	7,272.00	7,298.92	7,297.60	41.57	12.81	96.98	733.42	-1,003.33	710.08	666.00	44.07	16.111	
9,600.00	7,272.00	7,303.78	7,302.46	42.71	12.82	97.94	733.65	-1,003.40	802.66	758.72	43.94	18.267	
9,700.00	7,272.00	7,308.65	7,307.32	43.87	12.83	98.91	733.88	-1,003.47	896.81	852.97	43.85	20.454	
9,800.00	7,272.00	7,313.53	7,312.19	45.06	12.84	99.87	734.11	-1,003.54	992.09	948.31	43.78	22.660	
9,900.00	7,272.00	7,318.42	7,317.07	46.27	12.85	100.83	734.34	-1,003.62	1,088.19	1,044.45	43.74	24.881	
10,000.00	7,272.00	7,323.31	7,321.96	47.50	12.86	101.79	734.57	-1,003.70	1,184.92	1,141.21	43.71	27.111	
10,100.00	7,272.00	7,328.22	7,326.86	48.74	12.86	102.74	734.80	-1,003.78	1,282.13	1,238.44	43.69	29.348	
10,200.00	7,272.00	7,333.13	7,331.77	50.01	12.87	103.69	735.04	-1,003.86	1,379.72	1,336.05	43.68	31.591	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 13-4 - CPR WELL - GYRO												Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
8,400.00	7,272.00	7,234.65	7,231.57	32.17	12.70	-84.65	1,619.57	-1,671.52	1,393.64	1,348.85	44.79	31.112	
8,500.00	7,272.00	7,236.81	7,233.72	32.24	12.71	-84.98	1,619.62	-1,671.55	1,297.72	1,253.04	44.68	29.045	
8,600.00	7,272.00	7,238.97	7,235.88	32.87	12.71	-85.30	1,619.67	-1,671.59	1,202.46	1,157.90	44.56	26.984	
8,700.00	7,272.00	7,241.14	7,238.05	33.66	12.72	-85.63	1,619.71	-1,671.63	1,108.04	1,063.59	44.45	24.927	
8,800.00	7,272.00	7,243.33	7,240.23	34.51	12.72	-85.96	1,619.76	-1,671.67	1,014.68	970.32	44.35	22.876	
8,900.00	7,272.00	7,245.52	7,242.42	35.41	12.72	-86.29	1,619.81	-1,671.70	922.70	878.41	44.29	20.833	
9,000.00	7,272.00	7,247.72	7,244.62	36.35	12.73	-86.62	1,619.86	-1,671.74	832.58	788.29	44.29	18.799	
9,100.00	7,272.00	7,249.93	7,246.83	37.32	12.73	-86.95	1,619.90	-1,671.77	744.97	700.56	44.41	16.777	
9,200.00	7,272.00	7,252.14	7,249.05	38.34	12.74	-87.29	1,619.95	-1,671.81	660.88	616.14	44.73	14.774	
9,300.00	7,272.00	7,254.37	7,251.28	39.39	12.74	-87.62	1,620.00	-1,671.85	581.83	536.41	45.43	12.808	
9,400.00	7,272.00	7,256.61	7,253.51	40.47	12.74	-87.96	1,620.05	-1,671.88	510.19	463.48	46.71	10.922	
9,500.00	7,272.00	7,258.86	7,255.76	41.57	12.75	-88.30	1,620.10	-1,671.92	449.49	400.66	48.84	9.204	
9,600.00	7,272.00	7,261.11	7,258.01	42.71	12.75	-88.64	1,620.15	-1,671.95	404.71	352.88	51.83	7.809	
9,700.00	7,272.00	7,263.38	7,260.28	43.87	12.76	-88.98	1,620.20	-1,671.99	381.47	326.35	55.12	6.921	
9,741.38	7,272.00	7,264.32	7,261.22	44.36	12.76	-89.13	1,620.22	-1,672.00	379.22	322.90	56.32	6.734 CC, ES	
9,800.00	7,272.00	7,265.66	7,262.55	45.06	12.76	-89.33	1,620.25	-1,672.02	383.72	326.09	57.63	6.659 SF	
9,900.00	7,272.00	7,267.94	7,264.84	46.27	12.76	-89.67	1,620.30	-1,672.06	411.04	352.38	58.66	7.007	
10,000.00	7,272.00	7,270.24	7,267.13	47.50	12.77	-90.02	1,620.35	-1,672.09	458.97	400.52	58.46	7.852	
10,100.00	7,272.00	7,272.54	7,269.44	48.74	12.77	-90.37	1,620.40	-1,672.13	521.87	464.24	57.63	9.056	
10,200.00	7,272.00	7,274.86	7,271.75	50.01	12.78	-90.72	1,620.45	-1,672.16	595.00	538.38	56.63	10.508	
10,300.00	7,272.00	7,277.18	7,274.08	51.29	12.78	-91.07	1,620.51	-1,672.20	675.06	619.39	55.66	12.128	
10,400.00	7,272.00	7,279.52	7,276.41	52.59	12.78	-91.42	1,620.56	-1,672.23	759.84	705.03	54.81	13.863	
10,500.00	7,272.00	7,281.86	7,278.76	53.90	12.79	-91.77	1,620.61	-1,672.26	847.94	793.86	54.09	15.678	
10,600.00	7,272.00	7,284.22	7,281.11	55.23	12.79	-92.13	1,620.66	-1,672.30	938.43	884.96	53.47	17.549	
10,698.35	7,272.00	7,286.54	7,283.44	56.54	12.80	-92.48	1,620.72	-1,672.33	1,029.14	976.17	52.97	19.430	
10,700.00	7,272.00	7,286.58	7,283.48	56.57	12.80	-92.48	1,620.72	-1,672.33	1,030.67	977.71	52.96	19.461	
10,758.58	7,272.00	7,287.98	7,284.87	57.36	12.80	-92.56	1,620.75	-1,672.35	1,085.11	1,032.42	52.69	20.594	
10,800.00	7,272.00	7,288.98	7,285.87	57.93	12.80	-92.70	1,620.77	-1,672.36	1,123.71	1,071.20	52.51	21.400	
10,900.00	7,272.00	7,291.40	7,288.29	59.31	12.81	-93.04	1,620.83	-1,672.40	1,217.66	1,165.53	52.13	23.360	
11,000.00	7,272.00	7,293.82	7,290.71	60.70	12.81	-93.39	1,620.88	-1,672.43	1,312.50	1,260.70	51.80	25.339	
11,100.00	7,272.00	7,296.26	7,293.15	62.10	12.81	-93.74	1,620.94	-1,672.46	1,408.05	1,356.53	51.52	27.333	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 14-4 - CPR WELL - GYRO												Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX												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
2,100.00	2,066.43	2,059.66	2,059.59	8.44	3.53	40.01	-217.41	-1,618.44	1,397.90	1,386.59	11.32	123.520	
2,200.00	2,163.10	2,158.13	2,158.05	8.96	3.70	40.75	-216.20	-1,618.88	1,378.54	1,366.60	11.94	115.421	
2,300.00	2,259.76	2,254.02	2,253.93	9.48	3.87	41.49	-214.93	-1,619.34	1,359.44	1,346.87	12.57	108.127	
2,400.00	2,356.42	2,354.15	2,354.04	10.00	4.05	42.31	-213.05	-1,619.77	1,340.53	1,327.31	13.21	101.454	
2,500.00	2,453.08	2,463.05	2,462.91	10.52	4.24	43.25	-210.62	-1,619.57	1,321.31	1,307.44	13.87	95.272	
2,600.00	2,549.75	2,564.40	2,564.23	11.04	4.42	44.16	-207.97	-1,618.46	1,301.50	1,286.98	14.52	89.628	
2,700.00	2,646.41	2,663.58	2,663.35	11.57	4.59	45.10	-205.16	-1,617.22	1,281.88	1,266.70	15.18	84.458	
2,800.00	2,743.07	2,761.84	2,761.58	12.09	4.77	46.04	-202.64	-1,615.70	1,262.28	1,246.44	15.84	79.694	
2,900.00	2,839.73	2,856.45	2,856.15	12.62	4.93	46.97	-200.46	-1,614.23	1,242.99	1,226.49	16.50	75.318	
3,000.00	2,936.40	2,948.29	2,947.97	13.15	5.09	47.85	-199.10	-1,613.09	1,224.26	1,207.08	17.17	71.300	
3,100.00	3,033.06	3,041.34	3,041.01	13.68	5.26	48.76	-198.13	-1,612.35	1,206.23	1,188.38	17.84	67.597	
3,200.00	3,129.72	3,135.16	3,134.82	14.21	5.42	49.69	-197.27	-1,611.73	1,188.64	1,170.12	18.53	64.162	
3,300.00	3,226.38	3,225.50	3,225.16	14.74	5.58	50.61	-196.23	-1,611.51	1,171.84	1,152.63	19.21	60.997	
3,400.00	3,323.05	3,317.69	3,317.34	15.27	5.74	51.59	-194.98	-1,611.67	1,155.82	1,135.91	19.91	58.064	
3,500.00	3,419.71	3,412.02	3,411.66	15.80	5.91	52.60	-193.99	-1,612.15	1,140.45	1,119.84	20.61	55.340	
3,600.00	3,516.37	3,508.47	3,508.11	16.33	6.08	53.64	-193.15	-1,612.78	1,125.57	1,104.25	21.32	52.798	
