

Crestone Peak Resources

DJ BASIN

S4-T1N-R65W

RUEGGE 3M-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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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:	MD + Stations Interval 100.00usft	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	12,261.45	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	7,200.00	12,191.32	336.27	212.13	2.709	ES, SF
BANE 27N1-9HZ - KMG WELL - PLAN ONLY	7,211.44	12,197.97	336.15	212.15	2.711	CC
BANE 27N2-9HZ - KMG WELL - SURVEYS	7,169.20	11,984.00	614.92	529.92	7.234	CC, ES, SF
BANE 28N1-9HZ - KMG WELL - PLAN ONLY	7,012.76	12,200.64	701.08	585.54	6.068	CC
BANE 28N1-9HZ - KMG WELL - PLAN ONLY	7,050.00	12,214.62	701.94	585.37	6.022	ES
BANE 28N1-9HZ - KMG WELL - PLAN ONLY	7,100.00	12,236.18	705.63	588.02	6.000	SF
BANE 28N2-9HZ - KMG WELL - SURVEYS	7,056.88	12,058.00	722.30	620.92	7.125	CC, ES
BANE 28N2-9HZ - KMG WELL - SURVEYS	7,150.00	12,058.00	731.35	627.35	7.032	SF
BANE 28N3-9HZ - KMG WELL - SURVEYS	7,005.32	11,941.00	553.24	460.54	5.968	CC, ES
BANE 28N3-9HZ - KMG WELL - SURVEYS	7,050.00	11,941.00	555.99	461.57	5.888	SF
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	7,098.08	11,947.00	405.51	354.83	8.001	CC, ES, SF
BAT 28C-9HZ - KMG WELL - SURVEYS	7,086.41	12,133.00	1,250.29	1,145.08	11.884	CC
BAT 28C-9HZ - KMG WELL - SURVEYS	7,100.00	12,133.00	1,250.39	1,144.95	11.858	ES
BAT 28C-9HZ - KMG WELL - SURVEYS	7,200.00	12,133.00	1,257.87	1,151.11	11.781	SF
BAT 28N-9HZ - KMG WELL - SURVEYS	7,019.02	11,953.00	1,003.65	898.24	9.521	CC, ES
BAT 28N-9HZ - KMG WELL - SURVEYS	7,100.00	11,953.00	1,008.15	901.46	9.449	SF
BAT 29C-9HZ - KMG WELL - SURVEYS						Out of range
BAT 29N1-9HZ - KMG WELL - SURVEYS						Out of range
BAT 29N2-9HZ - KMG WELL - SURVEYS						Out of range
BAT 3N1-9HZ - KMG WELL - NO SURVEYS						Out of range
BAT 3N1-9HZX - KMG WELL - SURVEYS						Out of range
BAT 3N2-9HZ - KMG WELL - SURVEYS	6,916.47	11,878.00	1,305.34	1,198.08	12.170	CC, ES
BAT 3N2-9HZ - KMG WELL - SURVEYS	7,050.00	11,878.00	1,314.77	1,205.83	12.069	SF
BAT 4C-9HZ - KMG WELL - SURVEYS						Out of range
BOYD 1N-32HZ - KMG WELL - SURVEYS						Out of range
BOYD 26N-32HZ - KMG WELL - SURVEYS						Out of range
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	9,106.94	7,233.27	271.95	221.31	5.370	CC, ES, SF
CHAPIN 34-4 - CPR WELL - GYRO	8,257.62	7,261.29	91.72	47.61	2.079	CC, ES, SF
CHAPIN 43-4 - CPR WELL - GYRO						Out of range
CHAPIN 44-4 - CPR WELL - GYRO	8,128.56	7,278.60	1,209.46	1,165.88	27.756	CC, ES
CHAPIN 44-4 - CPR WELL - GYRO	8,200.00	7,279.09	1,211.57	1,167.90	27.745	SF
CHAVEZ 4A-4H - CPR WELL - SURVEYS	10,565.47	9,936.06	225.42	164.77	3.716	CC
CHAVEZ 4A-4H - CPR WELL - SURVEYS	12,261.45	11,633.12	236.36	147.50	2.660	ES, SF
CHAVEZ 4B-4H - CPR WELL - SURVEYS	12,183.71	11,460.00	797.28	634.89	4.909	CC
CHAVEZ 4B-4H - CPR WELL - SURVEYS	12,200.00	11,460.00	797.45	634.49	4.893	ES
CHAVEZ 4B-4H - CPR WELL - SURVEYS	12,261.45	11,460.00	801.07	636.52	4.868	SF
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

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 13N-9HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 15C-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 15N-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 16N-8HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 34C-9HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 34N-9HZ - KMG WELL - SURVEYS						Out of range
ENGLISH FARMS 35N1-9HZ - KMG WELL - SURVEYS						Out of range
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						Out of range
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						Out of range
GITTLEIN 12-4J - CPR WELL - SURVEYS						Out of range
GITTLEIN 21-4J - CPR WELL - SURVEYS						Out of range
GITTLEIN 22-4J - CPR WELL - SURVEYS	10,513.38	7,459.45	1,262.42	1,190.69	17.598	CC, ES
GITTLEIN 22-4J - CPR WELL - SURVEYS	10,700.00	7,453.20	1,276.13	1,202.59	17.353	SF
GITTLEIN 29N-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 30C-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 30N-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 30N-28HZX - KMG WELL - SURVEYS						Out of range
GITTLEIN 30N-28HZXX - KMG WELL - SURVEYS						Out of range
GITTLEIN 3C-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 3N-28HZ - KMG WELL - SURVEYS	12,261.45	6,952.00	1,106.94	1,029.07	14.215	CC, ES, SF
GITTLEIN 4C-28HZ - KMG WELL - SURVEYS						Out of range
GITTLEIN 4C-28HZX - KMG WELL - SURVEYS						Out of range
GITTLEIN 4C-28HZXX - KMG WELL - SURVEYS						Out of range
GITTLEIN 4N-28HZ - KMG WELL - SURVEYS						Out of range
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	7,240.85	12,040.00	1,043.36	940.55	10.148	CC, ES, SF
JOKER 1N2-9HZ - KMG WELL - SURVEYS	7,208.51	11,954.00	1,252.76	1,146.70	11.812	CC, ES, SF
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	7,150.00	11,921.00	745.49	652.72	8.036	SF
JOKER 27N1-9HZ - KMG WELL - SURVEYS	7,161.77	11,921.00	745.34	652.61	8.038	CC, ES
JOKER 27N2-9HZ - KMG WELL - SURVEYS	7,132.74	11,852.00	883.63	782.75	8.760	CC, ES, SF
MAYER 33-9P - KMG WELL - GYRO						Out of range
MAYER X 33-15DI - KMG WELL - GYRO	12,261.45	7,253.17	1,281.26	1,231.19	25.588	CC, ES, SF
MICHAEL R DREILING 1 - AMOCO WELL - NO SURVE						Out of range
MORITZ-ANSCHUTZ 1 - KMG WELL - NO SURVEYS	6,930.60	6,755.31	1,251.16	1,210.08	30.451	CC, ES
MORITZ-ANSCHUTZ 1 - KMG WELL - NO SURVEYS	7,050.00	6,866.03	1,258.19	1,216.54	30.212	SF
OLIN 1 - CPR WELL - GYRO	11,752.46	7,246.19	193.91	110.24	2.318	CC, ES, SF
OLIN 1-4 - CPR WELL - GYRO						Out of range
OLIN 31-4 - CPR WELL - SURVEYS	12,227.37	7,352.63	257.44	162.96	2.725	CC, ES, SF
OLIN 32-4 - CPR WELL - GYRO	10,900.00	7,259.82	185.13	113.34	2.579	ES, SF
OLIN 32-4 - CPR WELL - GYRO	10,900.94	7,259.83	185.13	113.36	2.579	CC
OLIN 41-4 - CPR WELL - SURVEYS	12,065.23	7,374.30	1,216.68	1,124.54	13.205	CC
OLIN 41-4 - CPR WELL - SURVEYS	12,100.00	7,376.60	1,217.18	1,124.20	13.090	ES
OLIN 41-4 - CPR WELL - SURVEYS	12,261.45	7,387.69	1,232.34	1,136.02	12.794	SF
OLIN 42-4A - CPR WELL - SURVEYS	10,789.85	7,487.44	1,194.99	1,113.03	14.581	CC

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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						
OLIN 42-4A - CPR WELL - SURVEYS	10,800.00	7,486.98	1,195.03	1,113.01	14.571	ES
OLIN 42-4A - CPR WELL - SURVEYS	10,900.00	7,482.51	1,200.04	1,117.56	14.549	SF
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
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	202.00	100.00	99.00	99.987	CC, ES
RUEGGE 3C-4H-N165 - OH - PLAN #1	700.00	680.39	149.33	144.85	33.372	SF
RUEGGE 3D-4H-N165 - OH - PLAN #1	400.00	402.00	90.00	87.57	36.976	CC, ES
RUEGGE 3D-4H-N165 - OH - PLAN #1	700.00	691.78	114.18	109.70	25.487	SF
RUEGGE 3E-4H-N165 - OH - PLAN #1	400.00	401.00	80.00	77.57	32.916	CC, ES
RUEGGE 3E-4H-N165 - OH - PLAN #1	800.00	794.49	105.47	100.26	20.240	SF
RUEGGE 3F-4H-N165 - OH - PLAN #1	400.00	401.00	70.00	67.57	28.801	CC, ES
RUEGGE 3F-4H-N165 - OH - PLAN #1	800.00	799.70	90.73	85.47	17.249	SF
RUEGGE 3G-4H-N165 - OH - PLAN #1	400.00	401.00	60.00	57.57	24.687	CC, ES
RUEGGE 3G-4H-N165 - OH - PLAN #1	800.00	800.30	81.04	75.78	15.401	SF
RUEGGE 3H-4H-N165 - OH - PLAN #1	400.00	401.00	50.00	47.57	20.572	CC, ES
RUEGGE 3H-4H-N165 - OH - PLAN #1	700.00	700.45	61.43	56.89	13.521	SF
RUEGGE 3I-4H-N165 - OH - PLAN #1	300.00	301.00	40.00	38.29	23.344	CC, ES
RUEGGE 3I-4H-N165 - OH - PLAN #1	600.00	598.35	51.78	47.99	13.666	SF
RUEGGE 3J-4H-N165 - OH - PLAN #1	266.91	266.91	29.99	28.53	20.501	CC
RUEGGE 3J-4H-N165 - OH - PLAN #1	400.00	399.73	30.62	28.22	12.765	ES
RUEGGE 3J-4H-N165 - OH - PLAN #1	12,261.45	12,188.01	1,126.83	969.51	7.163	SF
RUEGGE 3K-4H-N165 - OH - PLAN #1	309.84	309.92	19.50	17.73	11.067	CC, ES
RUEGGE 3K-4H-N165 - OH - PLAN #1	12,261.45	12,024.56	887.76	733.04	5.738	SF
RUEGGE 3L-4H-N165 - OH - PLAN #1	326.65	326.76	8.38	6.50	4.446	CC, ES
RUEGGE 3L-4H-N165 - OH - PLAN #1	12,261.45	12,038.73	360.10	220.61	2.581	SF
RUEGGE 3N-4H-N165 - OH - PLAN #1	104.05	104.05	10.00	9.69	32.781	CC
RUEGGE 3N-4H-N165 - OH - PLAN #1	200.00	199.86	10.34	9.35	10.461	ES
RUEGGE 3N-4H-N165 - OH - PLAN #1	12,261.45	12,198.99	526.54	370.53	3.375	SF
RUEGGE 3O-4H-N165 - OH - PLAN #1	400.00	400.00	20.00	17.57	8.241	CC
RUEGGE 3O-4H-N165 - OH - PLAN #1	500.00	499.44	20.26	17.15	6.503	ES
RUEGGE 3O-4H-N165 - OH - PLAN #1	900.00	897.01	27.56	21.58	4.610	SF
RUEGGE 3P-4H-N165 - OH - PLAN #1	103.50	103.50	30.00	29.70	99.631	CC
RUEGGE 3P-4H-N165 - OH - PLAN #1	200.00	199.56	30.36	29.37	30.742	ES
RUEGGE 3P-4H-N165 - OH - PLAN #1	12,261.45	12,355.15	1,171.37	1,013.13	7.403	SF
RUEGGE 3Q-4H-N165 - OH - PLAN #1	400.00	400.00	40.00	37.57	16.482	CC
RUEGGE 3Q-4H-N165 - OH - PLAN #1	500.00	498.77	40.39	37.28	12.965	ES
RUEGGE 3Q-4H-N165 - OH - PLAN #1	1,100.00	1,090.09	64.12	56.52	8.438	SF
RUEGGE 3R-4H-N165 - OH - PLAN #1	108.88	107.88	50.00	49.66	148.763	CC
RUEGGE 3R-4H-N165 - OH - PLAN #1	200.00	198.11	50.52	49.54	51.400	ES
RUEGGE 3R-4H-N165 - OH - PLAN #1	1,200.00	1,165.16	143.79	135.46	17.245	SF
SPARBOE 7C-3HZ - KMG WELL - SURVEYS						Out of range
SPARBOE 7N-3HZ - KMG WELL - SURVEYS						Out of range
STELLING 1 - CPR WELL - GYRO	0.00	0.00	1,280.40			
STELLING 1 - CPR WELL - GYRO	400.00	386.00	1,281.25	1,279.44	705.771	ES
STELLING 1 - CPR WELL - GYRO	1,300.00	1,283.50	1,414.21	1,407.59	213.692	SF
STELLING 13-4 - CPR WELL - GYRO						Out of range
STELLING 14-4 - CPR WELL - GYRO						Out of range
STELLING 23-4 - CPR WELL - GYRO	9,701.53	7,273.84	1,237.95	1,181.42	21.899	CC, ES
STELLING 23-4 - CPR WELL - GYRO	9,900.00	7,277.94	1,253.75	1,195.70	21.599	SF
STELLING 24-4 - CPR WELL - GYRO	0.00	0.00	184.64			