3,700.00	3,613.03	3,608.81	3,608.44	16.86	6.26	54.78	-191.90	-1,613.18	1,110.92	1,088.89	22.04	50.409	
3,800.00	3,709.70	3,709.61	3,709.23	17.39	6.44	55.98	-190.16	-1,613.07	1,096.35	1,073.59	22.77	48.159	
3,900.00	3,806.36	3,804.38	3,803.96	17.93	6.61	57.17	-188.03	-1,612.74	1,082.17	1,058.68	23.50	46.059	
4,000.00	3,903.02	3,909.26	3,908.83	18.46	6.79	58.51	-185.93	-1,612.05	1,068.14	1,043.90	24.24	44.070	
4,100.00	3,999.68	4,003.09	4,002.64	18.99	6.96	59.72	-184.40	-1,611.29	1,054.38	1,029.41	24.98	42.216	
4,200.00	4,096.35	4,100.37	4,099.90	19.53	7.13	61.01	-182.78	-1,610.51	1,041.17	1,015.45	25.72	40.477	
4,300.00	4,193.01	4,191.67	4,191.18	20.06	7.29	62.28	-180.78	-1,609.77	1,028.69	1,002.22	26.47	38.859	
4,400.00	4,289.67	4,289.75	4,289.21	20.60	7.46	63.70	-177.92	-1,608.87	1,016.98	989.75	27.23	37.343	
4,500.00	4,386.33	4,385.30	4,384.71	21.13	7.63	65.14	-174.91	-1,607.77	1,005.80	977.81	28.00	35.925	
4,600.00	4,483.00	4,487.77	4,487.12	21.67	7.82	66.71	-171.82	-1,606.36	995.08	966.31	28.77	34.588	
4,700.00	4,579.66	4,584.16	4,583.46	22.20	7.99	68.22	-169.12	-1,604.66	984.63	955.09	29.54	33.333	
4,800.00	4,676.32	4,673.14	4,672.37	22.74	8.14	69.65	-166.25	-1,603.18	975.20	944.89	30.31	32.179	
4,900.00	4,772.98	4,766.30	4,765.45	23.27	8.31	71.21	-162.39	-1,601.83	967.15	936.08	31.08	31.121	
5,000.00	4,869.65	4,862.33	4,861.39	23.81	8.48	72.84	-158.42	-1,600.47	959.96	928.11	31.85	30.138	
5,100.00	4,966.31	4,956.28	4,955.26	24.34	8.65	74.44	-154.79	-1,599.31	953.62	921.00	32.62	29.234	
5,200.00	5,062.97	5,053.06	5,051.99	24.88	8.82	76.05	-151.78	-1,598.84	948.28	914.89	33.39	28.402	
5,300.00	5,159.63	5,149.59	5,148.51	25.41	8.99	77.59	-149.98	-1,598.92	943.47	909.32	34.15	27.628	
5,400.00	5,256.30	5,243.27	5,242.17	25.95	9.16	79.06	-148.55	-1,599.56	939.62	904.72	34.90	26.922	
5,500.00	5,352.96	5,339.24	5,338.12	26.49	9.33	80.59	-146.94	-1,600.35	936.70	901.05	35.65	26.273	
5,600.00	5,449.62	5,437.54	5,436.41	27.02	9.50	82.12	-145.85	-1,601.49	934.37	897.97	36.40	25.669	
5,700.00	5,546.28	5,537.14	5,536.00	27.56	9.67	83.63	-145.36	-1,602.95	932.55	895.41	37.14	25.106	
5,800.00	5,642.95	5,635.82	5,634.67	28.09	9.84	85.14	-145.21	-1,604.17	930.99	893.11	37.88	24.578	
5,900.00	5,739.61	5,732.58	5,731.42	28.63	10.01	86.58	-145.33	-1,605.85	930.23	891.63	38.60	24.097	
6,000.00	5,836.27	5,832.79	5,831.61	29.17	10.19	88.10	-145.53	-1,607.03	929.69	890.36	39.33	23.640	
6,022.50	5,858.02	5,853.64	5,852.47	29.29	10.22	88.42	-145.54	-1,607.24	929.66	890.17	39.48	23.545	
6,100.00	5,932.93	5,927.15	5,925.97	29.70	10.35	89.55	-145.41	-1,608.03	929.97	889.94	40.03	23.231	
6,200.00	6,029.60	6,022.37	6,021.19	30.24	10.52	91.03	-145.06	-1,608.79	930.93	890.21	40.73	22.858	
6,300.00	6,126.26	6,109.47	6,108.28	30.78	10.67	92.42	-143.84	-1,609.51	933.39	892.00	41.40	22.548	
6,400.00	6,222.92	6,216.10	6,214.89	31.31	10.86	94.09	-142.53	-1,610.44	936.45	894.35	42.10	22.244	
6,500.00	6,319.58	6,308.13	6,306.91	31.85	11.02	95.52	-141.61	-1,611.21	940.01	897.25	42.76	21.985	
6,600.00	6,416.25	6,396.95	6,395.72	32.39	11.18	96.88	-140.39	-1,612.39	944.80	901.41	43.39	21.773	
6,639.90	6,454.81	6,434.82	6,433.58	32.60	11.25	97.45	-139.78	-1,613.07	947.08	903.43	43.65	21.697	
6,650.00	6,464.59	6,444.47	6,443.23	32.66	11.26	95.16	-139.62	-1,613.24	947.62	903.90	43.72	21.677	
6,700.00	6,513.25	6,492.56	6,491.30	32.91	11.35	81.10	-138.81	-1,614.11	948.57	904.55	44.03	21.546	
6,750.00	6,562.18	6,544.96	6,543.68	33.13	11.44	63.07	-137.97	-1,615.02	946.59	902.26	44.33	21.354	
6,800.00	6,611.16	6,598.14	6,596.85	33.33	11.54	44.14	-137.31	-1,615.82	941.46	896.85	44.61	21.102	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 14-4 - CPR WELL - GYRO													Offset Site Error: 0.00 usft	
Survey Program: 100-VESSI_GYROFLEX													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
6,850.00	6,659.93	6,648.02	6,646.73	33.50	11.63	28.04	-136.81	-1,616.52	933.26	888.39	44.87	20.800		
6,900.00	6,708.27	6,697.37	6,696.07	33.64	11.71	15.96	-136.36	-1,617.20	922.07	876.96	45.10	20.444		
6,950.00	6,755.93	6,743.03	6,741.72	33.75	11.79	7.10	-135.97	-1,617.94	908.00	862.69	45.31	20.040		
7,000.00	6,802.69	6,787.77	6,786.45	33.85	11.87	0.40	-135.60	-1,618.91	891.19	845.69	45.50	19.587		
7,050.00	6,848.32	6,830.49	6,829.15	33.92	11.95	-4.97	-135.23	-1,620.08	871.75	826.08	45.67	19.088		
7,100.00	6,892.59	6,871.71	6,870.35	33.97	12.02	-9.57	-134.83	-1,621.48	849.81	803.99	45.82	18.547		
7,150.00	6,935.29	6,911.03	6,909.63	34.01	12.09	-13.77	-134.40	-1,623.06	825.50	779.55	45.95	17.965		
7,200.00	6,976.21	6,947.50	6,946.05	34.02	12.15	-17.81	-133.97	-1,624.87	799.04	752.99	46.06	17.350		
7,250.00	7,015.15	6,982.42	6,980.91	34.02	12.21	-21.90	-133.51	-1,626.96	770.63	724.49	46.14	16.702		
7,300.00	7,051.93	7,016.20	7,014.61	34.00	12.27	-26.22	-133.02	-1,629.28	740.45	694.24	46.20	16.026		
7,350.00	7,086.36	7,048.80	7,047.12	33.96	12.33	-30.88	-132.40	-1,631.56	708.68	662.44	46.24	15.326		
7,400.00	7,118.27	7,079.41	7,077.65	33.91	12.38	-35.95	-131.68	-1,633.71	675.59	629.34	46.25	14.608		
7,450.00	7,147.51	7,108.63	7,106.78	33.85	12.44	-41.52	-130.88	-1,635.77	641.49	595.26	46.23	13.877		
7,500.00	7,173.94	7,137.07	7,135.15	33.78	12.49	-47.69	-130.07	-1,637.75	606.66	560.49	46.17	13.139		
7,550.00	7,197.43	7,162.50	7,160.51	33.69	12.53	-54.18	-129.37	-1,639.51	571.56	525.49	46.07	12.407		
7,600.00	7,217.86	7,184.79	7,182.74	33.60	12.57	-60.76	-128.76	-1,641.04	536.72	490.82	45.91	11.692		
7,650.00	7,235.14	7,204.14	7,202.03	33.50	12.60	-67.14	-128.23	-1,642.36	502.83	457.15	45.68	11.009		
7,700.00	7,249.18	7,220.94	7,218.79	33.40	12.63	-73.09	-127.80	-1,643.47	470.62	425.25	45.37	10.374		
7,750.00	7,259.91	7,233.96	7,231.78	33.29	12.66	-78.15	-127.49	-1,644.31	441.00	396.03	44.97	9.806		
7,800.00	7,267.28	7,243.20	7,240.99	33.18	12.67	-82.12	-127.28	-1,644.89	415.01	370.52	44.49	9.328		
7,850.00	7,271.25	7,248.68	7,246.46	33.07	12.68	-84.91	-127.16	-1,645.23	393.76	349.81	43.95	8.960		
7,883.14	7,272.00	7,250.26	7,248.04	33.00	12.68	-86.09	-127.13	-1,645.33	382.80	339.22	43.58	8.785		
7,900.00	7,272.00	7,250.65	7,248.43	32.97	12.69	-86.15	-127.12	-1,645.36	378.27	334.88	43.39	8.717		
7,993.94	7,272.00	7,252.80	7,250.57	32.78	12.69	-86.49	-127.07	-1,645.49	366.42	323.83	42.59	8.603 CC, ES, SF		
8,000.00	7,272.00	7,252.93	7,250.71	32.76	12.69	-86.51	-127.07	-1,645.50	366.47	323.92	42.56	8.611		
8,100.00	7,272.00	7,255.16	7,252.93	32.58	12.69	-86.86	-127.02	-1,645.63	381.46	339.01	42.45	8.986		
8,200.00	7,272.00	7,257.35	7,255.11	32.42	12.70	-87.20	-126.98	-1,645.77	420.37	377.40	42.97	9.783		
8,300.00	7,272.00	7,259.48	7,257.24	32.28	12.70	-87.53	-126.93	-1,645.89	477.38	433.67	43.71	10.921		
8,400.00	7,272.00	7,261.56	7,259.32	32.17	12.70	-87.86	-126.89	-1,646.02	546.88	502.47	44.40	12.317		
8,500.00	7,272.00	7,263.60	7,261.35	32.24	12.71	-88.18	-126.85	-1,646.14	624.70	579.73	44.96	13.894		
8,600.00	7,272.00	7,265.59	7,263.34	32.87	12.71	-88.49	-126.81	-1,646.26	708.10	662.70	45.40	15.598		
8,700.00	7,272.00	7,267.54	7,265.28	33.66	12.72	-88.79	-126.77	-1,646.38	795.34	749.61	45.73	17.392		
8,800.00	7,272.00	7,269.45	7,267.19	34.51	12.72	-89.09	-126.74	-1,646.49	885.27	839.28	45.99	19.249		
8,900.00	7,272.00	7,271.31	7,269.05	35.41	12.72	-89.38	-126.70	-1,646.60	977.16	930.96	46.20	21.152		
9,000.00	7,272.00	7,273.14	7,270.88	36.35	12.72	-89.67	-126.67	-1,646.71	1,070.50	1,024.14	46.36	23.089		
9,100.00	7,272.00	7,274.93	7,272.66	37.32	12.73	-89.95	-126.63	-1,646.82	1,164.95	1,118.45	46.50	25.052		
9,200.00	7,272.00	7,276.68	7,274.41	38.34	12.73	-90.22	-126.60	-1,646.92	1,260.25	1,213.63	46.62	27.035		
9,300.00	7,272.00	7,278.40	7,276.12	39.39	12.73	-90.49	-126.57	-1,647.02	1,356.22	1,309.51	46.71	29.033		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 24-4 - CPR WELL - GYRO												Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX												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	-114.71	-44.46	-96.60	106.65				
100.00	100.00	91.80	91.80	0.14	0.07	-114.47	-44.08	-96.87	106.43	106.22	0.21	513.835	
200.00	200.00	192.35	192.35	0.50	0.24	-113.93	-43.16	-97.25	106.40	105.66	0.73	145.119	
261.67	261.67	253.68	253.67	0.72	0.35	-113.60	-42.54	-97.38	106.27	105.21	1.06	100.151	
300.00	300.00	291.73	291.72	0.85	0.42	-113.34	-42.13	-97.62	106.32	105.05	1.26	84.050	
400.00	400.00	391.15	391.13	1.21	0.59	-112.62	-41.10	-98.64	106.86	105.07	1.80	59.458	
500.00	500.00	490.46	490.43	1.57	0.77	-112.15	-40.71	-100.02	107.99	105.66	2.33	46.347	
600.00	600.00	590.52	590.47	1.93	0.95	-111.75	-40.55	-101.65	109.45	106.59	2.86	38.209	
700.00	699.98	691.57	691.51	2.28	1.12	19.53	-39.76	-103.00	108.76	105.37	3.39	32.116	
800.00	799.84	791.37	791.31	2.61	1.30	20.99	-39.12	-103.68	104.27	100.37	3.90	26.738	
900.00	899.45	890.71	890.64	2.96	1.48	22.99	-39.17	-104.37	96.86	92.44	4.42	21.915	
1,000.00	998.70	990.04	989.97	3.32	1.65	25.64	-40.28	-104.94	86.59	81.65	4.95	17.503	
1,100.00	1,097.47	1,088.94	1,088.86	3.70	1.82	30.15	-41.59	-105.49	73.55	68.07	5.48	13.415	
1,200.00	1,195.62	1,187.49	1,187.40	4.10	1.99	38.54	-42.94	-105.96	58.29	52.26	6.04	9.658	
1,300.00	1,293.06	1,285.32	1,285.21	4.53	2.16	55.69	-44.40	-106.14	42.63	35.99	6.63	6.426	
1,342.22	1,333.94	1,326.29	1,326.18	4.71	2.23	67.99	-45.02	-106.14	37.29	30.37	6.91	5.394	
1,400.00	1,389.80	1,382.22	1,382.11	4.98	2.33	89.80	-45.82	-106.21	33.81	26.52	7.30	4.634	
1,405.70	1,395.30	1,387.74	1,387.62	5.01	2.34	92.10	-45.90	-106.22	33.78	26.45	7.33	4.607	CC, ES, SF
1,500.00	1,486.46	1,478.97	1,478.84	5.45	2.49	125.70	-46.97	-106.44	41.17	33.36	7.81	5.269	
1,600.00	1,583.12	1,575.12	1,574.99	5.93	2.66	145.81	-47.45	-106.41	59.60	51.34	8.26	7.213	
1,700.00	1,679.78	1,671.82	1,671.69	6.42	2.83	156.32	-47.38	-105.62	82.64	73.89	8.75	9.445	
1,800.00	1,776.45	1,768.00	1,767.86	6.92	2.99	162.44	-47.79	-104.56	106.92	97.67	9.26	11.552	
1,900.00	1,873.11	1,865.04	1,864.89	7.42	3.16	166.25	-47.92	-103.43	132.20	122.42	9.78	13.515	
2,000.00	1,969.77	1,962.33	1,962.18	7.93	3.33	168.86	-48.64	-102.72	157.12	146.81	10.32	15.228	
2,100.00	2,066.43	2,059.59	2,059.44	8.44	3.50	170.51	-49.10	-102.74	181.99	171.13	10.86	16.756	
2,200.00	2,163.10	2,156.32	2,156.16	8.96	3.67	171.70	-49.61	-103.07	206.73	195.32	11.40	18.127	
2,300.00	2,259.76	2,254.14	2,253.98	9.48	3.84	172.48	-49.63	-103.87	231.57	219.61	11.96	19.367	
2,400.00	2,356.42	2,352.18	2,352.01	10.00	4.02	173.11	-50.23	-105.14	255.71	243.20	12.51	20.437	
2,500.00	2,453.08	2,447.97	2,447.80	10.52	4.18	173.70	-51.01	-106.09	279.94	266.89	13.06	21.441	
2,600.00	2,549.75	2,543.11	2,542.93	11.04	4.35	174.15	-51.19	-106.77	304.82	291.22	13.60	22.418	
2,700.00	2,646.41	2,639.49	2,639.31	11.57	4.52	174.64	-51.52	-106.79	330.07	315.93	14.14	23.335	
2,800.00	2,743.07	2,735.82	2,735.64	12.09	4.69	175.00	-51.66	-107.10	355.28	340.58	14.69	24.179	
2,900.00	2,839.73	2,831.76	2,831.58	12.62	4.86	175.26	-51.22	-107.38	380.92	365.68	15.24	24.994	
3,000.00	2,936.40	2,929.51	2,929.33	13.15	5.03	175.52	-51.26	-107.75	406.17	390.37	15.80	25.709	
3,100.00	3,033.06	3,023.45	3,023.27	13.68	5.19	175.84	-51.40	-107.30	431.95	415.62	16.33	26.445	
3,200.00	3,129.72	3,122.14	3,121.95	14.21	5.36	176.07	-51.27	-107.24	457.64	440.74	16.90	27.083	
3,300.00	3,226.38	3,218.78	3,218.59	14.74	5.53	176.22	-50.96	-107.64	483.13	465.68	17.45	27.686	
3,400.00	3,323.05	3,313.81	3,313.62	15.27	5.70	176.31	-50.32	-108.10	508.82	490.82	17.99	28.277	
3,500.00	3,419.71	3,409.19	3,408.99	15.80	5.86	176.34	-49.10	-108.72	534.79	516.25	18.54	28.845	
3,600.00	3,516.37	3,508.05	3,507.83	16.33	6.04	176.32	-47.52	-109.76	560.70	541.59	19.11	29.344	
3,700.00	3,613.03	3,614.70	3,614.45	16.86	6.22	176.29	-46.64	-111.73	585.54	565.82	19.72	29.694	
3,800.00	3,709.70	3,700.92	3,700.66	17.39	6.38	176.25	-45.55	-113.31	610.65	590.43	20.22	30.205	
3,900.00	3,806.36	3,789.37	3,789.08	17.93	6.53	176.21	-43.66	-114.13	637.00	616.28	20.72	30.739	
4,000.00	3,903.02	3,886.88	3,886.57	18.46	6.70	176.23	-41.66	-114.10	663.97	642.69	21.28	31.198	