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

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Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
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Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
	Depth	Depth	Centres	Ellipses		
Offset Well - Wellbore - Design						
S4-T1N-R65W						
STELLING 24-4 - CPR WELL - GYRO	300.00	292.25	184.78	183.52	145.966	ES
STELLING 24-4 - CPR WELL - GYRO	2,000.00	1,959.90	440.29	429.68	41.485	SF
STELLING 3A-4H - CPR WELL - SURVEYS	289.71	281.76	145.16	143.84	110.364	CC
STELLING 3A-4H - CPR WELL - SURVEYS	300.00	291.88	145.16	143.79	105.430	ES
STELLING 3A-4H - CPR WELL - SURVEYS	2,500.00	2,416.98	632.85	616.49	38.692	SF
STELLING 3B-4H - CPR WELL - SURVEYS	490.47	480.99	111.26	108.74	44.157	CC
STELLING 3B-4H - CPR WELL - SURVEYS	500.00	490.42	111.27	108.69	43.132	ES
STELLING 3B-4H - CPR WELL - SURVEYS	12,261.45	11,616.98	1,122.03	972.01	7.479	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
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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - BANE 27N1-9HZ - KMG WELL - PLAN ONLY													Offset Site Error:	0.00 usft
Survey Program: 2960-ISCWSA MWD													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)						
5,800.00	5,644.06	12,213.34	6,971.74	28.68	89.96	-74.02	-811.86	1,550.07	1,408.44	1,344.10	64.33	21.892		
5,900.00	5,740.89	12,196.40	6,971.86	29.21	89.70	-72.05	-828.80	1,550.05	1,312.97	1,247.45	65.52	20.038		
6,000.00	5,837.72	12,179.45	6,971.98	29.75	89.43	-69.99	-845.74	1,550.02	1,218.00	1,151.08	66.91	18.203		
6,100.00	5,934.55	12,162.51	6,972.10	30.29	89.17	-67.84	-862.68	1,550.00	1,123.64	1,055.09	68.55	16.391		
6,200.00	6,031.38	12,145.57	6,972.23	30.82	88.90	-65.60	-879.62	1,549.98	1,030.07	959.57	70.50	14.610		
6,300.00	6,128.21	12,128.63	6,972.35	31.36	88.63	-63.26	-896.56	1,549.95	937.52	864.66	72.86	12.867		
6,400.00	6,225.04	12,111.69	6,972.47	31.90	88.37	-60.85	-913.50	1,549.93	846.33	770.59	75.74	11.174		
6,500.00	6,321.87	12,094.75	6,972.59	32.43	88.10	-58.35	-930.44	1,549.91	756.99	677.69	79.30	9.546		
6,600.00	6,418.70	12,077.81	6,972.71	32.97	87.84	-55.77	-947.38	1,549.89	670.24	586.50	83.73	8.005		
6,638.96	6,456.42	12,071.21	6,972.76	33.18	87.73	-54.75	-953.98	1,549.88	637.37	551.62	85.74	7.433		
6,650.00	6,467.12	12,069.43	6,972.77	33.24	87.71	-50.41	-955.77	1,549.88	628.15	541.80	86.35	7.275		
6,700.00	6,515.86	12,063.45	6,972.81	33.49	87.61	-28.41	-961.75	1,549.87	586.90	497.60	89.30	6.572		
6,750.00	6,564.86	12,060.94	6,972.83	33.71	87.57	-3.40	-964.25	1,549.86	546.80	454.18	92.62	5.904		
6,800.00	6,613.89	12,061.93	6,972.82	33.90	87.59	20.89	-963.27	1,549.87	508.38	412.09	96.29	5.280		
6,850.00	6,662.69	12,066.40	6,972.79	34.06	87.66	40.45	-958.80	1,549.87	472.25	371.78	100.47	4.700		
6,900.00	6,711.04	12,074.33	6,972.74	34.19	87.78	54.34	-950.86	1,549.88	439.06	333.78	105.28	4.171		
6,950.00	6,758.71	12,085.69	6,972.65	34.31	87.96	63.58	-939.51	1,549.90	409.50	299.32	110.18	3.717		
7,000.00	6,805.44	12,100.41	6,972.55	34.40	88.19	69.36	-924.79	1,549.92	384.28	269.39	114.88	3.345		
7,050.00	6,851.03	12,118.43	6,972.42	34.47	88.47	72.55	-906.77	1,549.94	364.02	245.01	119.01	3.059		
7,100.00	6,895.25	12,139.66	6,972.27	34.52	88.81	73.74	-885.54	1,549.97	349.19	227.07	122.12	2.859		
7,150.00	6,937.88	12,163.99	6,972.09	34.55	89.19	73.34	-861.20	1,550.00	339.99	216.11	123.88	2.745		
7,200.00	6,978.71	12,191.32	6,971.90	34.57	89.62	71.66	-833.88	1,550.04	336.27	212.13	124.14	2.709 ES, SF		
7,211.44	6,987.78	12,197.97	6,971.85	34.57	89.72	71.12	-827.22	1,550.05	336.15	212.15	124.00	2.711 CC		
7,250.00	7,017.55	12,221.49	6,971.68	34.57	90.09	68.99	-803.71	1,550.08	337.52	214.50	123.02	2.744		
7,300.00	7,054.21	11,808.08	6,974.64	34.56	83.60	113.18	-1,217.11	1,549.53	562.84	479.16	83.68	6.726		
7,350.00	7,088.50	11,808.08	6,974.64	34.54	83.60	111.31	-1,217.11	1,549.53	596.38	515.14	81.24	7.341		
7,400.00	7,120.26	11,808.08	6,974.64	34.50	83.60	108.48	-1,217.11	1,549.53	633.47	554.53	78.94	8.025		
7,450.00	7,149.34	11,808.08	6,974.64	34.46	83.60	104.59	-1,217.11	1,549.53	673.36	596.52	76.84	8.763		
7,500.00	7,175.60	11,808.08	6,974.64	34.40	83.60	99.52	-1,217.11	1,549.53	715.41	640.44	74.96	9.543		
7,550.00	7,198.90	11,808.08	6,974.64	34.34	83.60	93.21	-1,217.11	1,549.53	759.06	685.76	73.30	10.356		
7,600.00	7,219.14	11,808.08	6,974.64	34.27	83.60	85.68	-1,217.11	1,549.53	803.86	732.03	71.83	11.192		
7,650.00	7,236.20	11,808.08	6,974.64	34.19	83.60	77.14	-1,217.11	1,549.53	849.43	778.91	70.52	12.045		
7,700.00	7,250.02	11,808.08	6,974.64	34.11	83.60	68.01	-1,217.11	1,549.53	895.45	826.09	69.36	12.910		
7,750.00	7,260.53	11,808.08	6,974.64	34.03	83.60	58.88	-1,217.11	1,549.53	941.64	873.32	68.32	13.784		
7,800.00	7,267.67	11,808.08	6,974.64	33.95	83.60	50.27	-1,217.11	1,549.53	987.76	920.40	67.37	14.662		
7,850.00	7,271.40	11,808.08	6,974.64	33.86	83.60	42.56	-1,217.11	1,549.53	1,033.63	967.13	66.50	15.543		
7,879.59	7,272.00	11,808.08	6,974.64	33.82	83.60	38.47	-1,217.11	1,549.53	1,060.58	994.57	66.02	16.065		
7,900.00	7,272.00	11,808.08	6,974.64	33.78	83.60	38.47	-1,217.11	1,549.53	1,079.14	1,013.44	65.70	16.426		
8,000.00	7,272.00	11,808.08	6,974.64	33.64	83.60	38.47	-1,217.11	1,549.53	1,170.97	1,106.70	64.27	18.221		
8,100.00	7,272.00	11,808.08	6,974.64	33.51	83.60	38.47	-1,217.11	1,549.53	1,264.04	1,201.01	63.03	20.053		
8,200.00	7,272.00	11,808.08	6,974.64	33.41	83.60	38.47	-1,217.11	1,549.53	1,358.10	1,296.13	61.97	21.916		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - BANE 27N2-9HZ - 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						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	5,934.55	11,984.00	7,177.04	30.29	77.15	-18.24	-1,242.71	1,655.51	1,402.99	1,344.45	58.54	23.966		
6,200.00	6,031.38	11,984.00	7,177.04	30.82	77.15	-18.24	-1,242.71	1,655.51	1,308.24	1,248.35	59.89	21.845		
6,300.00	6,128.21	11,984.00	7,177.04	31.36	77.15	-18.24	-1,242.71	1,655.51	1,214.32	1,152.88	61.44	19.764		
6,400.00	6,225.04	11,984.00	7,177.04	31.90	77.15	-18.24	-1,242.71	1,655.51	1,121.46	1,058.21	63.25	17.730		
6,500.00	6,321.87	11,984.00	7,177.04	32.43	77.15	-18.24	-1,242.71	1,655.51	1,029.94	964.56	65.38	15.753		
6,600.00	6,418.70	11,984.00	7,177.04	32.97	77.15	-18.24	-1,242.71	1,655.51	940.14	872.24	67.91	13.845		
6,638.96	6,456.42	11,984.00	7,177.04	33.18	77.15	-18.24	-1,242.71	1,655.51	905.74	836.72	69.01	13.124		
6,650.00	6,467.12	11,984.00	7,177.04	33.24	77.15	-14.00	-1,242.71	1,655.51	896.07	826.73	69.34	12.922		
6,700.00	6,515.86	11,984.00	7,177.04	33.49	77.15	7.35	-1,242.71	1,655.51	853.16	782.30	70.86	12.040		
6,750.00	6,564.86	11,984.00	7,177.04	33.71	77.15	31.56	-1,242.71	1,655.51	812.00	739.57	72.43	11.210		
6,800.00	6,613.89	11,984.00	7,177.04	33.90	77.15	55.25	-1,242.71	1,655.51	773.09	699.06	74.03	10.443		
6,850.00	6,662.69	11,984.00	7,177.04	34.06	77.15	74.63	-1,242.71	1,655.51	736.99	661.13	75.86	9.715		
6,900.00	6,711.04	11,984.00	7,177.04	34.19	77.15	88.88	-1,242.71	1,655.51	704.32	626.45	77.87	9.045		
6,950.00	6,758.71	11,984.00	7,177.04	34.31	77.15	99.04	-1,242.71	1,655.51	675.75	595.94	79.81	8.467		
7,000.00	6,805.44	11,984.00	7,177.04	34.40	77.15	106.34	-1,242.71	1,655.51	651.96	570.38	81.59	7.991		
7,050.00	6,851.03	11,984.00	7,177.04	34.47	77.15	111.63	-1,242.71	1,655.51	633.62	550.53	83.09	7.626		
7,100.00	6,895.25	11,984.00	7,177.04	34.52	77.15	115.47	-1,242.71	1,655.51	621.30	537.08	84.22	7.377		
7,150.00	6,937.88	11,984.00	7,177.04	34.55	77.15	118.22	-1,242.71	1,655.51	615.42	530.53	84.89	7.250		
7,169.20	6,953.78	11,984.00	7,177.04	34.56	77.15	119.03	-1,242.71	1,655.51	614.92	529.92	85.01	7.234	CC, ES, SF	
7,200.00	6,978.71	11,984.00	7,177.04	34.57	77.15	120.08	-1,242.71	1,655.51	616.19	531.15	85.04	7.246		
7,250.00	7,017.55	11,984.00	7,177.04	34.57	77.15	121.21	-1,242.71	1,655.51	623.60	538.91	84.69	7.364		
7,300.00	7,054.21	11,984.00	7,177.04	34.56	77.15	121.67	-1,242.71	1,655.51	637.36	553.47	83.89	7.598		
7,350.00	7,088.50	11,984.00	7,177.04	34.54	77.15	121.51	-1,242.71	1,655.51	657.02	574.28	82.74	7.941		
7,400.00	7,120.26	11,984.00	7,177.04	34.50	77.15	120.72	-1,242.71	1,655.51	681.98	600.63	81.35	8.383		
7,450.00	7,149.34	11,984.00	7,177.04	34.46	77.15	119.28	-1,242.71	1,655.51	711.56	631.74	79.83	8.914		
7,500.00	7,175.60	11,984.00	7,177.04	34.40	77.15	117.13	-1,242.71	1,655.51	745.09	666.83	78.26	9.521		
7,550.00	7,198.90	11,984.00	7,177.04	34.34	77.15	114.17	-1,242.71	1,655.51	781.89	705.19	76.71	10.193		
7,600.00	7,219.14	11,984.00	7,177.04	34.27	77.15	110.30	-1,242.71	1,655.51	821.37	746.15	75.22	10.920		
7,650.00	7,236.20	11,984.00	7,177.04	34.19	77.15	105.38	-1,242.71	1,655.51	862.98	789.16	73.82	11.691		
7,700.00	7,250.02	11,984.00	7,177.04	34.11	77.15	99.30	-1,242.71	1,655.51	906.23	833.72	72.51	12.498		
7,750.00	7,260.53	11,984.00	7,177.04	34.03	77.15	92.03	-1,242.71	1,655.51	950.71	879.40	71.31	13.333		
7,800.00	7,267.67	11,984.00	7,177.04	33.95	77.15	83.65	-1,242.71	1,655.51	996.05	925.85	70.20	14.189		
7,850.00	7,271.40	11,984.00	7,177.04	33.86	77.15	74.48	-1,242.71	1,655.51	1,041.93	972.75	69.18	15.061		
7,879.59	7,272.00	11,984.00	7,177.04	33.82	77.15	68.88	-1,242.71	1,655.51	1,069.23	1,000.61	68.62	15.582		
7,900.00	7,272.00	11,984.00	7,177.04	33.78	77.15	68.88	-1,242.71	1,655.51	1,088.10	1,019.85	68.25	15.944		
8,000.00	7,272.00	11,984.00	7,177.04	33.64	77.15	68.88	-1,242.71	1,655.51	1,181.31	1,114.70	66.60	17.736		
8,100.00	7,272.00	11,984.00	7,177.04	33.51	77.15	68.88	-1,242.71	1,655.51	1,275.54	1,210.32	65.22	19.557		
8,200.00	7,272.00	11,984.00	7,177.04	33.41	77.15	68.88	-1,242.71	1,655.51	1,370.60	1,306.55	64.05	21.399		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - BANE 28N1-9HZ - KMG WELL - PLAN ONLY												Offset Site Error:	0.00 usft
Survey Program: 2000-ISCWSA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,800.00	5,644.06	12,300.60	7,006.00	28.68	90.23	155.93	-819.04	498.82	1,388.15	1,327.20	60.95	22.775	
5,900.00	5,740.89	12,284.38	7,006.00	29.21	89.97	154.70	-835.26	498.78	1,303.91	1,240.77	63.14	20.652	
6,000.00	5,837.72	12,268.15	7,006.00	29.75	89.72	153.47	-851.49	498.74	1,221.82	1,156.08	65.74	18.584	
6,100.00	5,934.55	12,251.93	7,006.00	30.29	89.46	152.22	-867.71	498.70	1,142.37	1,073.52	68.84	16.594	
6,200.00	6,031.38	12,235.70	7,006.00	30.82	89.21	150.96	-883.94	498.66	1,066.13	993.62	72.50	14.704	
6,300.00	6,128.21	12,219.48	7,006.00	31.36	88.95	149.69	-900.16	498.62	993.85	917.06	76.79	12.943	
6,400.00	6,225.04	12,203.25	7,006.00	31.90	88.69	148.41	-916.39	498.57	926.44	844.73	81.71	11.338	
6,500.00	6,321.87	12,187.03	7,006.00	32.43	88.44	147.12	-932.61	498.53	865.07	777.81	87.26	9.914	
6,600.00	6,418.70	12,170.80	7,006.00	32.97	88.18	145.82	-948.84	498.49	811.09	717.81	93.28	8.695	
6,638.96	6,456.42	12,164.48	7,006.00	33.18	88.08	145.32	-955.16	498.47	792.39	696.69	95.70	8.280	
6,650.00	6,467.12	12,162.78	7,006.00	33.24	88.06	147.49	-956.86	498.47	787.35	690.96	96.39	8.168	
6,700.00	6,515.86	12,157.16	7,006.00	33.49	87.97	160.44	-962.48	498.46	765.94	666.40	99.54	7.695	
6,750.00	6,564.86	12,155.02	7,006.00	33.71	87.94	177.87	-964.62	498.45	747.16	644.49	102.67	7.277	
6,800.00	6,613.89	12,156.36	7,006.00	33.90	87.96	-163.71	-963.27	498.45	731.33	625.64	105.69	6.919	
6,850.00	6,662.69	12,161.20	7,006.00	34.06	88.03	-148.22	-958.44	498.47	718.71	610.19	108.52	6.623	
6,900.00	6,711.04	12,169.49	7,006.00	34.19	88.16	-136.64	-950.15	498.49	709.46	598.38	111.08	6.387	
6,950.00	6,758.71	12,181.19	7,006.00	34.31	88.35	-128.01	-938.45	498.52	703.64	590.34	113.30	6.210	
7,000.00	6,805.44	12,196.26	7,006.00	34.40	88.58	-121.24	-923.38	498.56	701.18	586.05	115.13	6.090	
7,012.76	6,817.20	12,200.64	7,006.00	34.41	88.65	-119.71	-919.00	498.57	701.08	585.54	115.54	6.068 CC	
7,050.00	6,851.03	12,214.62	7,006.00	34.47	88.87	-115.57	-905.02	498.60	701.94	585.37	116.56	6.022 ES	
7,100.00	6,895.25	12,236.18	7,006.00	34.52	89.21	-110.52	-883.46	498.66	705.63	588.02	117.61	6.000 SF	
7,150.00	6,937.88	12,260.83	7,006.00	34.55	89.60	-105.84	-858.81	498.72	711.91	593.62	118.29	6.018	
7,200.00	6,978.71	12,288.45	7,006.00	34.57	90.04	-101.40	-831.19	498.79	720.37	601.71	118.66	6.071	
7,250.00	7,017.55	12,318.92	7,006.00	34.57	90.52	-97.13	-800.72	498.87	730.57	611.78	118.79	6.150	
7,300.00	7,054.21	11,907.94	7,006.00	34.56	84.06	-118.91	-1,211.70	497.82	864.80	753.12	111.69	7.743	
7,350.00	7,088.50	11,907.94	7,006.00	34.54	84.06	-115.08	-1,211.70	497.82	894.01	783.45	110.56	8.086	
7,400.00	7,120.26	11,907.94	7,006.00	34.50	84.06	-111.05	-1,211.70	497.82	925.47	816.16	109.30	8.467	
7,450.00	7,149.34	11,907.94	7,006.00	34.46	84.06	-106.80	-1,211.70	497.82	958.81	850.83	107.98	8.880	
7,500.00	7,175.60	11,907.94	7,006.00	34.40	84.06	-102.35	-1,211.70	497.82	993.69	887.09	106.61	9.321	
7,550.00	7,198.90	11,907.94	7,006.00	34.34	84.06	-97.71	-1,211.70	497.82	1,029.80	924.39	105.41	9.770	
7,600.00	7,219.14	11,907.94	7,006.00	34.27	84.06	-92.96	-1,211.70	497.82	1,066.84	962.59	104.25	10.234	
7,650.00	7,236.20	11,907.94	7,006.00	34.19	84.06	-88.16	-1,211.70	497.82	1,104.54	1,001.46	103.08	10.715	
7,700.00	7,250.02	11,907.94	7,006.00	34.11	84.06	-83.39	-1,211.70	497.82	1,142.68	1,040.76	101.92	11.212	
7,750.00	7,260.53	11,907.94	7,006.00	34.03	84.06	-78.74	-1,211.70	497.82	1,181.02	1,080.24	100.77	11.719	
7,800.00	7,267.67	11,907.94	7,006.00	33.95	84.06	-74.29	-1,211.70	497.82	1,219.37	1,119.72	99.65	12.237	
7,850.00	7,271.40	11,907.94	7,006.00	33.86	84.06	-70.09	-1,211.70	497.82	1,257.55	1,159.02	98.54	12.762	
7,879.59	7,272.00	11,907.94	7,006.00	33.82	84.06	-67.75	-1,211.70	497.82	1,280.01	1,182.12	97.89	13.076	
7,900.00	7,272.00	11,907.94	7,006.00	33.78	84.06	-67.75	-1,211.70	497.82	1,295.51	1,198.06	97.45	13.294	
8,000.00	7,272.00	11,907.94	7,006.00	33.64	84.06	-67.75	-1,211.70	497.82	1,373.35	1,277.99	95.35	14.403	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - BANE 28N2-9HZ - 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					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	5,837.72	12,058.00	7,179.70	29.75	78.39	123.61	-1,237.53	612.79	1,397.95	1,341.64	56.31	24.825	
6,100.00	5,934.55	12,058.00	7,179.70	30.29	78.39	123.61	-1,237.53	612.79	1,310.17	1,251.79	58.38	22.443	
6,200.00	6,031.38	12,058.00	7,179.70	30.82	78.39	123.61	-1,237.53	612.79	1,224.26	1,163.44	60.83	20.127	
6,300.00	6,128.21	12,058.00	7,179.70	31.36	78.39	123.61	-1,237.53	612.79	1,140.66	1,076.92	63.73	17.897	
6,400.00	6,225.04	12,058.00	7,179.70	31.90	78.39	123.61	-1,237.53	612.79	1,059.89	992.72	67.18	15.778	
6,500.00	6,321.87	12,058.00	7,179.70	32.43	78.39	123.61	-1,237.53	612.79	982.67	911.44	71.23	13.795	
6,600.00	6,418.70	12,058.00	7,179.70	32.97	78.39	123.61	-1,237.53	612.79	909.90	833.94	75.97	11.977	
6,638.96	6,456.42	12,058.00	7,179.70	33.18	78.39	123.61	-1,237.53	612.79	883.00	805.00	78.00	11.320	
6,650.00	6,467.12	12,058.00	7,179.70	33.24	78.39	125.61	-1,237.53	612.79	875.56	796.96	78.60	11.139	
6,700.00	6,515.86	12,058.00	7,179.70	33.49	78.39	137.73	-1,237.53	612.79	843.38	761.97	81.41	10.359	
6,750.00	6,564.86	12,058.00	7,179.70	33.71	78.39	154.28	-1,237.53	612.79	814.03	729.66	84.38	9.648	
6,800.00	6,613.89	12,058.00	7,179.70	33.90	78.39	171.71	-1,237.53	612.79	787.98	700.54	87.44	9.011	
6,850.00	6,662.69	12,058.00	7,179.70	34.06	78.39	-173.93	-1,237.53	612.79	765.70	675.17	90.53	8.458	
6,900.00	6,711.04	12,058.00	7,179.70	34.19	78.39	-163.62	-1,237.53	612.79	747.64	654.09	93.55	7.992	
6,950.00	6,758.71	12,058.00	7,179.70	34.31	78.39	-156.42	-1,237.53	612.79	734.19	637.80	96.39	7.617	
7,000.00	6,805.44	12,058.00	7,179.70	34.40	78.39	-151.23	-1,237.53	612.79	725.69	626.74	98.95	7.334	
7,050.00	6,851.03	12,058.00	7,179.70	34.47	78.39	-147.24	-1,237.53	612.79	722.35	621.23	101.11	7.144	
7,056.88	6,857.20	12,058.00	7,179.70	34.47	78.39	-146.75	-1,237.53	612.79	722.30	620.92	101.37	7.125 CC, ES	
7,100.00	6,895.25	12,058.00	7,179.70	34.52	78.39	-143.94	-1,237.53	612.79	724.25	621.44	102.81	7.044	
7,150.00	6,937.88	12,058.00	7,179.70	34.55	78.39	-141.02	-1,237.53	612.79	731.35	627.35	104.00	7.032 SF	
7,200.00	6,978.71	12,058.00	7,179.70	34.57	78.39	-138.24	-1,237.53	612.79	743.46	638.78	104.68	7.102	
7,250.00	7,017.55	12,058.00	7,179.70	34.57	78.39	-135.47	-1,237.53	612.79	760.29	655.40	104.89	7.249	
7,300.00	7,054.21	12,058.00	7,179.70	34.56	78.39	-132.58	-1,237.53	612.79	781.46	676.79	104.67	7.466	
7,350.00	7,088.50	12,058.00	7,179.70	34.54	78.39	-129.48	-1,237.53	612.79	806.51	702.41	104.10	7.747	
7,400.00	7,120.26	12,058.00	7,179.70	34.50	78.39	-126.10	-1,237.53	612.79	835.00	731.74	103.26	8.086	
7,450.00	7,149.34	12,058.00	7,179.70	34.46	78.39	-122.38	-1,237.53	612.79	866.44	764.23	102.21	8.477	
7,500.00	7,175.60	12,058.00	7,179.70	34.40	78.39	-118.28	-1,237.53	612.79	900.39	799.05	101.34	8.885	
7,550.00	7,198.90	12,058.00	7,179.70	34.34	78.39	-113.78	-1,237.53	612.79	936.41	836.04	100.37	9.329	
7,600.00	7,219.14	12,058.00	7,179.70	34.27	78.39	-108.86	-1,237.53	612.79	974.11	874.80	99.32	9.808	
7,650.00	7,236.20	12,058.00	7,179.70	34.19	78.39	-103.59	-1,237.53	612.79	1,013.14	914.93	98.21	10.316	
7,700.00	7,250.02	12,058.00	7,179.70	34.11	78.39	-98.02	-1,237.53	612.79	1,053.15	956.09	97.06	10.850	
7,750.00	7,260.53	12,058.00	7,179.70	34.03	78.39	-92.27	-1,237.53	612.79	1,093.86	997.96	95.90	11.406	
7,800.00	7,267.67	12,058.00	7,179.70	33.95	78.39	-86.49	-1,237.53	612.79	1,135.02	1,040.27	94.74	11.980	
7,850.00	7,271.40	12,058.00	7,179.70	33.86	78.39	-80.82	-1,237.53	612.79	1,176.37	1,082.78	93.59	12.570	
7,879.59	7,272.00	12,058.00	7,179.70	33.82	78.39	-77.58	-1,237.53	612.79	1,200.85	1,107.95	92.91	12.925	
7,900.00	7,272.00	12,058.00	7,179.70	33.78	78.39	-77.58	-1,237.53	612.79	1,217.78	1,125.33	92.44	13.173	
8,000.00	7,272.00	12,058.00	7,179.70	33.64	78.39	-77.58	-1,237.53	612.79	1,302.17	1,211.88	90.29	14.422	
8,100.00	7,272.00	12,058.00	7,179.70	33.51	78.39	-77.58	-1,237.53	612.79	1,388.63	1,300.32	88.31	15.724	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - BANE 28N3-9HZ - 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						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	
5,900.00	5,740.89	11,941.00	7,068.96	29.21	77.10	110.20	-1,275.54	810.75	1,358.42	1,309.30	49.13	27.652	5,968 CC, ES 5,888 SF
6,000.00	5,837.72	11,941.00	7,068.96	29.75	77.10	110.20	-1,275.54	810.75	1,265.03	1,214.76	50.27	25.166	
6,100.00	5,934.55	11,941.00	7,068.96	30.29	77.10	110.20	-1,275.54	810.75	1,172.72	1,121.05	51.68	22.694	
6,200.00	6,031.38	11,941.00	7,068.96	30.82	77.10	110.20	-1,275.54	810.75	1,081.79	1,028.35	53.44	20.244	
6,300.00	6,128.21	11,941.00	7,068.96	31.36	77.10	110.20	-1,275.54	810.75	992.59	936.93	55.66	17.832	
6,400.00	6,225.04	11,941.00	7,068.96	31.90	77.10	110.20	-1,275.54	810.75	905.66	847.17	58.49	15.483	
6,500.00	6,321.87	11,941.00	7,068.96	32.43	77.10	110.20	-1,275.54	810.75	821.71	759.60	62.11	13.229	
6,600.00	6,418.70	11,941.00	7,068.96	32.97	77.10	110.20	-1,275.54	810.75	741.74	675.02	66.73	11.116	
6,638.96	6,456.42	11,941.00	7,068.96	33.18	77.10	110.20	-1,275.54	810.75	711.97	643.12	68.84	10.342	
6,650.00	6,467.12	11,941.00	7,068.96	33.24	77.10	112.11	-1,275.54	810.75	703.72	634.24	69.47	10.129	
6,700.00	6,515.86	11,941.00	7,068.96	33.49	77.10	124.02	-1,275.54	810.75	668.19	595.66	72.54	9.211	
6,750.00	6,564.86	11,941.00	7,068.96	33.71	77.10	140.55	-1,275.54	810.75	636.17	560.28	75.89	8.383	
6,800.00	6,613.89	11,941.00	7,068.96	33.90	77.10	158.11	-1,275.54	810.75	608.36	528.91	79.45	7.657	
6,850.00	6,662.69	11,941.00	7,068.96	34.06	77.10	172.68	-1,275.54	810.75	585.51	502.43	83.08	7.047	
6,900.00	6,711.04	11,941.00	7,068.96	34.19	77.10	-176.74	-1,275.54	810.75	568.34	481.73	86.61	6.562	
6,950.00	6,758.71	11,941.00	7,068.96	34.31	77.10	-169.23	-1,275.54	810.75	557.45	467.65	89.80	6.207	
7,000.00	6,805.44	11,941.00	7,068.96	34.40	77.10	-163.69	-1,275.54	810.75	553.28	460.82	92.46	5.984	
7,005.32	6,810.35	11,941.00	7,068.96	34.40	77.10	-163.18	-1,275.54	810.75	553.24	460.54	92.71	5.968	
7,050.00	6,851.03	11,941.00	7,068.96	34.47	77.10	-159.31	-1,275.54	810.75	555.99	461.57	94.43	5.888	
7,100.00	6,895.25	11,941.00	7,068.96	34.52	77.10	-155.58	-1,275.54	810.75	565.48	469.86	95.62	5.914	
7,150.00	6,937.88	11,941.00	7,068.96	34.55	77.10	-152.15	-1,275.54	810.75	581.36	485.29	96.07	6.052	
7,200.00	6,978.71	11,941.00	7,068.96	34.57	77.10	-148.78	-1,275.54	810.75	603.06	507.19	95.87	6.290	
7,250.00	7,017.55	11,941.00	7,068.96	34.57	77.10	-145.28	-1,275.54	810.75	629.88	534.26	95.62	6.588	
7,300.00	7,054.21	11,941.00	7,068.96	34.56	77.10	-141.49	-1,275.54	810.75	661.07	566.02	95.05	6.955	
7,350.00	7,088.50	11,941.00	7,068.96	34.54	77.10	-137.25	-1,275.54	810.75	695.90	601.72	94.19	7.388	
7,400.00	7,120.26	11,941.00	7,068.96	34.50	77.10	-132.43	-1,275.54	810.75	733.71	640.56	93.15	7.877	
7,450.00	7,149.34	11,941.00	7,068.96	34.46	77.10	-126.88	-1,275.54	810.75	773.88	681.87	92.00	8.411	
7,500.00	7,175.60	11,941.00	7,068.96	34.40	77.10	-120.51	-1,275.54	810.75	815.88	725.07	90.81	8.984	
7,550.00	7,198.90	11,941.00	7,068.96	34.34	77.10	-113.28	-1,275.54	810.75	859.26	769.65	89.61	9.589	
7,600.00	7,219.14	11,941.00	7,068.96	34.27	77.10	-105.28	-1,275.54	810.75	903.62	815.20	88.42	10.220	
7,650.00	7,236.20	11,941.00	7,068.96	34.19	77.10	-96.72	-1,275.54	810.75	948.62	861.37	87.25	10.872	
7,700.00	7,250.02	11,941.00	7,068.96	34.11	77.10	-87.99	-1,275.54	810.75	993.98	907.86	86.12	11.542	
7,750.00	7,260.53	11,941.00	7,068.96	34.03	77.10	-79.51	-1,275.54	810.75	1,039.43	954.42	85.01	12.227	
7,800.00	7,267.67	11,941.00	7,068.96	33.95	77.10	-71.65	-1,275.54	810.75	1,084.77	1,000.82	83.95	12.922	
7,850.00	7,271.40	11,941.00	7,068.96	33.86	77.10	-64.66	-1,275.54	810.75	1,129.79	1,046.88	82.91	13.627	
7,879.59	7,272.00	11,941.00	7,068.96	33.82	77.10	-60.97	-1,275.54	810.75	1,156.22	1,073.91	82.31	14.048	
7,900.00	7,272.00	11,941.00	7,068.96	33.78	77.10	-60.97	-1,275.54	810.75	1,174.41	1,092.51	81.90	14.339	
8,000.00	7,272.00	11,941.00	7,068.96	33.64	77.10	-60.97	-1,275.54	810.75	1,264.55	1,184.50	80.05	15.797	
8,100.00	7,272.00	11,941.00	7,068.96	33.51	77.10	-60.97	-1,275.54	810.75	1,356.07	1,277.68	78.40	17.298	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - BANE 2N3-9HZ - 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							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	5,837.72	11,947.00	7,113.68	29.75	76.71	30.30	-1,242.02	1,299.08	1,320.28	1,272.48	47.80	27.622		
6,100.00	5,934.55	11,947.00	7,113.68	30.29	76.71	30.30	-1,242.02	1,299.08	1,221.41	1,173.38	48.04	25.426		
6,200.00	6,031.38	11,947.00	7,113.68	30.82	76.71	30.30	-1,242.02	1,299.08	1,122.75	1,074.45	48.29	23.249		
6,300.00	6,128.21	11,947.00	7,113.68	31.36	76.71	30.30	-1,242.02	1,299.08	1,024.34	975.77	48.57	21.090		
6,400.00	6,225.04	11,947.00	7,113.68	31.90	76.71	30.30	-1,242.02	1,299.08	926.27	877.39	48.87	18.952		
6,500.00	6,321.87	11,947.00	7,113.68	32.43	76.71	30.30	-1,242.02	1,299.08	828.66	779.44	49.22	16.837		
6,600.00	6,418.70	11,947.00	7,113.68	32.97	76.71	30.30	-1,242.02	1,299.08	731.70	682.08	49.62	14.747		
6,638.96	6,456.42	11,947.00	7,113.68	33.18	76.71	30.30	-1,242.02	1,299.08	694.16	644.37	49.79	13.941		
6,650.00	6,467.12	11,947.00	7,113.68	33.24	76.71	34.09	-1,242.02	1,299.08	683.57	633.72	49.84	13.714		
6,700.00	6,515.86	11,947.00	7,113.68	33.49	76.71	52.83	-1,242.02	1,299.08	636.48	586.41	50.08	12.710		
6,750.00	6,564.86	11,947.00	7,113.68	33.71	76.71	74.27	-1,242.02	1,299.08	591.25	540.94	50.31	11.753		
6,800.00	6,613.89	11,947.00	7,113.68	33.90	76.71	95.41	-1,242.02	1,299.08	548.57	498.05	50.52	10.858		
6,850.00	6,662.69	11,947.00	7,113.68	34.06	76.71	112.59	-1,242.02	1,299.08	509.31	458.62	50.70	10.046		
6,900.00	6,711.04	11,947.00	7,113.68	34.19	76.71	125.01	-1,242.02	1,299.08	474.55	423.77	50.78	9.345		
6,950.00	6,758.71	11,947.00	7,113.68	34.31	76.71	133.69	-1,242.02	1,299.08	445.53	394.84	50.69	8.789		
7,000.00	6,805.44	11,947.00	7,113.68	34.40	76.71	139.82	-1,242.02	1,299.08	423.57	372.93	50.63	8.365		
7,050.00	6,851.03	11,947.00	7,113.68	34.47	76.71	144.23	-1,242.02	1,299.08	409.93	359.14	50.79	8.070		
7,098.08	6,893.58	11,947.00	7,113.68	34.52	76.71	147.34	-1,242.02	1,299.08	405.51	354.83	50.68	8.001	CC, ES, SF	
7,100.00	6,895.25	11,947.00	7,113.68	34.52	76.71	147.45	-1,242.02	1,299.08	405.52	354.84	50.68	8.002		
7,150.00	6,937.88	11,947.00	7,113.68	34.55	76.71	149.81	-1,242.02	1,299.08	410.66	360.23	50.43	8.144		
7,200.00	6,978.71	11,947.00	7,113.68	34.57	76.71	151.52	-1,242.02	1,299.08	424.97	374.66	50.32	8.446		
7,250.00	7,017.55	11,947.00	7,113.68	34.57	76.71	152.69	-1,242.02	1,299.08	447.52	396.92	50.60	8.844		
7,300.00	7,054.21	11,947.00	7,113.68	34.56	76.71	153.39	-1,242.02	1,299.08	477.03	425.72	51.32	9.296		
7,350.00	7,088.50	11,947.00	7,113.68	34.54	76.71	153.64	-1,242.02	1,299.08	512.18	459.87	52.31	9.792		
7,400.00	7,120.26	11,947.00	7,113.68	34.50	76.71	153.39	-1,242.02	1,299.08	551.74	498.38	53.36	10.340		
7,450.00	7,149.34	11,947.00	7,113.68	34.46	76.71	152.53	-1,242.02	1,299.08	594.64	540.32	54.32	10.947		
7,500.00	7,175.60	11,947.00	7,113.68	34.40	76.71	150.82	-1,242.02	1,299.08	640.04	584.92	55.12	11.611		
7,550.00	7,198.90	11,947.00	7,113.68	34.34	76.71	147.70	-1,242.02	1,299.08	687.24	631.49	55.75	12.327		
7,600.00	7,219.14	11,947.00	7,113.68	34.27	76.71	141.92	-1,242.02	1,299.08	735.69	679.48	56.22	13.087		
7,650.00	7,236.20	11,947.00	7,113.68	34.19	76.71	129.93	-1,242.02	1,299.08	784.94	728.41	56.53	13.885		
7,700.00	7,250.02	11,947.00	7,113.68	34.11	76.71	101.52	-1,242.02	1,299.08	834.64	777.92	56.72	14.715		
7,750.00	7,260.53	11,947.00	7,113.68	34.03	76.71	53.51	-1,242.02	1,299.08	884.48	827.68	56.79	15.573		
7,800.00	7,267.67	11,947.00	7,113.68	33.95	76.71	24.03	-1,242.02	1,299.08	934.21	877.44	56.77	16.455		
7,850.00	7,271.40	11,947.00	7,113.68	33.86	76.71	11.41	-1,242.02	1,299.08	983.64	926.97	56.67	17.357		
7,879.59	7,272.00	11,947.00	7,113.68	33.82	76.71	7.21	-1,242.02	1,299.08	1,012.68	956.10	56.58	17.899		
7,900.00	7,272.00	11,947.00	7,113.68	33.78	76.71	7.21	-1,242.02	1,299.08	1,032.64	976.13	56.51	18.275		
8,000.00	7,272.00	11,947.00	7,113.68	33.64	76.71	7.21	-1,242.02	1,299.08	1,130.69	1,074.50	56.20	20.120		
8,100.00	7,272.00	11,947.00	7,113.68	33.51	76.71	7.21	-1,242.02	1,299.08	1,229.06	1,173.12	55.94	21.970		
8,200.00	7,272.00	11,947.00	7,113.68	33.41	76.71	7.21	-1,242.02	1,299.08	1,327.68	1,271.95	55.73	23.823		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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-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
6,600.00	6,418.70	12,133.00	7,284.43	32.97	78.07	134.10	-1,185.73	46.14	1,378.18	1,287.63	90.55	15.220	
6,638.96	6,456.42	12,133.00	7,284.43	33.18	78.07	134.10	-1,185.73	46.14	1,360.01	1,268.06	91.95	14.791	
6,650.00	6,467.12	12,133.00	7,284.43	33.24	78.07	136.42	-1,185.73	46.14	1,355.02	1,262.68	92.35	14.673	
6,700.00	6,515.86	12,133.00	7,284.43	33.49	78.07	149.84	-1,185.73	46.14	1,333.64	1,239.51	94.13	14.168	
6,750.00	6,564.86	12,133.00	7,284.43	33.71	78.07	167.42	-1,185.73	46.14	1,314.31	1,218.43	95.88	13.707	
6,800.00	6,613.89	12,133.00	7,284.43	33.90	78.07	-174.36	-1,185.73	46.14	1,297.24	1,199.66	97.58	13.294	
6,850.00	6,662.69	12,133.00	7,284.43	34.06	78.07	-159.42	-1,185.73	46.14	1,282.60	1,183.40	99.20	12.929	
6,900.00	6,711.04	12,133.00	7,284.43	34.19	78.07	-148.71	-1,185.73	46.14	1,270.54	1,169.81	100.73	12.613	
6,950.00	6,758.71	12,133.00	7,284.43	34.31	78.07	-141.28	-1,185.73	46.14	1,261.20	1,159.07	102.13	12.348	
7,000.00	6,805.44	12,133.00	7,284.43	34.40	78.07	-136.00	-1,185.73	46.14	1,254.69	1,151.28	103.40	12.134	
7,050.00	6,851.03	12,133.00	7,284.43	34.47	78.07	-132.06	-1,185.73	46.14	1,251.07	1,146.56	104.51	11.971	
7,086.41	6,883.38	12,133.00	7,284.43	34.50	78.07	-129.73	-1,185.73	46.14	1,250.29	1,145.08	105.21	11.884 CC	
7,100.00	6,895.25	12,133.00	7,284.43	34.52	78.07	-128.94	-1,185.73	46.14	1,250.39	1,144.95	105.45	11.858 ES	
7,150.00	6,937.88	12,133.00	7,284.43	34.55	78.07	-126.34	-1,185.73	46.14	1,252.67	1,146.47	106.20	11.795	
7,200.00	6,978.71	12,133.00	7,284.43	34.57	78.07	-124.03	-1,185.73	46.14	1,257.87	1,151.11	106.77	11.781 SF	
7,250.00	7,017.55	12,133.00	7,284.43	34.57	78.07	-121.87	-1,185.73	46.14	1,265.94	1,158.79	107.15	11.815	
7,300.00	7,054.21	12,133.00	7,284.43	34.56	78.07	-119.78	-1,185.73	46.14	1,276.77	1,169.43	107.34	11.895	
7,350.00	7,088.50	12,133.00	7,284.43	34.54	78.07	-117.68	-1,185.73	46.14	1,290.25	1,182.90	107.36	12.018	
7,400.00	7,120.26	12,133.00	7,284.43	34.50	78.07	-115.54	-1,185.73	46.14	1,306.24	1,199.03	107.21	12.184	
7,450.00	7,149.34	12,133.00	7,284.43	34.46	78.07	-113.31	-1,185.73	46.14	1,324.55	1,217.64	106.91	12.389	
7,500.00	7,175.60	12,133.00	7,284.43	34.40	78.07	-110.97	-1,185.73	46.14	1,345.02	1,238.54	106.48	12.632	
7,550.00	7,198.90	12,133.00	7,284.43	34.34	78.07	-108.51	-1,185.73	46.14	1,367.45	1,261.52	105.93	12.909	
7,600.00	7,219.14	12,133.00	7,284.43	34.27	78.07	-105.94	-1,185.73	46.14	1,391.63	1,286.36	105.27	13.219	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 28N-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					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			
6,200.00	6,031.38	11,953.00	7,124.83	30.82	78.12	132.76	-1,163.94	256.26	1,354.50	1,280.30	74.20	18.254				
6,300.00	6,128.21	11,953.00	7,124.83	31.36	78.12	132.76	-1,163.94	256.26	1,287.13	1,209.27	77.86	16.532				
6,400.00	6,225.04	11,953.00	7,124.83	31.90	78.12	132.76	-1,163.94	256.26	1,224.23	1,142.43	81.80	14.966				
6,500.00	6,321.87	11,953.00	7,124.83	32.43	78.12	132.76	-1,163.94	256.26	1,166.52	1,080.55	85.98	13.568				
6,600.00	6,418.70	11,953.00	7,124.83	32.97	78.12	132.76	-1,163.94	256.26	1,114.82	1,024.51	90.31	12.345				
6,638.96	6,456.42	11,953.00	7,124.83	33.18	78.12	132.76	-1,163.94	256.26	1,096.48	1,004.47	92.01	11.917				
6,650.00	6,467.12	11,953.00	7,124.83	33.24	78.12	135.08	-1,163.94	256.26	1,091.49	999.00	92.49	11.801				
6,700.00	6,515.86	11,953.00	7,124.83	33.49	78.12	148.53	-1,163.94	256.26	1,070.34	975.69	94.65	11.308				
6,750.00	6,564.86	11,953.00	7,124.83	33.71	78.12	166.19	-1,163.94	256.26	1,051.74	954.98	96.75	10.871				
6,800.00	6,613.89	11,953.00	7,124.83	33.90	78.12	-175.47	-1,163.94	256.26	1,035.90	937.15	98.75	10.490				
6,850.00	6,662.69	11,953.00	7,124.83	34.06	78.12	-160.37	-1,163.94	256.26	1,023.04	922.43	100.61	10.168				
6,900.00	6,711.04	11,953.00	7,124.83	34.19	78.12	-149.46	-1,163.94	256.26	1,013.33	911.04	102.30	9.906				
6,950.00	6,758.71	11,953.00	7,124.83	34.31	78.12	-141.79	-1,163.94	256.26	1,006.92	903.15	103.77	9.703				
7,000.00	6,805.44	11,953.00	7,124.83	34.40	78.12	-136.24	-1,163.94	256.26	1,003.90	898.89	105.01	9.560				
7,019.02	6,822.93	11,953.00	7,124.83	34.42	78.12	-134.50	-1,163.94	256.26	1,003.65	898.24	105.41	9.521 CC, ES				
7,050.00	6,851.03	11,953.00	7,124.83	34.47	78.12	-131.99	-1,163.94	256.26	1,004.31	898.32	105.99	9.476				
7,100.00	6,895.25	11,953.00	7,124.83	34.52	78.12	-128.53	-1,163.94	256.26	1,008.15	901.46	106.69	9.449 SF				
7,150.00	6,937.88	11,953.00	7,124.83	34.55	78.12	-125.53	-1,163.94	256.26	1,015.36	908.23	107.13	9.478				
7,200.00	6,978.71	11,953.00	7,124.83	34.57	78.12	-122.79	-1,163.94	256.26	1,025.84	918.54	107.29	9.561				
7,250.00	7,017.55	11,953.00	7,124.83	34.57	78.12	-120.17	-1,163.94	256.26	1,039.42	932.22	107.21	9.696				
7,300.00	7,054.21	11,953.00	7,124.83	34.56	78.12	-117.57	-1,163.94	256.26	1,055.95	949.06	106.89	9.879				
7,350.00	7,088.50	11,953.00	7,124.83	34.54	78.12	-114.93	-1,163.94	256.26	1,075.18	968.81	106.37	10.108				
7,400.00	7,120.26	11,953.00	7,124.83	34.50	78.12	-112.19	-1,163.94	256.26	1,096.90	991.23	105.68	10.380				
7,450.00	7,149.34	11,953.00	7,124.83	34.46	78.12	-109.34	-1,163.94	256.26	1,120.86	1,016.02	104.84	10.691				
7,500.00	7,175.60	11,953.00	7,124.83	34.40	78.12	-106.36	-1,163.94	256.26	1,146.80	1,042.92	103.89	11.039				
7,550.00	7,198.90	11,953.00	7,124.83	34.34	78.12	-103.24	-1,163.94	256.26	1,174.47	1,071.63	102.84	11.420				
7,600.00	7,219.14	11,953.00	7,124.83	34.27	78.12	-100.00	-1,163.94	256.26	1,203.62	1,101.89	101.73	11.831				
7,650.00	7,236.20	11,953.00	7,124.83	34.19	78.12	-96.64	-1,163.94	256.26	1,234.02	1,133.44	100.57	12.270				
7,700.00	7,250.02	11,953.00	7,124.83	34.11	78.12	-93.20	-1,163.94	256.26	1,265.41	1,166.03	99.39	12.732				
7,750.00	7,260.53	11,953.00	7,124.83	34.03	78.12	-89.72	-1,163.94	256.26	1,297.60	1,199.30	98.30	13.201				
7,800.00	7,267.67	11,953.00	7,124.83	33.95	78.12	-86.23	-1,163.94	256.26	1,330.36	1,233.09	97.27	13.677				
7,850.00	7,271.40	11,953.00	7,124.83	33.86	78.12	-82.78	-1,163.94	256.26	1,363.51	1,267.28	96.22	14.170				
7,879.59	7,272.00	11,953.00	7,124.83	33.82	78.12	-80.77	-1,163.94	256.26	1,383.23	1,287.63	95.60	14.469				
7,900.00	7,272.00	11,953.00	7,124.83	33.78	78.12	-80.77	-1,163.94	256.26	1,396.93	1,301.76	95.17	14.679				