4,100.00	3,999.68	3,977.07	3,976.74	18.99	6.86	176.27	-39.90	-113.76	691.11	669.31	21.80	31.705	
4,200.00	4,096.35	4,072.11	4,071.75	19.53	7.02	176.27	-37.19	-113.26	718.95	696.61	22.34	32.177	
4,300.00	4,193.01	4,165.95	4,165.54	20.06	7.19	176.28	-34.58	-112.66	746.82	723.94	22.88	32.638	
4,400.00	4,289.67	4,260.77	4,260.32	20.60	7.35	176.32	-32.06	-111.48	775.04	751.61	23.43	33.084	
4,500.00	4,386.33	4,356.00	4,355.51	21.13	7.52	176.34	-29.30	-110.46	803.28	779.30	23.97	33.506	
4,600.00	4,483.00	4,451.50	4,450.95	21.67	7.68	176.31	-25.98	-109.82	831.64	807.11	24.52	33.911	
4,700.00	4,579.66	4,547.88	4,547.28	22.20	7.85	176.31	-22.91	-108.95	859.96	834.88	25.08	34.289	
4,800.00	4,676.32	4,649.24	4,648.58	22.74	8.03	176.30	-19.73	-108.25	888.12	862.45	25.67	34.603	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 24-4 - CPR WELL - GYRO												Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX												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
4,900.00	4,772.98	4,749.08	4,748.38	23.27	8.20	176.27	-16.88	-108.47	915.43	889.19	26.24	34.884	
5,000.00	4,869.65	4,842.29	4,841.54	23.81	8.37	176.20	-13.71	-108.95	942.92	916.14	26.78	35.209	
5,100.00	4,966.31	4,938.21	4,937.40	24.34	8.54	176.14	-10.41	-109.19	970.62	943.28	27.34	35.508	
5,200.00	5,062.97	5,035.45	5,034.60	24.88	8.71	176.15	-7.87	-108.91	998.14	970.24	27.90	35.780	
5,300.00	5,159.63	5,126.26	5,125.39	25.41	8.87	176.18	-5.77	-108.14	1,025.84	997.42	28.42	36.095	
5,400.00	5,256.30	5,212.51	5,211.59	25.95	9.02	176.25	-3.72	-106.42	1,054.37	1,025.46	28.92	36.462	
5,500.00	5,352.96	5,309.34	5,308.37	26.49	9.18	176.37	-1.78	-103.65	1,083.26	1,053.78	29.48	36.750	
5,600.00	5,449.62	5,411.45	5,410.42	27.02	9.36	176.50	-0.19	-100.74	1,111.86	1,081.79	30.07	36.979	
5,700.00	5,546.28	5,520.47	5,519.42	27.56	9.55	176.62	0.98	-98.70	1,139.44	1,108.74	30.70	37.120	
5,800.00	5,642.95	5,615.39	5,614.32	28.09	9.72	176.70	2.09	-97.44	1,166.72	1,135.48	31.25	37.341	
5,900.00	5,739.61	5,718.79	5,717.71	28.63	9.90	176.77	3.21	-96.44	1,193.69	1,161.85	31.84	37.488	
6,000.00	5,836.27	5,817.66	5,816.57	29.17	10.07	176.85	3.69	-95.53	1,220.25	1,187.84	32.41	37.647	
6,100.00	5,932.93	5,911.30	5,910.21	29.70	10.23	176.90	4.56	-94.88	1,246.93	1,213.97	32.96	37.836	
6,200.00	6,029.60	6,020.02	6,018.92	30.24	10.42	176.98	4.92	-94.23	1,273.16	1,239.58	33.58	37.914	
6,300.00	6,126.26	6,119.56	6,118.46	30.78	10.60	177.08	4.35	-93.76	1,298.68	1,264.53	34.15	38.025	
6,400.00	6,222.92	6,202.53	6,201.42	31.31	10.74	177.16	4.07	-92.90	1,324.79	1,290.15	34.64	38.245	
6,500.00	6,319.58	6,317.80	6,316.68	31.85	10.94	177.29	3.07	-91.78	1,350.45	1,315.15	35.30	38.261	
6,600.00	6,416.25	6,401.99	6,400.85	32.39	11.08	177.41	1.87	-90.56	1,376.14	1,340.35	35.79	38.451	
6,639.90	6,454.81	6,445.54	6,444.39	32.60	11.16	177.48	1.15	-89.67	1,386.49	1,350.45	36.04	38.473	
6,650.00	6,464.59	6,456.59	6,455.44	32.66	11.18	174.89	0.93	-89.45	1,389.04	1,352.94	36.10	38.477	
6,700.00	6,513.25	6,513.12	6,511.94	32.91	11.28	159.65	-0.42	-88.33	1,400.18	1,363.76	36.42	38.449	
6,750.00	6,562.18	6,575.79	6,574.57	33.13	11.38	140.94	-2.35	-87.38	1,408.65	1,371.90	36.75	38.327	
6,800.00	6,611.16	6,639.49	6,638.22	33.33	11.49	121.85	-4.78	-86.86	1,414.35	1,377.26	37.09	38.137	
7,000.00	6,802.69	6,843.54	6,842.03	33.85	11.85	82.05	-14.72	-87.15	1,412.44	1,374.35	38.09	37.083	
7,050.00	6,848.32	6,888.23	6,886.67	33.92	11.93	78.82	-16.95	-87.26	1,406.85	1,368.56	38.30	36.735	
7,100.00	6,892.59	6,931.41	6,929.79	33.97	12.00	76.88	-19.10	-87.37	1,399.50	1,361.00	38.50	36.353	
7,150.00	6,935.29	6,972.86	6,971.19	34.01	12.07	75.87	-21.16	-87.47	1,390.53	1,351.84	38.69	35.940	
7,200.00	6,976.21	7,012.38	7,010.66	34.02	12.14	75.57	-23.13	-87.56	1,380.12	1,341.25	38.88	35.498	
7,250.00	7,015.15	7,049.79	7,048.02	34.02	12.21	75.81	-25.00	-87.65	1,368.48	1,329.41	39.06	35.033	
7,300.00	7,051.93	7,084.90	7,083.08	34.00	12.27	76.48	-26.75	-87.74	1,355.79	1,316.55	39.25	34.547	
7,350.00	7,086.36	7,117.53	7,115.68	33.96	12.32	77.47	-28.37	-87.82	1,342.29	1,302.87	39.43	34.045	
7,400.00	7,118.27	7,147.53	7,145.64	33.91	12.38	78.71	-29.87	-87.89	1,328.21	1,288.60	39.61	33.531	
7,450.00	7,147.51	7,174.76	7,172.83	33.85	12.42	80.11	-31.23	-87.96	1,313.78	1,273.98	39.80	33.009	
7,500.00	7,173.94	7,199.07	7,197.12	33.78	12.47	81.60	-32.44	-88.02	1,299.23	1,259.24	39.99	32.486	
7,550.00	7,197.43	7,220.36	7,218.38	33.69	12.50	83.13	-33.50	-88.07	1,284.81	1,244.62	40.19	31.966	
7,600.00	7,217.86	7,238.51	7,236.51	33.60	12.54	84.63	-34.40	-88.11	1,270.75	1,230.35	40.40	31.454	
7,650.00	7,235.14	7,253.45	7,251.43	33.50	12.56	86.06	-35.15	-88.15	1,257.27	1,216.65	40.61	30.957	
7,700.00	7,249.18	7,265.09	7,263.06	33.40	12.58	87.36	-35.73	-88.18	1,244.56	1,203.72	40.83	30.479	
7,750.00	7,259.91	7,273.38	7,271.34	33.29	12.60	88.51	-36.14	-88.20	1,232.80	1,191.75	41.06	30.026	
7,800.00	7,267.28	7,278.29	7,276.23	33.18	12.61	89.48	-36.38	-88.21	1,222.17	1,180.88	41.28	29.604	
7,850.00	7,271.25	7,279.77	7,277.72	33.07	12.61	90.23	-36.46	-88.22	1,212.76	1,171.25	41.51	29.217	
7,883.14	7,272.00	7,278.87	7,276.82	33.00	12.61	90.62	-36.41	-88.21	1,207.25	1,165.60	41.66	28.981	
7,900.00	7,272.00	7,278.03	7,275.98	32.97	12.61	90.58	-36.37	-88.21	1,204.72	1,162.99	41.73	28.868	
8,000.00	7,272.00	7,273.05	7,271.01	32.76	12.60	90.34	-36.12	-88.20	1,194.46	1,152.26	42.19	28.310	
8,073.42	7,272.00	7,269.40	7,267.35	32.63	12.59	90.16	-35.94	-88.19	1,192.20	1,149.66	42.55	28.022	
8,100.00	7,272.00	7,268.07	7,266.03	32.58	12.59	90.10	-35.88	-88.19	1,192.50	1,149.84	42.66	27.951	
8,200.00	7,272.00	7,263.09	7,261.06	32.42	12.58	89.86	-35.63	-88.17	1,198.89	1,155.76	43.13	27.799	
8,300.00	7,272.00	7,258.11	7,256.08	32.28	12.57	89.62	-35.38	-88.16	1,213.49	1,169.93	43.57	27.854	
8,400.00	7,272.00	7,253.13	7,251.11	32.17	12.56	89.38	-35.13	-88.15	1,236.02	1,192.05	43.97	28.114	
8,500.00	7,272.00	7,248.14	7,246.13	32.24	12.55	89.14	-34.88	-88.14	1,266.05	1,221.73	44.31	28.569	
8,600.00	7,272.00	7,243.16	7,241.15	32.87	12.54	88.90	-34.63	-88.13	1,303.05	1,258.44	44.61	29.209	
8,700.00	7,272.00	7,238.18	7,236.18	33.66	12.54	88.66	-34.39	-88.11	1,346.47	1,301.62	44.85	30.019	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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											S4-T1N-R65W - STELLING 24-4 - CPR WELL - GYRO		Offset Site Error:		0.00 usft
Survey Program:											100-VESSI_GYROFLEX		Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning		
8,800.00	7,272.00	7,233.20	7,231.20	34.51	12.53	88.42	-34.14	-88.10	1,395.69	1,350.65	45.05	30.984			

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 3A-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 108-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	-106.91	-19.33	-63.58	67.06				
100.00	100.00	91.29	91.29	0.14	0.09	-107.14	-19.53	-63.31	66.26	66.03	0.23	289.349	
200.00	200.00	191.13	191.13	0.50	0.29	-107.93	-20.28	-62.68	65.88	65.10	0.79	83.802	
243.35	243.35	234.37	234.35	0.65	0.39	-108.77	-21.19	-62.34	65.84	64.80	1.04	63.378	
300.00	300.00	290.60	290.54	0.85	0.52	-110.63	-23.25	-61.75	65.98	64.61	1.37	48.017	
400.00	400.00	389.36	389.02	1.21	0.77	-116.78	-30.54	-60.51	67.81	65.82	1.99	34.153	
500.00	500.00	487.08	486.05	1.57	1.05	-125.52	-41.93	-58.73	72.33	69.72	2.61	27.712	
600.00	600.00	583.46	581.57	1.93	1.33	-132.37	-54.64	-59.91	81.64	78.42	3.21	25.397	
700.00	699.98	681.49	678.63	2.28	1.61	-5.56	-67.23	-65.34	92.84	89.08	3.76	24.717	
800.00	799.84	780.91	777.16	2.61	1.89	-6.68	-77.76	-73.48	100.98	96.69	4.30	23.502	
900.00	899.45	879.35	874.61	2.96	2.20	-7.47	-88.25	-82.58	106.47	101.63	4.84	21.993	
1,000.00	998.70	978.81	972.88	3.32	2.52	-8.20	-99.52	-93.01	109.86	104.46	5.40	20.333	
1,100.00	1,097.47	1,081.02	1,074.03	3.70	2.81	-9.65	-110.79	-102.36	108.73	102.75	5.97	18.208	
1,200.00	1,195.62	1,180.14	1,172.26	4.10	3.10	-11.69	-121.21	-110.50	103.23	96.70	6.53	15.799	
1,300.00	1,293.06	1,279.26	1,270.38	4.53	3.43	-14.11	-131.94	-119.63	95.36	88.24	7.12	13.397	
1,342.22	1,333.94	1,321.34	1,312.02	4.71	3.56	-15.37	-136.47	-123.63	91.14	83.77	7.37	12.368	
1,400.00	1,389.80	1,378.94	1,369.03	4.98	3.74	-17.30	-142.54	-129.11	84.91	77.20	7.71	11.007	
1,500.00	1,486.46	1,478.95	1,468.12	5.45	4.03	-21.51	-152.55	-138.18	73.74	65.41	8.33	8.856	
1,600.00	1,583.12	1,577.92	1,566.25	5.93	4.33	-27.27	-162.08	-146.81	62.60	53.61	8.99	6.965	
1,700.00	1,679.78	1,676.16	1,663.40	6.42	4.65	-33.74	-172.46	-157.14	53.74	44.01	9.73	5.521	
1,800.00	1,776.45	1,775.81	1,761.79	6.92	4.99	-41.66	-183.42	-168.50	46.39	35.78	10.61	4.370	
1,900.00	1,873.11	1,875.55	1,860.49	7.42	5.31	-54.38	-193.72	-178.44	39.66	27.92	11.74	3.378	
2,000.00	1,969.77	1,975.00	1,959.11	7.93	5.60	-73.32	-203.08	-187.18	35.15	22.03	13.12	2.680	
2,053.43	2,021.41	2,028.01	2,011.77	8.21	5.75	-85.79	-207.53	-191.44	34.39	20.57	13.82	2.488 CC, ES	
2,100.00	2,066.43	2,074.02	2,057.43	8.44	5.89	-96.16	-211.62	-195.32	35.12	20.82	14.30	2.456 SF	
2,200.00	2,163.10	2,172.80	2,155.34	8.96	6.20	-113.95	-221.37	-204.08	40.24	25.30	14.94	2.694	
2,300.00	2,259.76	2,271.66	2,253.43	9.48	6.50	-127.19	-231.15	-211.53	49.59	34.28	15.31	3.239	
2,400.00	2,356.42	2,370.05	2,350.96	10.00	6.80	-135.00	-241.85	-218.83	60.91	45.19	15.72	3.875	
2,500.00	2,453.08	2,470.88	2,450.97	10.52	7.11	-140.90	-252.23	-226.31	73.03	56.85	16.18	4.515	
2,600.00	2,549.75	2,570.12	2,549.27	11.04	7.42	-145.36	-262.12	-235.68	83.69	67.05	16.64	5.029	
2,700.00	2,646.41	2,668.46	2,646.76	11.57	7.72	-148.88	-271.65	-244.31	95.45	78.33	17.12	5.575	
2,800.00	2,743.07	2,767.81	2,745.25	12.09	8.03	-151.29	-281.87	-252.52	107.87	90.20	17.67	6.105	
2,900.00	2,839.73	2,870.07	2,846.48	12.62	8.36	-153.44	-292.33	-262.48	119.02	100.78	18.24	6.527	
3,000.00	2,936.40	2,967.68	2,943.13	13.15	8.67	-155.64	-301.33	-272.65	129.91	111.16	18.75	6.928	
3,100.00	3,033.06	3,069.78	3,044.13	13.68	9.00	-157.67	-310.81	-284.21	140.10	120.81	19.29	7.263	
3,200.00	3,129.72	3,165.74	3,139.16	14.21	9.31	-159.49	-319.11	-294.66	151.05	131.25	19.80	7.627	
3,300.00	3,226.38	3,264.89	3,237.40	14.74	9.61	-160.62	-328.63	-304.07	163.10	142.71	20.38	8.002	
3,400.00	3,323.05	3,363.92	3,335.46	15.27	9.93	-161.14	-339.35	-312.75	175.41	154.40	21.01	8.349	
3,500.00	3,419.71	3,464.23	3,434.73	15.80	10.26	-161.58	-350.46	-321.97	187.25	165.59	21.65	8.647	
3,600.00	3,516.37	3,562.88	3,532.37	16.33	10.58	-162.01	-361.18	-331.04	199.18	176.89	22.28	8.939	
3,700.00	3,613.03	3,662.14	3,630.61	16.86	10.90	-162.27	-372.34	-339.90	211.21	188.28	22.93	9.211	
3,800.00	3,709.70	3,759.96	3,727.41	17.39	11.21	-162.46	-383.44	-348.42	223.40	199.83	23.57	9.477	
3,900.00	3,806.36	3,857.37	3,824.01	17.93	11.51	-162.80	-393.43	-356.18	236.72	212.53	24.19	9.786	
4,000.00	3,903.02	3,958.57	3,924.40	18.46	11.82	-163.45	-402.54	-365.03	249.84	225.04	24.80	10.075	
4,100.00	3,999.68	4,059.49	4,024.39	18.99	12.14	-163.96	-412.34	-374.63	262.00	236.58	25.42	10.308	
4,200.00	4,096.35	4,162.99	4,126.82	19.53	12.48	-164.38	-422.95	-384.96	273.53	247.47	26.06	10.496	
4,300.00	4,193.01	4,259.91	4,222.58	20.06	12.81	-164.75	-433.31	-395.75	283.84	257.16	26.67	10.642	
4,400.00	4,289.67	4,355.22	4,317.02	20.60	13.11	-165.17	-442.33	-404.84	296.11	268.86	27.26	10.864	
4,500.00	4,386.33	4,456.83	4,417.75	21.13	13.42	-165.61	-451.72	-414.35	308.68	280.80	27.88	11.073	
4,600.00	4,483.00	4,560.65	4,520.43	21.67	13.77	-165.84	-462.81	-424.88	319.91	291.37	28.54	11.211	
4,700.00	4,579.66	4,661.97	4,620.47	22.20	14.12	-165.98	-474.52	-435.90	330.09	300.90	29.19	11.306	
4,800.00	4,676.32	4,761.07	4,718.24	22.74	14.47	-165.96	-486.75	-446.48	340.09	310.23	29.86	11.388	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 3A-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 108-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
4,900.00	4,772.98	4,858.01	4,813.93	23.27	14.81	-165.93	-498.62	-456.42	350.52	320.00	30.52	11.486	
5,000.00	4,869.65	4,959.33	4,914.05	23.81	15.15	-166.11	-509.80	-467.23	361.12	329.96	31.16	11.588	
5,100.00	4,966.31	5,062.51	5,015.94	24.34	15.50	-166.49	-520.37	-479.58	370.92	339.13	31.79	11.668	