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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
6,500.00	6,321.87	11,878.00	7,053.25	32.43	78.38	131.70	-1,207.63	-73.76	1,390.48	1,294.31	96.18	14.458	
6,600.00	6,418.70	11,878.00	7,053.25	32.97	78.38	131.70	-1,207.63	-73.76	1,356.62	1,257.25	99.37	13.652	
6,638.96	6,456.42	11,878.00	7,053.25	33.18	78.38	131.70	-1,207.63	-73.76	1,345.22	1,244.66	100.56	13.377	
6,650.00	6,467.12	11,878.00	7,053.25	33.24	78.38	134.21	-1,207.63	-73.76	1,342.18	1,241.29	100.89	13.303	
6,700.00	6,515.86	11,878.00	7,053.25	33.49	78.38	148.51	-1,207.63	-73.76	1,329.86	1,227.53	102.34	12.995	
6,750.00	6,564.86	11,878.00	7,053.25	33.71	78.38	166.94	-1,207.63	-73.76	1,319.94	1,216.26	103.68	12.731	
6,800.00	6,613.89	11,878.00	7,053.25	33.90	78.38	-174.00	-1,207.63	-73.76	1,312.52	1,207.61	104.91	12.511	
6,850.00	6,662.69	11,878.00	7,053.25	34.06	78.38	-158.24	-1,207.63	-73.76	1,307.68	1,201.67	106.01	12.335	
6,900.00	6,711.04	11,878.00	7,053.25	34.19	78.38	-146.74	-1,207.63	-73.76	1,305.48	1,198.51	106.97	12.204	
6,916.47	6,726.83	11,878.00	7,053.25	34.23	78.38	-143.74	-1,207.63	-73.76	1,305.34	1,198.08	107.25	12.170 CC, ES	
6,950.00	6,758.71	11,878.00	7,053.25	34.31	78.38	-138.54	-1,207.63	-73.76	1,305.93	1,198.15	107.78	12.116	
7,000.00	6,805.44	11,878.00	7,053.25	34.40	78.38	-132.50	-1,207.63	-73.76	1,309.04	1,200.60	108.44	12.071	
7,050.00	6,851.03	11,878.00	7,053.25	34.47	78.38	-127.83	-1,207.63	-73.76	1,314.77	1,205.83	108.94	12.069 SF	
7,100.00	6,895.25	11,878.00	7,053.25	34.52	78.38	-124.01	-1,207.63	-73.76	1,323.05	1,213.76	109.29	12.106	
7,150.00	6,937.88	11,878.00	7,053.25	34.55	78.38	-120.72	-1,207.63	-73.76	1,333.80	1,224.32	109.48	12.183	
7,200.00	6,978.71	11,878.00	7,053.25	34.57	78.38	-117.74	-1,207.63	-73.76	1,346.91	1,237.39	109.53	12.298	
7,250.00	7,017.55	11,878.00	7,053.25	34.57	78.38	-114.94	-1,207.63	-73.76	1,362.25	1,252.81	109.44	12.447	
7,300.00	7,054.21	11,878.00	7,053.25	34.56	78.38	-112.23	-1,207.63	-73.76	1,379.67	1,270.44	109.23	12.631	
7,350.00	7,088.50	11,878.00	7,053.25	34.54	78.38	-109.55	-1,207.63	-73.76	1,399.01	1,290.10	108.91	12.845	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 33-4 - 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		
7,750.00	7,260.53	7,271.05	7,268.82	34.03	12.63	46.73	971.46	1,569.55	1,382.97	1,337.08	45.89	30.135		
7,800.00	7,267.67	7,275.97	7,273.72	33.95	12.64	64.34	971.27	1,569.97	1,334.13	1,288.25	45.89	29.075		
7,850.00	7,271.40	7,277.77	7,275.51	33.86	12.64	83.78	971.21	1,570.12	1,285.19	1,239.32	45.87	28.017		
7,879.59	7,272.00	7,277.35	7,275.10	33.82	12.64	94.39	971.22	1,570.08	1,256.27	1,210.41	45.86	27.393		
7,900.00	7,272.00	7,276.68	7,274.43	33.78	12.64	94.25	971.25	1,570.03	1,236.37	1,190.52	45.85	26.965		
8,000.00	7,272.00	7,273.36	7,271.12	33.64	12.64	93.57	971.37	1,569.75	1,139.09	1,093.29	45.81	24.866		
8,100.00	7,272.00	7,269.99	7,267.77	33.51	12.63	92.88	971.50	1,569.47	1,042.32	996.56	45.76	22.776		
8,200.00	7,272.00	7,266.58	7,264.37	33.41	12.62	92.17	971.63	1,569.18	946.21	900.49	45.72	20.696		
8,300.00	7,272.00	7,263.11	7,260.92	33.34	12.62	91.45	971.76	1,568.89	850.98	805.30	45.68	18.630		
8,400.00	7,272.00	7,259.60	7,257.42	33.33	12.61	90.72	971.89	1,568.60	756.96	711.32	45.65	16.583		
8,500.00	7,272.00	7,256.04	7,253.87	33.42	12.61	89.97	972.03	1,568.30	664.68	619.03	45.64	14.563		
8,600.00	7,272.00	7,252.43	7,250.28	33.70	12.60	89.22	972.17	1,568.00	574.95	529.26	45.69	12.584		
8,700.00	7,272.00	7,248.76	7,246.63	34.22	12.59	88.45	972.31	1,567.69	489.20	443.34	45.86	10.668		
8,800.00	7,272.00	7,245.04	7,242.92	34.94	12.59	87.67	972.45	1,567.38	409.91	363.65	46.27	8.860		
8,900.00	7,272.00	7,241.27	7,239.16	35.77	12.58	86.87	972.60	1,567.06	341.64	294.49	47.15	7.245		
9,000.00	7,272.00	7,237.43	7,235.35	36.67	12.57	86.07	972.76	1,566.74	292.19	243.48	48.72	5.998		
9,100.00	7,272.00	7,233.55	7,231.48	37.62	12.57	85.25	972.91	1,566.42	272.04	221.51	50.53	5.383		
9,106.94	7,272.00	7,233.27	7,231.21	37.69	12.57	85.19	972.92	1,566.40	271.95	221.31	50.64	5.370	CC, ES, SF	
9,200.00	7,272.00	7,229.60	7,227.55	38.62	12.56	84.42	973.07	1,566.09	287.41	235.94	51.46	5.585		
9,300.00	7,272.00	7,225.59	7,223.56	39.66	12.55	83.58	973.23	1,565.76	333.42	282.15	51.27	6.503		
9,400.00	7,272.00	7,221.52	7,219.51	40.73	12.55	82.72	973.40	1,565.42	399.63	349.00	50.63	7.894		
9,500.00	7,272.00	7,217.39	7,215.39	41.83	12.54	81.85	973.57	1,565.07	477.71	427.72	49.98	9.557		
9,600.00	7,272.00	7,213.20	7,211.21	42.96	12.53	80.97	973.75	1,564.73	562.74	513.28	49.46	11.378		
9,700.00	7,272.00	7,208.94	7,206.97	44.12	12.52	80.08	973.92	1,564.37	652.00	602.95	49.05	13.292		
9,800.00	7,272.00	7,204.61	7,202.66	45.30	12.52	79.18	974.11	1,564.01	743.98	695.24	48.74	15.264		
9,900.00	7,272.00	7,200.21	7,198.28	46.51	12.51	78.27	974.29	1,563.65	837.77	789.27	48.50	17.273		
10,000.00	7,272.00	7,196.02	7,194.11	47.73	12.50	77.40	974.47	1,563.30	932.84	884.53	48.31	19.309		
10,100.00	7,272.00	7,191.85	7,189.96	48.98	12.49	76.54	974.65	1,562.96	1,028.82	980.66	48.16	21.362		
10,200.00	7,272.00	7,187.68	7,185.80	50.24	12.49	75.68	974.83	1,562.61	1,125.49	1,077.45	48.04	23.428		
10,300.00	7,272.00	7,183.50	7,181.65	51.52	12.48	74.83	975.01	1,562.26	1,222.68	1,174.74	47.94	25.503		
10,400.00	7,272.00	7,179.34	7,177.50	52.81	12.47	73.98	975.19	1,561.92	1,320.28	1,272.42	47.86	27.585		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	86.07	88.43	1,288.41	1,291.49				
100.00	100.00	76.50	76.50	0.14	0.06	86.08	88.38	1,288.75	1,291.83	1,291.63	0.20	6,541.299	
200.00	200.00	177.80	177.79	0.50	0.21	86.08	88.34	1,289.76	1,292.82	1,292.11	0.71	1,817.753	
300.00	300.00	281.74	281.73	0.85	0.40	86.08	88.51	1,290.39	1,293.44	1,292.18	1.25	1,031.447	
400.00	400.00	381.44	381.44	1.21	0.58	86.07	88.66	1,290.85	1,293.91	1,292.12	1.79	722.990	
500.00	499.98	491.31	491.30	1.56	0.77	-44.65	88.69	1,291.06	1,292.87	1,290.54	2.33	555.984	
600.00	599.84	589.48	589.47	1.90	0.93	-44.87	88.65	1,290.84	1,288.92	1,286.08	2.83	454.691	
700.00	699.45	686.34	686.33	2.26	1.10	-45.23	88.77	1,290.81	1,282.73	1,279.37	3.36	382.257	
800.00	798.70	789.07	789.06	2.62	1.28	-45.76	88.83	1,290.79	1,274.14	1,270.24	3.90	326.841	
900.00	897.47	885.91	885.90	3.01	1.45	-46.42	88.98	1,290.64	1,263.08	1,258.64	4.44	284.345	
1,000.00	995.62	985.12	985.11	3.43	1.62	-47.25	89.09	1,290.58	1,249.84	1,244.84	5.01	249.655	
1,100.00	1,093.06	1,083.94	1,083.93	3.87	1.79	-48.25	88.85	1,290.43	1,234.33	1,228.74	5.59	220.808	
1,123.32	1,115.66	1,106.89	1,106.88	3.98	1.83	-48.50	88.68	1,290.39	1,230.40	1,224.66	5.73	214.675	
1,200.00	1,189.91	1,181.80	1,181.78	4.34	1.96	-49.13	88.00	1,290.26	1,217.33	1,211.14	6.19	196.589	
1,300.00	1,286.74	1,281.36	1,281.34	4.83	2.14	-50.00	86.95	1,289.98	1,200.41	1,193.60	6.81	176.334	
1,400.00	1,383.57	1,373.19	1,373.16	5.32	2.30	-50.82	86.05	1,289.74	1,183.77	1,176.35	7.42	159.490	
1,500.00	1,480.40	1,479.23	1,479.20	5.83	2.48	-51.80	85.23	1,289.51	1,167.51	1,159.45	8.07	144.684	
1,600.00	1,577.23	1,579.41	1,579.37	6.34	2.66	-52.78	84.68	1,288.42	1,150.75	1,142.03	8.72	132.022	
1,700.00	1,674.06	1,674.98	1,674.94	6.85	2.82	-53.74	84.32	1,287.32	1,134.29	1,124.92	9.37	121.117	
1,800.00	1,770.88	1,772.90	1,772.85	7.37	3.00	-54.76	83.95	1,286.24	1,118.21	1,108.19	10.03	111.537	
1,900.00	1,867.71	1,871.72	1,871.66	7.89	3.17	-55.80	83.26	1,285.04	1,102.31	1,091.62	10.69	103.076	
2,000.00	1,964.54	1,965.99	1,965.91	8.41	3.34	-56.81	82.36	1,283.91	1,086.74	1,075.37	11.36	95.633	
2,100.00	2,061.37	2,060.09	2,060.01	8.93	3.50	-57.82	81.06	1,283.22	1,071.83	1,059.80	12.04	89.031	
2,200.00	2,158.20	2,156.68	2,156.59	9.46	3.67	-58.87	79.65	1,282.68	1,057.45	1,044.72	12.72	83.111	
2,300.00	2,255.03	2,250.79	2,250.68	9.98	3.84	-59.90	77.80	1,282.34	1,043.47	1,030.06	13.41	77.815	
2,400.00	2,351.86	2,342.58	2,342.45	10.51	4.00	-60.93	76.28	1,282.40	1,030.35	1,016.25	14.10	73.080	
2,500.00	2,448.69	2,435.10	2,434.96	11.04	4.16	-61.99	74.83	1,282.89	1,018.07	1,003.27	14.79	68.817	
2,600.00	2,545.52	2,526.64	2,526.49	11.57	4.32	-63.08	73.95	1,283.63	1,006.67	991.18	15.49	64.977	
2,700.00	2,642.35	2,617.11	2,616.95	12.10	4.48	-64.19	73.27	1,284.92	996.34	980.15	16.19	61.525	
2,800.00	2,739.18	2,708.03	2,707.86	12.63	4.64	-65.34	73.28	1,286.53	987.07	970.17	16.90	58.405	
2,900.00	2,836.01	2,796.08	2,795.88	13.16	4.79	-66.51	74.04	1,288.53	979.08	961.47	17.61	55.607	
3,000.00	2,932.84	2,891.34	2,891.09	13.70	4.95	-67.79	75.11	1,291.17	972.16	953.83	18.33	53.046	
3,100.00	3,029.67	2,989.75	2,989.47	14.23	5.12	-69.13	76.32	1,293.86	965.80	946.75	19.05	50.685	
3,200.00	3,126.50	3,083.06	3,082.73	14.76	5.29	-70.43	77.55	1,296.48	960.10	940.32	19.78	48.546	
3,300.00	3,223.33	3,180.42	3,180.03	15.29	5.46	-71.76	78.50	1,299.68	955.18	934.68	20.51	46.579	
3,400.00	3,320.15	3,278.61	3,278.17	15.83	5.63	-73.13	79.60	1,302.71	950.73	929.49	21.24	44.762	
3,500.00	3,416.98	3,378.13	3,377.64	16.36	5.80	-74.54	80.76	1,305.56	946.68	924.71	21.98	43.079	
3,600.00	3,513.81	3,473.76	3,473.23	16.90	5.97	-75.94	82.30	1,307.88	943.13	920.42	22.71	41.536	
3,700.00	3,610.64	3,577.96	3,577.39	17.43	6.15	-77.47	83.92	1,310.28	940.07	916.62	23.45	40.087	
3,800.00	3,707.47	3,671.59	3,671.00	17.96	6.31	-78.88	85.32	1,311.89	937.15	912.97	24.18	38.763	
3,900.00	3,804.30	3,770.00	3,769.37	18.50	6.49	-80.37	87.14	1,313.81	935.26	910.35	24.91	37.548	
4,000.00	3,901.13	3,869.09	3,868.43	19.03	6.66	-81.85	88.33	1,315.77	933.63	908.00	25.64	36.416	
4,100.00	3,997.96	3,964.05	3,963.37	19.57	6.83	-83.26	89.34	1,317.76	932.64	906.29	26.36	35.385	
4,157.69	4,053.83	4,018.46	4,017.76	19.88	6.92	-84.07	89.99	1,319.02	932.50	905.73	26.77	34.834	
4,200.00	4,094.79	4,058.85	4,058.13	20.10	6.99	-84.67	90.50	1,320.00	932.57	905.50	27.07	34.448	
4,300.00	4,191.62	4,158.01	4,157.26	20.64	7.17	-86.14	91.81	1,322.34	933.19	905.40	27.79	33.579	
4,400.00	4,288.45	4,256.31	4,255.53	21.17	7.34	-87.64	93.32	1,323.95	934.11	905.60	28.50	32.773	
4,500.00	4,385.28	4,354.83	4,354.02	21.71	7.51	-89.14	94.89	1,325.46	935.66	906.46	29.21	32.033	
4,600.00	4,482.11	4,450.00	4,449.18	22.25	7.68	-90.58	96.15	1,326.93	937.69	907.78	29.90	31.357	
4,700.00	4,578.94	4,544.45	4,543.59	22.78	7.84	-92.03	98.04	1,328.32	940.82	910.23	30.59	30.759	
4,800.00	4,675.77	4,642.02	4,641.13	23.32	8.02	-93.51	99.95	1,329.64	944.53	913.26	31.27	30.204	
4,900.00	4,772.60	4,738.90	4,737.99	23.85	8.19	-94.99	102.00	1,330.86	948.97	917.02	31.95	29.705	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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						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	4,869.43	4,836.60	4,835.66	24.39	8.36	-96.49	104.19	1,331.59	953.89	921.28	32.61	29.248	
5,100.00	4,966.25	4,932.36	4,931.39	24.92	8.52	-97.99	106.78	1,331.76	959.59	926.32	33.27	28.845	
5,200.00	5,063.08	5,026.31	5,025.31	25.46	8.69	-99.43	109.21	1,332.03	965.94	932.04	33.91	28.489	
5,300.00	5,159.91	5,112.00	5,110.95	26.00	8.84	-100.73	112.10	1,332.73	973.87	939.36	34.51	28.220	
5,400.00	5,256.74	5,212.31	5,211.19	26.53	9.02	-102.18	115.35	1,334.35	982.70	947.55	35.15	27.956	
5,500.00	5,353.57	5,306.72	5,305.53	27.07	9.18	-103.49	118.15	1,336.34	992.13	956.36	35.77	27.737	
5,600.00	5,450.40	5,413.28	5,412.04	27.61	9.37	-104.96	120.95	1,338.22	1,001.67	965.25	36.42	27.505	
5,700.00	5,547.23	5,504.67	5,503.39	28.14	9.53	-106.18	123.24	1,339.90	1,011.69	974.68	37.01	27.336	
5,800.00	5,644.06	5,618.28	5,616.96	28.68	9.73	-107.67	125.34	1,341.68	1,021.55	983.88	37.67	27.120	
5,900.00	5,740.89	5,714.17	5,712.84	29.21	9.90	-108.95	126.89	1,342.31	1,031.40	993.14	38.26	26.958	
6,000.00	5,837.72	5,818.32	5,816.98	29.75	10.08	-110.34	128.02	1,342.22	1,041.05	1,002.18	38.87	26.786	
6,100.00	5,934.55	5,901.66	5,900.31	30.29	10.23	-111.44	129.37	1,342.10	1,051.73	1,012.33	39.40	26.696	
6,200.00	6,031.38	5,998.20	5,996.83	30.82	10.40	-112.65	131.30	1,342.82	1,063.54	1,023.58	39.97	26.610	
6,300.00	6,128.21	6,100.35	6,098.94	31.36	10.58	-113.83	132.66	1,344.99	1,075.59	1,035.03	40.56	26.518	
6,400.00	6,225.04	6,220.88	6,219.29	31.90	10.79	-114.96	131.57	1,351.16	1,086.69	1,045.46	41.23	26.358	
6,500.00	6,321.87	6,328.34	6,326.51	32.43	10.98	-115.87	128.42	1,357.74	1,096.36	1,054.51	41.85	26.196	
6,600.00	6,418.70	6,417.76	6,415.78	32.97	11.14	-116.67	126.26	1,362.24	1,106.54	1,064.13	42.41	26.092	
6,638.96	6,456.42	6,453.78	6,451.76	33.18	11.20	-117.00	125.62	1,363.79	1,110.75	1,068.13	42.63	26.058	
6,650.00	6,467.12	6,463.98	6,461.96	33.24	11.22	-114.36	125.46	1,364.19	1,111.89	1,069.20	42.69	26.047	
6,700.00	6,515.86	6,509.54	6,507.48	33.49	11.30	-99.52	124.86	1,365.87	1,115.05	1,072.10	42.95	25.959	
6,750.00	6,564.86	6,552.40	6,550.31	33.71	11.37	-80.65	124.53	1,367.28	1,115.11	1,071.91	43.20	25.814	
6,800.00	6,613.89	6,595.22	6,593.11	33.90	11.45	-61.30	124.48	1,368.58	1,112.08	1,068.65	43.43	25.609	
6,850.00	6,662.69	6,642.65	6,640.53	34.06	11.53	-45.43	124.64	1,369.89	1,105.88	1,062.23	43.66	25.332	
6,900.00	6,711.04	6,690.24	6,688.10	34.19	11.62	-33.96	124.87	1,371.09	1,096.39	1,052.52	43.87	24.991	
6,950.00	6,758.71	6,738.96	6,736.81	34.31	11.70	-25.95	125.15	1,372.18	1,083.60	1,039.52	44.08	24.583	
7,000.00	6,805.44	6,787.16	6,785.00	34.40	11.79	-20.24	125.39	1,373.12	1,067.51	1,023.24	44.28	24.111	
7,050.00	6,851.03	6,834.94	6,832.77	34.47	11.87	-16.03	125.59	1,373.92	1,048.17	1,003.71	44.46	23.575	
7,100.00	6,895.25	6,881.51	6,879.33	34.52	11.95	-12.80	125.70	1,374.63	1,025.64	981.01	44.63	22.980	
7,150.00	6,937.88	6,925.58	6,923.40	34.55	12.03	-10.21	125.73	1,375.25	1,000.04	955.25	44.79	22.328	
7,200.00	6,978.71	6,967.25	6,965.07	34.57	12.11	-8.02	125.74	1,375.72	971.53	926.60	44.93	21.624	
7,250.00	7,017.55	7,006.83	7,004.64	34.57	12.18	-6.10	125.74	1,376.05	940.25	895.20	45.05	20.869	
7,300.00	7,054.21	7,043.43	7,041.24	34.56	12.24	-4.31	125.73	1,376.34	906.38	861.21	45.17	20.068	
7,350.00	7,088.50	7,077.77	7,075.59	34.54	12.30	-2.54	125.73	1,376.61	870.07	824.81	45.26	19.222	
7,400.00	7,120.26	7,109.59	7,107.40	34.50	12.36	-0.67	125.72	1,376.86	831.51	786.16	45.35	18.334	
7,450.00	7,149.34	7,138.64	7,136.45	34.46	12.41	1.43	125.71	1,377.12	790.88	745.45	45.43	17.409	
7,500.00	7,175.60	7,164.89	7,162.70	34.40	12.46	3.94	125.71	1,377.36	748.39	702.89	45.50	16.448	
7,550.00	7,198.90	7,188.19	7,186.00	34.34	12.50	7.12	125.70	1,377.59	704.23	658.67	45.56	15.458	
7,600.00	7,219.14	7,208.96	7,206.77	34.27	12.53	11.42	125.69	1,377.81	658.64	613.03	45.61	14.440	
7,650.00	7,236.20	7,227.01	7,224.82	34.19	12.57	17.58	125.65	1,377.99	611.83	566.16	45.66	13.398	
7,700.00	7,250.02	7,241.46	7,239.27	34.11	12.59	26.78	125.60	1,378.14	564.05	518.34	45.71	12.340	
7,750.00	7,260.53	7,252.30	7,250.10	34.03	12.61	40.61	125.55	1,378.25	515.59	469.84	45.75	11.269	
7,800.00	7,267.67	7,259.51	7,257.31	33.95	12.62	59.67	125.51	1,378.32	466.74	420.95	45.79	10.192	
7,850.00	7,271.40	7,263.10	7,260.91	33.86	12.63	80.36	125.49	1,378.35	417.83	371.99	45.84	9.116	
7,879.59	7,272.00	7,263.54	7,261.35	33.82	12.63	90.84	125.49	1,378.36	388.99	343.13	45.86	8.482	
7,900.00	7,272.00	7,263.42	7,261.22	33.78	12.63	90.76	125.49	1,378.35	369.19	323.31	45.88	8.047	
8,000.00	7,272.00	7,262.81	7,260.61	33.64	12.63	90.38	125.49	1,378.35	273.46	227.46	46.00	5.945	
8,100.00	7,272.00	7,262.21	7,260.02	33.51	12.63	90.01	125.50	1,378.34	182.36	136.26	46.10	3.955	
8,200.00	7,272.00	7,261.62	7,259.43	33.41	12.63	89.64	125.50	1,378.34	108.32	62.75	45.57	2.377	
8,257.62	7,272.00	7,261.29	7,259.09	33.37	12.63	89.43	125.50	1,378.33	91.72	47.61	44.11	2.079 CC, ES, SF	
8,300.00	7,272.00	7,261.04	7,258.85	33.34	12.63	89.28	125.51	1,378.33	101.03	57.66	43.37	2.329	
8,400.00	7,272.00	7,260.48	7,258.28	33.33	12.62	88.93	125.51	1,378.33	169.36	125.47	43.89	3.858	
8,500.00	7,272.00	7,259.92	7,257.73	33.42	12.62	88.58	125.51	1,378.32	259.15	214.72	44.43	5.833	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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						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	
8,600.00	7,272.00	7,259.37	7,257.18	33.70	12.62	88.24	125.51	1,378.31	354.44	309.74	44.71	7.928	
8,700.00	7,272.00	7,258.83	7,256.64	34.22	12.62	87.90	125.52	1,378.31	451.78	406.91	44.87	10.069	
8,800.00	7,272.00	7,258.30	7,256.11	34.94	12.62	87.57	125.52	1,378.30	550.07	505.09	44.98	12.230	
8,900.00	7,272.00	7,257.78	7,255.59	35.77	12.62	87.25	125.52	1,378.30	648.88	603.83	45.05	14.403	
9,000.00	7,272.00	7,257.27	7,255.08	36.67	12.62	86.93	125.53	1,378.29	748.01	702.90	45.11	16.582	
9,100.00	7,272.00	7,256.77	7,254.58	37.62	12.62	86.61	125.53	1,378.29	847.34	802.19	45.16	18.764	
9,200.00	7,272.00	7,256.28	7,254.08	38.62	12.62	86.31	125.53	1,378.28	946.82	901.62	45.20	20.949	
9,300.00	7,272.00	7,255.79	7,253.60	39.66	12.62	86.00	125.53	1,378.28	1,046.39	1,001.16	45.23	23.135	
9,400.00	7,272.00	7,255.31	7,253.12	40.73	12.61	85.71	125.54	1,378.27	1,146.04	1,100.78	45.26	25.321	
9,500.00	7,272.00	7,254.84	7,252.65	41.83	12.61	85.41	125.54	1,378.27	1,245.74	1,200.45	45.29	27.507	
9,600.00	7,272.00	7,254.38	7,252.18	42.96	12.61	85.13	125.54	1,378.27	1,345.49	1,300.17	45.31	29.693	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 44-4 - 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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation	Warning			
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	Axis	Factor				
7,450.00	7,149.34	7,158.48	7,156.46	34.46	12.41	67.98	-15.89	2,493.23	1,394.39	1,348.81	45.57	30.597				
7,500.00	7,175.60	7,183.17	7,181.15	34.40	12.45	71.59	-15.74	2,493.45	1,370.77	1,325.35	45.42	30.181				
7,550.00	7,198.90	7,205.23	7,203.21	34.34	12.49	75.00	-15.61	2,493.67	1,347.86	1,302.61	45.24	29.791				
7,600.00	7,219.14	7,224.74	7,222.71	34.27	12.53	78.15	-15.49	2,493.89	1,325.94	1,280.89	45.05	29.431				
7,650.00	7,236.20	7,241.27	7,239.24	34.19	12.56	80.99	-15.38	2,494.09	1,305.32	1,260.47	44.85	29.105				
7,700.00	7,250.02	7,254.74	7,252.71	34.11	12.58	83.48	-15.29	2,494.26	1,286.28	1,241.64	44.64	28.816				
7,750.00	7,260.53	7,265.07	7,263.05	34.03	12.60	85.59	-15.22	2,494.39	1,269.10	1,224.67	44.43	28.566				
7,800.00	7,267.67	7,272.21	7,270.18	33.95	12.61	87.29	-15.17	2,494.49	1,254.01	1,209.79	44.22	28.357				
7,850.00	7,271.40	7,276.12	7,274.09	33.86	12.62	88.58	-15.14	2,494.54	1,241.23	1,197.20	44.03	28.191				
7,879.59	7,272.00	7,276.89	7,274.86	33.82	12.62	89.14	-15.14	2,494.55	1,234.82	1,190.89	43.92	28.113				
7,900.00	7,272.00	7,277.03	7,275.00	33.78	12.62	89.15	-15.14	2,494.55	1,230.86	1,187.01	43.86	28.066				
8,000.00	7,272.00	7,277.72	7,275.69	33.64	12.62	89.18	-15.13	2,494.56	1,216.27	1,172.65	43.62	27.884				
8,100.00	7,272.00	7,278.40	7,276.37	33.51	12.62	89.21	-15.13	2,494.57	1,209.80	1,166.24	43.55	27.778				
8,128.56	7,272.00	7,278.60	7,276.57	33.48	12.62	89.22	-15.13	2,494.57	1,209.46	1,165.88	43.57	27.756 CC, ES				
8,200.00	7,272.00	7,279.09	7,277.06	33.41	12.62	89.24	-15.12	2,494.58	1,211.57	1,167.90	43.67	27.745 SF				
8,300.00	7,272.00	7,279.78	7,277.75	33.34	12.62	89.28	-15.12	2,494.59	1,221.55	1,177.59	43.95	27.791				
8,400.00	7,272.00	7,280.47	7,278.44	33.33	12.62	89.31	-15.11	2,494.60	1,239.54	1,195.15	44.39	27.924				
8,500.00	7,272.00	7,281.17	7,279.14	33.42	12.63	89.34	-15.11	2,494.61	1,265.21	1,220.27	44.94	28.153				
8,600.00	7,272.00	7,281.86	7,279.83	33.70	12.63	89.38	-15.10	2,494.62	1,298.09	1,252.52	45.57	28.486				
8,700.00	7,272.00	7,282.56	7,280.53	34.22	12.63	89.41	-15.10	2,494.63	1,337.66	1,291.42	46.24	28.931				
8,800.00	7,272.00	7,283.26	7,281.23	34.94	12.63	89.44	-15.09	2,494.64	1,383.33	1,336.42	46.91	29.486				