5,200.00	5,062.97	5,151.82	5,104.29	24.88	15.79	-166.89	-528.58	-489.79	381.70	349.36	32.34	11.803	
5,300.00	5,159.63	5,253.20	5,204.70	25.41	16.12	-167.32	-537.49	-500.53	393.43	360.49	32.95	11.942	
5,400.00	5,256.30	5,353.06	5,303.50	25.95	16.44	-167.56	-547.51	-511.08	404.62	371.05	33.57	12.053	
5,500.00	5,352.96	5,440.49	5,390.17	26.49	16.72	-167.74	-555.74	-518.95	417.48	383.36	34.12	12.236	
5,600.00	5,449.62	5,545.63	5,494.47	27.02	17.04	-167.88	-565.71	-527.66	430.95	396.16	34.79	12.387	
5,700.00	5,546.28	5,648.38	5,596.22	27.56	17.37	-167.93	-576.65	-537.01	443.14	407.68	35.46	12.497	
5,800.00	5,642.95	5,745.56	5,692.43	28.09	17.69	-167.89	-587.46	-545.43	455.50	419.39	36.11	12.615	
5,900.00	5,739.61	5,847.41	5,793.17	28.63	18.03	-167.77	-599.54	-554.21	467.54	430.74	36.80	12.706	
6,000.00	5,836.27	5,945.49	5,890.19	29.17	18.35	-167.68	-611.09	-562.79	479.51	442.06	37.46	12.802	
6,100.00	5,932.93	6,044.48	5,988.16	29.70	18.67	-167.60	-622.52	-571.23	491.78	453.66	38.12	12.901	
6,200.00	6,029.60	6,142.02	6,084.69	30.24	18.99	-167.58	-633.45	-579.94	503.87	465.11	38.76	12.999	
6,300.00	6,126.26	6,226.67	6,168.69	30.78	19.23	-167.75	-640.90	-587.26	517.42	478.09	39.33	13.155	
6,400.00	6,222.92	6,301.28	6,243.05	31.31	19.42	-168.00	-645.18	-591.37	535.05	495.12	39.93	13.399	
6,500.00	6,319.58	6,383.11	6,324.81	31.85	19.58	-168.35	-647.68	-593.74	556.26	515.80	40.46	13.748	
6,600.00	6,416.25	6,461.37	6,403.05	32.39	19.69	-168.82	-647.61	-594.77	580.37	539.46	40.92	14.184	
6,639.90	6,454.81	6,483.00	6,424.65	32.60	19.72	-169.04	-646.44	-595.05	591.12	550.09	41.03	14.408	
6,650.00	6,464.59	6,492.65	6,434.26	32.66	19.72	-171.83	-645.62	-595.19	593.93	552.86	41.06	14.463	
6,700.00	6,513.25	6,520.69	6,462.09	32.91	19.73	172.08	-642.19	-595.47	607.95	566.79	41.16	14.772	
6,750.00	6,562.18	6,551.33	6,492.22	33.13	19.72	152.25	-636.69	-595.73	621.81	580.59	41.22	15.085	
6,800.00	6,611.16	6,587.20	6,527.06	33.33	19.70	131.78	-628.18	-596.35	635.08	593.80	41.28	15.383	
6,850.00	6,659.93	6,621.61	6,559.92	33.50	19.66	114.50	-618.05	-597.39	647.55	606.24	41.31	15.675	
6,900.00	6,708.27	6,655.85	6,592.02	33.64	19.61	101.58	-606.20	-598.62	659.29	617.98	41.31	15.958	
6,950.00	6,755.93	6,691.89	6,625.22	33.75	19.54	92.28	-592.27	-600.10	670.06	628.74	41.31	16.220	
7,000.00	6,802.69	6,726.56	6,656.71	33.85	19.47	85.58	-577.81	-601.39	679.87	638.57	41.30	16.463	
7,050.00	6,848.32	6,760.14	6,686.66	33.92	19.39	80.64	-562.70	-602.54	688.74	647.47	41.27	16.691	
7,100.00	6,892.59	6,788.72	6,711.60	33.97	19.32	76.89	-548.77	-603.42	696.83	655.65	41.19	16.919	
7,150.00	6,935.29	6,816.90	6,735.67	34.01	19.24	74.03	-534.12	-603.87	704.41	663.31	41.10	17.139	
7,200.00	6,976.21	6,847.65	6,761.54	34.02	19.14	71.87	-517.48	-603.80	711.32	670.27	41.05	17.329	
7,250.00	7,015.15	6,879.19	6,787.54	34.02	19.03	70.25	-499.64	-603.41	717.37	676.35	41.02	17.490	
7,300.00	7,051.93	6,910.26	6,812.39	34.00	18.93	69.04	-481.02	-602.86	722.64	681.64	41.00	17.627	
7,350.00	7,086.36	6,945.90	6,839.78	33.96	18.80	68.20	-458.22	-602.31	727.02	685.99	41.03	17.720	
7,400.00	7,118.27	6,988.89	6,871.45	33.91	18.64	67.76	-429.16	-602.20	730.02	688.89	41.13	17.750	
7,450.00	7,147.51	7,023.00	6,895.52	33.85	18.52	67.44	-404.99	-602.61	731.54	690.35	41.19	17.760	
7,500.00	7,173.94	7,054.00	6,916.32	33.78	18.41	67.28	-382.02	-603.07	732.14	690.88	41.26	17.743	
7,550.00	7,197.43	7,086.00	6,936.59	33.69	18.30	67.32	-357.26	-603.33	732.15	690.77	41.38	17.693	
7,600.00	7,217.86	7,118.00	6,955.46	33.60	18.18	67.53	-331.42	-603.44	731.58	690.06	41.53	17.616	
7,650.00	7,235.14	7,150.00	6,972.82	33.50	18.07	67.88	-304.55	-603.53	730.37	688.66	41.71	17.510	
7,700.00	7,249.18	7,181.00	6,988.06	33.40	17.96	68.33	-277.56	-603.62	728.54	686.62	41.93	17.377	
7,750.00	7,259.91	7,213.00	7,002.13	33.29	17.86	68.93	-248.82	-603.65	726.17	683.99	42.18	17.216	
7,800.00	7,267.28	7,245.00	7,014.74	33.18	17.76	69.66	-219.41	-603.62	723.15	680.68	42.47	17.026	
7,850.00	7,271.25	7,279.50	7,026.73	33.07	17.66	70.57	-187.07	-603.63	719.41	676.60	42.81	16.805	
7,883.14	7,272.00	7,302.10	7,033.50	33.00	17.61	71.24	-165.51	-603.70	716.56	673.51	43.05	16.645	
7,900.00	7,272.00	7,313.17	7,036.46	32.97	17.58	71.47	-154.84	-603.76	715.10	671.93	43.17	16.564	
8,000.00	7,272.00	7,381.83	7,050.16	32.76	17.48	72.53	-87.60	-603.82	709.37	665.50	43.87	16.170	
8,100.00	7,272.00	7,460.08	7,057.34	32.58	17.50	73.10	-9.72	-603.51	707.65	663.12	44.52	15.894	
8,200.00	7,272.00	7,586.73	7,058.78	32.42	17.91	73.17	116.87	-606.43	705.98	660.77	45.20	15.618	
8,300.00	7,272.00	7,682.42	7,061.45	32.28	18.40	73.30	212.43	-610.48	701.83	655.79	46.04	15.243	
8,400.00	7,272.00	7,794.69	7,068.33	32.17	19.08	73.76	324.41	-614.77	697.12	649.82	47.31	14.737	
8,500.00	7,272.00	7,886.60	7,075.11	32.24	19.78	74.23	415.99	-618.44	691.99	643.29	48.70	14.209	

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 RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 3A-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 108-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
8,600.00	7,272.00	7,964.17	7,079.12	32.87	20.49	74.53	493.43	-620.01	689.36	639.24	50.12	13.754	
8,629.45	7,272.00	7,986.97	7,079.82	33.10	20.71	74.59	516.23	-620.11	689.22	638.66	50.56	13.633	
8,700.00	7,272.00	8,049.70	7,080.50	33.66	21.34	74.66	578.94	-619.80	689.83	638.12	51.71	13.340	
8,800.00	7,272.00	8,150.96	7,080.65	34.51	22.41	74.69	680.20	-619.46	690.83	637.17	53.66	12.874	
8,900.00	7,272.00	8,251.64	7,079.65	35.41	23.60	74.63	780.87	-619.42	691.86	636.07	55.79	12.401	
9,000.00	7,272.00	8,348.39	7,078.88	36.35	24.69	74.59	877.63	-619.33	692.88	635.11	57.77	11.993	
9,100.00	7,272.00	8,444.92	7,078.54	37.32	25.82	74.59	974.15	-618.72	694.31	634.46	59.85	11.600	
9,200.00	7,272.00	8,555.09	7,076.46	38.34	27.32	74.45	1,084.30	-618.35	695.91	633.36	62.55	11.126	
9,300.00	7,272.00	8,653.93	7,074.10	39.39	28.69	74.26	1,183.10	-619.34	696.31	631.36	64.95	10.720	
9,400.00	7,272.00	8,753.30	7,072.29	40.47	30.05	74.12	1,282.46	-619.96	696.92	629.52	67.40	10.340	
9,500.00	7,272.00	8,855.91	7,070.33	41.57	31.52	73.96	1,385.04	-620.98	697.21	627.18	70.03	9.955	
9,600.00	7,272.00	8,971.55	7,068.84	42.71	33.24	73.80	1,500.64	-623.57	696.11	622.95	73.16	9.514	
9,700.00	7,272.00	9,068.28	7,068.08	43.87	34.78	73.69	1,597.32	-626.31	694.33	618.48	75.85	9.154	
9,800.00	7,272.00	9,165.25	7,066.81	45.06	36.30	73.54	1,694.24	-629.33	692.44	613.91	78.52	8.818	
9,865.05	7,272.00	9,222.72	7,065.71	45.84	37.21	73.44	1,751.69	-630.30	692.19	612.10	80.09	8.643	
9,900.00	7,272.00	9,256.48	7,064.97	46.27	37.74	73.38	1,785.44	-630.74	692.23	611.21	81.03	8.543	
10,000.00	7,272.00	9,360.58	7,063.50	47.50	39.30	73.25	1,889.52	-632.01	692.18	608.30	83.89	8.252	
10,100.00	7,272.00	9,472.55	7,063.59	48.74	41.03	73.22	2,001.46	-634.27	690.95	603.84	87.11	7.932	
10,200.00	7,272.00	9,587.67	7,063.12	50.01	42.91	73.08	2,116.45	-639.62	687.28	596.78	90.50	7.594	
10,300.00	7,272.00	9,669.31	7,062.77	51.29	44.22	72.98	2,198.02	-642.93	684.25	591.43	92.81	7.372	
10,400.00	7,272.00	9,765.19	7,061.81	52.59	45.81	72.87	2,293.87	-644.94	683.24	587.61	95.62	7.145	
10,500.00	7,272.00	9,872.72	7,060.03	53.90	47.59	72.67	2,401.33	-648.36	681.39	582.58	98.81	6.896	
10,600.00	7,272.00	9,968.22	7,059.46	55.23	49.09	72.56	2,496.79	-651.29	679.36	577.81	101.55	6.690	
10,666.27	7,272.00	10,024.21	7,058.89	56.11	50.02	72.50	2,552.76	-652.38	678.81	575.66	103.15	6.581	
10,698.35	7,272.00	10,049.41	7,058.41	56.54	50.45	72.46	2,577.96	-652.59	678.97	575.11	103.86	6.537	
10,700.00	7,272.00	10,050.71	7,058.38	56.57	50.47	72.46	2,579.25	-652.59	678.99	575.09	103.90	6.535	
10,758.58	7,272.00	10,102.69	7,057.13	57.36	51.33	72.38	2,631.22	-652.39	680.63	575.25	105.39	6.458	
10,800.00	7,272.00	10,144.47	7,056.32	57.93	52.00	72.35	2,672.99	-652.07	682.31	575.69	106.63	6.399	
10,900.00	7,272.00	10,253.97	7,054.91	59.31	53.77	72.32	2,782.48	-651.93	685.53	575.55	109.98	6.233	
11,000.00	7,272.00	10,360.92	7,052.89	60.70	55.60	72.22	2,889.41	-652.89	687.99	574.69	113.30	6.072	
11,100.00	7,272.00	10,468.85	7,051.89	62.10	57.43	72.15	2,997.30	-655.56	688.60	571.94	116.67	5.902	
11,200.00	7,272.00	10,564.22	7,050.69	63.51	59.04	72.06	3,092.63	-658.10	689.17	569.61	119.56	5.764	
11,300.00	7,272.00	10,661.51	7,049.69	64.93	60.67	72.00	3,189.89	-659.81	690.53	567.99	122.54	5.635	
11,400.00	7,272.00	10,760.74	7,050.01	66.36	62.29	72.08	3,289.11	-660.81	692.19	566.58	125.61	5.511	
11,500.00	7,272.00	10,856.15	7,049.66	67.79	63.93	72.09	3,384.52	-661.72	694.11	565.50	128.60	5.397	
11,600.00	7,272.00	10,958.91	7,048.00	69.23	65.71	72.01	3,487.27	-662.82	696.30	564.47	131.83	5.282	
11,700.00	7,272.00	11,064.89	7,047.23	70.68	67.51	71.98	3,593.22	-664.85	697.39	562.21	135.18	5.159	
11,800.00	7,272.00	11,157.37	7,045.57	72.14	69.10	71.87	3,685.66	-666.56	698.90	560.89	138.01	5.064	
11,900.00	7,272.00	11,254.47	7,045.55	73.60	70.70	71.93	3,782.77	-666.90	701.29	560.25	141.04	4.972	
12,000.00	7,272.00	11,348.19	7,045.96	75.06	72.29	72.04	3,876.49	-666.64	704.13	560.12	144.01	4.889	
12,100.00	7,272.00	11,457.54	7,045.81	76.53	74.18	72.10	3,985.83	-666.67	706.86	559.25	147.61	4.789	
12,200.00	7,272.00	11,560.93	7,044.70	78.01	75.98	72.05	4,089.20	-668.21	708.48	557.57	150.91	4.695	
12,229.68	7,272.00	11,589.18	7,044.38	78.45	76.46	72.04	4,117.44	-668.62	708.97	557.18	151.79	4.671	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 3B-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 140-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	-104.29	-9.85	-38.68	41.98				
100.00	100.00	87.30	87.30	0.14	0.09	-104.56	-9.95	-38.31	39.58	39.35	0.23	170.958	
200.00	200.00	187.80	187.78	0.50	0.26	-106.09	-10.61	-36.78	38.29	37.53	0.76	50.628	
300.00	300.00	287.86	287.73	0.85	0.49	-112.35	-13.65	-33.20	35.91	34.56	1.35	26.671	
400.00	400.00	387.41	387.06	1.21	0.74	-122.86	-18.82	-29.14	34.69	32.74	1.95	17.756	
406.37	406.37	393.74	393.37	1.24	0.76	-123.71	-19.25	-28.85	34.69	32.69	1.99	17.403	CC, ES
500.00	500.00	486.29	485.47	1.57	1.02	-138.19	-27.13	-24.27	36.44	33.85	2.59	14.080	
600.00	600.00	585.38	583.81	1.93	1.29	-153.53	-38.06	-18.96	42.64	39.45	3.19	13.377	
700.00	699.98	684.35	682.00	2.28	1.57	-35.29	-49.19	-13.56	49.84	46.10	3.74	13.311	
800.00	799.84	783.46	780.24	2.61	1.87	-46.95	-60.92	-7.73	56.84	52.56	4.28	13.282	SF
900.00	899.45	882.33	878.22	2.96	2.18	-58.22	-72.76	-1.96	63.93	59.12	4.81	13.299	
1,000.00	998.70	980.44	975.40	3.32	2.51	-69.37	-84.91	3.88	72.17	66.81	5.36	13.473	
1,100.00	1,097.47	1,077.28	1,071.06	3.70	2.85	-79.54	-98.79	9.81	83.75	77.79	5.96	14.054	
1,200.00	1,195.62	1,176.20	1,168.79	4.10	3.15	-89.24	-112.88	15.86	97.32	90.70	6.62	14.701	
1,300.00	1,293.06	1,273.65	1,265.19	4.53	3.44	-98.39	-125.76	21.95	112.94	105.59	7.35	15.372	
1,342.22	1,333.94	1,314.78	1,305.89	4.71	3.56	-102.04	-131.02	24.57	120.43	112.76	7.67	15.697	
1,400.00	1,389.80	1,370.98	1,361.55	4.98	3.73	-106.77	-138.00	28.09	131.39	123.26	8.13	16.170	
1,500.00	1,486.46	1,468.13	1,457.82	5.45	4.03	-113.44	-149.61	34.08	151.72	142.81	8.90	17.042	
1,600.00	1,583.12	1,565.87	1,554.79	5.93	4.32	-118.76	-160.42	39.74	172.94	163.27	9.67	17.881	
1,700.00	1,679.78	1,660.76	1,648.94	6.42	4.60	-122.88	-170.73	45.52	195.50	185.08	10.42	18.761	
1,800.00	1,776.45	1,755.61	1,742.93	6.92	4.91	-126.00	-181.77	51.94	219.66	208.49	11.17	19.671	
1,900.00	1,873.11	1,851.78	1,838.18	7.42	5.21	-128.51	-193.15	58.78	244.69	232.78	11.91	20.539	
2,000.00	1,969.77	1,948.91	1,934.39	7.93	5.52	-130.57	-204.63	65.57	269.96	257.31	12.66	21.331	
2,100.00	2,066.43	2,047.11	2,031.72	8.44	5.82	-132.34	-215.95	72.05	295.10	281.70	13.40	22.024	
2,200.00	2,163.10	2,146.75	2,130.51	8.96	6.13	-133.81	-227.59	77.68	319.55	305.41	14.15	22.591	
2,300.00	2,259.76	2,242.61	2,225.69	9.48	6.41	-135.19	-237.81	82.68	343.69	328.83	14.86	23.124	
2,400.00	2,356.42	2,332.96	2,315.49	10.00	6.67	-136.58	-245.86	88.59	369.21	353.68	15.53	23.768	
2,500.00	2,453.08	2,425.27	2,407.24	10.52	6.92	-138.03	-252.76	95.97	396.33	380.14	16.20	24.469	