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - CHAVEZ 4A-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 110-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	
1,800.00	1,770.88	1,929.07	1,923.13	7.37	4.29	-27.34	-528.09	1,553.35	1,412.20	1,401.62	10.57	133.542	
1,900.00	1,867.71	2,021.97	2,015.10	7.89	4.55	-27.49	-532.30	1,540.94	1,378.45	1,367.25	11.21	123.005	
2,000.00	1,964.54	2,100.52	2,092.99	8.41	4.77	-27.65	-535.71	1,531.33	1,345.70	1,333.88	11.82	113.852	
2,100.00	2,061.37	2,183.97	2,175.85	8.93	5.00	-27.84	-538.94	1,521.97	1,313.81	1,301.37	12.44	105.630	
2,200.00	2,158.20	2,261.24	2,252.57	9.46	5.21	-27.98	-543.24	1,513.90	1,283.03	1,269.97	13.06	98.232	
2,300.00	2,255.03	2,342.82	2,333.56	9.98	5.44	-28.08	-549.10	1,506.10	1,253.43	1,239.73	13.70	91.496	
2,400.00	2,351.86	2,428.05	2,418.30	10.51	5.66	-28.22	-554.80	1,498.92	1,224.79	1,210.45	14.34	85.412	
2,500.00	2,448.69	2,547.70	2,537.25	11.04	5.99	-28.43	-562.55	1,488.61	1,196.03	1,181.01	15.02	79.627	
2,600.00	2,545.52	2,651.59	2,640.40	11.57	6.29	-28.64	-568.57	1,477.98	1,165.53	1,149.84	15.68	74.313	
2,700.00	2,642.35	2,764.58	2,752.64	12.10	6.61	-29.00	-572.62	1,465.63	1,133.92	1,117.58	16.34	69.408	
2,800.00	2,739.18	2,880.42	2,867.55	12.63	6.95	-29.43	-575.84	1,451.35	1,100.93	1,083.95	16.98	64.821	
2,900.00	2,836.01	2,982.19	2,968.22	13.16	7.27	-29.81	-578.71	1,436.73	1,066.03	1,048.40	17.63	60.467	
3,000.00	2,932.84	3,075.71	3,060.78	13.70	7.56	-30.17	-581.42	1,423.59	1,031.50	1,013.22	18.28	56.425	
3,100.00	3,029.67	3,178.32	3,162.19	14.23	7.89	-30.57	-584.83	1,408.35	996.35	977.42	18.93	52.634	
3,200.00	3,126.50	3,265.26	3,248.01	14.76	8.18	-30.88	-588.50	1,394.92	960.87	941.27	19.60	49.019	
3,300.00	3,223.33	3,346.82	3,328.63	15.29	8.44	-31.15	-592.68	1,383.33	926.70	906.41	20.29	45.683	
3,400.00	3,320.15	3,433.88	3,414.75	15.83	8.71	-31.42	-597.86	1,371.66	893.45	872.49	20.97	42.613	
3,500.00	3,416.98	3,525.35	3,505.25	16.36	9.00	-31.69	-603.94	1,359.89	860.85	839.20	21.65	39.766	
3,600.00	3,513.81	3,621.98	3,600.85	16.90	9.31	-32.01	-610.16	1,347.27	828.05	805.73	22.32	37.092	
3,700.00	3,610.64	3,710.05	3,687.97	17.43	9.59	-32.27	-616.53	1,336.01	795.66	772.64	23.02	34.561	
3,800.00	3,707.47	3,797.86	3,774.91	17.96	9.87	-32.56	-622.92	1,325.51	764.07	740.35	23.72	32.207	
3,900.00	3,804.30	3,883.46	3,859.82	18.50	10.12	-32.92	-628.71	1,316.30	733.56	709.13	24.43	30.026	
4,000.00	3,901.13	3,976.33	3,952.01	19.03	10.39	-33.34	-635.08	1,307.05	703.86	678.73	25.13	28.011	
4,100.00	3,997.96	4,076.87	4,051.76	19.57	10.70	-33.79	-642.39	1,296.77	674.00	648.19	25.81	26.114	
4,200.00	4,094.79	4,178.12	4,152.02	20.10	11.02	-34.19	-650.66	1,285.42	643.36	616.87	26.49	24.286	
4,300.00	4,191.62	4,267.86	4,240.87	20.64	11.30	-34.56	-658.33	1,275.37	612.78	585.56	27.22	22.513	
4,400.00	4,288.45	4,357.40	4,329.72	21.17	11.56	-35.10	-664.60	1,266.24	583.03	555.09	27.94	20.864	
4,500.00	4,385.28	4,448.51	4,420.32	21.71	11.81	-35.91	-669.33	1,257.93	554.18	525.51	28.67	19.331	
4,600.00	4,482.11	4,539.62	4,511.05	22.25	12.05	-36.93	-672.89	1,250.46	526.22	496.82	29.40	17.898	
4,700.00	4,578.94	4,624.03	4,595.23	22.78	12.26	-38.06	-675.61	1,244.82	499.86	469.67	30.19	16.559	
4,800.00	4,675.77	4,707.00	4,678.07	23.32	12.44	-39.25	-678.51	1,241.36	476.19	445.13	31.06	15.331	
4,900.00	4,772.60	4,791.21	4,762.23	23.85	12.60	-40.59	-681.39	1,240.25	455.56	423.63	31.94	14.265	
5,000.00	4,869.43	4,882.85	4,853.80	24.39	12.76	-42.13	-684.77	1,241.20	437.56	404.80	32.76	13.357	
5,100.00	4,966.25	4,981.07	4,951.98	24.92	12.93	-44.06	-687.25	1,242.43	420.23	386.67	33.56	12.523	
5,200.00	5,063.08	5,077.73	5,048.62	25.46	13.08	-46.24	-688.92	1,243.46	403.29	368.89	34.39	11.726	
5,300.00	5,159.91	5,173.67	5,144.54	26.00	13.24	-48.61	-690.29	1,244.84	387.38	352.11	35.27	10.983	
5,400.00	5,256.74	5,269.83	5,240.68	26.53	13.39	-51.24	-691.23	1,246.43	372.49	336.31	36.18	10.296	
5,500.00	5,353.57	5,368.02	5,338.85	27.07	13.55	-54.23	-691.56	1,248.10	358.66	321.56	37.10	9.667	
5,600.00	5,450.40	5,467.11	5,437.94	27.61	13.71	-57.63	-691.16	1,249.00	345.35	307.29	38.05	9.075	
5,700.00	5,547.23	5,563.95	5,534.77	28.14	13.87	-61.35	-689.97	1,249.27	333.01	293.94	39.07	8.523	
5,800.00	5,644.06	5,661.17	5,631.97	28.68	14.03	-65.39	-688.49	1,249.45	322.28	282.17	40.11	8.035	
5,900.00	5,740.89	5,757.98	5,728.78	29.21	14.19	-69.69	-686.97	1,249.37	313.10	271.94	41.16	7.606	
6,000.00	5,837.72	5,854.32	5,825.11	29.75	14.36	-74.17	-685.46	1,249.32	305.90	263.69	42.21	7.247	
6,100.00	5,934.55	5,951.56	5,922.34	30.29	14.52	-78.86	-684.02	1,249.30	300.75	257.53	43.22	6.959	
6,200.00	6,031.38	6,048.54	6,019.31	30.82	14.69	-83.61	-682.93	1,249.26	297.54	253.37	44.17	6.736	
6,300.00	6,128.21	6,146.25	6,117.01	31.36	14.86	-88.41	-682.14	1,249.26	296.34	251.29	45.05	6.578	
6,316.62	6,144.30	6,162.53	6,133.29	31.45	14.89	-89.22	-682.03	1,249.23	296.32	251.13	45.19	6.558	
6,400.00	6,225.04	6,243.03	6,213.79	31.90	15.03	-93.17	-681.55	1,249.12	297.09	251.24	45.85	6.479	
6,500.00	6,321.87	6,338.98	6,309.74	32.43	15.20	-97.76	-681.23	1,249.29	299.95	253.37	46.57	6.440	
6,600.00	6,418.70	6,420.00	6,390.71	32.97	15.33	-101.63	-679.02	1,250.03	307.30	260.01	47.29	6.498	
6,638.96	6,456.42	6,444.41	6,415.04	33.18	15.36	-102.82	-676.98	1,250.60	312.75	265.25	47.50	6.584	
6,650.00	6,467.12	6,452.00	6,422.58	33.24	15.37	-100.49	-676.20	1,250.82	314.51	266.96	47.54	6.615	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - CHAVEZ 4A-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 110-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
6,700.00	6,515.86	6,487.96	6,458.23	33.49	15.41	-87.04	-671.66	1,252.07	321.98	274.30	47.69	6.752	
6,750.00	6,564.86	6,525.16	6,494.91	33.71	15.44	-69.46	-665.71	1,253.63	328.38	280.63	47.75	6.877	
6,800.00	6,613.89	6,561.35	6,530.34	33.90	15.47	-51.19	-658.56	1,255.49	333.77	286.05	47.72	6.995	
6,850.00	6,662.69	6,598.27	6,566.20	34.06	15.49	-36.22	-650.13	1,257.87	337.86	290.24	47.62	7.095	
6,900.00	6,711.04	6,634.23	6,600.77	34.19	15.50	-25.48	-640.63	1,260.65	340.78	293.36	47.42	7.186	
6,950.00	6,758.71	6,669.27	6,634.03	34.31	15.51	-18.03	-630.09	1,263.82	342.54	295.42	47.12	7.269	
7,000.00	6,805.44	6,705.00	6,667.41	34.40	15.51	-12.82	-617.89	1,267.46	343.25	296.48	46.77	7.339	
7,050.00	6,851.03	6,737.00	6,696.78	34.47	15.51	-8.99	-605.68	1,270.98	342.92	296.73	46.19	7.424	
7,100.00	6,895.25	6,773.08	6,729.23	34.52	15.51	-6.15	-590.49	1,275.17	341.50	295.80	45.69	7.473	
7,150.00	6,937.88	6,808.02	6,759.96	34.55	15.50	-3.92	-574.40	1,279.38	338.95	293.86	45.08	7.519	
7,200.00	6,978.71	6,843.19	6,790.10	34.57	15.50	-2.16	-556.75	1,283.44	335.28	290.88	44.41	7.551	
7,250.00	7,017.55	6,879.94	6,820.81	34.57	15.50	-0.77	-536.92	1,287.29	330.33	286.57	43.76	7.549	
7,300.00	7,054.21	6,916.25	6,850.34	34.56	15.50	0.45	-516.16	1,291.13	323.99	280.96	43.03	7.529	
7,350.00	7,088.50	6,950.90	6,877.62	34.54	15.51	1.58	-495.14	1,294.94	316.49	274.34	42.15	7.509	
7,400.00	7,120.26	6,983.09	6,901.92	34.50	15.53	2.54	-474.27	1,298.10	308.16	267.16	41.00	7.516	
7,450.00	7,149.34	7,011.04	6,921.82	34.46	15.55	3.30	-454.78	1,300.22	299.57	260.19	39.39	7.606	
7,500.00	7,175.60	7,037.20	6,938.93	34.40	15.58	3.81	-435.03	1,301.34	291.40	253.96	37.45	7.782	
7,550.00	7,198.90	7,063.38	6,954.25	34.34	15.63	4.02	-413.82	1,301.36	283.92	248.58	35.34	8.034	
7,600.00	7,219.14	7,091.00	6,968.44	34.27	15.69	3.90	-390.16	1,300.28	277.11	243.88	33.24	8.337	
7,650.00	7,236.20	7,122.80	6,982.72	34.19	15.78	3.47	-361.83	1,298.19	270.56	239.07	31.49	8.593	
7,700.00	7,250.02	7,156.97	6,996.20	34.11	15.90	2.78	-330.58	1,295.11	263.67	233.72	29.96	8.802	
7,750.00	7,260.53	7,189.80	7,007.20	34.03	16.06	1.88	-299.92	1,291.16	256.58	228.19	28.38	9.039	
7,800.00	7,267.67	7,223.25	7,016.41	33.95	16.25	0.71	-268.17	1,286.10	249.35	222.33	27.02	9.228	
7,850.00	7,271.40	7,255.88	7,023.43	33.86	16.47	-0.60	-236.79	1,280.58	242.07	216.14	25.94	9.334	
7,879.59	7,272.00	7,274.55	7,026.43	33.82	16.60	-1.39	-218.65	1,277.34	237.91	212.40	25.51	9.325	
7,900.00	7,272.00	7,292.00	7,028.54	33.78	16.73	-2.20	-201.60	1,274.27	235.48	210.03	25.46	9.251	
7,985.87	7,272.00	7,349.67	7,031.98	33.66	17.22	-5.05	-145.08	1,263.49	230.91	205.02	25.90	8.917	
8,000.00	7,272.00	7,360.00	7,032.09	33.64	17.31	-5.59	-134.95	1,261.43	231.04	204.90	26.13	8.840	
8,100.00	7,272.00	7,459.43	7,033.28	33.51	18.20	-10.91	-37.69	1,240.82	233.04	205.59	27.45	8.490	
8,200.00	7,272.00	7,560.30	7,034.18	33.41	19.21	-15.34	61.66	1,223.46	236.36	207.26	29.10	8.123	
8,300.00	7,272.00	7,661.59	7,034.73	33.34	20.31	-18.47	162.18	1,211.08	239.73	208.96	30.77	7.791	
8,400.00	7,272.00	7,764.10	7,034.91	33.33	21.50	-20.44	264.39	1,203.43	242.40	210.11	32.29	7.506	
8,500.00	7,272.00	7,869.36	7,034.87	33.42	22.78	-21.22	369.61	1,200.97	243.64	210.14	33.50	7.273	
8,600.00	7,272.00	7,971.26	7,035.02	33.70	24.07	-20.99	471.47	1,203.12	243.11	208.46	34.65	7.016	
8,700.00	7,272.00	8,074.65	7,034.92	34.22	25.38	-19.75	574.64	1,209.71	241.33	205.81	35.52	6.794	
8,800.00	7,272.00	8,173.00	7,035.00	34.94	26.63	-18.65	672.82	1,215.66	239.61	202.96	36.65	6.538	
8,900.00	7,272.00	8,270.13	7,034.65	35.77	27.96	-17.77	769.83	1,220.44	238.73	200.81	37.92	6.296	
9,000.00	7,272.00	8,372.79	7,033.72	36.67	29.44	-16.79	872.36	1,225.44	238.47	199.47	39.00	6.115	
9,100.00	7,272.00	8,473.00	7,034.18	37.62	30.88	-15.77	972.41	1,231.05	236.75	196.58	40.17	5.893	
9,200.00	7,272.00	8,576.36	7,034.80	38.62	32.42	-14.70	1,075.60	1,236.85	234.97	193.72	41.25	5.696	
9,300.00	7,272.00	8,676.39	7,036.71	39.66	33.89	-13.65	1,175.44	1,242.77	231.92	189.45	42.47	5.461	
9,400.00	7,272.00	8,773.40	7,037.10	40.73	35.35	-12.63	1,272.31	1,248.08	230.50	186.68	43.81	5.261	
9,500.00	7,272.00	8,871.65	7,037.24	41.83	36.85	-11.82	1,370.45	1,252.47	229.63	184.46	45.17	5.084	
9,600.00	7,272.00	8,970.62	7,037.23	42.96	38.40	-11.21	1,469.35	1,255.98	229.14	182.59	46.55	4.923	
9,700.00	7,272.00	9,071.38	7,037.05	44.12	39.98	-10.83	1,570.09	1,258.53	229.03	181.13	47.91	4.781	
9,800.00	7,272.00	9,172.30	7,037.59	45.30	41.58	-10.69	1,670.99	1,260.24	228.38	179.07	49.31	4.632	
9,900.00	7,272.00	9,273.25	7,038.64	46.51	43.22	-10.50	1,771.91	1,262.28	227.18	176.47	50.71	4.480	
10,000.00	7,272.00	9,371.79	7,039.45	47.73	44.85	-10.19	1,870.42	1,264.69	226.11	173.93	52.18	4.333	
10,019.38	7,272.00	9,389.90	7,039.45	47.97	45.16	-10.11	1,888.52	1,265.19	226.06	173.56	52.50	4.306	
10,100.00	7,272.00	9,469.46	7,038.71	48.98	46.47	-9.69	1,968.05	1,267.57	226.52	172.87	53.65	4.222	
10,200.00	7,272.00	9,570.43	7,038.23	50.24	48.11	-9.31	2,068.98	1,270.06	226.75	171.74	55.02	4.122	
10,300.00	7,272.00	9,671.67	7,038.58	51.52	49.79	-9.60	2,170.22	1,270.01	226.59	170.08	56.51	4.010	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - CHAVEZ 4A-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 110-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)			
10,400.00	7,272.00	9,771.92	7,039.40	52.81	51.47	-9.77	2,270.46	1,270.50	225.88	167.85	58.03	3.892	
10,500.00	7,272.00	9,871.09	7,039.77	54.11	53.16	-9.79	2,369.63	1,271.48	225.52	165.94	59.57	3.785	
10,565.47	7,272.00	9,936.06	7,040.06	54.98	54.27	-10.09	2,434.59	1,271.02	225.42	164.77	60.66	3.716 CC	
10,600.00	7,272.00	9,970.02	7,040.11	55.44	54.84	-10.21	2,468.55	1,270.90	225.47	164.23	61.23	3.682	
10,700.00	7,272.00	10,068.37	7,039.34	56.77	56.51	-9.92	2,566.87	1,272.95	226.05	163.33	62.73	3.604	
10,800.00	7,272.00	10,165.59	7,037.71	58.11	58.17	-9.74	2,664.06	1,274.40	227.62	163.33	64.29	3.540	
10,900.00	7,272.00	10,268.14	7,035.86	59.47	59.92	-9.66	2,766.59	1,275.47	229.40	163.72	65.69	3.492	
11,000.00	7,272.00	10,368.78	7,034.92	60.83	61.62	-9.39	2,867.21	1,277.46	230.17	163.07	67.10	3.430	
11,100.00	7,272.00	10,468.99	7,034.13	62.21	63.35	-9.52	2,967.41	1,277.81	231.06	162.41	68.65	3.366	
11,200.00	7,272.00	10,570.94	7,034.45	63.59	65.11	-10.14	3,069.35	1,276.40	231.16	160.84	70.31	3.288	
11,204.02	7,272.00	10,574.71	7,034.47	63.65	65.17	-10.16	3,073.12	1,276.35	231.15	160.76	70.39	3.284	
11,300.00	7,272.00	10,669.65	7,033.98	64.98	66.80	-10.46	3,168.05	1,276.00	231.88	159.86	72.02	3.220	
11,400.00	7,272.00	10,770.45	7,033.91	66.38	68.54	-10.66	3,268.86	1,276.22	232.09	158.48	73.61	3.153	
11,500.00	7,272.00	10,871.60	7,034.48	67.79	70.29	-11.27	3,369.99	1,274.87	231.99	156.61	75.38	3.077	
11,508.05	7,272.00	10,879.75	7,034.56	67.90	70.43	-11.32	3,378.14	1,274.76	231.96	156.43	75.53	3.071	
11,600.00	7,272.00	10,967.49	7,033.58	69.20	71.95	-11.60	3,465.87	1,274.32	233.20	155.94	77.26	3.018	
11,700.00	7,272.00	11,069.73	7,032.92	70.62	73.71	-11.51	3,568.10	1,275.63	233.78	155.09	78.69	2.971	
11,800.00	7,272.00	11,170.81	7,032.83	72.05	75.47	-11.59	3,669.18	1,276.30	233.94	153.67	80.26	2.915	
11,826.28	7,272.00	11,197.21	7,032.91	72.42	75.94	-11.67	3,695.58	1,276.24	233.92	153.21	80.72	2.898	
11,900.00	7,272.00	11,267.66	7,032.44	73.48	77.16	-11.70	3,766.02	1,276.76	234.45	152.44	82.02	2.859	
12,000.00	7,272.00	11,364.95	7,030.65	74.92	78.87	-11.80	3,863.29	1,276.98	236.42	152.67	83.74	2.823	
12,100.00	7,272.00	11,472.69	7,030.35	76.36	80.77	-12.44	3,971.01	1,275.34	237.22	151.81	85.41	2.777	
12,200.00	7,272.00	11,571.36	7,031.83	77.81	82.50	-13.30	4,069.63	1,273.04	236.51	148.88	87.64	2.699	
12,261.45	7,272.00	11,633.12	7,032.31	78.70	83.58	-13.64	4,131.39	1,272.35	236.36	147.50	88.86	2.660 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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - CHAVEZ 4B-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 104-ISCWSA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
3,400.00	3,320.15	3,177.14	3,159.39	15.83	8.08	-34.19	-586.15	1,888.72	1,405.30	1,384.53	20.77	67.672	
3,500.00	3,416.98	3,239.20	3,220.90	16.36	8.28	-34.40	-590.58	1,895.69	1,396.47	1,375.03	21.44	65.140	
3,600.00	3,513.81	3,325.45	3,306.01	16.90	8.56	-34.66	-597.92	1,907.55	1,390.20	1,368.06	22.14	62.785	
3,700.00	3,610.64	3,453.78	3,433.07	17.43	8.97	-35.17	-605.76	1,923.72	1,382.65	1,359.75	22.90	60.373	
3,800.00	3,707.47	3,579.86	3,558.28	17.96	9.33	-35.77	-611.06	1,937.43	1,373.31	1,349.67	23.64	58.082	
3,900.00	3,804.30	3,661.20	3,639.02	18.50	9.57	-36.10	-615.94	1,946.09	1,363.93	1,339.57	24.36	55.989	
4,000.00	3,901.13	3,768.47	3,745.44	19.03	9.90	-36.52	-622.76	1,957.66	1,354.85	1,329.76	25.10	53.984	
4,100.00	3,997.96	3,881.42	3,857.75	19.57	10.21	-37.05	-628.09	1,968.37	1,344.35	1,318.52	25.83	52.041	
4,200.00	4,094.79	3,956.91	3,932.77	20.10	10.43	-37.44	-631.13	1,976.21	1,334.86	1,308.30	26.56	50.262	
4,300.00	4,191.62	4,032.82	4,008.05	20.64	10.66	-37.82	-634.40	1,985.40	1,327.20	1,299.92	27.29	48.640	
4,400.00	4,288.45	4,142.67	4,116.93	21.17	11.00	-38.40	-638.77	1,999.33	1,320.22	1,292.18	28.04	47.077	
4,500.00	4,385.28	4,213.48	4,187.05	21.71	11.22	-38.78	-641.40	2,008.82	1,314.00	1,285.22	28.78	45.661	
4,600.00	4,482.11	4,304.14	4,276.60	22.25	11.53	-39.23	-645.87	2,022.19	1,309.31	1,279.77	29.54	44.329	
4,700.00	4,578.94	4,435.24	4,406.19	22.78	11.96	-39.82	-653.70	2,040.42	1,303.96	1,273.63	30.33	42.993	
4,800.00	4,675.77	4,529.05	4,499.00	23.32	12.27	-40.22	-659.99	2,052.58	1,297.68	1,266.58	31.10	41.728	
4,900.00	4,772.60	4,641.77	4,610.59	23.85	12.63	-40.70	-667.62	2,066.51	1,290.88	1,259.00	31.88	40.495	
5,000.00	4,869.43	4,747.44	4,715.33	24.39	12.96	-41.17	-674.43	2,078.65	1,283.28	1,250.62	32.65	39.301	
5,100.00	4,966.25	4,853.43	4,820.46	24.92	13.28	-41.68	-680.77	2,090.58	1,275.54	1,242.11	33.43	38.156	
5,200.00	5,063.08	5,014.91	4,981.17	25.46	13.71	-42.58	-687.61	2,104.40	1,265.38	1,231.22	34.16	37.043	
5,300.00	5,159.91	5,134.92	5,101.01	26.00	13.98	-43.40	-690.12	2,110.27	1,251.65	1,216.71	34.94	35.821	
5,400.00	5,256.74	5,240.69	5,206.70	26.53	14.20	-44.17	-691.84	2,114.06	1,236.84	1,201.13	35.72	34.627	
5,500.00	5,353.57	5,338.75	5,304.69	27.07	14.39	-44.91	-693.20	2,117.35	1,222.04	1,185.54	36.50	33.480	
5,600.00	5,450.40	5,441.53	5,407.41	27.61	14.60	-45.71	-694.38	2,120.64	1,207.31	1,170.02	37.29	32.377	
5,700.00	5,547.23	5,564.67	5,530.52	28.14	14.83	-46.75	-694.99	2,122.99	1,191.63	1,153.56	38.07	31.300	
5,800.00	5,644.06	5,661.91	5,627.75	28.68	14.99	-47.65	-694.27	2,123.58	1,175.04	1,136.16	38.87	30.229	
5,900.00	5,740.89	5,757.99	5,723.83	29.21	15.15	-48.56	-693.89	2,124.18	1,158.73	1,119.05	39.68	29.202	
6,000.00	5,837.72	5,851.32	5,817.16	29.75	15.31	-49.48	-693.12	2,124.88	1,142.91	1,102.41	40.50	28.222	
6,100.00	5,934.55	5,948.47	5,914.30	30.29	15.47	-50.48	-692.03	2,125.78	1,127.62	1,086.30	41.32	27.289	
6,200.00	6,031.38	6,066.31	6,032.13	30.82	15.66	-51.68	-691.84	2,125.45	1,111.31	1,069.18	42.13	26.380	
6,300.00	6,128.21	6,159.53	6,125.35	31.36	15.82	-52.64	-692.04	2,124.87	1,095.02	1,052.05	42.97	25.485	
6,400.00	6,225.04	6,255.47	6,221.28	31.90	15.97	-53.67	-692.09	2,124.28	1,079.12	1,035.31	43.81	24.631	
6,500.00	6,321.87	6,340.14	6,305.95	32.43	16.11	-54.62	-691.69	2,124.06	1,064.06	1,019.38	44.68	23.817	
6,600.00	6,418.70	6,395.83	6,361.51	32.97	16.20	-55.41	-688.21	2,124.58	1,051.95	1,006.27	45.68	23.031	
6,638.96	6,456.42	6,417.00	6,382.49	33.18	16.23	-55.79	-685.39	2,125.02	1,048.47	1,002.38	46.10	22.745	
6,650.00	6,467.12	6,417.00	6,382.49	33.24	16.23	-52.96	-685.39	2,125.02	1,047.62	1,001.38	46.23	22.660	
6,700.00	6,515.86	6,449.00	6,413.95	33.49	16.27	-37.94	-679.67	2,125.99	1,043.78	997.09	46.70	22.353	
6,750.00	6,564.86	6,480.00	6,444.08	33.71	16.31	-18.94	-672.47	2,127.14	1,040.11	993.02	47.09	22.086	
6,800.00	6,613.89	6,504.81	6,467.89	33.90	16.33	0.60	-665.55	2,128.13	1,036.45	989.03	47.42	21.857	
6,850.00	6,662.69	6,538.94	6,500.17	34.06	16.36	16.53	-654.60	2,129.57	1,032.77	985.09	47.67	21.663	
6,900.00	6,711.04	6,588.58	6,546.15	34.19	16.40	27.83	-635.97	2,130.96	1,028.48	980.59	47.89	21.476	
6,950.00	6,758.71	6,633.19	6,586.14	34.31	16.41	35.72	-616.22	2,130.99	1,023.28	975.22	48.07	21.289	
7,000.00	6,805.44	6,659.41	6,609.02	34.40	16.42	41.56	-603.42	2,130.81	1,017.75	969.59	48.17	21.129	
7,050.00	6,851.03	6,685.90	6,631.67	34.47	16.43	45.87	-589.69	2,130.96	1,012.41	964.20	48.21	21.000	
7,100.00	6,895.25	6,724.82	6,664.07	34.52	16.44	49.04	-568.13	2,131.29	1,006.97	958.71	48.25	20.868	
7,150.00	6,937.88	6,761.03	6,693.24	34.55	16.45	51.58	-546.69	2,131.12	1,000.88	952.63	48.26	20.740	
7,200.00	6,978.71	6,792.89	6,717.90	34.57	16.47	53.69	-526.52	2,130.85	994.60	946.38	48.22	20.627	
7,250.00	7,017.55	6,822.70	6,740.07	34.57	16.48	55.47	-506.60	2,130.58	988.22	940.08	48.14	20.527	
7,300.00	7,054.21	6,847.05	6,757.65	34.56	16.50	57.06	-489.75	2,130.59	981.93	933.93	48.01	20.455	
7,350.00	7,088.50	6,877.05	6,778.91	34.54	16.53	58.49	-468.60	2,131.25	975.89	927.99	47.90	20.373	
7,400.00	7,120.26	6,910.79	6,802.27	34.50	16.58	59.84	-444.28	2,132.14	969.62	921.80	47.82	20.275	
7,450.00	7,149.34	6,939.02	6,821.20	34.46	16.63	61.11	-423.36	2,133.12	963.37	915.66	47.71	20.193	
7,500.00	7,175.60	6,968.85	6,840.45	34.40	16.69	62.33	-400.60	2,134.48	957.35	909.72	47.63	20.101	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - CHAVEZ 4B-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 104-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
7,550.00	7,198.90	7,007.51	6,864.35	34.34	16.79	63.61	-370.27	2,136.31	951.24	903.59	47.66	19.961	
7,600.00	7,219.14	7,044.39	6,886.56	34.27	16.91	64.91	-340.90	2,138.10	944.86	897.16	47.70	19.806	
7,650.00	7,236.20	7,077.42	6,905.56	34.19	17.03	66.18	-313.93	2,139.78	938.55	890.78	47.76	19.651	
7,700.00	7,250.02	7,110.96	6,923.82	34.11	17.17	67.44	-285.86	2,141.55	932.43	884.56	47.87	19.478	
7,750.00	7,260.53	7,165.34	6,950.57	34.03	17.44	69.03	-238.56	2,143.11	925.84	877.62	48.22	19.201	
7,800.00	7,267.67	7,204.04	6,966.53	33.95	17.65	70.29	-203.31	2,143.12	919.14	870.66	48.49	18.957	
7,850.00	7,271.40	7,231.42	6,976.14	33.86	17.82	71.28	-177.69	2,142.87	912.82	864.12	48.70	18.743	
7,879.59	7,272.00	7,241.00	6,979.23	33.82	17.89	71.72	-168.61	2,142.85	909.53	860.74	48.79	18.641	
7,900.00	7,272.00	7,256.54	6,983.96	33.78	17.99	72.01	-153.81	2,142.93	907.44	858.49	48.95	18.540	
8,000.00	7,272.00	7,315.42	6,998.91	33.64	18.44	72.93	-96.90	2,144.14	900.46	850.80	49.66	18.131	
8,100.00	7,272.00	7,390.89	7,011.23	33.51	19.11	73.71	-22.49	2,146.39	897.48	846.74	50.74	17.689	
8,200.00	7,272.00	7,476.86	7,019.28	33.41	19.97	74.22	63.04	2,148.47	896.23	844.12	52.11	17.199	
8,212.46	7,272.00	7,486.20	7,019.81	33.40	20.07	74.25	72.36	2,148.70	896.21	843.93	52.28	17.141	
8,300.00	7,272.00	7,582.96	7,022.57	33.34	21.12	74.44	169.05	2,150.59	896.37	842.55	53.82	16.655	
8,400.00	7,272.00	7,681.73	7,022.66	33.33	22.29	74.44	267.82	2,150.98	895.73	840.08	55.65	16.096	
8,500.00	7,272.00	7,792.77	7,022.26	33.42	23.55	74.37	378.84	2,149.62	893.58	836.02	57.56	15.523	
8,600.00	7,272.00	7,929.40	7,023.52	33.70	25.19	74.35	515.39	2,145.61	889.55	829.81	59.74	14.891	
8,700.00	7,272.00	8,011.47	7,026.11	34.22	26.19	74.45	597.36	2,142.71	884.30	822.62	61.68	14.336	
8,800.00	7,272.00	8,085.72	7,029.42	34.94	27.19	74.63	671.53	2,141.94	881.22	817.46	63.76	13.821	
8,900.00	7,272.00	8,180.97	7,030.28	35.77	28.58	74.68	766.76	2,142.99	881.00	814.90	66.10	13.328	
9,000.00	7,272.00	8,317.59	7,029.67	36.67	30.61	74.59	903.36	2,141.12	879.05	810.33	68.72	12.792	
9,100.00	7,272.00	8,415.57	7,029.80	37.62	32.11	74.51	1,001.27	2,137.34	874.29	803.04	71.25	12.270	
9,200.00	7,272.00	8,509.10	7,029.14	38.62	33.57	74.39	1,094.72	2,133.78	869.83	795.99	73.84	11.781	
9,300.00	7,272.00	8,604.74	7,028.55	39.66	34.99	74.30	1,190.34	2,131.84	867.00	790.64	76.37	11.353	
9,400.00	7,272.00	8,719.53	7,029.79	40.73	36.74	74.28	1,305.04	2,127.35	861.84	782.83	79.01	10.907	
9,500.00	7,272.00	8,819.68	7,030.00	41.83	38.35	74.20	1,405.11	2,123.50	857.09	775.35	81.74	10.485	
9,600.00	7,272.00	8,917.13	7,029.76	42.96	39.89	74.10	1,502.48	2,119.54	852.25	767.77	84.48	10.089	
9,700.00	7,272.00	9,004.27	7,029.51	44.12	41.28	74.00	1,589.55	2,116.10	847.60	760.36	87.24	9.715	
9,800.00	7,272.00	9,085.82	7,029.80	45.30	42.55	73.99	1,671.09	2,115.17	845.38	755.38	89.99	9.394	
9,899.03	7,272.00	9,174.11	7,030.88	46.50	43.92	74.04	1,759.37	2,115.38	844.34	751.62	92.72	9.106	
9,900.00	7,272.00	9,174.83	7,030.89	46.51	43.93	74.04	1,760.09	2,115.39	844.34	751.59	92.75	9.104	
10,000.00	7,272.00	9,253.41	7,029.96	47.73	45.23	74.00	1,838.64	2,117.09	845.73	750.16	95.56	8.850	
10,100.00	7,272.00	9,360.04	7,025.65	48.98	46.95	73.75	1,945.15	2,119.90	848.42	750.03	98.39	8.623	
10,200.00	7,272.00	9,505.26	7,026.41	50.24	49.27	73.76	2,090.33	2,119.33	846.62	745.41	101.21	8.365	
10,300.00	7,272.00	9,601.08	7,026.68	51.52	50.91	73.71	2,186.11	2,116.85	843.06	738.86	104.20	8.091	
10,400.00	7,272.00	9,713.44	7,024.32	52.81	52.81	73.46	2,298.37	2,112.81	839.21	732.09	107.12	7.834	
10,500.00	7,272.00	9,804.42	7,022.84	54.11	54.34	73.27	2,389.24	2,108.89	834.61	724.49	110.12	7.579	
10,600.00	7,272.00	9,898.71	7,021.95	55.44	55.89	73.14	2,483.51	2,106.61	831.58	718.49	113.09	7.353	
10,700.00	7,272.00	10,007.98	7,020.58	56.77	57.73	72.97	2,582.72	2,103.54	828.26	712.24	116.02	7.139	
10,800.00	7,272.00	10,091.79	7,021.46	58.11	59.12	72.99	2,676.52	2,102.48	825.69	706.60	119.09	6.933	
10,900.00	7,272.00	10,194.19	7,022.18	59.47	60.88	73.00	2,778.90	2,101.57	823.65	701.51	122.14	6.743	
11,000.00	7,272.00	10,321.65	7,024.99	60.83	63.03	73.10	2,906.30	2,098.93	820.11	695.10	125.01	6.560	
11,100.00	7,272.00	10,404.98	7,026.87	62.21	64.47	73.16	2,989.57	2,096.50	815.65	687.40	128.25	6.360	
11,200.00	7,272.00	10,492.97	7,028.19	63.59	66.00	73.21	3,077.54	2,095.37	812.98	681.54	131.44	6.185	
11,300.00	7,272.00	10,585.60	7,029.09	64.98	67.61	73.25	3,170.17	2,095.21	811.53	676.94	134.59	6.030	
11,400.00	7,272.00	10,682.15	7,029.96	66.38	69.27	73.28	3,266.71	2,095.06	810.14	672.43	137.71	5.883	
11,500.00	7,272.00	10,781.26	7,030.06	67.79	70.98	73.27	3,365.82	2,095.31	809.37	668.55	140.82	5.747	
11,600.00	7,272.00	10,879.51	7,029.79	69.20	72.69	73.25	3,464.07	2,096.01	809.14	665.19	143.95	5.621	
11,700.00	7,272.00	10,979.54	7,029.12	70.62	74.42	73.19	3,564.10	2,096.46	808.76	661.71	147.05	5.500	
11,800.00	7,272.00	11,088.89	7,029.13	72.05	76.25	73.17	3,673.44	2,096.59	807.89	657.83	150.07	5.384	
11,900.00	7,272.00	11,205.21	7,031.28	73.48	78.22	73.27	3,789.73	2,095.26	805.28	652.22	153.06	5.261	
12,000.00	7,272.00	11,297.54	7,033.64	74.92	79.83	73.38	3,882.03	2,093.87	802.11	645.77	156.34	5.131	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - CHAVEZ 4B-4H - CPR WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 104-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
12,100.00	7,272.00	11,396.05	7,036.35	76.36	81.54	73.53	3,980.49	2,093.30	799.78	640.21	159.57	5.012	
12,183.71	7,272.00	11,460.00	7,037.58	77.57	82.66	73.58	4,044.41	2,091.98	797.28	634.89	162.40	4.909 CC	
12,200.00	7,272.00	11,460.00	7,037.58	77.81	82.66	73.58	4,044.41	2,091.98	797.45	634.49	162.96	4.893 ES	
12,261.45	7,272.00	11,460.00	7,037.58	78.70	82.66	73.58	4,044.41	2,091.98	801.07	636.52	164.55	4.868 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 22-4J - CPR WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 1012-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	
9,900.00	7,272.00	7,482.94	7,369.79	46.51	19.17	-94.99	2,394.16	52.16	1,403.35	1,341.65	61.70	22.746		
10,000.00	7,272.00	7,478.94	7,365.80	47.73	19.16	-94.81	2,394.32	51.89	1,362.68	1,299.27	63.40	21.492		
10,100.00	7,272.00	7,474.88	7,361.75	48.98	19.15	-94.62	2,394.49	51.61	1,328.29	1,263.08	65.21	20.370		
10,200.00	7,272.00	7,470.76	7,357.65	50.24	19.14	-94.44	2,394.65	51.34	1,300.69	1,233.70	66.98	19.419		
10,300.00	7,272.00	7,466.58	7,353.48	51.52	19.13	-94.25	2,394.83	51.06	1,280.31	1,211.64	68.67	18.645		
10,400.00	7,272.00	7,463.10	7,350.01	52.81	19.12	-94.09	2,394.97	50.83	1,267.50	1,197.28	70.22	18.051		
10,500.00	7,272.00	7,459.89	7,346.81	54.11	19.11	-93.94	2,395.10	50.61	1,262.50	1,190.93	71.57	17.640		
10,513.38	7,272.00	7,459.45	7,346.38	54.29	19.11	-93.92	2,395.12	50.58	1,262.42	1,190.69	71.73	17.598 CC, ES		
10,600.00	7,272.00	7,456.59	7,343.52	55.44	19.11	-93.79	2,395.25	50.38	1,265.39	1,192.70	72.69	17.409		
10,700.00	7,272.00	7,453.20	7,340.14	56.77	19.10	-93.64	2,395.39	50.15	1,276.13	1,202.59	73.54	17.353 SF		
10,800.00	7,272.00	7,449.70	7,336.66	58.11	19.09	-93.48	2,395.54	49.91	1,294.51	1,220.39	74.12	17.466		
10,900.00	7,272.00	7,446.11	7,333.08	59.47	19.08	-93.32	2,395.70	49.65	1,320.22	1,245.79	74.43	17.738		
11,000.00	7,272.00	7,442.41	7,329.39	60.83	19.07	-93.15	2,395.87	49.39	1,352.84	1,278.34	74.50	18.160		
11,100.00	7,272.00	7,438.59	7,325.59	62.21	19.06	-92.98	2,396.05	49.12	1,391.88	1,317.53	74.35	18.721		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 3N-28HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 100-VESSI_GYROFLEX, 1215-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	
11,900.00	7,272.00	6,885.78	6,815.20	73.48	15.18	-61.03	4,739.56	512.83	1,344.65	1,276.13	68.52	19.624		
12,000.00	7,272.00	6,907.49	6,831.82	74.92	15.26	-61.77	4,752.39	518.35	1,274.49	1,203.59	70.90	17.976		
12,100.00	7,272.00	6,952.00	6,864.09	76.36	15.42	-63.24	4,780.78	529.87	1,207.82	1,134.40	73.42	16.450		
12,200.00	7,272.00	6,952.00	6,864.09	77.81	15.42	-63.24	4,780.78	529.87	1,143.70	1,067.56	76.14	15.022		
12,261.45	7,272.00	6,952.00	6,864.09	78.70	15.42	-63.24	4,780.78	529.87	1,106.94	1,029.07	77.87	14.215	CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - JOKER 1N1-9HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 105-ISCWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
6,500.00	6,321.87	12,040.00	7,186.26	32.43	77.22	-33.89	-1,195.61	2,186.75	1,388.92	1,303.81	85.10	16.320		
6,600.00	6,418.70	12,040.00	7,186.26	32.97	77.22	-33.89	-1,195.61	2,186.75	1,316.20	1,227.86	88.34	14.899		
6,638.96	6,456.42	12,040.00	7,186.26	33.18	77.22	-33.89	-1,195.61	2,186.75	1,288.86	1,199.20	89.66	14.375		
6,650.00	6,467.12	12,040.00	7,186.26	33.24	77.22	-30.29	-1,195.61	2,186.75	1,281.23	1,191.19	90.04	14.230		
6,700.00	6,515.86	12,040.00	7,186.26	33.49	77.22	-11.37	-1,195.61	2,186.75	1,247.49	1,155.76	91.74	13.599		
6,750.00	6,564.86	12,040.00	7,186.26	33.71	77.22	11.16	-1,195.61	2,186.75	1,215.34	1,121.93	93.41	13.011		
6,800.00	6,613.89	12,040.00	7,186.26	33.90	77.22	33.75	-1,195.61	2,186.75	1,185.05	1,090.03	95.02	12.471		
6,850.00	6,662.69	12,040.00	7,186.26	34.06	77.22	52.49	-1,195.61	2,186.75	1,156.92	1,060.36	96.56	11.982		
6,900.00	6,711.04	12,040.00	7,186.26	34.19	77.22	66.42	-1,195.61	2,186.75	1,131.27	1,033.28	97.99	11.545		
6,950.00	6,758.71	12,040.00	7,186.26	34.31	77.22	76.50	-1,195.61	2,186.75	1,108.38	1,009.09	99.29	11.163		
7,000.00	6,805.44	12,040.00	7,186.26	34.40	77.22	83.87	-1,195.61	2,186.75	1,088.56	988.13	100.42	10.840		
7,050.00	6,851.03	12,040.00	7,186.26	34.47	77.22	89.36	-1,195.61	2,186.75	1,072.06	970.70	101.37	10.576		
7,100.00	6,895.25	12,040.00	7,186.26	34.52	77.22	93.49	-1,195.61	2,186.75	1,059.13	957.04	102.09	10.375		
7,150.00	6,937.88	12,040.00	7,186.26	34.55	77.22	96.58	-1,195.61	2,186.75	1,049.96	947.39	102.57	10.236		
7,200.00	6,978.71	12,040.00	7,186.26	34.57	77.22	98.87	-1,195.61	2,186.75	1,044.70	941.89	102.81	10.162		
7,240.85	7,010.60	12,040.00	7,186.26	34.57	77.22	100.23	-1,195.61	2,186.75	1,043.36	940.55	102.81	10.148 CC, ES, SF		
7,250.00	7,017.55	12,040.00	7,186.26	34.57	77.22	100.48	-1,195.61	2,186.75	1,043.43	940.64	102.79	10.151		
7,300.00	7,054.21	12,040.00	7,186.26	34.56	77.22	101.52	-1,195.61	2,186.75	1,046.17	943.64	102.53	10.203		
7,350.00	7,088.50	12,040.00	7,186.26	34.54	77.22	102.04	-1,195.61	2,186.75	1,052.87	950.83	102.04	10.318		
7,400.00	7,120.26	12,040.00	7,186.26	34.50	77.22	102.09	-1,195.61	2,186.75	1,063.44	962.09	101.35	10.492		
7,450.00	7,149.34	12,040.00	7,186.26	34.46	77.22	101.70	-1,195.61	2,186.75	1,077.70	977.21	100.49	10.724		
7,500.00	7,175.60	12,040.00	7,186.26	34.40	77.22	100.88	-1,195.61	2,186.75	1,095.44	995.95	99.49	11.011		
7,550.00	7,198.90	12,040.00	7,186.26	34.34	77.22	99.64	-1,195.61	2,186.75	1,116.42	1,018.04	98.38	11.348		
7,600.00	7,219.14	12,040.00	7,186.26	34.27	77.22	97.98	-1,195.61	2,186.75	1,140.35	1,043.15	97.20	11.732		
7,650.00	7,236.20	12,040.00	7,186.26	34.19	77.22	95.90	-1,195.61	2,186.75	1,166.95	1,070.98	95.97	12.159		
7,700.00	7,250.02	12,040.00	7,186.26	34.11	77.22	93.41	-1,195.61	2,186.75	1,195.90	1,101.18	94.72	12.625		
7,750.00	7,260.53	12,040.00	7,186.26	34.03	77.22	90.50	-1,195.61	2,186.75	1,226.91	1,133.44	93.47	13.126		
7,800.00	7,267.67	12,040.00	7,186.26	33.95	77.22	87.19	-1,195.61	2,186.75	1,259.68	1,167.44	92.24	13.657		
7,850.00	7,271.40	12,040.00	7,186.26	33.86	77.22	83.52	-1,195.61	2,186.75	1,293.92	1,202.88	91.03	14.214		
7,879.59	7,272.00	12,040.00	7,186.26	33.82	77.22	81.18	-1,195.61	2,186.75	1,314.76	1,224.43	90.33	14.555		
7,900.00	7,272.00	12,040.00	7,186.26	33.78	77.22	81.18	-1,195.61	2,186.75	1,329.35	1,239.49	89.86	14.794		
8,000.00	7,272.00	12,040.00	7,186.26	33.64	77.22	81.18	-1,195.61	2,186.75	1,402.91	1,315.27	87.65	16.006		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - JOKER 1N2-9HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 105-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	
6,700.00	6,515.86	11,954.00	7,112.84	33.49	77.29	-10.71	-1,247.31	2,398.52	1,411.43	1,313.78	97.66	14.453		
6,750.00	6,564.86	11,954.00	7,112.84	33.71	77.29	11.07	-1,247.31	2,398.52	1,384.14	1,285.07	99.06	13.972		
6,800.00	6,613.89	11,954.00	7,112.84	33.90	77.29	33.00	-1,247.31	2,398.52	1,358.80	1,258.42	100.39	13.535		
6,850.00	6,662.69	11,954.00	7,112.84	34.06	77.29	51.14	-1,247.31	2,398.52	1,335.68	1,234.06	101.62	13.144		
6,900.00	6,711.04	11,954.00	7,112.84	34.19	77.29	64.54	-1,247.31	2,398.52	1,315.00	1,212.27	102.73	12.801		
6,950.00	6,758.71	11,954.00	7,112.84	34.31	77.29	74.17	-1,247.31	2,398.52	1,296.97	1,193.27	103.70	12.506		
7,000.00	6,805.44	11,954.00	7,112.84	34.40	77.29	81.15	-1,247.31	2,398.52	1,281.80	1,177.28	104.53	12.263		
7,050.00	6,851.03	11,954.00	7,112.84	34.47	77.29	86.30	-1,247.31	2,398.52	1,269.67	1,164.49	105.18	12.071		
7,100.00	6,895.25	11,954.00	7,112.84	34.52	77.29	90.13	-1,247.31	2,398.52	1,260.73	1,155.07	105.66	11.932		
7,150.00	6,937.88	11,954.00	7,112.84	34.55	77.29	92.98	-1,247.31	2,398.52	1,255.08	1,149.13	105.96	11.845		
7,200.00	6,978.71	11,954.00	7,112.84	34.57	77.29	95.05	-1,247.31	2,398.52	1,252.81	1,146.75	106.06	11.812		
7,208.51	6,985.47	11,954.00	7,112.84	34.57	77.29	95.34	-1,247.31	2,398.52	1,252.76	1,146.70	106.06	11.812	CC, ES, SF	
7,250.00	7,017.55	11,954.00	7,112.84	34.57	77.29	96.49	-1,247.31	2,398.52	1,253.93	1,147.94	105.99	11.831		
7,300.00	7,054.21	11,954.00	7,112.84	34.56	77.29	97.39	-1,247.31	2,398.52	1,258.44	1,152.69	105.74	11.901		
7,350.00	7,088.50	11,954.00	7,112.84	34.54	77.29	97.81	-1,247.31	2,398.52	1,266.27	1,160.93	105.34	12.021		
7,400.00	7,120.26	11,954.00	7,112.84	34.50	77.29	97.80	-1,247.31	2,398.52	1,277.33	1,172.53	104.79	12.189		
7,450.00	7,149.34	11,954.00	7,112.84	34.46	77.29	97.38	-1,247.31	2,398.52	1,291.48	1,187.35	104.13	12.402		
7,500.00	7,175.60	11,954.00	7,112.84	34.40	77.29	96.58	-1,247.31	2,398.52	1,308.55	1,205.18	103.37	12.659		
7,550.00	7,198.90	11,954.00	7,112.84	34.34	77.29	95.41	-1,247.31	2,398.52	1,328.36	1,225.82	102.53	12.955		
7,600.00	7,219.14	11,954.00	7,112.84	34.27	77.29	93.87	-1,247.31	2,398.52	1,350.68	1,249.04	101.64	13.289		
7,650.00	7,236.20	11,954.00	7,112.84	34.19	77.29	91.99	-1,247.31	2,398.52	1,375.28	1,274.57	100.71	13.656		
7,700.00	7,250.02	11,954.00	7,112.84	34.11	77.29	89.76	-1,247.31	2,398.52	1,401.94	1,302.18	99.76	14.054		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - JOKER 27N1-9HZ - KMG WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 103-ISCWSA MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
6,200.00	6,031.38	11,921.00	7,134.04	30.82	78.13	-23.73	-1,249.73	1,830.68	1,366.58	1,299.31	67.27	20.315		
6,300.00	6,128.21	11,921.00	7,134.04	31.36	78.13	-23.73	-1,249.73	1,830.68	1,277.77	1,208.44	69.32	18.433		
6,400.00	6,225.04	11,921.00	7,134.04	31.90	78.13	-23.73	-1,249.73	1,830.68	1,190.72	1,119.08	71.65	16.620		
6,500.00	6,321.87	11,921.00	7,134.04	32.43	78.13	-23.73	-1,249.73	1,830.68	1,105.87	1,031.59	74.28	14.887		
6,600.00	6,418.70	11,921.00	7,134.04	32.97	78.13	-23.73	-1,249.73	1,830.68	1,023.76	946.43	77.34	13.238		
6,638.96	6,456.42	11,921.00	7,134.04	33.18	78.13	-23.73	-1,249.73	1,830.68	992.67	913.87	78.80	12.598		
6,650.00	6,467.12	11,921.00	7,134.04	33.24	78.13	-19.88	-1,249.73	1,830.68	983.97	904.75	79.22	12.420		
6,700.00	6,515.86	11,921.00	7,134.04	33.49	78.13	-0.05	-1,249.73	1,830.68	945.61	864.45	81.16	11.651		
6,750.00	6,564.86	11,921.00	7,134.04	33.71	78.13	23.08	-1,249.73	1,830.68	909.25	826.15	83.11	10.940		
6,800.00	6,613.89	11,921.00	7,134.04	33.90	78.13	46.03	-1,249.73	1,830.68	875.33	790.30	85.03	10.295		
6,850.00	6,662.69	11,921.00	7,134.04	34.06	78.13	64.93	-1,249.73	1,830.68	844.31	757.44	86.87	9.719		
6,900.00	6,711.04	11,921.00	7,134.04	34.19	78.13	78.85	-1,249.73	1,830.68	816.68	728.10	88.57	9.220		
6,950.00	6,758.71	11,921.00	7,134.04	34.31	78.13	88.80	-1,249.73	1,830.68	792.93	702.85	90.08	8.803		
7,000.00	6,805.44	11,921.00	7,134.04	34.40	78.13	95.96	-1,249.73	1,830.68	773.55	682.24	91.31	8.472		
7,050.00	6,851.03	11,921.00	7,134.04	34.47	78.13	101.16	-1,249.73	1,830.68	758.97	666.76	92.20	8.231		
7,100.00	6,895.25	11,921.00	7,134.04	34.52	78.13	104.93	-1,249.73	1,830.68	749.53	656.83	92.70	8.085		
7,150.00	6,937.88	11,921.00	7,134.04	34.55	78.13	107.62	-1,249.73	1,830.68	745.49	652.72	92.77	8.036 SF		
7,161.77	6,947.66	11,921.00	7,134.04	34.56	78.13	108.11	-1,249.73	1,830.68	745.34	652.61	92.73	8.038 CC, ES		
7,200.00	6,978.71	11,921.00	7,134.04	34.57	78.13	109.43	-1,249.73	1,830.68	746.95	654.53	92.42	8.082		
7,250.00	7,017.55	11,921.00	7,134.04	34.57	78.13	110.51	-1,249.73	1,830.68	753.87	662.21	91.65	8.225		
7,300.00	7,054.21	11,921.00	7,134.04	34.56	78.13	110.94	-1,249.73	1,830.68	766.06	675.52	90.54	8.461		
7,350.00	7,088.50	11,921.00	7,134.04	34.54	78.13	110.77	-1,249.73	1,830.68	783.24	694.08	89.15	8.785		
7,400.00	7,120.26	11,921.00	7,134.04	34.50	78.13	110.01	-1,249.73	1,830.68	804.98	717.42	87.57	9.193		
7,450.00	7,149.34	11,921.00	7,134.04	34.46	78.13	108.67	-1,249.73	1,830.68	830.85	744.98	85.86	9.676		
7,500.00	7,175.60	11,921.00	7,134.04	34.40	78.13	106.72	-1,249.73	1,830.68	860.34	776.23	84.11	10.229		
7,550.00	7,198.90	11,921.00	7,134.04	34.34	78.13	104.14	-1,249.73	1,830.68	892.96	810.60	82.36	10.842		
7,600.00	7,219.14	11,921.00	7,134.04	34.27	78.13	100.90	-1,249.73	1,830.68	928.22	847.57	80.65	11.509		
7,650.00	7,236.20	11,921.00	7,134.04	34.19	78.13	96.96	-1,249.73	1,830.68	965.69	886.67	79.02	12.221		
7,700.00	7,250.02	11,921.00	7,134.04	34.11	78.13	92.33	-1,249.73	1,830.68	1,004.94	927.46	77.47	12.971		
7,750.00	7,260.53	11,921.00	7,134.04	34.03	78.13	87.02	-1,249.73	1,830.68	1,045.58	969.56	76.02	13.754		
7,800.00	7,267.67	11,921.00	7,134.04	33.95	78.13	81.11	-1,249.73	1,830.68	1,087.28	1,012.61	74.67	14.561		
7,850.00	7,271.40	11,921.00	7,134.04	33.86	78.13	74.75	-1,249.73	1,830.68	1,129.73	1,056.32	73.42	15.388		
7,879.59	7,272.00	11,921.00	7,134.04	33.82	78.13	70.84	-1,249.73	1,830.68	1,155.10	1,082.38	72.72	15.885		
7,900.00	7,272.00	11,921.00	7,134.04	33.78	78.13	70.84	-1,249.73	1,830.68	1,172.67	1,100.42	72.25	16.230		
8,000.00	7,272.00	11,921.00	7,134.04	33.64	78.13	70.84	-1,249.73	1,830.68	1,260.05	1,189.88	70.17	17.957		
8,100.00	7,272.00	11,921.00	7,134.04	33.51	78.13	70.84	-1,249.73	1,830.68	1,349.19	1,280.82	68.37	19.733		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - JOKER 27N2-9HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 105-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	6,031.38	11,852.00	7,050.02	30.82	78.37	-26.15	-1,258.67	1,997.69	1,413.64	1,338.79	74.85	18.886	
6,300.00	6,128.21	11,852.00	7,050.02	31.36	78.37	-26.15	-1,258.67	1,997.69	1,331.67	1,254.17	77.50	17.182	
6,400.00	6,225.04	11,852.00	7,050.02	31.90	78.37	-26.15	-1,258.67	1,997.69	1,252.33	1,171.73	80.60	15.538	
6,500.00	6,321.87	11,852.00	7,050.02	32.43	78.37	-26.15	-1,258.67	1,997.69	1,176.14	1,092.16	83.98	14.004	
6,600.00	6,418.70	11,852.00	7,050.02	32.97	78.37	-26.15	-1,258.67	1,997.69	1,103.76	1,016.11	87.65	12.592	
6,638.96	6,456.42	11,852.00	7,050.02	33.18	78.37	-26.15	-1,258.67	1,997.69	1,076.76	987.61	89.15	12.078	
6,650.00	6,467.12	11,852.00	7,050.02	33.24	78.37	-22.59	-1,258.67	1,997.69	1,069.25	979.67	89.58	11.936	
6,700.00	6,515.86	11,852.00	7,050.02	33.49	78.37	-3.95	-1,258.67	1,997.69	1,036.48	944.97	91.51	11.327	
6,750.00	6,564.86	11,852.00	7,050.02	33.71	78.37	18.21	-1,258.67	1,997.69	1,005.94	912.57	93.37	10.774	
6,800.00	6,613.89	11,852.00	7,050.02	33.90	78.37	40.37	-1,258.67	1,997.69	978.01	882.88	95.13	10.281	
6,850.00	6,662.69	11,852.00	7,050.02	34.06	78.37	58.62	-1,258.67	1,997.69	953.05	856.31	96.73	9.852	
6,900.00	6,711.04	11,852.00	7,050.02	34.19	78.37	72.02	-1,258.67	1,997.69	931.43	833.28	98.15	9.490	
6,950.00	6,758.71	11,852.00	7,050.02	34.31	78.37	81.56	-1,258.67	1,997.69	913.49	814.18	99.31	9.198	
7,000.00	6,805.44	11,852.00	7,050.02	34.40	78.37	88.37	-1,258.67	1,997.69	899.55	799.36	100.18	8.979	
7,050.00	6,851.03	11,852.00	7,050.02	34.47	78.37	93.28	-1,258.67	1,997.69	889.86	789.12	100.73	8.834	
7,100.00	6,895.25	11,852.00	7,050.02	34.52	78.37	96.81	-1,258.67	1,997.69	884.60	783.67	100.93	8.764	
7,132.74	6,923.36	11,852.00	7,050.02	34.54	78.37	98.54	-1,258.67	1,997.69	883.63	782.75	100.87	8.760 CC, ES, SF	
7,150.00	6,937.88	11,852.00	7,050.02	34.55	78.37	99.29	-1,258.67	1,997.69	883.90	783.12	100.78	8.771	
7,200.00	6,978.71	11,852.00	7,050.02	34.57	78.37	100.93	-1,258.67	1,997.69	887.75	787.46	100.29	8.852	
7,250.00	7,017.55	11,852.00	7,050.02	34.57	78.37	101.86	-1,258.67	1,997.69	896.08	796.60	99.48	9.007	
7,300.00	7,054.21	11,852.00	7,050.02	34.56	78.37	102.18	-1,258.67	1,997.69	908.73	810.31	98.42	9.233	
7,350.00	7,088.50	11,852.00	7,050.02	34.54	78.37	101.92	-1,258.67	1,997.69	925.46	828.32	97.14	9.527	
7,400.00	7,120.26	11,852.00	7,050.02	34.50	78.37	101.13	-1,258.67	1,997.69	945.98	850.27	95.71	9.884	
7,450.00	7,149.34	11,852.00	7,050.02	34.46	78.37	99.82	-1,258.67	1,997.69	969.94	875.77	94.18	10.299	
7,500.00	7,175.60	11,852.00	7,050.02	34.40	78.37	98.00	-1,258.67	1,997.69	997.00	904.40	92.59	10.768	
7,550.00	7,198.90	11,852.00	7,050.02	34.34	78.37	95.66	-1,258.67	1,997.69	1,026.77	935.77	90.99	11.284	
7,600.00	7,219.14	11,852.00	7,050.02	34.27	78.37	92.82	-1,258.67	1,997.69	1,058.89	969.47	89.41	11.842	
7,650.00	7,236.20	11,852.00	7,050.02	34.19	78.37	89.48	-1,258.67	1,997.69	1,093.00	1,005.12	87.88	12.438	
7,700.00	7,250.02	11,852.00	7,050.02	34.11	78.37	85.67	-1,258.67	1,997.69	1,128.77	1,042.37	86.40	13.064	
7,750.00	7,260.53	11,852.00	7,050.02	34.03	78.37	81.43	-1,258.67	1,997.69	1,165.87	1,080.88	85.00	13.717	
7,800.00	7,267.67	11,852.00	7,050.02	33.95	78.37	76.82	-1,258.67	1,997.69	1,204.02	1,120.35	83.67	14.391	
7,850.00	7,271.40	11,852.00	7,050.02	33.86	78.37	71.94	-1,258.67	1,997.69	1,242.93	1,160.52	82.41	15.082	
7,879.59	7,272.00	11,852.00	7,050.02	33.82	78.37	68.96	-1,258.67	1,997.69	1,266.22	1,184.52	81.71	15.497	
7,900.00	7,272.00	11,852.00	7,050.02	33.78	78.37	68.96	-1,258.67	1,997.69	1,282.39	1,201.16	81.23	15.787	
8,000.00	7,272.00	11,852.00	7,050.02	33.64	78.37	68.96	-1,258.67	1,997.69	1,363.28	1,284.22	79.06	17.243	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - MAYER X 33-15DI - KMG 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					
12,200.00	7,272.00	7,253.23	7,250.80	77.81	12.57	-91.02	5,395.47	1,127.15	1,341.89	1,292.19	49.70	27.001					
12,261.45	7,272.00	7,253.17	7,250.75	78.70	12.57	-91.00	5,395.47	1,127.15	1,281.26	1,231.19	50.07	25.588	CC, ES, SF				

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - MORITZ-ANSCHUTZ 1 - KMG WELL - NO SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 100-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	6,031.38	6,046.38	6,046.38	30.82	13.47	-4.12	-1,720.14	2,152.75	1,398.19	1,361.35	36.84	37.951	
6,300.00	6,128.21	6,143.21	6,143.21	31.36	13.68	-4.19	-1,720.14	2,152.75	1,373.27	1,335.82	37.45	36.667	
6,400.00	6,225.04	6,240.04	6,240.04	31.90	13.90	-4.27	-1,720.14	2,152.75	1,348.35	1,310.29	38.06	35.424	
6,500.00	6,321.87	6,336.87	6,336.87	32.43	14.12	-4.35	-1,720.14	2,152.75	1,323.44	1,284.76	38.68	34.219	
6,600.00	6,418.70	6,433.70	6,433.70	32.97	14.34	-4.43	-1,720.14	2,152.75	1,298.53	1,259.24	39.29	33.052	
6,638.96	6,456.42	6,471.42	6,471.42	33.18	14.42	-4.47	-1,720.14	2,152.75	1,288.82	1,249.30	39.53	32.607	
6,650.00	6,467.12	6,482.12	6,482.12	33.24	14.45	-1.53	-1,720.14	2,152.75	1,286.12	1,246.53	39.59	32.484	
6,700.00	6,515.86	6,530.86	6,530.86	33.49	14.56	14.56	-1,720.14	2,152.75	1,275.07	1,235.18	39.89	31.966	
6,750.00	6,564.86	6,579.86	6,579.86	33.71	14.67	34.57	-1,720.14	2,152.75	1,266.02	1,225.84	40.17	31.515	
6,800.00	6,613.89	6,628.89	6,628.89	33.90	14.78	54.98	-1,720.14	2,152.75	1,259.03	1,218.59	40.44	31.133	
6,850.00	6,662.69	6,677.69	6,677.69	34.06	14.89	71.86	-1,720.14	2,152.75	1,254.20	1,213.50	40.70	30.818	
6,900.00	6,711.04	6,726.04	6,726.04	34.19	14.99	84.24	-1,720.14	2,152.75	1,251.61	1,210.67	40.94	30.570	
6,930.60	6,740.31	6,755.31	6,755.31	34.26	15.06	90.00	-1,720.14	2,152.75	1,251.16	1,210.08	41.09	30.451 CC, ES	
6,950.00	6,758.71	6,773.71	6,773.71	34.31	15.10	93.09	-1,720.14	2,152.75	1,251.35	1,210.16	41.18	30.387	
7,000.00	6,805.44	6,820.44	6,820.44	34.40	15.21	99.50	-1,720.14	2,152.75	1,253.51	1,212.09	41.41	30.268	
7,050.00	6,851.03	6,866.03	6,866.03	34.47	15.31	104.27	-1,720.14	2,152.75	1,258.19	1,216.54	41.64	30.212 SF	
7,100.00	6,895.25	6,910.25	6,910.25	34.52	15.41	107.89	-1,720.14	2,152.75	1,265.47	1,223.59	41.88	30.219	
7,150.00	6,937.88	6,952.88	6,952.88	34.55	15.50	110.68	-1,720.14	2,152.75	1,275.43	1,233.32	42.11	30.286	
7,200.00	6,978.71	7,006.29	6,993.71	34.57	15.62	112.81	-1,720.14	2,152.75	1,288.13	1,245.74	42.38	30.393	
7,250.00	7,017.55	7,032.55	7,032.55	34.57	15.68	114.40	-1,720.14	2,152.75	1,303.59	1,260.99	42.60	30.599	
7,300.00	7,054.21	7,069.21	7,069.21	34.56	15.77	115.52	-1,720.14	2,152.75	1,321.84	1,278.99	42.86	30.842	
7,350.00	7,088.50	7,103.50	7,103.50	34.54	15.84	116.19	-1,720.14	2,152.75	1,342.86	1,299.74	43.12	31.142	
7,400.00	7,120.26	7,135.26	7,135.26	34.50	15.91	116.44	-1,720.14	2,152.75	1,366.61	1,323.22	43.39	31.497	
7,450.00	7,149.34	7,164.34	7,164.34	34.46	15.98	116.26	-1,720.14	2,152.75	1,393.01	1,349.35	43.66	31.906	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 - 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		
10,400.00	7,272.00	7,230.33	7,229.00	52.81	12.53	84.39	3,618.92	1,516.42	1,366.20	1,321.71	44.49	30.709		
10,500.00	7,272.00	7,231.58	7,230.24	54.11	12.53	84.76	3,618.93	1,516.44	1,267.30	1,222.81	44.49	28.482		
10,600.00	7,272.00	7,232.81	7,231.47	55.44	12.53	85.12	3,618.95	1,516.46	1,168.59	1,124.07	44.52	26.250		
10,700.00	7,272.00	7,234.02	7,232.69	56.77	12.53	85.48	3,618.96	1,516.48	1,070.11	1,025.54	44.57	24.009		
10,800.00	7,272.00	7,235.23	7,233.89	58.11	12.53	85.84	3,618.97	1,516.50	971.94	927.27	44.67	21.757		
10,900.00	7,272.00	7,236.43	7,235.09	59.47	12.54	86.19	3,618.99	1,516.52	874.18	829.33	44.85	19.491		
11,000.00	7,272.00	7,237.61	7,236.28	60.83	12.54	86.54	3,619.00	1,516.54	777.00	731.84	45.16	17.205		
11,100.00	7,272.00	7,238.79	7,237.45	62.21	12.54	86.88	3,619.01	1,516.56	680.62	634.93	45.69	14.895		
11,200.00	7,272.00	7,239.95	7,238.61	63.59	12.54	87.23	3,619.03	1,516.57	585.47	538.84	46.63	12.557		
11,300.00	7,272.00	7,241.10	7,239.77	64.98	12.54	87.57	3,619.04	1,516.59	492.23	443.95	48.29	10.194		
11,400.00	7,272.00	7,242.25	7,240.91	66.38	12.55	87.90	3,619.05	1,516.61	402.26	350.93	51.33	7.837		
11,500.00	7,272.00	7,243.38	7,242.04	67.79	12.55	88.24	3,619.06	1,516.63	318.32	261.38	56.94	5.591		
11,600.00	7,272.00	7,244.50	7,243.16	69.20	12.55	88.57	3,619.08	1,516.65	246.66	179.93	66.73	3.697		
11,700.00	7,272.00	7,245.61	7,244.27	70.62	12.55	88.90	3,619.09	1,516.67	200.88	121.50	79.38	2.531		
11,752.46	7,272.00	7,246.19	7,244.85	71.37	12.55	89.07	3,619.09	1,516.68	193.91	110.24	83.67	2.318 CC, ES, SF		
11,800.00	7,272.00	7,246.71	7,245.37	72.05	12.55	89.22	3,619.10	1,516.68	199.65	115.44	84.20	2.371		
11,900.00	7,272.00	7,247.81	7,246.47	73.48	12.56	89.55	3,619.11	1,516.70	243.65	165.94	77.71	3.136		
12,000.00	7,272.00	7,248.89	7,247.55	74.92	12.56	89.87	3,619.12	1,516.72	314.43	244.78	69.66	4.514		
12,100.00	7,272.00	7,249.96	7,248.62	76.36	12.56	90.18	3,619.14	1,516.74	397.96	334.15	63.81	6.237		
12,200.00	7,272.00	7,251.02	7,249.68	77.81	12.56	90.50	3,619.15	1,516.76	487.72	427.83	59.89	8.144		
12,261.45	7,272.00	7,251.67	7,250.33	78.70	12.56	90.69	3,619.15	1,516.77	544.65	486.51	58.14	9.368		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 31-4 - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 1160-ISCWSA MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
10,900.00	7,272.00	7,304.11	7,195.06	59.47	19.13	-76.77	4,096.92	1,072.80	1,351.28	1,299.58	51.70	26.136	
11,000.00	7,272.00	7,308.08	7,199.03	60.83	19.14	-77.62	4,097.06	1,072.62	1,253.32	1,201.18	52.14	24.040	
11,100.00	7,272.00	7,311.98	7,202.92	62.21	19.15	-78.47	4,097.20	1,072.43	1,155.70	1,103.03	52.66	21.944	
11,200.00	7,272.00	7,315.80	7,206.73	63.59	19.16	-79.30	4,097.34	1,072.25	1,058.50	1,005.18	53.32	19.851	
11,300.00	7,272.00	7,319.55	7,210.47	64.98	19.17	-80.12	4,097.47	1,072.07	961.88	907.70	54.18	17.754	
11,400.00	7,272.00	7,322.97	7,213.89	66.38	19.17	-80.87	4,097.59	1,071.91	866.00	810.71	55.28	15.665	
11,500.00	7,272.00	7,326.50	7,217.41	67.79	19.18	-81.65	4,097.72	1,071.75	771.15	714.41	56.74	13.591	
11,600.00	7,272.00	7,330.04	7,220.94	69.20	19.19	-82.43	4,097.85	1,071.58	677.77	619.07	58.70	11.547	
11,700.00	7,272.00	7,333.59	7,224.49	70.62	19.20	-83.21	4,097.97	1,071.41	586.55	525.15	61.40	9.553	
11,800.00	7,272.00	7,337.15	7,228.04	72.05	19.21	-84.00	4,098.10	1,071.25	498.69	433.49	65.19	7.649	
11,900.00	7,272.00	7,340.72	7,231.61	73.48	19.21	-84.79	4,098.23	1,071.09	416.31	345.72	70.59	5.898	
12,000.00	7,272.00	7,344.31	7,235.19	74.92	19.22	-85.59	4,098.35	1,070.92	343.38	265.31	78.06	4.399	
12,100.00	7,272.00	7,347.90	7,238.78	76.36	19.23	-86.39	4,098.48	1,070.76	287.19	200.07	87.12	3.296	
12,200.00	7,272.00	7,351.62	7,242.48	77.81	19.24	-87.21	4,098.62	1,070.59	258.89	164.98	93.91	2.757	
12,227.37	7,272.00	7,352.63	7,243.49	78.21	19.24	-87.44	4,098.65	1,070.55	257.44	162.96	94.48	2.725 CC, ES, SF	
12,261.45	7,272.00	7,353.87	7,244.74	78.70	19.24	-87.72	4,098.69	1,070.49	259.69	165.51	94.18	2.757	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 32-4 - 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
9,500.00	7,272.00	7,245.53	7,242.93	41.83	12.71	-85.65	2,771.40	1,128.86	1,413.05	1,367.45	45.60	30.989	
9,600.00	7,272.00	7,246.58	7,243.97	42.96	12.71	-85.98	2,771.41	1,128.86	1,313.98	1,268.22	45.76	28.714	
9,700.00	7,272.00	7,247.61	7,245.01	44.12	12.71	-86.29	2,771.42	1,128.86	1,215.06	1,169.11	45.96	26.439	
9,800.00	7,272.00	7,248.65	7,246.05	45.30	12.72	-86.61	2,771.43	1,128.86	1,116.34	1,070.14	46.20	24.165	
9,900.00	7,272.00	7,249.68	7,247.08	46.51	12.72	-86.93	2,771.44	1,128.86	1,017.86	971.37	46.49	21.893	
10,000.00	7,272.00	7,250.71	7,248.11	47.73	12.72	-87.25	2,771.45	1,128.86	919.72	872.84	46.87	19.622	
10,100.00	7,272.00	7,251.73	7,249.13	48.98	12.72	-87.57	2,771.46	1,128.86	822.01	774.65	47.37	17.355	
10,200.00	7,272.00	7,252.76	7,250.15	50.24	12.72	-87.88	2,771.47	1,128.87	724.94	676.91	48.03	15.094	
10,300.00	7,272.00	7,253.77	7,251.17	51.52	12.73	-88.20	2,771.48	1,128.87	628.78	579.82	48.95	12.844	
10,400.00	7,272.00	7,254.79	7,252.19	52.81	12.73	-88.51	2,771.49	1,128.87	534.03	483.73	50.30	10.617	
10,500.00	7,272.00	7,255.80	7,253.20	54.11	12.73	-88.82	2,771.50	1,128.87	441.60	389.25	52.35	8.436	
10,600.00	7,272.00	7,256.81	7,254.21	55.44	12.73	-89.14	2,771.51	1,128.87	353.31	297.70	55.61	6.354	
10,700.00	7,272.00	7,257.82	7,255.21	56.77	12.73	-89.45	2,771.52	1,128.87	273.21	212.36	60.85	4.490	
10,800.00	7,272.00	7,258.82	7,256.22	58.11	12.73	-89.76	2,771.53	1,128.87	210.85	142.78	68.07	3.098	
10,900.00	7,272.00	7,259.82	7,257.22	59.47	12.74	-90.07	2,771.54	1,128.87	185.13	113.34	71.78	2.579 ES, SF	
10,900.94	7,272.00	7,259.83	7,257.23	59.48	12.74	-90.07	2,771.54	1,128.87	185.13	113.36	71.77	2.579 CC	
11,000.00	7,272.00	7,260.82	7,258.21	60.83	12.74	-90.38	2,771.55	1,128.88	209.96	144.39	65.58	3.202	
11,100.00	7,272.00	7,261.81	7,259.21	62.21	12.74	-90.68	2,771.56	1,128.88	271.83	214.49	57.35	4.740	
11,200.00	7,272.00	7,262.80	7,260.20	63.59	12.74	-90.99	2,771.57	1,128.88	351.71	299.64	52.07	6.754	
11,300.00	7,272.00	7,263.79	7,261.18	64.98	12.74	-91.29	2,771.58	1,128.88	439.89	390.77	49.13	8.954	
11,400.00	7,272.00	7,264.77	7,262.17	66.38	12.74	-91.60	2,771.59	1,128.88	532.27	484.80	47.47	11.214	
11,500.00	7,272.00	7,265.75	7,263.15	67.79	12.75	-91.90	2,771.60	1,128.88	626.99	580.50	46.49	13.487	
11,600.00	7,272.00	7,266.73	7,264.13	69.20	12.75	-92.20	2,771.61	1,128.88	723.13	677.24	45.89	15.758	
11,700.00	7,272.00	7,267.70	7,265.10	70.62	12.75	-92.51	2,771.62	1,128.89	820.19	774.68	45.51	18.021	
11,800.00	7,272.00	7,268.68	7,266.07	72.05	12.75	-92.81	2,771.63	1,128.89	917.88	872.61	45.27	20.276	
11,900.00	7,272.00	7,269.65	7,267.04	73.48	12.75	-93.10	2,771.64	1,128.89	1,016.02	970.91	45.11	22.523	
12,000.00	7,272.00	7,270.61	7,268.01	74.92	12.76	-93.40	2,771.65	1,128.89	1,114.49	1,069.48	45.01	24.763	
12,100.00	7,272.00	7,271.57	7,268.97	76.36	12.76	-93.70	2,771.66	1,128.89	1,213.21	1,168.27	44.94	26.996	
12,200.00	7,272.00	7,272.53	7,269.93	77.81	12.76	-94.00	2,771.67	1,128.89	1,312.12	1,267.22	44.90	29.222	
12,261.45	7,272.00	7,273.12	7,270.52	78.70	12.76	-94.18	2,771.67	1,128.89	1,372.98	1,328.10	44.89	30.587	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 41-4 - CPR WELL - SURVEYS				Offset Site Error:		0.00 usft	
Survey Program: 1129-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				
11,400.00	7,272.00	7,299.76	7,097.95	66.38	23.06	82.31	3,916.25	2,533.35	1,385.72	1,312.84	72.87	19.015					
11,500.00	7,272.00	7,314.79	7,112.87	67.79	23.10	83.01	3,917.34	2,534.72	1,340.93	1,265.22	75.70	17.713					
11,600.00	7,272.00	7,331.37	7,129.35	69.20	23.14	83.79	3,918.52	2,536.13	1,302.20	1,223.54	78.65	16.556					
11,700.00	7,272.00	7,346.80	7,144.70	70.62	23.19	84.52	3,919.56	2,537.36	1,270.09	1,188.41	81.68	15.549					
11,800.00	7,272.00	7,355.66	7,153.51	72.05	23.21	84.93	3,920.13	2,538.02	1,245.14	1,160.42	84.71	14.698					
11,900.00	7,272.00	7,362.92	7,160.74	73.48	23.23	85.27	3,920.59	2,538.56	1,227.80	1,140.13	87.67	14.005					
12,000.00	7,272.00	7,369.90	7,167.68	74.92	23.24	85.60	3,921.02	2,539.08	1,218.42	1,127.97	90.46	13.470					
12,065.23	7,272.00	7,374.30	7,172.07	75.86	23.25	85.81	3,921.29	2,539.41	1,216.68	1,124.54	92.14	13.205 CC					
12,100.00	7,272.00	7,376.60	7,174.36	76.36	23.26	85.92	3,921.43	2,539.58	1,217.18	1,124.20	92.98	13.090 ES					
12,200.00	7,272.00	7,383.30	7,181.03	77.81	23.28	86.23	3,921.83	2,540.07	1,224.10	1,128.93	95.17	12.862					
12,261.45	7,272.00	7,387.69	7,185.39	78.70	23.29	86.44	3,922.09	2,540.38	1,232.34	1,136.02	96.32	12.794 SF					