2,600.00	2,549.75	2,525.49	2,506.81	11.04	7.21	-139.28	-261.14	103.79	423.48	406.57	16.91	25.049	
2,700.00	2,646.41	2,628.47	2,609.10	11.57	7.51	-140.27	-270.82	110.65	449.65	432.01	17.64	25.494	
2,800.00	2,743.07	2,723.96	2,703.97	12.09	7.78	-141.02	-280.29	115.85	474.73	456.39	18.34	25.889	
2,900.00	2,839.73	2,817.98	2,797.31	12.62	8.06	-141.65	-289.98	121.62	500.51	481.47	19.04	26.292	
3,000.00	2,936.40	2,911.89	2,890.40	13.15	8.36	-142.11	-300.48	128.16	527.09	507.34	19.75	26.691	
3,100.00	3,033.06	3,009.96	2,987.54	13.68	8.67	-142.47	-312.24	134.81	553.47	532.98	20.49	27.014	
3,200.00	3,129.72	3,106.68	3,083.37	14.21	8.97	-142.81	-323.61	141.39	579.91	558.69	21.22	27.332	
3,300.00	3,226.38	3,206.75	3,182.59	14.74	9.28	-143.18	-334.90	147.72	605.94	583.98	21.96	27.598	
3,400.00	3,323.05	3,301.01	3,276.14	15.27	9.56	-143.55	-345.02	153.30	631.65	608.99	22.66	27.876	
3,500.00	3,419.71	3,393.43	3,367.88	15.80	9.84	-143.94	-354.24	159.61	658.31	634.96	23.35	28.195	
3,600.00	3,516.37	3,492.80	3,466.46	16.33	10.14	-144.27	-364.91	166.28	684.83	660.75	24.08	28.441	
3,700.00	3,613.03	3,591.40	3,564.18	16.86	10.45	-144.51	-376.29	172.62	711.01	686.20	24.81	28.653	
3,800.00	3,709.70	3,688.15	3,660.16	17.39	10.74	-144.77	-386.93	178.58	737.00	711.47	25.53	28.865	
3,900.00	3,806.36	3,779.85	3,751.26	17.93	11.01	-145.09	-395.75	184.30	763.24	737.03	26.21	29.118	
4,000.00	3,903.02	3,879.13	3,849.90	18.46	11.29	-145.46	-404.79	191.05	790.09	763.17	26.92	29.349	
4,100.00	3,999.68	3,984.58	3,954.58	18.99	11.61	-145.71	-415.98	197.05	815.70	788.03	27.67	29.479	
4,200.00	4,096.35	4,085.12	4,054.24	19.53	11.92	-145.84	-428.10	202.31	840.74	812.32	28.42	29.584	
4,300.00	4,193.01	4,174.70	4,142.98	20.06	12.21	-145.92	-439.37	207.08	865.81	836.68	29.13	29.721	
4,400.00	4,289.67	4,270.92	4,238.18	20.60	12.52	-145.95	-452.01	213.11	891.70	861.83	29.87	29.849	
4,500.00	4,386.33	4,374.99	4,341.39	21.13	12.84	-146.10	-464.08	218.80	917.02	886.39	30.63	29.937	
4,600.00	4,483.00	4,467.69	4,433.39	21.67	13.12	-146.25	-474.44	223.49	942.01	910.67	31.34	30.060	
4,700.00	4,579.66	4,563.11	4,527.97	22.20	13.41	-146.34	-485.84	228.91	967.50	935.43	32.06	30.174	
4,800.00	4,676.32	4,658.00	4,622.00	22.74	13.71	-146.42	-497.37	234.36	993.02	960.23	32.79	30.282	
4,900.00	4,772.98	4,750.32	4,713.41	23.27	14.01	-146.47	-508.97	240.01	1,018.86	985.34	33.52	30.397	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 S4-T1N-R65W - STELLING 3B-4H - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 140-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		
5,000.00	4,869.65	4,844.08	4,806.14	23.81	14.32	-146.48	-521.39	246.21	1,045.08	1,010.82	34.26	30.508		
5,100.00	4,966.31	4,941.86	4,903.04	24.34	14.62	-146.57	-532.77	252.55	1,071.38	1,036.39	34.99	30.622		
5,200.00	5,062.97	5,033.08	4,993.65	24.88	14.89	-146.75	-541.68	258.27	1,097.73	1,062.05	35.67	30.772		
5,300.00	5,159.63	5,132.65	5,092.47	25.41	15.19	-146.91	-551.90	264.91	1,124.41	1,088.02	36.39	30.896		
5,400.00	5,256.30	5,230.89	5,190.01	25.95	15.48	-147.06	-561.87	271.02	1,150.68	1,113.57	37.11	31.008		
5,500.00	5,352.96	5,323.82	5,282.17	26.49	15.77	-147.16	-572.11	277.01	1,177.05	1,139.23	37.82	31.123		
5,600.00	5,449.62	5,417.04	5,374.59	27.02	16.06	-147.24	-582.59	283.36	1,203.74	1,165.21	38.53	31.243		
5,700.00	5,546.28	5,540.08	5,496.81	27.56	16.41	-147.43	-594.72	290.56	1,229.78	1,190.45	39.32	31.275		
5,800.00	5,642.95	5,624.57	5,580.74	28.09	16.66	-147.55	-603.39	294.94	1,255.06	1,215.06	39.99	31.384		
5,900.00	5,739.61	5,707.75	5,663.25	28.63	16.92	-147.62	-612.53	300.12	1,281.23	1,240.57	40.67	31.507		
6,000.00	5,836.27	5,818.03	5,772.62	29.17	17.25	-147.71	-624.75	307.18	1,307.60	1,266.16	41.44	31.557		
6,100.00	5,932.93	5,957.47	5,911.58	29.70	17.60	-148.07	-635.15	311.68	1,331.35	1,289.16	42.19	31.557		
6,200.00	6,029.60	6,063.09	6,017.03	30.24	17.82	-148.44	-640.95	312.81	1,353.48	1,310.66	42.82	31.607		
6,300.00	6,126.26	6,162.20	6,116.11	30.78	17.99	-148.90	-643.37	313.13	1,375.46	1,332.05	43.41	31.689		
6,400.00	6,222.92	6,263.61	6,217.51	31.31	18.15	-149.45	-643.81	312.84	1,397.30	1,353.34	43.96	31.785		

Cathedral Energy Services

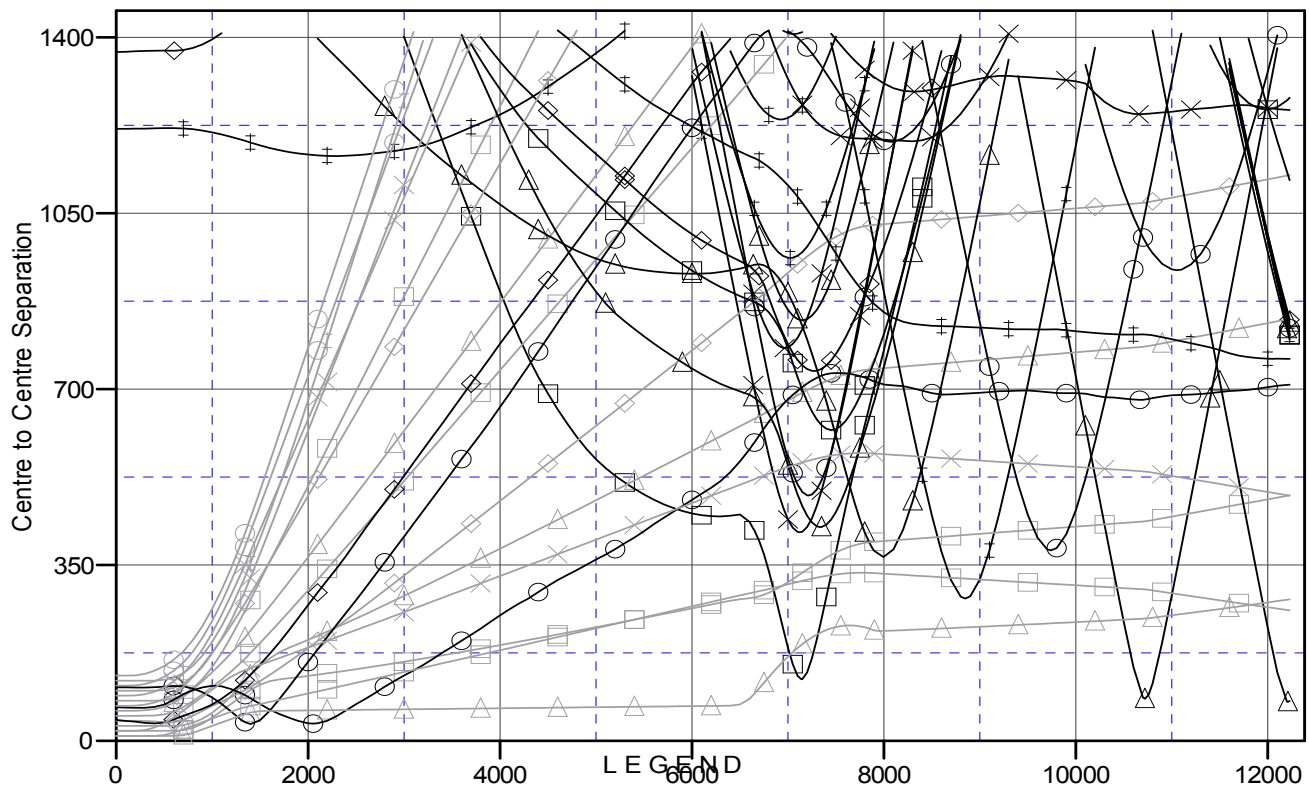
Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3E-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' KB @ 4939.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' KB @ 4939.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3E-4H-N165	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 @ 4939.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: RUEGGE 3E-4H-N165 - Slot RUEGGE 3E-4H-N165 S
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.54°

Ladder Plot



12-9HZ, KMG WELL, SURVEYS V0	GITTEIN21-4J, CPRWELL, SURVEYS V0	ENGLISH FARMS 13N-9HZ, KMG WELL, SURVEYS V0
N 12-4J, CPRWELL, SURVEYS V0	STELLING 3B-4H, CPRWELL, SURVEYS V0	GITTEIN30C-28HZ, KMG WELL, SURVEYS V0
H FARMS 35N1-9HZ, KMG WELL, SURVEYS V0	ENGLISH FARMS 34N-9HZ, KMG WELL, SURVEYS V0	GITTEIN 11-4, CPRWELL, GYRO V0
E 3K-4H-N165, OH, PLAN#1 V0	RUEGGE 3O-4H-N165, OH, PLAN#1 V0	BOYD 1N-32HZ, KMG WELL, SURVEYS V0
I1-9HZ, KMG WELL, SURVEYS V0	GITTEIN30N-28HZX, KMG WELL, SURVEYS V0	RUEGGE 3F-4H-N165, OH, PLAN#1 V0
1-9HZ, KMG WELL, SURVEYS V0	RUEGGE 3P-4H-N165, OH, PLAN#1 V0	RUEGGE 3N-4H-N165, OH, PLAN#1 V0
E 3H-4H-N165, OH, PLAN#1 V0	BAT 28C-9HZ, KMG WELL, SURVEYS V0	BAT 3N1-9HZX, KMG WELL, SURVEYS V0
IG1, CPRWELL, GYRO V0	BAT 29C-9HZ, KMG WELL, SURVEYS V0	ENGLISH FARMS 34C-9HZ, KMG WELL, SURVEYS V0
E 3J-4H-N165, OH, PLAN#1 V0	BOYD 26N-32HZ, KMG WELL, SURVEYS V0	CHAPIN 34-4, CPRWELL, GYRO V0
E 3I-4H-N165, OH, PLAN#1 V0	RUEGGE 3G-4H-N165, OH, PLAN#1 V0	GITTEIN30N-28HZXX, KMG WELL, SURVEYS V0
E 3R-4H-N165, OH, PLAN#1 V0	STELLING 24-4, CPRWELL, GYRO V0	OLIN 1-4, CPRWELL, GYRO V0
9HZ, KMG WELL, SURVEYS V0	GITTEIN4C-28HZ, KMG WELL, SURVEYS V0	RUEGGE 3L-4H-N165, OH, PLAN#1 V0
E 3M-4H-N165, OH, PLAN#1 V0	STELLING 10-4, CPRWELL, GYRO V0	RUEGGE 3C-4H-N165, OH, PLAN#1 V0

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