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 42-4A - CPR WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 1021-ISCWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
10,100.00	7,272.00	7,513.06	7,225.86	48.98	27.99	88.70	2,645.32	2,507.66	1,379.57	1,306.59	72.98	18.904		
10,200.00	7,272.00	7,510.53	7,223.33	50.24	27.98	88.58	2,645.40	2,507.56	1,332.45	1,257.95	74.49	17.887		
10,300.00	7,272.00	7,509.32	7,222.12	51.52	27.98	88.52	2,645.44	2,507.51	1,291.35	1,215.33	76.02	16.987		
10,400.00	7,272.00	7,504.86	7,217.67	52.81	27.97	88.31	2,645.59	2,507.33	1,256.88	1,179.34	77.54	16.209		
10,500.00	7,272.00	7,500.40	7,213.21	54.11	27.96	88.09	2,645.75	2,507.15	1,229.59	1,150.62	78.96	15.572		
10,600.00	7,272.00	7,495.93	7,208.75	55.44	27.95	87.88	2,645.90	2,506.96	1,209.95	1,129.73	80.22	15.083		
10,700.00	7,272.00	7,491.46	7,204.29	56.77	27.95	87.66	2,646.05	2,506.77	1,198.35	1,117.10	81.25	14.748		
10,789.85	7,272.00	7,487.44	7,200.27	57.98	27.94	87.47	2,646.19	2,506.60	1,194.99	1,113.03	81.95	14.581 CC		
10,800.00	7,272.00	7,486.98	7,199.82	58.11	27.94	87.45	2,646.20	2,506.58	1,195.03	1,113.01	82.02	14.571 ES		
10,900.00	7,272.00	7,482.51	7,195.35	59.47	27.93	87.23	2,646.35	2,506.38	1,200.04	1,117.56	82.48	14.549 SF		
11,000.00	7,272.00	7,478.57	7,191.42	60.83	27.92	87.05	2,646.49	2,506.20	1,213.30	1,130.65	82.65	14.680		
11,100.00	7,272.00	7,473.20	7,186.05	62.21	27.91	86.79	2,646.67	2,505.95	1,234.52	1,151.96	82.56	14.953		
11,200.00	7,272.00	7,466.74	7,179.61	63.59	27.90	86.48	2,646.91	2,505.65	1,263.31	1,180.95	82.36	15.339		
11,300.00	7,272.00	7,458.84	7,171.72	64.98	27.88	86.10	2,647.23	2,505.26	1,299.16	1,217.09	82.07	15.830		
11,400.00	7,272.00	7,448.94	7,161.85	66.38	27.86	85.63	2,647.68	2,504.76	1,341.49	1,259.84	81.65	16.431		
11,500.00	7,272.00	7,440.86	7,153.79	67.79	27.85	85.24	2,648.08	2,504.34	1,389.70	1,308.58	81.12	17.131		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							
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	-98.45	-14.70	-98.91	100.00				
100.00	100.00	102.00	102.00	0.14	0.15	-98.45	-14.70	-98.91	100.00	99.72	0.28	353.117	
200.00	200.00	202.00	202.00	0.50	0.50	-98.45	-14.70	-98.91	100.00	99.00	1.00	99.987 CC, ES	
300.00	300.00	298.77	298.75	0.85	0.84	-98.82	-15.57	-100.38	101.63	99.93	1.70	59.833	
400.00	400.00	395.38	395.22	1.21	1.18	-99.82	-18.10	-104.64	106.41	104.01	2.40	44.389	
500.00	499.98	491.47	490.96	1.56	1.53	128.59	-22.27	-111.65	115.46	112.37	3.09	37.386	
600.00	599.84	586.61	585.44	1.90	1.89	128.38	-28.01	-121.30	129.79	126.01	3.78	34.352	
700.00	699.45	680.39	678.14	2.26	2.27	128.69	-35.24	-133.45	149.33	144.85	4.47	33.372 SF	
800.00	798.70	772.42	768.62	2.62	2.66	129.28	-43.84	-147.90	173.98	168.80	5.18	33.614	
900.00	897.47	862.35	856.47	3.01	3.06	129.95	-53.67	-164.43	203.66	197.78	5.88	34.625	
1,000.00	995.62	949.87	941.34	3.43	3.48	130.60	-64.58	-182.78	238.25	231.66	6.59	36.129	
1,100.00	1,093.06	1,034.71	1,022.95	3.87	3.92	131.15	-76.42	-202.69	277.61	270.31	7.30	38.014	
1,123.32	1,115.66	1,054.08	1,041.49	3.98	4.03	131.26	-79.30	-207.53	287.45	279.98	7.47	38.461	
1,200.00	1,189.91	1,118.23	1,102.60	4.34	4.38	132.02	-89.26	-224.28	320.92	312.88	8.03	39.946	
1,300.00	1,286.74	1,207.80	1,187.74	4.83	4.89	132.81	-103.48	-248.18	365.17	356.35	8.82	41.408	
1,400.00	1,383.57	1,297.37	1,272.89	5.32	5.41	133.44	-117.69	-272.08	409.48	399.86	9.62	42.578	
1,500.00	1,480.40	1,386.94	1,358.03	5.83	5.94	133.94	-131.90	-295.98	453.81	443.39	10.43	43.528	
1,600.00	1,577.23	1,476.51	1,443.18	6.34	6.47	134.35	-146.12	-319.88	498.17	486.93	11.24	44.311	
1,700.00	1,674.06	1,566.08	1,528.32	6.85	7.01	134.70	-160.33	-343.77	542.54	530.48	12.07	44.965	
1,800.00	1,770.88	1,655.65	1,613.47	7.37	7.55	134.99	-174.54	-367.67	586.93	574.04	12.89	45.519	
1,900.00	1,867.71	1,745.22	1,698.62	7.89	8.09	135.24	-188.76	-391.57	631.33	617.60	13.73	45.992	
2,000.00	1,964.54	1,834.79	1,783.76	8.41	8.63	135.46	-202.97	-415.47	675.74	661.18	14.56	46.400	
2,100.00	2,061.37	1,924.36	1,868.91	8.93	9.18	135.65	-217.18	-439.37	720.15	704.75	15.40	46.754	
2,200.00	2,158.20	2,013.94	1,954.05	9.46	9.73	135.82	-231.40	-463.26	764.57	748.33	16.24	47.065	
2,300.00	2,255.03	2,103.51	2,039.20	9.98	10.27	135.98	-245.61	-487.16	809.00	791.91	17.09	47.340	
2,400.00	2,351.86	2,206.92	2,124.35	10.51	10.91	136.11	-259.83	-511.06	853.43	835.43	18.00	47.409	
2,500.00	2,448.69	2,282.65	2,209.49	11.04	11.38	136.23	-274.04	-534.96	897.86	879.08	18.78	47.801	
2,600.00	2,545.52	2,372.22	2,294.64	11.57	11.93	136.34	-288.25	-558.86	942.30	922.66	19.63	47.996	
2,700.00	2,642.35	2,461.79	2,379.78	12.10	12.48	136.44	-302.47	-582.75	986.73	966.25	20.48	48.172	
2,800.00	2,739.18	2,551.36	2,464.93	12.63	13.03	136.54	-316.68	-606.65	1,031.18	1,009.84	21.34	48.332	
2,900.00	2,836.01	2,640.93	2,550.07	13.16	13.58	136.62	-330.89	-630.55	1,075.62	1,053.43	22.19	48.477	
3,000.00	2,932.84	2,730.50	2,635.22	13.70	14.14	136.70	-345.11	-654.45	1,120.06	1,097.02	23.04	48.609	
3,100.00	3,029.67	2,820.07	2,720.37	14.23	14.69	136.77	-359.32	-678.35	1,164.51	1,140.61	23.90	48.731	
3,200.00	3,126.50	2,909.65	2,805.51	14.76	15.25	136.84	-373.53	-702.24	1,208.95	1,184.20	24.75	48.842	
3,300.00	3,223.33	3,000.78	2,890.66	15.29	15.81	136.90	-387.75	-726.14	1,253.40	1,227.79	25.62	48.931	
3,400.00	3,320.15	3,088.79	2,975.80	15.83	16.35	136.95	-401.96	-750.04	1,297.85	1,271.39	26.47	49.040	
3,500.00	3,416.98	3,178.36	3,060.95	16.36	16.91	137.01	-416.17	-773.94	1,342.30	1,314.98	27.32	49.128	
3,600.00	3,513.81	3,267.93	3,146.10	16.90	17.46	137.06	-430.39	-797.84	1,386.75	1,358.57	28.18	49.209	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	2.00	2.00	0.00	0.00	-98.45	-13.23	-89.02	90.00					
100.00	100.00	102.00	102.00	0.14	0.15	-98.45	-13.23	-89.02	90.00	89.72	0.28	317.802		
200.00	200.00	202.00	202.00	0.50	0.50	-98.45	-13.23	-89.02	90.00	89.00	1.00	89.987		
300.00	300.00	302.00	302.00	0.85	0.86	-98.45	-13.23	-89.02	90.00	88.28	1.72	52.414		
400.00	400.00	402.00	402.00	1.21	1.22	-98.45	-13.23	-89.02	90.00	87.57	2.43	36.976 CC, ES		
500.00	499.98	499.13	499.11	1.56	1.56	131.18	-14.20	-90.43	92.73	89.61	3.12	29.753		
600.00	599.84	595.88	595.73	1.90	1.89	131.97	-17.03	-94.53	100.79	97.00	3.79	26.579		
700.00	699.45	691.78	691.27	2.26	2.23	133.03	-21.66	-101.24	114.18	109.70	4.48	25.487 SF		
800.00	798.70	786.42	785.25	2.62	2.58	134.12	-28.01	-110.44	132.86	127.68	5.18	25.667		
900.00	897.47	879.42	877.19	3.01	2.94	135.08	-35.97	-121.96	156.76	150.88	5.88	26.661		
1,000.00	995.62	970.45	966.69	3.43	3.31	135.86	-45.39	-135.61	185.76	179.17	6.59	28.190		
1,100.00	1,093.06	1,059.18	1,053.38	3.87	3.69	136.43	-56.13	-151.16	219.71	212.40	7.31	30.070		
1,123.32	1,115.66	1,079.51	1,073.16	3.98	3.78	136.54	-58.80	-155.03	228.32	220.85	7.48	30.530		
1,200.00	1,189.91	1,145.64	1,137.25	4.34	4.09	137.10	-68.05	-168.43	257.76	249.74	8.02	32.122		
1,300.00	1,286.74	1,230.35	1,218.77	4.83	4.50	137.40	-81.12	-187.36	298.17	289.43	8.74	34.127		
1,400.00	1,383.57	1,320.24	1,304.82	5.32	4.96	137.47	-95.90	-208.76	339.95	330.44	9.51	35.733		
1,500.00	1,480.40	1,411.08	1,391.77	5.83	5.45	137.52	-110.84	-230.40	381.75	371.44	10.31	37.018		
1,600.00	1,577.23	1,501.92	1,478.72	6.34	5.94	137.57	-125.79	-252.05	423.56	412.44	11.12	38.083		
1,700.00	1,674.06	1,607.24	1,565.67	6.85	6.51	137.60	-140.73	-273.69	465.36	453.36	12.01	38.762		
1,800.00	1,770.88	1,683.61	1,652.62	7.37	6.94	137.63	-155.67	-295.34	507.17	494.40	12.76	39.732		
1,900.00	1,867.71	1,774.45	1,739.57	7.89	7.44	137.65	-170.62	-316.98	548.97	535.38	13.59	40.381		
2,000.00	1,964.54	1,865.29	1,826.52	8.41	7.95	137.67	-185.56	-338.63	590.77	576.34	14.43	40.941		
2,100.00	2,061.37	1,956.13	1,913.47	8.93	8.47	137.69	-200.51	-360.28	632.58	617.31	15.27	41.430		
2,200.00	2,158.20	2,046.98	2,000.43	9.46	8.98	137.71	-215.45	-381.92	674.38	658.27	16.11	41.860		
2,300.00	2,255.03	2,137.82	2,087.38	9.98	9.50	137.72	-230.39	-403.57	716.19	699.23	16.96	42.240		
2,400.00	2,351.86	2,228.66	2,174.33	10.51	10.02	137.73	-245.34	-425.21	757.99	740.19	17.80	42.578		
2,500.00	2,448.69	2,319.50	2,261.28	11.04	10.54	137.74	-260.28	-446.86	799.80	781.14	18.65	42.880		
2,600.00	2,545.52	2,410.35	2,348.23	11.57	11.07	137.75	-275.23	-468.50	841.60	822.10	19.50	43.153		
2,700.00	2,642.35	2,501.19	2,435.18	12.10	11.59	137.76	-290.17	-490.15	883.41	863.05	20.36	43.399		
2,800.00	2,739.18	2,607.97	2,522.13	12.63	12.21	137.77	-305.11	-511.79	925.21	903.92	21.29	43.467		
2,900.00	2,836.01	2,682.87	2,609.08	13.16	12.64	137.78	-320.06	-533.44	967.01	944.95	22.07	43.825		
3,000.00	2,932.84	2,773.72	2,696.04	13.70	13.16	137.79	-335.00	-555.08	1,008.82	985.90	22.92	44.011		
3,100.00	3,029.67	2,864.56	2,782.99	14.23	13.69	137.79	-349.95	-576.73	1,050.62	1,026.84	23.78	44.182		
3,200.00	3,126.50	2,955.40	2,869.94	14.76	14.22	137.80	-364.89	-598.37	1,092.43	1,067.79	24.64	44.339		
3,300.00	3,223.33	3,046.24	2,956.89	15.29	14.75	137.80	-379.83	-620.02	1,134.23	1,108.74	25.50	44.484		
3,400.00	3,320.15	3,137.09	3,043.84	15.83	15.27	137.81	-394.78	-641.66	1,176.04	1,149.68	26.36	44.618		
3,500.00	3,416.98	3,227.93	3,130.79	16.36	15.80	137.81	-409.72	-663.31	1,217.84	1,190.62	27.22	44.742		
3,600.00	3,513.81	3,318.77	3,217.74	16.90	16.33	137.82	-424.67	-684.95	1,259.65	1,231.57	28.08	44.858		
3,700.00	3,610.64	3,409.61	3,304.69	17.43	16.86	137.82	-439.61	-706.60	1,301.45	1,272.51	28.94	44.966		
3,800.00	3,707.47	3,500.46	3,391.65	17.96	17.39	137.83	-454.55	-728.24	1,343.26	1,313.45	29.81	45.067		
3,900.00	3,804.30	3,608.70	3,478.60	18.50	18.02	137.83	-469.50	-749.89	1,385.06	1,354.31	30.75	45.039		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	-98.45	-11.76	-79.13	80.00					
100.00	100.00	101.00	101.00	0.14	0.14	-98.45	-11.76	-79.13	80.00	79.72	0.28	286.113		
200.00	200.00	201.00	201.00	0.50	0.50	-98.45	-11.76	-79.13	80.00	79.00	1.00	80.276		
300.00	300.00	301.00	301.00	0.85	0.86	-98.45	-11.76	-79.13	80.00	78.29	1.71	46.688		
400.00	400.00	401.00	401.00	1.21	1.22	-98.45	-11.76	-79.13	80.00	77.57	2.43	32.916 CC, ES		
500.00	499.98	500.98	500.98	1.56	1.58	131.81	-11.76	-79.13	81.15	78.02	3.13	25.894		
600.00	599.84	600.84	600.84	1.90	1.93	134.40	-11.76	-79.13	84.73	80.90	3.83	22.101		
700.00	699.45	698.00	697.99	2.26	2.27	137.46	-12.84	-80.41	92.39	87.86	4.52	20.423		
800.00	798.70	794.49	794.34	2.62	2.60	139.97	-16.03	-84.16	105.47	100.26	5.21	20.240 SF		
900.00	897.47	889.88	889.39	3.01	2.93	141.77	-21.24	-90.30	123.86	117.95	5.91	20.968		
1,000.00	995.62	983.83	982.68	3.43	3.26	142.91	-28.38	-98.70	147.39	140.77	6.61	22.293		
1,100.00	1,093.06	1,076.00	1,073.81	3.87	3.61	143.52	-37.29	-109.21	175.88	168.56	7.32	24.015		
1,123.32	1,115.66	1,097.20	1,094.71	3.98	3.69	143.61	-39.61	-111.94	183.23	175.73	7.49	24.448		
1,200.00	1,189.91	1,166.35	1,162.67	4.34	3.96	143.92	-47.87	-121.67	208.41	200.37	8.04	25.915		
1,300.00	1,286.74	1,255.32	1,249.62	4.83	4.33	143.78	-60.06	-136.02	243.05	234.29	8.76	27.747		
1,400.00	1,383.57	1,342.83	1,334.53	5.32	4.72	143.25	-73.74	-152.13	279.69	270.21	9.48	29.505		
1,500.00	1,480.40	1,435.42	1,424.04	5.83	5.14	142.62	-89.10	-170.22	317.34	307.07	10.27	30.909		
1,600.00	1,577.23	1,528.02	1,513.54	6.34	5.58	142.12	-104.45	-188.30	355.00	343.94	11.07	32.080		
1,700.00	1,674.06	1,620.61	1,603.05	6.85	6.03	141.72	-119.80	-206.38	392.69	380.82	11.88	33.065		
1,800.00	1,770.88	1,713.21	1,692.55	7.37	6.49	141.39	-135.16	-224.47	430.39	417.70	12.70	33.903		
1,900.00	1,867.71	1,805.80	1,782.05	7.89	6.95	141.11	-150.51	-242.55	468.11	454.59	13.52	34.623		
2,000.00	1,964.54	1,901.60	1,871.56	8.41	7.43	140.87	-165.87	-260.63	505.83	491.46	14.37	35.210		
2,100.00	2,061.37	1,990.99	1,961.06	8.93	7.89	140.67	-181.22	-278.72	543.55	528.37	15.19	35.790		
2,200.00	2,158.20	2,083.59	2,050.57	9.46	8.36	140.49	-196.57	-296.80	581.28	565.26	16.03	36.269		
2,300.00	2,255.03	2,176.18	2,140.07	9.98	8.84	140.33	-211.93	-314.88	619.02	602.15	16.87	36.693		
2,400.00	2,351.86	2,268.77	2,229.58	10.51	9.31	140.20	-227.28	-332.97	656.76	639.04	17.72	37.071		
2,500.00	2,448.69	2,361.37	2,319.08	11.04	9.80	140.07	-242.63	-351.05	694.50	675.94	18.56	37.409		
2,600.00	2,545.52	2,453.96	2,408.58	11.57	10.28	139.96	-257.99	-369.13	732.25	712.83	19.42	37.714		
2,700.00	2,642.35	2,546.56	2,498.09	12.10	10.76	139.86	-273.34	-387.22	769.99	749.72	20.27	37.990		
2,800.00	2,739.18	2,639.15	2,587.59	12.63	11.25	139.77	-288.69	-405.30	807.74	786.62	21.12	38.241		
2,900.00	2,836.01	2,731.75	2,677.10	13.16	11.73	139.69	-304.05	-423.39	845.49	823.51	21.98	38.469		
3,000.00	2,932.84	2,824.34	2,766.60	13.70	12.22	139.62	-319.40	-441.47	883.24	860.41	22.84	38.678		
3,100.00	3,029.67	2,916.94	2,856.10	14.23	12.71	139.55	-334.76	-459.55	921.00	897.30	23.69	38.870		
3,200.00	3,126.50	3,009.53	2,945.61	14.76	13.20	139.48	-350.11	-477.64	958.75	934.20	24.55	39.047		
3,300.00	3,223.33	3,102.12	3,035.11	15.29	13.69	139.42	-365.46	-495.72	996.50	971.09	25.41	39.211		
3,400.00	3,320.15	3,205.28	3,124.62	15.83	14.23	139.37	-380.82	-513.80	1,034.26	1,007.93	26.32	39.289		
3,500.00	3,416.98	3,287.31	3,214.12	16.36	14.67	139.32	-396.17	-531.89	1,072.01	1,044.88	27.14	39.503		
3,600.00	3,513.81	3,379.91	3,303.62	16.90	15.16	139.27	-411.52	-549.97	1,109.77	1,081.77	28.00	39.634		
3,700.00	3,610.64	3,472.50	3,393.13	17.43	15.65	139.23	-426.88	-568.05	1,147.53	1,118.67	28.86	39.757		
3,800.00	3,707.47	3,565.10	3,482.63	17.96	16.14	139.19	-442.23	-586.14	1,185.29	1,155.56	29.73	39.871		
3,900.00	3,804.30	3,657.69	3,572.14	18.50	16.64	139.15	-457.58	-604.22	1,223.05	1,192.45	30.59	39.978		
4,000.00	3,901.13	3,750.29	3,661.64	19.03	17.13	139.11	-472.94	-622.30	1,260.80	1,229.35	31.46	40.079		
4,100.00	3,997.96	3,842.88	3,751.15	19.57	17.62	139.08	-488.29	-640.39	1,298.56	1,266.24	32.32	40.173		
4,200.00	4,094.79	3,935.47	3,840.65	20.10	18.12	139.05	-503.65	-658.47	1,336.32	1,303.13	33.19	40.262		
4,300.00	4,191.62	4,028.07	3,930.15	20.64	18.61	139.01	-519.00	-676.55	1,374.08	1,340.03	34.06	40.346		
4,400.00	4,288.45	4,120.66	4,019.66	21.17	19.10	138.99	-534.35	-694.64	1,411.84	1,376.92	34.92	40.425		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							
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	-10.29	-69.24	70.00				
100.00	100.00	101.00	101.00	0.14	0.14	-98.45	-10.29	-69.24	70.00	69.72	0.28	250.349	
200.00	200.00	201.00	201.00	0.50	0.50	-98.45	-10.29	-69.24	70.00	69.00	1.00	70.242	
300.00	300.00	301.00	301.00	0.85	0.86	-98.45	-10.29	-69.24	70.00	68.29	1.71	40.852	
400.00	400.00	401.00	401.00	1.21	1.22	-98.45	-10.29	-69.24	70.00	67.57	2.43	28.801 CC, ES	
500.00	499.98	500.98	500.98	1.56	1.58	131.94	-10.29	-69.24	71.15	68.02	3.13	22.704	
600.00	599.84	600.84	600.84	1.90	1.93	134.88	-10.29	-69.24	74.76	70.92	3.83	19.498	
700.00	699.45	700.45	700.45	2.26	2.29	139.15	-10.29	-69.24	81.15	76.60	4.54	17.860	
800.00	798.70	799.70	799.70	2.62	2.65	144.06	-10.29	-69.24	90.73	85.47	5.26	17.249 SF	
900.00	897.47	898.20	898.18	3.01	2.98	148.18	-11.33	-70.47	104.91	98.95	5.96	17.596	
1,000.00	995.62	991.69	991.55	3.43	3.30	150.80	-14.44	-74.13	124.55	117.90	6.65	18.716	
1,100.00	1,093.06	1,085.81	1,085.34	3.87	3.62	152.21	-19.50	-80.10	149.32	141.97	7.35	20.309	
1,123.32	1,115.66	1,107.53	1,106.94	3.98	3.70	152.41	-20.95	-81.82	155.81	148.29	7.52	20.720	
1,200.00	1,189.91	1,178.49	1,177.39	4.34	3.95	152.86	-26.44	-88.28	178.10	170.04	8.05	22.115	
1,300.00	1,286.74	1,270.11	1,268.00	4.83	4.29	152.68	-35.18	-98.59	208.74	199.98	8.75	23.846	
1,400.00	1,383.57	1,360.53	1,356.96	5.32	4.63	151.96	-45.64	-110.93	241.14	231.68	9.46	25.487	
1,500.00	1,480.40	1,449.59	1,444.04	5.83	4.99	150.91	-57.71	-125.17	275.34	265.17	10.17	27.064	
1,600.00	1,577.23	1,537.24	1,529.13	6.34	5.36	149.68	-71.30	-141.20	311.40	300.51	10.89	28.586	
1,700.00	1,674.06	1,629.89	1,618.74	6.85	5.77	148.45	-86.53	-159.15	348.44	336.76	11.68	29.836	
1,800.00	1,770.88	1,722.54	1,708.35	7.37	6.20	147.45	-101.75	-177.11	385.60	373.12	12.48	30.907	
1,900.00	1,867.71	1,815.20	1,797.96	7.89	6.63	146.63	-116.98	-195.07	422.84	409.56	13.28	31.833	
2,000.00	1,964.54	1,907.85	1,887.57	8.41	7.08	145.94	-132.20	-213.03	460.14	446.04	14.10	32.638	
2,100.00	2,061.37	2,000.50	1,977.18	8.93	7.53	145.35	-147.43	-230.99	497.49	482.57	14.92	33.343	
2,200.00	2,158.20	2,093.15	2,066.79	9.46	7.98	144.85	-162.66	-248.95	534.88	519.13	15.75	33.965	
2,300.00	2,255.03	2,185.80	2,156.40	9.98	8.44	144.41	-177.88	-266.90	572.30	555.72	16.58	34.517	
2,400.00	2,351.86	2,278.45	2,246.01	10.51	8.91	144.03	-193.11	-284.86	609.75	592.33	17.42	35.009	
2,500.00	2,448.69	2,371.10	2,335.62	11.04	9.37	143.69	-208.34	-302.82	647.22	628.96	18.26	35.451	
2,600.00	2,545.52	2,463.76	2,425.23	11.57	9.84	143.39	-223.56	-320.78	684.70	665.60	19.10	35.849	
2,700.00	2,642.35	2,556.41	2,514.84	12.10	10.32	143.11	-238.79	-338.74	722.20	702.25	19.94	36.210	
2,800.00	2,739.18	2,649.06	2,604.45	12.63	10.79	142.87	-254.01	-356.69	759.71	738.92	20.79	36.538	
2,900.00	2,836.01	2,741.71	2,694.06	13.16	11.27	142.65	-269.24	-374.65	797.23	775.59	21.64	36.837	
3,000.00	2,932.84	2,834.36	2,783.67	13.70	11.75	142.45	-284.47	-392.61	834.76	812.27	22.49	37.111	
3,100.00	3,029.67	2,927.01	2,873.28	14.23	12.23	142.26	-299.69	-410.57	872.30	848.96	23.35	37.363	
3,200.00	3,126.50	3,019.66	2,962.89	14.76	12.71	142.09	-314.92	-428.53	909.85	885.65	24.20	37.596	
3,300.00	3,223.33	3,112.32	3,052.50	15.29	13.19	141.94	-330.15	-446.48	947.40	922.35	25.06	37.810	
3,400.00	3,320.15	3,204.97	3,142.11	15.83	13.67	141.79	-345.37	-464.44	984.96	959.05	25.91	38.010	
3,500.00	3,416.98	3,302.38	3,231.72	16.36	14.18	141.66	-360.60	-482.40	1,022.53	995.73	26.79	38.163	
3,600.00	3,513.81	3,390.27	3,321.33	16.90	14.64	141.54	-375.82	-500.36	1,060.09	1,032.46	27.63	38.367	
3,700.00	3,610.64	3,482.92	3,410.94	17.43	15.13	141.42	-391.05	-518.32	1,097.67	1,069.18	28.49	38.528	
3,800.00	3,707.47	3,575.57	3,500.55	17.96	15.61	141.31	-406.28	-536.28	1,135.24	1,105.89	29.35	38.678	
3,900.00	3,804.30	3,668.22	3,590.16	18.50	16.10	141.21	-421.50	-554.23	1,172.82	1,142.61	30.21	38.819	
4,000.00	3,901.13	3,760.88	3,679.77	19.03	16.59	141.12	-436.73	-572.19	1,210.40	1,179.33	31.07	38.952	
4,100.00	3,997.96	3,853.53	3,769.38	19.57	17.08	141.03	-451.95	-590.15	1,247.99	1,216.05	31.94	39.077	
4,200.00	4,094.79	3,946.18	3,858.99	20.10	17.56	140.95	-467.18	-608.11	1,285.57	1,252.77	32.80	39.194	
4,300.00	4,191.62	4,038.83	3,948.60	20.64	18.05	140.87	-482.41	-626.07	1,323.16	1,289.50	33.66	39.305	
4,400.00	4,288.45	4,131.48	4,038.21	21.17	18.54	140.79	-497.63	-644.02	1,360.76	1,326.23	34.53	39.410	
4,500.00	4,385.28	4,224.13	4,127.82	21.71	19.03	140.72	-512.86	-661.98	1,398.35	1,362.95	35.39	39.509	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	1.00	1.00	0.00	0.00	-98.45	-8.82	-59.35	60.00	59.72	0.28	214.586	
100.00	100.00	101.00	101.00	0.14	0.14	-98.45	-8.82	-59.35	60.00	59.00	1.00	60.208	
200.00	200.00	201.00	201.00	0.50	0.50	-98.45	-8.82	-59.35	60.00	58.29	1.71	35.016	
300.00	300.00	301.00	301.00	0.85	0.86	-98.45	-8.82	-59.35	60.00	57.57	2.43	24.687 CC, ES	
400.00	400.00	401.00	401.00	1.21	1.22	-98.45	-8.82	-59.35	60.00	58.02	3.13	19.514	
500.00	499.98	500.98	500.98	1.56	1.58	132.12	-8.82	-59.35	61.16	60.95	3.83	16.897	
600.00	599.84	600.84	600.84	1.90	1.93	135.50	-8.82	-59.35	64.78	66.73	4.54	15.686	
700.00	699.45	700.45	700.45	2.26	2.29	140.33	-8.82	-59.35	71.27	75.78	5.26	15.401 SF	
800.00	798.70	800.30	799.70	2.62	2.65	145.71	-8.82	-59.35	81.04	88.42	5.99	15.758	
900.00	897.47	901.53	898.47	3.01	3.01	150.92	-8.82	-59.35	94.41	104.82	6.70	16.638	
1,000.00	995.62	996.62	996.62	3.43	3.35	155.53	-8.82	-59.35	111.52	125.24	7.41	17.904	
1,100.00	1,093.06	1,093.32	1,093.30	3.87	3.68	158.71	-10.14	-60.11	132.65	130.59	7.58	18.237	
1,123.32	1,115.66	1,115.77	1,115.74	3.98	3.76	159.18	-10.85	-60.52	138.16	148.72	8.10	19.350	
1,200.00	1,189.91	1,189.51	1,189.37	4.34	4.00	160.19	-14.25	-62.48	156.82	172.80	8.80	20.626	
1,300.00	1,286.74	1,285.55	1,285.08	4.83	4.33	160.28	-21.13	-66.46	181.61	197.37	9.52	21.731	
1,400.00	1,383.57	1,381.26	1,380.14	5.32	4.66	159.44	-30.76	-72.01	206.89	222.53	10.25	22.703	
1,500.00	1,480.40	1,476.43	1,474.23	5.83	4.99	157.99	-43.05	-79.11	232.79	248.47	11.00	23.578	
1,600.00	1,577.23	1,570.85	1,567.08	6.34	5.35	156.13	-57.91	-87.69	259.47	275.87	11.74	24.497	
1,700.00	1,674.06	1,660.29	1,654.52	6.85	5.69	154.19	-73.94	-97.54	287.61	306.21	12.46	25.581	
1,800.00	1,770.88	1,746.30	1,738.22	7.37	6.04	152.44	-89.68	-109.55	318.67	338.69	13.24	26.583	
1,900.00	1,867.71	1,837.83	1,826.96	7.89	6.43	150.80	-106.56	-124.27	351.93	371.45	14.05	27.428	
2,000.00	1,964.54	1,931.64	1,917.90	8.41	6.84	149.39	-123.88	-139.44	385.50	404.37	14.88	28.174	
2,100.00	2,061.37	2,025.45	2,008.84	8.93	7.26	148.21	-141.19	-154.61	419.26	437.43	15.71	28.835	
2,200.00	2,158.20	2,119.25	2,099.77	9.46	7.69	147.20	-158.51	-169.79	453.14	470.58	16.56	29.424	
2,300.00	2,255.03	2,213.06	2,190.71	9.98	8.13	146.34	-175.83	-184.96	487.14	503.81	17.40	29.952	
2,400.00	2,351.86	2,306.86	2,281.65	10.51	8.57	145.58	-193.14	-200.13	521.21	537.11	18.25	30.427	
2,500.00	2,448.69	2,400.67	2,372.59	11.04	9.02	144.92	-210.46	-215.30	555.36	570.41	19.16	30.775	
2,600.00	2,545.52	2,505.52	2,463.52	11.57	9.52	144.34	-227.77	-230.48	589.57	603.86	19.97	31.245	
2,700.00	2,642.35	2,588.28	2,554.46	12.10	9.92	143.82	-245.09	-245.65	623.83	637.30	20.83	31.599	
2,800.00	2,739.18	2,682.09	2,645.40	12.63	10.38	143.35	-262.40	-260.82	658.12	670.76	21.69	31.923	
2,900.00	2,836.01	2,775.90	2,736.34	13.16	10.84	142.93	-279.72	-275.99	692.46	704.26	22.56	32.221	
3,000.00	2,932.84	2,869.70	2,827.27	13.70	11.30	142.55	-297.03	-291.16	726.82	737.78	23.43	32.495	
3,100.00	3,029.67	2,963.51	2,918.21	14.23	11.76	142.20	-314.35	-306.34	761.20	771.32	24.30	32.745	
3,200.00	3,126.50	3,057.31	3,009.15	14.76	12.23	141.89	-331.66	-321.51	795.61	804.88	25.17	32.981	
3,300.00	3,223.33	3,151.12	3,100.09	15.29	12.70	141.59	-348.98	-336.68	830.04	838.45	26.04	33.198	
3,400.00	3,320.15	3,244.93	3,191.02	15.83	13.17	141.33	-366.29	-351.85	864.49	872.04	26.91	33.400	
3,500.00	3,416.98	3,338.73	3,281.96	16.36	13.64	141.08	-383.61	-367.02	898.95	905.64	27.79	33.589	
3,600.00	3,513.81	3,432.54	3,372.90	16.90	14.11	140.85	-400.92	-382.20	933.43	939.25	28.67	33.765	
3,700.00	3,610.64	3,526.35	3,463.83	17.43	14.59	140.64	-418.24	-397.37	967.92	972.87	29.54	33.929	
3,800.00	3,707.47	3,620.15	3,554.77	17.96	15.06	140.44	-435.55	-412.54	1,002.42	1,006.50	30.42	34.084	
3,900.00	3,804.30	3,713.96	3,645.71	18.50	15.53	140.26	-452.87	-427.71	1,036.93	1,040.14	31.30	34.229	
4,000.00	3,901.13	3,807.76	3,736.65	19.03	16.01	140.08	-470.18	-442.89	1,071.44	1,073.79	32.18	34.366	
4,100.00	3,997.96	3,901.57	3,827.58	19.57	16.49	139.92	-487.50	-458.06	1,105.97	1,107.40	33.11	34.450	
4,200.00	4,094.79	4,004.62	3,918.52	20.10	17.01	139.77	-504.81	-473.23	1,140.50	1,141.10	33.94	34.617	
4,300.00	4,191.62	4,089.18	4,009.46	20.64	17.44	139.63	-522.13	-488.40	1,175.04	1,174.76	34.83	34.732	
4,400.00	4,288.45	4,182.99	4,100.40	21.17	17.92	139.49	-539.44	-503.57	1,209.59	1,208.43	35.71	34.841	
4,500.00	4,385.28	4,276.79	4,191.33	21.71	18.40	139.36	-556.76	-518.75	1,244.14	1,242.10	36.59	34.945	
4,600.00	4,482.11	4,370.60	4,282.27	22.25	18.88	139.24	-574.07	-533.92	1,278.70	1,275.78	37.48	35.043	
4,700.00	4,578.94	4,464.41	4,373.21	22.78	19.36	139.13	-591.39	-549.09	1,313.26	1,309.46	38.36	35.136	
4,800.00	4,675.77	4,558.21	4,464.15	23.32	19.84	139.02	-608.71	-564.26	1,347.82	1,343.15	39.24	35.225	
4,900.00	4,772.60	4,652.02	4,555.08	23.85	20.32	138.92	-626.02	-579.43	1,382.39				

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							
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	-7.35	-49.46	50.00				
100.00	100.00	101.00	101.00	0.14	0.14	-98.45	-7.35	-49.46	50.00	49.72	0.28	178.822	
200.00	200.00	201.00	201.00	0.50	0.50	-98.45	-7.35	-49.46	50.00	49.00	1.00	50.173	
300.00	300.00	301.00	301.00	0.85	0.86	-98.45	-7.35	-49.46	50.00	48.29	1.71	29.180	
400.00	400.00	401.00	401.00	1.21	1.22	-98.45	-7.35	-49.46	50.00	47.57	2.43	20.572 CC, ES	
500.00	499.98	500.98	500.98	1.56	1.58	132.36	-7.35	-49.46	51.16	48.03	3.13	16.324	
600.00	599.84	600.84	600.84	1.90	1.93	136.35	-7.35	-49.46	54.82	50.99	3.83	14.299	
700.00	699.45	700.45	700.45	2.26	2.29	141.88	-7.35	-49.46	61.43	56.89	4.54	13.521 SF	
800.00	798.70	800.30	799.70	2.62	2.65	147.81	-7.35	-49.46	71.43	66.17	5.26	13.576	
900.00	897.47	901.53	898.47	3.01	3.01	153.29	-7.35	-49.46	85.11	79.12	5.99	14.209	
1,000.00	995.62	1,003.38	996.62	3.43	3.38	157.94	-7.35	-49.46	102.56	95.83	6.72	15.252	
1,100.00	1,093.06	1,105.94	1,094.06	3.87	3.74	161.71	-7.35	-49.46	123.75	116.28	7.46	16.578	
1,123.32	1,115.66	1,116.66	1,116.66	3.98	3.78	162.47	-7.35	-49.46	129.22	121.62	7.59	17.016	
1,200.00	1,189.91	1,190.91	1,190.91	4.34	4.05	164.71	-7.35	-49.46	147.64	139.50	8.14	18.136	
1,300.00	1,286.74	1,287.75	1,287.74	4.83	4.38	166.44	-8.54	-50.08	171.90	163.06	8.84	19.443	
1,400.00	1,383.57	1,384.77	1,384.64	5.32	4.70	166.76	-12.64	-52.20	196.23	186.69	9.54	20.576	
1,500.00	1,480.40	1,481.75	1,481.30	5.83	5.03	166.13	-19.63	-55.84	220.55	210.31	10.24	21.531	
1,600.00	1,577.23	1,578.47	1,577.37	6.34	5.36	164.84	-29.50	-60.97	244.96	233.99	10.96	22.342	
1,700.00	1,674.06	1,674.72	1,672.55	6.85	5.69	163.08	-42.17	-67.56	269.62	257.92	11.70	23.041	
1,800.00	1,770.88	1,770.27	1,766.51	7.37	6.04	160.98	-57.55	-75.55	294.77	282.32	12.46	23.661	
1,900.00	1,867.71	1,865.73	1,859.87	7.89	6.40	158.73	-75.22	-84.74	320.58	307.34	13.24	24.218	
2,000.00	1,964.54	1,961.57	1,953.54	8.41	6.78	156.75	-93.22	-94.09	346.84	332.80	14.04	24.708	
2,100.00	2,061.37	2,057.41	2,047.21	8.93	7.17	155.05	-111.21	-103.44	373.43	358.58	14.85	25.145	
2,200.00	2,158.20	2,153.25	2,140.88	9.46	7.56	153.58	-129.21	-112.80	400.28	384.61	15.68	25.536	
2,300.00	2,255.03	2,249.10	2,234.55	9.98	7.97	152.29	-147.20	-122.15	427.36	410.85	16.51	25.886	
2,400.00	2,351.86	2,344.94	2,328.22	10.51	8.37	151.15	-165.20	-131.51	454.62	437.27	17.35	26.202	
2,500.00	2,448.69	2,440.78	2,421.90	11.04	8.79	150.14	-183.20	-140.86	482.02	463.82	18.20	26.486	
2,600.00	2,545.52	2,536.62	2,515.57	11.57	9.20	149.24	-201.19	-150.22	509.55	490.49	19.05	26.744	
2,700.00	2,642.35	2,632.46	2,609.24	12.10	9.63	148.43	-219.19	-159.57	537.18	517.27	19.91	26.978	
2,800.00	2,739.18	2,728.31	2,702.91	12.63	10.05	147.70	-237.18	-168.93	564.90	544.13	20.77	27.192	
2,900.00	2,836.01	2,824.15	2,796.58	13.16	10.48	147.04	-255.18	-178.28	592.70	571.06	21.64	27.388	
3,000.00	2,932.84	2,919.99	2,890.25	13.70	10.91	146.43	-273.18	-187.63	620.57	598.06	22.51	27.568	
3,100.00	3,029.67	3,015.83	2,983.92	14.23	11.34	145.88	-291.17	-196.99	648.49	625.11	23.38	27.734	
3,200.00	3,126.50	3,111.67	3,077.60	14.76	11.78	145.38	-309.17	-206.34	676.47	652.21	24.26	27.887	
3,300.00	3,223.33	3,207.52	3,171.27	15.29	12.22	144.91	-327.16	-215.70	704.49	679.36	25.13	28.029	
3,400.00	3,320.15	3,303.36	3,264.94	15.83	12.65	144.48	-345.16	-225.05	732.55	706.54	26.01	28.160	
3,500.00	3,416.98	3,400.80	3,358.61	16.36	13.10	144.08	-363.16	-234.41	760.65	733.75	26.90	28.275	
3,600.00	3,513.81	3,504.96	3,452.28	16.90	13.58	143.71	-381.15	-243.76	788.77	760.95	27.82	28.352	
3,700.00	3,610.64	3,609.12	3,545.95	17.43	14.06	143.37	-399.15	-253.11	816.93	788.19	28.74	28.422	
3,800.00	3,707.47	3,686.73	3,639.62	17.96	14.42	143.04	-417.14	-262.47	845.11	815.57	29.54	28.604	
3,900.00	3,804.30	3,782.57	3,733.30	18.50	14.87	142.74	-435.14	-271.82	873.32	842.89	30.43	28.698	
4,000.00	3,901.13	3,878.41	3,826.97	19.03	15.32	142.46	-453.14	-281.18	901.54	870.22	31.32	28.787	
4,100.00	3,997.96	3,974.25	3,920.64	19.57	15.76	142.20	-471.13	-290.53	929.79	897.58	32.21	28.870	
4,200.00	4,094.79	4,070.09	4,014.31	20.10	16.21	141.95	-489.13	-299.89	958.05	924.95	33.09	28.948	
4,300.00	4,191.62	4,165.94	4,107.98	20.64	16.66	141.71	-507.13	-309.24	986.32	952.34	33.98	29.023	
4,400.00	4,288.45	4,261.78	4,201.65	21.17	17.11	141.49	-525.12	-318.59	1,014.62	979.74	34.88	29.093	
4,500.00	4,385.28	4,357.62	4,295.32	21.71	17.56	141.28	-543.12	-327.95	1,042.92	1,007.16	35.77	29.159	
4,600.00	4,482.11	4,453.46	4,389.00	22.25	18.01	141.08	-561.11	-337.30	1,071.24	1,034.58	36.66	29.222	
4,700.00	4,578.94	4,549.31	4,482.67	22.78	18.46	140.89	-579.11	-346.66	1,099.57	1,062.02	37.55	29.282	
4,800.00	4,675.77	4,645.15	4,576.34	23.32	18.91	140.71	-597.11	-356.01	1,127.91	1,089.46	38.44	29.339	
4,900.00	4,772.60	4,740.99	4,670.01	23.85	19.36	140.54	-615.10	-365.37	1,156.26	1,116.92	39.34	29.394	
5,000.00	4,869.43	4,836.83	4,763.68	24.39	19.81	140.38	-633.10	-374.72	1,184.61	1,144.38	40.23	29.445	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning				
5,100.00	4,966.25	4,932.67	4,857.35	24.92	20.26	140.22	-651.09	-384.08	1,212.98	1,171.85	41.13	29.495					
5,200.00	5,063.08	5,028.52	4,951.02	25.46	20.72	140.07	-669.09	-393.43	1,241.35	1,199.33	42.02	29.542					
5,300.00	5,159.91	5,124.36	5,044.70	26.00	21.17	139.93	-687.09	-402.78	1,269.73	1,226.82	42.92	29.587					
5,400.00	5,256.74	5,220.20	5,138.37	26.53	21.62	139.80	-705.08	-412.14	1,298.12	1,254.31	43.81	29.630					
5,500.00	5,353.57	5,316.04	5,232.04	27.07	22.08	139.67	-723.08	-421.49	1,326.52	1,281.81	44.71	29.671					
5,600.00	5,450.40	5,411.88	5,325.71	27.61	22.53	139.55	-741.07	-430.85	1,354.92	1,309.31	45.60	29.711					
5,700.00	5,547.23	5,507.73	5,419.38	28.14	22.99	139.43	-759.07	-440.20	1,383.32	1,336.82	46.50	29.749					
5,800.00	5,644.06	5,603.57	5,513.05	28.68	23.44	139.31	-777.07	-449.56	1,411.73	1,364.34	47.40	29.785					

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	-98.45	-5.88	-39.57	40.00				
100.00	100.00	101.00	101.00	0.14	0.14	-98.45	-5.88	-39.57	40.00	39.72	0.28	143.058	
200.00	200.00	201.00	201.00	0.50	0.50	-98.45	-5.88	-39.57	40.00	39.00	1.00	40.139	
300.00	300.00	301.00	301.00	0.85	0.86	-98.45	-5.88	-39.57	40.00	38.29	1.71	23.344 CC, ES	
400.00	400.00	400.39	400.36	1.21	1.20	-100.71	-7.57	-40.04	40.76	38.34	2.41	16.892	
500.00	499.98	499.57	499.40	1.56	1.54	124.31	-12.57	-41.45	44.30	41.20	3.10	14.307	
600.00	599.84	598.35	597.81	1.90	1.89	120.74	-20.82	-43.77	51.78	47.99	3.79	13.666 SF	
700.00	699.45	696.54	695.28	2.26	2.25	118.27	-32.26	-46.98	63.09	58.59	4.50	14.016	
800.00	798.70	805.89	791.66	2.62	2.68	116.76	-46.78	-51.06	78.10	72.82	5.28	14.792	
900.00	897.47	907.43	888.72	3.01	3.10	116.86	-62.73	-55.55	95.51	89.45	6.06	15.766	
1,000.00	995.62	1,009.32	985.44	3.43	3.52	118.38	-78.62	-60.02	114.53	107.66	6.87	16.682	
1,100.00	1,093.06	1,088.32	1,081.69	3.87	3.85	120.65	-94.44	-64.46	135.36	127.75	7.61	17.791	
1,123.32	1,115.66	1,111.01	1,104.05	3.98	3.95	121.24	-98.11	-65.50	140.51	132.70	7.81	18.001	
1,200.00	1,189.91	1,185.56	1,177.54	4.34	4.27	123.26	-110.19	-68.89	157.71	149.26	8.45	18.671	
1,300.00	1,286.74	1,282.78	1,273.37	4.83	4.68	125.32	-125.93	-73.32	180.36	171.07	9.29	19.414	
1,400.00	1,383.57	1,380.01	1,369.21	5.32	5.10	126.91	-141.68	-77.74	203.18	193.04	10.14	20.038	
1,500.00	1,480.40	1,477.23	1,465.05	5.83	5.52	128.19	-157.43	-82.17	226.12	215.13	10.99	20.567	
1,600.00	1,577.23	1,574.45	1,560.88	6.34	5.94	129.23	-173.17	-86.60	249.15	237.30	11.85	21.020	
1,700.00	1,674.06	1,671.67	1,656.72	6.85	6.36	130.09	-188.92	-91.03	272.25	259.53	12.71	21.413	
1,800.00	1,770.88	1,768.89	1,752.55	7.37	6.78	130.82	-204.67	-95.45	295.39	281.81	13.58	21.755	
1,900.00	1,867.71	1,866.11	1,848.39	7.89	7.20	131.44	-220.42	-99.88	318.57	304.13	14.44	22.056	
2,000.00	1,964.54	1,963.34	1,944.22	8.41	7.62	131.98	-236.16	-104.31	341.78	326.47	15.31	22.322	
2,100.00	2,061.37	2,060.56	2,040.06	8.93	8.05	132.45	-251.91	-108.73	365.02	348.84	16.18	22.560	
2,200.00	2,158.20	2,157.78	2,135.90	9.46	8.47	132.86	-267.66	-113.16	388.28	371.23	17.05	22.773	
2,300.00	2,255.03	2,255.00	2,231.73	9.98	8.90	133.23	-283.40	-117.59	411.56	393.63	17.92	22.965	
2,400.00	2,351.86	2,352.22	2,327.57	10.51	9.32	133.56	-299.15	-122.01	434.85	416.05	18.79	23.139	
2,500.00	2,448.69	2,449.44	2,423.40	11.04	9.74	133.85	-314.90	-126.44	458.15	438.48	19.66	23.298	
2,600.00	2,545.52	2,546.67	2,519.24	11.57	10.17	134.12	-330.64	-130.87	481.46	460.92	20.54	23.443	
2,700.00	2,642.35	2,643.89	2,615.08	12.10	10.59	134.36	-346.39	-135.30	504.78	483.37	21.41	23.575	
2,800.00	2,739.18	2,741.11	2,710.91	12.63	11.02	134.58	-362.14	-139.72	528.11	505.82	22.29	23.697	
2,900.00	2,836.01	2,838.33	2,806.75	13.16	11.45	134.78	-377.89	-144.15	551.44	528.28	23.16	23.810	
3,000.00	2,932.84	2,935.55	2,902.58	13.70	11.87	134.97	-393.63	-148.58	574.78	550.75	24.03	23.915	
3,100.00	3,029.67	3,032.77	2,998.42	14.23	12.30	135.14	-409.38	-153.00	598.13	573.22	24.91	24.012	
3,200.00	3,126.50	3,130.00	3,094.25	14.76	12.72	135.29	-425.13	-157.43	621.48	595.70	25.79	24.102	
3,300.00	3,223.33	3,227.22	3,190.09	15.29	13.15	135.44	-440.87	-161.86	644.84	618.17	26.66	24.186	
3,400.00	3,320.15	3,324.44	3,285.93	15.83	13.57	135.58	-456.62	-166.28	668.20	640.66	27.54	24.265	
3,500.00	3,416.98	3,421.66	3,381.76	16.36	14.00	135.70	-472.37	-170.71	691.56	663.14	28.41	24.338	
3,600.00	3,513.81	3,518.88	3,477.60	16.90	14.43	135.82	-488.11	-175.14	714.92	685.63	29.29	24.408	
3,700.00	3,610.64	3,616.11	3,573.43	17.43	14.85	135.93	-503.86	-179.57	738.29	708.12	30.17	24.473	
3,800.00	3,707.47	3,713.33	3,669.27	17.96	15.28	136.04	-519.61	-183.99	761.66	730.62	31.04	24.534	
3,900.00	3,804.30	3,810.55	3,765.10	18.50	15.71	136.14	-535.36	-188.42	785.03	753.11	31.92	24.592	
4,000.00	3,901.13	3,907.77	3,860.94	19.03	16.13	136.23	-551.10	-192.85	808.41	775.61	32.80	24.647	
4,100.00	3,997.96	4,004.99	3,956.78	19.57	16.56	136.31	-566.85	-197.27	831.78	798.11	33.68	24.699	
4,200.00	4,094.79	4,102.21	4,052.61	20.10	16.99	136.40	-582.60	-201.70	855.16	820.61	34.55	24.748	
4,300.00	4,191.62	4,200.56	4,148.45	20.64	17.42	136.48	-598.34	-206.13	878.54	843.10	35.44	24.791	
4,400.00	4,288.45	4,303.34	4,244.28	21.17	17.87	136.55	-614.09	-210.56	901.92	865.58	36.34	24.819	
4,500.00	4,385.28	4,406.12	4,340.12	21.71	18.32	136.62	-629.84	-214.98	925.31	888.06	37.24	24.846	
4,600.00	4,482.11	4,508.90	4,435.96	22.25	18.77	136.69	-645.58	-219.41	948.69	910.55	38.14	24.871	
4,700.00	4,578.94	4,588.32	4,531.79	22.78	19.12	136.75	-661.33	-223.84	972.08	933.13	38.95	24.960	
4,800.00	4,675.77	4,685.54	4,627.63	23.32	19.55	136.81	-677.08	-228.26	995.46	955.64	39.82	24.997	
4,900.00	4,772.60	4,782.77	4,723.46	23.85	19.97	136.87	-692.83	-232.69	1,018.85	978.15	40.70	25.032	
5,000.00	4,869.43	4,879.99	4,819.30	24.39	20.40	136.92	-708.57	-237.12	1,042.24	1,000.66	41.58	25.065	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	4,966.25	4,977.21	4,915.13	24.92	20.83	136.98	-724.32	-241.54	1,065.63	1,023.17	42.46	25.097		
5,200.00	5,063.08	5,074.43	5,010.97	25.46	21.25	137.03	-740.07	-245.97	1,089.02	1,045.68	43.34	25.128		
5,300.00	5,159.91	5,171.65	5,106.81	26.00	21.68	137.08	-755.81	-250.40	1,112.41	1,068.19	44.22	25.157		
5,400.00	5,256.74	5,268.87	5,202.64	26.53	22.11	137.12	-771.56	-254.83	1,135.80	1,090.70	45.10	25.186		
5,500.00	5,353.57	5,366.10	5,298.48	27.07	22.53	137.17	-787.31	-259.25	1,159.19	1,113.21	45.98	25.213		
5,600.00	5,450.40	5,463.32	5,394.31	27.61	22.96	137.21	-803.05	-263.68	1,182.58	1,135.73	46.86	25.239		
5,700.00	5,547.23	5,560.54	5,490.15	28.14	23.39	137.25	-818.80	-268.11	1,205.97	1,158.24	47.74	25.264		
5,800.00	5,644.06	5,657.76	5,585.98	28.68	23.82	137.29	-834.55	-272.53	1,229.37	1,180.75	48.61	25.288		
5,900.00	5,740.89	5,754.98	5,681.82	29.21	24.24	137.33	-850.29	-276.96	1,252.76	1,203.27	49.49	25.311		
6,000.00	5,837.72	5,852.21	5,777.66	29.75	24.67	137.36	-866.04	-281.39	1,276.16	1,225.78	50.37	25.334		
6,100.00	5,934.55	5,949.43	5,873.49	30.29	25.10	137.40	-881.79	-285.81	1,299.55	1,248.30	51.25	25.355		
6,200.00	6,031.38	6,046.65	5,969.33	30.82	25.52	137.43	-897.54	-290.24	1,322.95	1,270.81	52.13	25.376		
6,300.00	6,128.21	6,143.87	6,065.16	31.36	25.95	137.47	-913.28	-294.67	1,346.34	1,293.33	53.01	25.396		
6,400.00	6,225.04	6,241.09	6,161.00	31.90	26.38	137.50	-929.03	-299.10	1,369.74	1,315.85	53.89	25.416		
6,500.00	6,321.87	6,338.31	6,256.84	32.43	26.81	137.53	-944.78	-303.52	1,393.14	1,338.36	54.77	25.435		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							
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	-98.45	-4.41	-29.67	30.00				
100.00	100.00	100.00	100.00	0.14	0.14	-98.45	-4.41	-29.67	30.00	29.72	0.28	108.684	
200.00	200.00	200.00	200.00	0.50	0.50	-98.45	-4.41	-29.67	30.00	29.01	0.99	30.212	
266.91	266.91	266.91	266.91	0.74	0.73	-99.95	-5.18	-29.54	29.99	28.53	1.46	20.501 CC	
300.00	300.00	299.99	299.97	0.85	0.84	-101.79	-6.13	-29.37	30.00	28.31	1.70	17.701	
400.00	400.00	399.73	399.57	1.21	1.19	-111.59	-11.26	-28.47	30.62	28.22	2.40	12.765 ES	
500.00	499.98	499.11	498.57	1.56	1.55	105.90	-19.78	-26.98	33.92	30.81	3.10	10.926	
600.00	599.84	598.12	596.84	1.90	1.92	97.17	-31.61	-24.90	40.66	36.85	3.82	10.658	
700.00	699.45	697.15	694.72	2.26	2.32	92.13	-46.44	-22.30	50.05	45.50	4.55	11.009	
800.00	798.70	796.65	792.98	2.62	2.73	91.59	-61.83	-19.60	60.01	54.71	5.30	11.315	
900.00	897.47	896.09	891.18	3.01	3.14	94.00	-77.21	-16.91	70.14	64.05	6.09	11.511	
1,000.00	995.62	1,004.66	989.21	3.43	3.59	98.21	-92.57	-14.22	80.82	73.86	6.96	11.617	
1,100.00	1,093.06	1,105.71	1,086.93	3.87	4.02	103.46	-107.87	-11.53	92.62	84.79	7.83	11.834	
1,123.32	1,115.66	1,117.31	1,109.67	3.98	4.07	104.78	-111.43	-10.91	95.60	87.61	7.99	11.972	
1,200.00	1,189.91	1,207.04	1,184.38	4.34	4.45	108.90	-123.14	-8.86	105.84	97.12	8.72	12.136	
1,300.00	1,286.74	1,308.38	1,281.81	4.83	4.88	113.19	-138.40	-6.18	119.84	110.23	9.62	12.463	
1,400.00	1,383.57	1,409.72	1,379.25	5.32	5.31	116.57	-153.66	-3.50	134.37	123.86	10.51	12.785	
1,500.00	1,480.40	1,488.94	1,476.68	5.83	5.65	119.29	-168.92	-0.83	149.27	137.96	11.31	13.199	
1,600.00	1,577.23	1,587.60	1,574.12	6.34	6.07	121.52	-184.18	1.85	164.44	152.25	12.19	13.490	
1,700.00	1,674.06	1,686.26	1,671.55	6.85	6.49	123.36	-199.44	4.52	179.81	166.74	13.07	13.758	
1,800.00	1,770.88	1,784.92	1,768.99	7.37	6.91	124.92	-214.70	7.20	195.34	181.39	13.95	14.004	
1,900.00	1,867.71	1,883.58	1,866.42	7.89	7.34	126.25	-229.96	9.87	210.98	196.15	14.83	14.230	
2,000.00	1,964.54	1,982.24	1,963.86	8.41	7.76	127.39	-245.22	12.55	226.72	211.02	15.70	14.437	
2,100.00	2,061.37	2,080.90	2,061.29	8.93	8.18	128.38	-260.48	15.23	242.54	225.96	16.58	14.627	
2,200.00	2,158.20	2,179.56	2,158.73	9.46	8.61	129.26	-275.74	17.90	258.42	240.96	17.46	14.801	
2,300.00	2,255.03	2,278.21	2,256.16	9.98	9.03	130.03	-291.00	20.58	274.35	256.01	18.34	14.962	
2,400.00	2,351.86	2,376.87	2,353.60	10.51	9.45	130.72	-306.26	23.25	290.33	271.11	19.21	15.111	
2,500.00	2,448.69	2,475.53	2,451.03	11.04	9.88	131.33	-321.52	25.93	306.34	286.25	20.09	15.248	
2,600.00	2,545.52	2,574.19	2,548.47	11.57	10.30	131.89	-336.78	28.61	322.38	301.41	20.97	15.376	
2,700.00	2,642.35	2,672.85	2,645.90	12.10	10.72	132.39	-352.04	31.28	338.45	316.61	21.84	15.494	
2,800.00	2,739.18	2,771.51	2,743.34	12.63	11.15	132.84	-367.31	33.96	354.54	331.82	22.72	15.605	
2,900.00	2,836.01	2,870.17	2,840.77	13.16	11.57	133.26	-382.57	36.63	370.65	347.06	23.60	15.708	
3,000.00	2,932.84	2,968.83	2,938.21	13.70	11.99	133.64	-397.83	39.31	386.78	362.31	24.47	15.804	
3,100.00	3,029.67	3,067.49	3,035.64	14.23	12.42	133.99	-413.09	41.98	402.93	377.58	25.35	15.895	
3,200.00	3,126.50	3,166.15	3,133.08	14.76	12.84	134.32	-428.35	44.66	419.09	392.86	26.23	15.980	
3,300.00	3,223.33	3,264.81	3,230.51	15.29	13.27	134.62	-443.61	47.34	435.26	408.15	27.10	16.059	
3,400.00	3,320.15	3,363.47	3,327.95	15.83	13.69	134.90	-458.87	50.01	451.44	423.46	27.98	16.135	
3,500.00	3,416.98	3,462.12	3,425.38	16.36	14.12	135.16	-474.13	52.69	467.63	438.77	28.86	16.206	
3,600.00	3,513.81	3,560.78	3,522.82	16.90	14.54	135.40	-489.39	55.36	483.83	454.10	29.73	16.273	
3,700.00	3,610.64	3,659.44	3,620.25	17.43	14.96	135.62	-504.65	58.04	500.04	469.43	30.61	16.336	
3,800.00	3,707.47	3,758.10	3,717.69	17.96	15.39	135.84	-519.91	60.72	516.25	484.77	31.49	16.396	
3,900.00	3,804.30	3,856.76	3,815.12	18.50	15.81	136.03	-535.17	63.39	532.47	500.11	32.36	16.453	
4,000.00	3,901.13	3,955.42	3,912.56	19.03	16.24	136.22	-550.43	66.07	548.70	515.46	33.24	16.508	
4,100.00	3,997.96	4,054.08	4,009.99	19.57	16.66	136.40	-565.69	68.74	564.93	530.82	34.12	16.559	
4,200.00	4,094.79	4,152.74	4,107.43	20.10	17.09	136.57	-580.95	71.42	581.17	546.18	34.99	16.608	
4,300.00	4,191.62	4,251.40	4,204.86	20.64	17.51	136.72	-596.21	74.09	597.41	561.54	35.87	16.655	
4,400.00	4,288.45	4,350.06	4,302.30	21.17	17.94	136.87	-611.48	76.77	613.66	576.91	36.75	16.700	
4,500.00	4,385.28	4,448.72	4,399.73	21.71	18.36	137.01	-626.74	79.45	629.91	592.29	37.62	16.742	
4,600.00	4,482.11	4,547.38	4,497.17	22.25	18.78	137.15	-642.00	82.12	646.16	607.66	38.50	16.783	
4,700.00	4,578.94	4,646.03	4,594.60	22.78	19.21	137.28	-657.26	84.80	662.42	623.04	39.38	16.822	
4,800.00	4,675.77	4,744.69	4,692.04	23.32	19.63	137.40	-672.52	87.47	678.68	638.43	40.25	16.860	
4,900.00	4,772.60	4,843.35	4,789.47	23.85	20.06	137.52	-687.78	90.15	694.94	653.81	41.13	16.896	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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
5,000.00	4,869.43	4,942.01	4,886.91	24.39	20.48	137.63	-703.04	92.83	711.21	669.20	42.01	16.930	
5,100.00	4,966.25	5,040.67	4,984.34	24.92	20.91	137.73	-718.30	95.50	727.48	684.59	42.88	16.963	
5,200.00	5,063.08	5,139.33	5,081.78	25.46	21.33	137.83	-733.56	98.18	743.75	699.98	43.76	16.995	
5,300.00	5,159.91	5,237.99	5,179.21	26.00	21.76	137.93	-748.82	100.85	760.02	715.38	44.64	17.026	
5,400.00	5,256.74	5,336.65	5,276.65	26.53	22.18	138.02	-764.08	103.53	776.29	730.78	45.52	17.055	
5,500.00	5,353.57	5,435.31	5,374.08	27.07	22.61	138.11	-779.34	106.20	792.57	746.18	46.39	17.084	
5,600.00	5,450.40	5,533.97	5,471.52	27.61	23.03	138.20	-794.60	108.88	808.85	761.58	47.27	17.111	
5,700.00	5,547.23	5,632.63	5,568.95	28.14	23.45	138.28	-809.86	111.56	825.13	776.98	48.15	17.138	
5,800.00	5,644.06	5,731.29	5,666.39	28.68	23.88	138.36	-825.12	114.23	841.41	792.38	49.02	17.163	
5,900.00	5,740.89	5,829.94	5,763.82	29.21	24.30	138.43	-840.39	116.91	857.69	807.79	49.90	17.188	
6,000.00	5,837.72	5,928.60	5,861.26	29.75	24.73	138.51	-855.65	119.58	873.98	823.20	50.78	17.211	
6,100.00	5,934.55	6,027.26	5,958.69	30.29	25.15	138.58	-870.91	122.26	890.26	838.61	51.66	17.234	
6,200.00	6,031.38	6,125.92	6,056.13	30.82	25.58	138.65	-886.17	124.94	906.55	854.02	52.53	17.257	
6,300.00	6,128.21	6,224.58	6,153.56	31.36	26.00	138.71	-901.43	127.61	922.84	869.43	53.41	17.278	
6,400.00	6,225.04	6,323.24	6,251.00	31.90	26.43	138.77	-916.69	130.29	939.13	884.84	54.29	17.299	
6,500.00	6,321.87	6,421.90	6,348.43	32.43	26.85	138.84	-931.95	132.96	955.42	900.25	55.17	17.319	
6,600.00	6,418.70	6,520.56	6,445.87	32.97	27.28	138.89	-947.21	135.64	971.71	915.67	56.04	17.339	
6,638.96	6,456.42	6,558.99	6,483.83	33.18	27.44	138.92	-953.15	136.68	978.06	921.67	56.38	17.346	
6,650.00	6,467.12	6,569.89	6,494.59	33.24	27.49	141.83	-954.84	136.98	979.86	923.38	56.48	17.348	
6,700.00	6,515.86	6,619.45	6,543.66	33.49	27.69	157.72	-961.64	138.33	988.07	931.17	56.91	17.364	
6,750.00	6,564.86	6,669.19	6,593.24	33.71	27.87	177.54	-965.17	139.73	996.34	939.06	57.28	17.395	
6,800.00	6,613.89	6,719.03	6,643.05	33.90	28.02	-162.22	-965.25	141.16	1,004.62	947.04	57.59	17.445	
6,850.00	6,662.69	6,768.98	6,692.85	34.06	28.15	-145.50	-961.85	142.62	1,012.88	955.03	57.85	17.509	
6,900.00	6,711.04	6,819.05	6,742.41	34.19	28.25	-133.25	-954.97	144.10	1,021.07	963.00	58.07	17.584	
6,950.00	6,758.71	6,869.24	6,791.49	34.31	28.35	-124.51	-944.61	145.60	1,029.15	970.89	58.26	17.666	
7,000.00	6,805.44	6,919.58	6,839.86	34.40	28.43	-118.17	-930.79	147.10	1,037.08	978.67	58.41	17.755	
7,050.00	6,851.03	6,970.06	6,887.28	34.47	28.50	-113.41	-913.56	148.61	1,044.83	986.30	58.54	17.849	
7,100.00	6,895.25	7,020.70	6,933.50	34.52	28.56	-109.72	-892.96	150.11	1,052.36	993.72	58.64	17.946	
7,150.00	6,937.88	7,071.50	6,978.29	34.55	28.61	-106.79	-869.06	151.60	1,059.63	1,000.91	58.72	18.045	
7,200.00	6,978.71	7,122.46	7,021.41	34.57	28.65	-104.40	-841.96	153.06	1,066.61	1,007.82	58.78	18.145	
7,250.00	7,017.55	7,173.58	7,062.62	34.57	28.69	-102.42	-811.76	154.49	1,073.25	1,014.42	58.83	18.244	
7,300.00	7,054.21	7,224.87	7,101.69	34.56	28.72	-100.76	-778.58	155.89	1,079.53	1,020.67	58.86	18.340	
7,350.00	7,088.50	7,276.31	7,138.39	34.54	28.75	-99.35	-742.58	157.24	1,085.42	1,026.53	58.89	18.431	
7,400.00	7,120.26	7,327.90	7,172.51	34.50	28.78	-98.15	-703.92	158.54	1,090.89	1,031.97	58.92	18.515	
7,450.00	7,149.34	7,379.63	7,203.84	34.46	28.81	-97.12	-662.79	159.79	1,095.90	1,036.95	58.95	18.591	
7,500.00	7,175.60	7,431.49	7,232.19	34.40	28.84	-96.24	-619.39	160.96	1,100.44	1,041.46	58.98	18.656	
7,550.00	7,198.90	7,483.47	7,257.38	34.34	28.88	-95.50	-573.95	162.06	1,104.48	1,045.45	59.03	18.710	
7,600.00	7,219.14	7,535.55	7,279.25	34.27	28.93	-94.87	-526.71	163.08	1,108.01	1,048.91	59.10	18.749	
7,650.00	7,236.20	7,587.71	7,297.65	34.19	28.99	-94.35	-477.92	164.01	1,111.00	1,051.82	59.18	18.773	
7,700.00	7,250.02	7,639.94	7,312.48	34.11	29.06	-93.94	-427.86	164.85	1,113.44	1,054.15	59.28	18.781	
7,750.00	7,260.53	7,692.20	7,323.62	34.03	29.15	-93.62	-376.82	165.59	1,115.31	1,055.90	59.41	18.772	
7,800.00	7,267.67	7,744.49	7,331.02	33.95	29.24	-93.40	-325.07	166.23	1,116.61	1,057.04	59.57	18.744	
7,850.00	7,271.40	7,796.77	7,334.62	33.86	29.35	-93.27	-272.93	166.77	1,117.34	1,057.59	59.75	18.699	
7,879.59	7,272.00	7,827.37	7,335.00	33.82	29.43	-93.23	-242.34	167.03	1,117.50	1,057.62	59.88	18.663	
7,900.00	7,272.00	7,847.78	7,335.00	33.78	29.48	-93.23	-221.93	167.20	1,117.54	1,057.56	59.97	18.633	
8,000.00	7,272.00	7,947.78	7,335.00	33.64	29.79	-93.23	-121.93	168.03	1,117.75	1,057.21	60.53	18.465	
8,100.00	7,272.00	8,047.77	7,335.00	33.51	30.17	-93.23	-21.94	168.85	1,117.96	1,056.71	61.24	18.255	
8,200.00	7,272.00	8,147.77	7,335.00	33.41	30.62	-93.23	78.06	169.68	1,118.16	1,056.06	62.10	18.005	
8,300.00	7,272.00	8,247.77	7,335.00	33.34	31.16	-93.23	178.05	170.51	1,118.37	1,055.26	63.11	17.721	
8,400.00	7,272.00	8,347.77	7,335.00	33.33	31.76	-93.23	278.05	171.33	1,118.58	1,054.33	64.26	17.408	
8,500.00	7,272.00	8,447.77	7,335.00	33.42	32.43	-93.23	378.05	172.16	1,118.79	1,053.26	65.53	17.072	
8,600.00	7,272.00	8,547.77	7,335.00	33.70	33.16	-93.23	478.04	172.99	1,119.00	1,052.07	66.93	16.719	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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
8,700.00	7,272.00	8,647.77	7,335.00	34.22	33.95	-93.23	578.04	173.81	1,119.21	1,050.76	68.45	16.351	
8,800.00	7,272.00	8,747.77	7,335.00	34.94	34.79	-93.23	678.04	174.64	1,119.42	1,049.34	70.07	15.975	
8,900.00	7,272.00	8,847.77	7,335.00	35.77	35.68	-93.23	778.03	175.46	1,119.62	1,047.83	71.80	15.594	
9,000.00	7,272.00	8,947.77	7,335.00	36.67	36.62	-93.23	878.03	176.29	1,119.83	1,046.22	73.62	15.212	
9,100.00	7,272.00	9,047.77	7,335.00	37.62	37.61	-93.22	978.03	177.12	1,120.04	1,044.52	75.52	14.830	
9,200.00	7,272.00	9,147.77	7,335.00	38.62	38.63	-93.22	1,078.02	177.94	1,120.25	1,042.74	77.51	14.453	
9,300.00	7,272.00	9,247.77	7,335.00	39.66	39.68	-93.22	1,178.02	178.77	1,120.46	1,040.88	79.57	14.081	
9,400.00	7,272.00	9,347.77	7,335.00	40.73	40.78	-93.22	1,278.01	179.60	1,120.67	1,038.96	81.71	13.716	
9,500.00	7,272.00	9,447.77	7,335.00	41.83	41.90	-93.22	1,378.01	180.42	1,120.88	1,036.97	83.90	13.359	
9,600.00	7,272.00	9,547.77	7,335.00	42.96	43.05	-93.22	1,478.01	181.25	1,121.08	1,034.93	86.16	13.012	
9,700.00	7,272.00	9,647.77	7,335.00	44.12	44.22	-93.22	1,578.00	182.07	1,121.29	1,032.83	88.46	12.675	
9,800.00	7,272.00	9,747.77	7,335.00	45.30	45.43	-93.22	1,678.00	182.90	1,121.50	1,030.68	90.82	12.348	
9,900.00	7,272.00	9,847.77	7,335.00	46.51	46.65	-93.22	1,778.00	183.73	1,121.71	1,028.48	93.23	12.032	
10,000.00	7,272.00	9,947.77	7,335.00	47.73	47.89	-93.22	1,877.99	184.55	1,121.92	1,026.24	95.68	11.726	
10,100.00	7,272.00	10,047.77	7,335.00	48.98	49.16	-93.22	1,977.99	185.38	1,122.13	1,023.96	98.17	11.431	
10,200.00	7,272.00	10,147.77	7,335.00	50.24	50.44	-93.22	2,077.99	186.21	1,122.34	1,021.64	100.69	11.146	
10,300.00	7,272.00	10,247.77	7,335.00	51.52	51.73	-93.22	2,177.98	187.03	1,122.54	1,019.29	103.25	10.872	
10,400.00	7,272.00	10,347.77	7,335.00	52.81	53.04	-93.22	2,277.98	187.86	1,122.75	1,016.91	105.84	10.608	
10,500.00	7,272.00	10,447.77	7,335.00	54.11	54.37	-93.22	2,377.97	188.69	1,122.96	1,014.50	108.46	10.353	
10,600.00	7,272.00	10,547.77	7,335.00	55.44	55.71	-93.22	2,477.97	189.51	1,123.17	1,012.06	111.11	10.108	
10,700.00	7,272.00	10,647.77	7,335.00	56.77	57.06	-93.21	2,577.97	190.34	1,123.38	1,009.59	113.79	9.873	
10,800.00	7,272.00	10,747.77	7,335.00	58.11	58.42	-93.21	2,677.96	191.16	1,123.59	1,007.10	116.48	9.646	
10,900.00	7,272.00	10,847.77	7,335.00	59.47	59.80	-93.21	2,777.96	191.99	1,123.80	1,004.59	119.20	9.428	
11,000.00	7,272.00	10,947.77	7,335.00	60.83	61.18	-93.21	2,877.96	192.82	1,124.00	1,002.06	121.94	9.218	
11,100.00	7,272.00	11,047.77	7,335.00	62.21	62.57	-93.21	2,977.95	193.64	1,124.21	999.51	124.70	9.015	
11,200.00	7,272.00	11,147.77	7,335.00	63.59	63.97	-93.21	3,077.95	194.47	1,124.42	996.94	127.48	8.821	
11,300.00	7,272.00	11,247.77	7,335.00	64.98	65.38	-93.21	3,177.95	195.30	1,124.63	994.36	130.27	8.633	
11,400.00	7,272.00	11,347.77	7,335.00	66.38	66.79	-93.21	3,277.94	196.12	1,124.84	991.76	133.08	8.452	
11,500.00	7,272.00	11,447.77	7,335.00	67.79	68.22	-93.21	3,377.94	196.95	1,125.05	989.14	135.90	8.278	
11,600.00	7,272.00	11,547.77	7,335.00	69.20	69.65	-93.21	3,477.93	197.78	1,125.26	986.51	138.74	8.110	
11,700.00	7,272.00	11,647.77	7,335.00	70.62	71.08	-93.21	3,577.93	198.60	1,125.46	983.87	141.59	7.949	
11,800.00	7,272.00	11,747.77	7,335.00	72.05	72.52	-93.21	3,677.93	199.43	1,125.67	981.22	144.46	7.792	
11,900.00	7,272.00	11,847.77	7,335.00	73.48	73.97	-93.21	3,777.92	200.25	1,125.88	978.55	147.33	7.642	
12,000.00	7,272.00	11,947.77	7,335.00	74.92	75.42	-93.21	3,877.92	201.08	1,126.09	975.87	150.22	7.496	
12,100.00	7,272.00	12,047.77	7,335.00	76.36	76.88	-93.21	3,977.92	201.91	1,126.30	973.18	153.11	7.356	
12,200.00	7,272.00	12,147.77	7,335.00	77.81	78.34	-93.21	4,077.91	202.73	1,126.51	970.49	156.02	7.220	
12,261.45	7,272.00	12,188.01	7,335.00	78.70	78.93	-93.21	4,118.15	203.07	1,126.83	969.51	157.32	7.163 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	-98.45	-2.94	-19.78	20.00					
100.00	100.00	100.00	100.00	0.14	0.14	-98.45	-2.94	-19.78	20.00	19.72	0.28	72.456		
200.00	200.00	200.07	200.07	0.50	0.49	-99.68	-3.35	-19.62	19.91	18.92	0.99	20.192		
300.00	300.00	300.10	300.03	0.85	0.84	-109.79	-6.60	-18.35	19.50	17.81	1.69	11.535		
309.84	309.84	309.92	309.84	0.89	0.88	-111.35	-7.10	-18.16	19.50	17.73	1.76	11.067 CC, ES		
400.00	400.00	399.76	399.44	1.21	1.20	-129.57	-13.07	-15.82	20.53	18.12	2.41	8.517		
500.00	499.98	498.98	498.12	1.56	1.57	81.01	-22.71	-12.05	25.46	22.33	3.12	8.147		
600.00	599.84	597.83	596.01	1.90	1.96	70.75	-35.47	-7.07	33.53	29.70	3.83	8.749		
700.00	699.45	703.06	693.72	2.26	2.40	66.38	-50.90	-1.04	43.07	38.49	4.58	9.405		
800.00	798.70	803.43	791.91	2.62	2.83	66.84	-66.69	5.13	51.55	46.22	5.34	9.662		
900.00	897.47	903.75	890.13	3.01	3.26	70.30	-82.48	11.30	58.78	52.65	6.13	9.590		
1,000.00	995.62	1,004.16	988.27	3.43	3.69	75.90	-98.26	17.47	65.27	58.29	6.97	9.360		
1,100.00	1,093.06	1,104.77	1,086.21	3.87	4.13	83.15	-114.01	23.63	71.79	63.92	7.88	9.116		
1,123.32	1,115.66	1,118.37	1,109.01	3.98	4.19	85.03	-117.68	25.06	73.42	65.37	8.05	9.118		
1,200.00	1,189.91	1,205.59	1,183.94	4.34	4.57	90.95	-129.73	29.77	79.31	70.49	8.82	8.992		
1,300.00	1,286.74	1,306.42	1,281.67	4.83	5.01	97.40	-145.44	35.91	88.07	78.30	9.77	9.015		
1,400.00	1,383.57	1,407.25	1,379.39	5.32	5.46	102.65	-161.16	42.05	97.73	87.02	10.71	9.124		
1,500.00	1,480.40	1,508.08	1,477.11	5.83	5.90	106.92	-176.87	48.20	108.06	96.42	11.65	9.279		
1,600.00	1,577.23	1,608.91	1,574.84	6.34	6.34	110.44	-192.59	54.34	118.89	106.32	12.57	9.456		
1,700.00	1,674.06	1,709.74	1,672.56	6.85	6.78	113.36	-208.30	60.48	130.08	116.59	13.49	9.640		
1,800.00	1,770.88	1,789.43	1,770.29	7.37	7.14	115.82	-224.02	66.62	141.56	127.25	14.32	9.888		
1,900.00	1,867.71	1,888.60	1,868.01	7.89	7.57	117.91	-239.73	72.76	153.26	138.04	15.22	10.069		
2,000.00	1,964.54	1,987.77	1,965.74	8.41	8.01	119.70	-255.45	78.90	165.13	149.00	16.12	10.242		
2,100.00	2,061.37	2,086.94	2,063.46	8.93	8.45	121.24	-271.16	85.05	177.13	160.11	17.02	10.406		
2,200.00	2,158.20	2,186.11	2,161.19	9.46	8.88	122.60	-286.88	91.19	189.25	171.33	17.92	10.562		
2,300.00	2,255.03	2,285.28	2,258.91	9.98	9.32	123.78	-302.59	97.33	201.46	182.65	18.81	10.708		
2,400.00	2,351.86	2,384.45	2,356.63	10.51	9.76	124.84	-318.30	103.47	213.75	194.04	19.71	10.846		
2,500.00	2,448.69	2,483.62	2,454.36	11.04	10.20	125.77	-334.02	109.61	226.10	205.50	20.60	10.975		
2,600.00	2,545.52	2,582.79	2,552.08	11.57	10.63	126.62	-349.73	115.75	238.50	217.01	21.49	11.096		
2,700.00	2,642.35	2,681.96	2,649.81	12.10	11.07	127.37	-365.45	121.90	250.95	228.56	22.39	11.210		
2,800.00	2,739.18	2,781.13	2,747.53	12.63	11.51	128.06	-381.16	128.04	263.43	240.16	23.28	11.317		
2,900.00	2,836.01	2,880.30	2,845.26	13.16	11.95	128.68	-396.88	134.18	275.96	251.79	24.17	11.418		
3,000.00	2,932.84	2,979.47	2,942.98	13.70	12.39	129.25	-412.59	140.32	288.51	263.45	25.06	11.513		
3,100.00	3,029.67	3,078.64	3,040.71	14.23	12.82	129.77	-428.31	146.46	301.08	275.13	25.95	11.603		
3,200.00	3,126.50	3,177.81	3,138.43	14.76	13.26	130.26	-444.02	152.61	313.68	286.84	26.84	11.688		
3,300.00	3,223.33	3,276.99	3,236.15	15.29	13.70	130.70	-459.74	158.75	326.30	298.57	27.73	11.768		
3,400.00	3,320.15	3,376.16	3,333.88	15.83	14.14	131.11	-475.45	164.89	338.94	310.32	28.62	11.844		
3,500.00	3,416.98	3,475.33	3,431.60	16.36	14.58	131.49	-491.17	171.03	351.59	322.08	29.51	11.915		
3,600.00	3,513.81	3,574.50	3,529.33	16.90	15.01	131.84	-506.88	177.17	364.26	333.86	30.40	11.983		
3,700.00	3,610.64	3,673.67	3,627.05	17.43	15.45	132.17	-522.60	183.31	376.93	345.65	31.29	12.048		
3,800.00	3,707.47	3,772.84	3,724.78	17.96	15.89	132.48	-538.31	189.46	389.63	357.45	32.17	12.110		
3,900.00	3,804.30	3,872.01	3,822.50	18.50	16.33	132.77	-554.03	195.60	402.33	369.26	33.06	12.168		
4,000.00	3,901.13	3,971.18	3,920.23	19.03	16.77	133.04	-569.74	201.74	415.04	381.09	33.95	12.224		
4,100.00	3,997.96	4,070.35	4,017.95	19.57	17.21	133.30	-585.46	207.88	427.76	392.92	34.84	12.277		
4,200.00	4,094.79	4,169.52	4,115.67	20.10	17.65	133.54	-601.17	214.02	440.49	404.75	35.73	12.328		
4,300.00	4,191.62	4,268.69	4,213.40	20.64	18.08	133.77	-616.88	220.16	453.22	416.60	36.62	12.376		
4,400.00	4,288.45	4,367.86	4,311.12	21.17	18.52	133.98	-632.60	226.31	465.96	428.45	37.51	12.423		
4,500.00	4,385.28	4,467.03	4,408.85	21.71	18.96	134.19	-648.31	232.45	478.71	440.31	38.40	12.467		
4,600.00	4,482.11	4,566.20	4,506.57	22.25	19.40	134.38	-664.03	238.59	491.46	452.18	39.29	12.510		
4,700.00	4,578.94	4,665.37	4,604.30	22.78	19.84	134.56	-679.74	244.73	504.22	464.05	40.17	12.551		
4,800.00	4,675.77	4,764.54	4,702.02	23.32	20.28	134.74	-695.46	250.87	516.98	475.92	41.06	12.590		
4,900.00	4,772.60	4,863.71	4,799.75	23.85	20.71	134.90	-711.17	257.02	529.75	487.80	41.95	12.628		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	4,869.43	4,962.88	4,897.47	24.39	21.15	135.06	-726.89	263.16	542.52	499.68	42.84	12.664	
5,100.00	4,966.25	5,062.05	4,995.19	24.92	21.59	135.21	-742.60	269.30	555.30	511.57	43.73	12.699	
5,200.00	5,063.08	5,161.22	5,092.92	25.46	22.03	135.35	-758.32	275.44	568.08	523.46	44.62	12.732	
5,300.00	5,159.91	5,260.39	5,190.64	26.00	22.47	135.49	-774.03	281.58	580.86	535.35	45.51	12.764	
5,400.00	5,256.74	5,359.56	5,288.37	26.53	22.91	135.62	-789.75	287.72	593.65	547.25	46.40	12.795	
5,500.00	5,353.57	5,458.73	5,386.09	27.07	23.35	135.75	-805.46	293.87	606.43	559.15	47.28	12.825	
5,600.00	5,450.40	5,557.90	5,483.82	27.61	23.78	135.87	-821.18	300.01	619.23	571.05	48.17	12.854	
5,700.00	5,547.23	5,657.07	5,581.54	28.14	24.22	135.99	-836.89	306.15	632.02	582.96	49.06	12.882	
5,800.00	5,644.06	5,756.24	5,679.26	28.68	24.66	136.10	-852.61	312.29	644.82	594.87	49.95	12.909	
5,900.00	5,740.89	5,855.41	5,776.99	29.21	25.10	136.20	-868.32	318.43	657.62	606.78	50.84	12.935	
6,000.00	5,837.72	5,954.58	5,874.71	29.75	25.54	136.31	-884.03	324.57	670.42	618.69	51.73	12.960	
6,100.00	5,934.55	6,053.75	5,972.44	30.29	25.98	136.41	-899.75	330.72	683.22	630.60	52.62	12.985	
6,200.00	6,031.38	6,152.92	6,070.16	30.82	26.42	136.50	-915.46	336.86	696.02	642.52	53.51	13.009	
6,300.00	6,128.21	6,252.09	6,167.89	31.36	26.86	136.59	-931.18	343.00	708.83	654.44	54.39	13.031	
6,400.00	6,225.04	6,351.26	6,265.61	31.90	27.29	136.68	-946.89	349.14	721.64	666.36	55.28	13.054	
6,500.00	6,321.87	6,452.27	6,365.29	32.43	27.73	136.85	-961.88	355.41	734.40	678.24	56.16	13.076	
6,600.00	6,418.70	6,554.63	6,467.30	32.97	28.08	137.92	-965.38	361.93	746.76	689.96	56.80	13.147	
6,638.96	6,456.42	6,593.18	6,505.68	33.18	28.17	138.60	-962.91	364.42	751.57	694.61	56.96	13.195	
6,650.00	6,467.12	6,603.94	6,516.37	33.24	28.20	141.68	-961.85	365.11	752.95	695.95	57.00	13.210	
6,700.00	6,515.86	6,652.18	6,564.02	33.49	28.30	158.42	-955.13	368.22	759.37	702.23	57.14	13.290	
6,750.00	6,564.86	6,699.63	6,610.36	33.71	28.39	179.07	-945.39	371.28	766.02	708.78	57.24	13.383	
6,800.00	6,613.89	6,746.36	6,655.25	33.90	28.46	-159.89	-932.83	374.26	772.87	715.57	57.30	13.488	
6,850.00	6,662.69	6,792.41	6,698.61	34.06	28.52	-142.40	-917.59	377.17	779.86	722.54	57.33	13.604	
6,900.00	6,711.04	6,837.84	6,740.33	34.19	28.57	-129.41	-899.86	380.00	786.95	729.62	57.33	13.726	
6,950.00	6,758.71	6,882.69	6,780.34	34.31	28.61	-119.96	-879.79	382.73	794.08	736.76	57.32	13.854	
7,000.00	6,805.44	6,927.02	6,818.57	34.40	28.65	-112.94	-857.53	385.37	801.20	743.91	57.28	13.986	
7,050.00	6,851.03	6,970.85	6,854.96	34.47	28.67	-107.55	-833.23	387.90	808.26	751.02	57.24	14.121	
7,100.00	6,895.25	7,014.25	6,889.44	34.52	28.69	-103.26	-807.02	390.33	815.20	758.02	57.19	14.255	
7,150.00	6,937.88	7,057.23	6,921.98	34.55	28.70	-99.76	-779.03	392.65	821.98	764.86	57.13	14.389	
7,200.00	6,978.71	7,099.84	6,952.53	34.57	28.72	-96.85	-749.41	394.86	828.56	771.50	57.06	14.520	
7,250.00	7,017.55	7,142.12	6,981.04	34.57	28.72	-94.38	-718.27	396.94	834.88	777.88	57.00	14.646	
7,300.00	7,054.21	7,184.09	7,007.48	34.56	28.73	-92.27	-685.75	398.91	840.91	783.96	56.95	14.766	
7,350.00	7,088.50	7,225.79	7,031.83	34.54	28.74	-90.45	-651.95	400.75	846.60	789.70	56.90	14.878	
7,400.00	7,120.26	7,267.24	7,054.04	34.50	28.75	-88.88	-617.00	402.47	851.92	795.05	56.87	14.981	
7,450.00	7,149.34	7,308.47	7,074.10	34.46	28.76	-87.52	-581.02	404.05	856.83	799.98	56.85	15.072	
7,500.00	7,175.60	7,349.51	7,091.97	34.40	28.78	-86.35	-544.11	405.50	861.30	804.45	56.85	15.150	
7,550.00	7,198.90	7,390.39	7,107.65	34.34	28.80	-85.36	-506.39	406.82	865.30	808.43	56.88	15.213	
7,600.00	7,219.14	7,431.11	7,121.11	34.27	28.83	-84.51	-467.98	408.00	868.82	811.89	56.93	15.261	
7,650.00	7,236.20	7,471.71	7,132.34	34.19	28.86	-83.82	-428.98	409.04	871.81	814.80	57.01	15.292	
7,700.00	7,250.02	7,512.21	7,141.32	34.11	28.90	-83.26	-389.51	409.95	874.28	817.16	57.12	15.306	
7,750.00	7,260.53	7,552.63	7,148.06	34.03	28.95	-82.84	-349.67	410.71	876.20	818.94	57.26	15.302	
7,800.00	7,267.67	7,592.99	7,152.53	33.95	29.01	-82.55	-309.57	411.33	877.56	820.12	57.44	15.279	
7,850.00	7,271.40	7,633.31	7,154.74	33.86	29.07	-82.38	-269.32	411.80	878.35	820.70	57.65	15.237	
7,879.59	7,272.00	7,658.27	7,155.00	33.82	29.12	-82.35	-244.36	412.02	878.54	820.77	57.78	15.206	
7,900.00	7,272.00	7,678.67	7,155.00	33.78	29.16	-82.35	-223.96	412.19	878.59	820.73	57.86	15.185	
8,000.00	7,272.00	7,778.67	7,155.00	33.64	29.42	-82.35	-123.96	413.02	878.79	820.43	58.36	15.058	
8,100.00	7,272.00	7,878.67	7,155.00	33.51	29.76	-82.35	-23.96	413.85	879.00	819.98	59.02	14.894	
8,200.00	7,272.00	7,978.67	7,155.00	33.41	30.19	-82.35	76.03	414.67	879.21	819.38	59.83	14.695	
8,300.00	7,272.00	8,078.67	7,155.00	33.34	30.70	-82.35	176.03	415.50	879.41	818.62	60.80	14.465	
8,400.00	7,272.00	8,178.67	7,155.00	33.33	31.29	-82.36	276.03	416.32	879.62	817.72	61.90	14.210	
8,500.00	7,272.00	8,278.67	7,155.00	33.42	31.95	-82.36	376.02	417.15	879.83	816.68	63.15	13.933	
8,600.00	7,272.00	8,378.67	7,155.00	33.70	32.67	-82.36	476.02	417.98	880.04	815.52	64.52	13.640	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	8,478.67	7,155.00	34.22	33.46	-82.36	576.01	418.80	880.24	814.23		66.01	13.335
8,800.00	7,272.00	8,578.67	7,155.00	34.94	34.30	-82.36	676.01	419.63	880.45	812.84		67.61	13.022
8,900.00	7,272.00	8,678.67	7,155.00	35.77	35.20	-82.37	776.01	420.46	880.66	811.34		69.32	12.705
9,000.00	7,272.00	8,778.67	7,155.00	36.67	36.14	-82.37	876.00	421.28	880.86	809.74		71.12	12.385
9,100.00	7,272.00	8,878.67	7,155.00	37.62	37.13	-82.37	976.00	422.11	881.07	808.06		73.01	12.067
9,200.00	7,272.00	8,978.67	7,155.00	38.62	38.15	-82.37	1,076.00	422.93	881.28	806.29		74.99	11.752
9,300.00	7,272.00	9,078.67	7,155.00	39.66	39.22	-82.37	1,175.99	423.76	881.49	804.44		77.04	11.441
9,400.00	7,272.00	9,178.67	7,155.00	40.73	40.31	-82.37	1,275.99	424.59	881.69	802.53		79.17	11.137
9,500.00	7,272.00	9,278.67	7,155.00	41.83	41.44	-82.38	1,375.99	425.41	881.90	800.55		81.35	10.840
9,600.00	7,272.00	9,378.67	7,155.00	42.96	42.60	-82.38	1,475.98	426.24	882.11	798.50		83.60	10.551
9,700.00	7,272.00	9,478.67	7,155.00	44.12	43.78	-82.38	1,575.98	427.07	882.31	796.41		85.91	10.271
9,800.00	7,272.00	9,578.67	7,155.00	45.30	44.98	-82.38	1,675.97	427.89	882.52	794.26		88.26	9.999
9,900.00	7,272.00	9,678.67	7,155.00	46.51	46.21	-82.38	1,775.97	428.72	882.73	792.07		90.66	9.737
10,000.00	7,272.00	9,778.67	7,155.00	47.73	47.46	-82.39	1,875.97	429.54	882.93	789.83		93.10	9.483
10,100.00	7,272.00	9,878.67	7,155.00	48.98	48.73	-82.39	1,975.96	430.37	883.14	787.55		95.59	9.239
10,200.00	7,272.00	9,978.67	7,155.00	50.24	50.01	-82.39	2,075.96	431.20	883.35	785.24		98.11	9.004
10,300.00	7,272.00	10,078.67	7,155.00	51.52	51.32	-82.39	2,175.96	432.02	883.56	782.89		100.67	8.777
10,400.00	7,272.00	10,178.67	7,155.00	52.81	52.63	-82.39	2,275.95	432.85	883.76	780.51		103.25	8.559
10,500.00	7,272.00	10,278.67	7,155.00	54.11	53.96	-82.39	2,375.95	433.68	883.97	778.10		105.87	8.350
10,600.00	7,272.00	10,378.67	7,155.00	55.44	55.31	-82.40	2,475.95	434.50	884.18	775.67		108.51	8.148
10,700.00	7,272.00	10,478.67	7,155.00	56.77	56.66	-82.40	2,575.94	435.33	884.38	773.20		111.18	7.954
10,800.00	7,272.00	10,578.67	7,155.00	58.11	58.03	-82.40	2,675.94	436.15	884.59	770.72		113.87	7.768
10,900.00	7,272.00	10,678.67	7,155.00	59.47	59.40	-82.40	2,775.93	436.98	884.80	768.21		116.59	7.589
11,000.00	7,272.00	10,778.67	7,155.00	60.83	60.79	-82.40	2,875.93	437.81	885.01	765.68		119.32	7.417
11,100.00	7,272.00	10,878.67	7,155.00	62.21	62.18	-82.40	2,975.93	438.63	885.21	763.14		122.08	7.251
11,200.00	7,272.00	10,978.67	7,155.00	63.59	63.59	-82.41	3,075.92	439.46	885.42	760.57		124.85	7.092
11,300.00	7,272.00	11,078.67	7,155.00	64.98	65.00	-82.41	3,175.92	440.29	885.63	757.99		127.63	6.939
11,400.00	7,272.00	11,178.67	7,155.00	66.38	66.42	-82.41	3,275.92	441.11	885.83	755.40		130.44	6.791
11,500.00	7,272.00	11,278.67	7,155.00	67.79	67.84	-82.41	3,375.91	441.94	886.04	752.79		133.26	6.649
11,600.00	7,272.00	11,378.67	7,155.00	69.20	69.28	-82.41	3,475.91	442.76	886.25	750.16		136.09	6.512
11,700.00	7,272.00	11,478.66	7,155.00	70.62	70.71	-82.42	3,575.91	443.59	886.46	747.52		138.93	6.381
11,800.00	7,272.00	11,578.66	7,155.00	72.05	72.16	-82.42	3,675.90	444.42	886.66	744.87		141.79	6.253
11,900.00	7,272.00	11,678.66	7,155.00	73.48	73.61	-82.42	3,775.90	445.24	886.87	742.21		144.66	6.131
12,000.00	7,272.00	11,778.66	7,155.00	74.92	75.06	-82.42	3,875.89	446.07	887.08	739.54		147.53	6.013
12,100.00	7,272.00	11,878.66	7,155.00	76.36	76.52	-82.42	3,975.89	446.90	887.28	736.86		150.42	5.899
12,200.00	7,272.00	11,978.66	7,155.00	77.81	77.98	-82.42	4,075.89	447.72	887.49	734.17		153.32	5.788
12,200.00	7,272.00	11,978.67	7,155.00	77.81	77.98	-82.42	4,075.89	447.72	887.49	734.17		153.32	5.788
12,261.45	7,272.00	12,024.56	7,155.00	78.70	78.66	-82.43	4,121.78	448.10	887.76	733.04		154.71	5.738 SF

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	0.00	0.00	0.00	0.00	-98.45	-1.47	-9.89	10.00					
100.00	100.00	100.00	100.00	0.14	0.14	-98.45	-1.47	-9.89	10.00	9.72	0.28	36.228		
200.00	200.00	200.09	200.09	0.50	0.49	-100.60	-1.80	-9.60	9.77	8.78	0.99	9.895		
300.00	300.00	300.15	300.08	0.85	0.84	-121.23	-4.42	-7.29	8.52	6.83	1.69	5.031		
326.65	326.65	326.76	326.65	0.95	0.94	-131.49	-5.55	-6.28	8.38	6.50	1.89	4.446	CC, ES	
400.00	400.00	399.84	399.52	1.21	1.20	-164.45	-9.63	-2.68	10.00	7.59	2.41	4.142		
500.00	499.98	499.12	498.26	1.56	1.58	39.26	-17.39	4.18	16.59	13.47	3.12	5.316		
600.00	599.84	598.10	596.27	1.90	1.97	30.08	-27.67	13.28	24.72	20.91	3.81	6.487		
700.00	699.45	696.77	693.46	2.26	2.38	26.26	-40.44	24.57	33.31	28.80	4.51	7.387		
800.00	798.70	795.54	790.12	2.62	2.82	24.66	-55.62	38.00	41.96	36.74	5.22	8.040		
900.00	897.47	895.33	887.60	3.01	3.29	24.97	-71.61	52.13	48.31	42.35	5.96	8.105		
1,000.00	995.62	1,004.74	985.22	3.43	3.80	26.88	-87.62	66.29	51.53	44.76	6.76	7.619		
1,100.00	1,093.06	1,095.20	1,082.85	3.87	4.23	30.44	-103.63	80.44	51.76	44.23	7.53	6.875		
1,123.32	1,115.66	1,118.50	1,105.61	3.98	4.34	31.56	-107.36	83.74	51.41	43.69	7.72	6.656		
1,200.00	1,189.91	1,204.92	1,180.42	4.34	4.75	35.53	-119.63	94.59	50.16	41.74	8.43	5.953		
1,300.00	1,286.74	1,305.03	1,277.99	4.83	5.23	40.97	-135.63	108.74	48.91	39.58	9.34	5.238		
1,400.00	1,383.57	1,405.15	1,375.57	5.32	5.71	46.64	-151.63	122.89	48.13	37.82	10.31	4.670		
1,500.00	1,480.40	1,505.27	1,473.14	5.83	6.20	52.44	-167.63	137.04	47.83	36.50	11.33	4.222		
1,510.70	1,490.76	1,505.42	1,483.58	5.88	6.20	53.06	-169.34	138.55	47.83	36.43	11.39	4.197		
1,600.00	1,577.23	1,605.39	1,570.71	6.34	6.68	58.25	-183.63	151.19	48.02	35.63	12.40	3.874		
1,700.00	1,674.06	1,705.51	1,668.28	6.85	7.17	63.96	-199.63	165.34	48.71	35.21	13.49	3.609		
1,800.00	1,770.88	1,805.63	1,765.85	7.37	7.65	69.46	-215.63	179.49	49.86	35.25	14.61	3.413		
1,900.00	1,867.71	1,905.75	1,863.42	7.89	8.14	74.66	-231.63	193.64	51.45	35.72	15.73	3.271		
2,000.00	1,964.54	2,005.86	1,960.99	8.41	8.63	79.52	-247.63	207.78	53.43	36.60	16.83	3.174		
2,100.00	2,061.37	2,094.02	2,058.56	8.93	9.06	84.00	-263.63	221.93	55.78	37.91	17.87	3.122		
2,200.00	2,158.20	2,206.10	2,156.13	9.46	9.60	88.09	-279.63	236.08	58.43	39.43	19.00	3.076		
2,300.00	2,255.03	2,306.22	2,253.70	9.98	10.09	91.81	-295.63	250.23	61.36	41.31	20.04	3.061		
2,400.00	2,351.86	2,406.34	2,351.28	10.51	10.58	95.19	-311.63	264.38	64.52	43.45	21.07	3.062		
2,500.00	2,448.69	2,506.46	2,448.85	11.04	11.07	98.23	-327.63	278.53	67.88	45.81	22.08	3.075		
2,600.00	2,545.52	2,606.58	2,546.42	11.57	11.56	100.99	-343.63	292.68	71.42	48.35	23.07	3.096		
2,700.00	2,642.35	2,706.69	2,643.99	12.10	12.04	103.48	-359.63	306.83	75.11	51.06	24.05	3.124		
2,800.00	2,739.18	2,806.81	2,741.56	12.63	12.53	105.73	-375.63	320.97	78.93	53.92	25.01	3.156		
2,900.00	2,836.01	2,906.93	2,839.13	13.16	13.02	107.77	-391.63	335.12	82.85	56.89	25.96	3.191		
3,000.00	2,932.84	3,007.05	2,936.70	13.70	13.51	109.63	-407.63	349.27	86.87	59.97	26.91	3.229		
3,100.00	3,029.67	3,107.17	3,034.27	14.23	14.00	111.32	-423.63	363.42	90.98	63.14	27.84	3.268		
3,200.00	3,126.50	3,207.29	3,131.84	14.76	14.49	112.86	-439.63	377.57	95.16	66.38	28.77	3.307		
3,300.00	3,223.33	3,307.41	3,229.41	15.29	14.98	114.27	-455.63	391.72	99.40	69.70	29.70	3.347		
3,400.00	3,320.15	3,407.53	3,326.98	15.83	15.47	115.57	-471.63	405.87	103.69	73.07	30.62	3.387		
3,500.00	3,416.98	3,507.64	3,424.56	16.36	15.96	116.76	-487.63	420.02	108.04	76.50	31.54	3.426		
3,600.00	3,513.81	3,607.76	3,522.13	16.90	16.45	117.86	-503.63	434.16	112.42	79.97	32.45	3.464		
3,700.00	3,610.64	3,692.12	3,619.70	17.43	16.86	118.87	-519.63	448.31	116.85	83.56	33.29	3.510		
3,800.00	3,707.47	3,808.00	3,717.27	17.96	17.43	119.82	-535.63	462.46	121.31	87.03	34.27	3.539		
3,900.00	3,804.30	3,908.12	3,814.84	18.50	17.92	120.69	-551.63	476.61	125.80	90.62	35.18	3.576		
4,000.00	3,901.13	4,008.24	3,912.41	19.03	18.41	121.51	-567.63	490.76	130.32	94.23	36.09	3.611		
4,100.00	3,997.96	4,108.36	4,009.98	19.57	18.90	122.27	-583.63	504.91	134.86	97.86	37.00	3.645		
4,200.00	4,094.79	4,208.47	4,107.55	20.10	19.39	122.98	-599.63	519.06	139.42	101.52	37.90	3.679		
4,300.00	4,191.62	4,308.59	4,205.12	20.64	19.88	123.64	-615.63	533.21	144.00	105.20	38.80	3.711		
4,400.00	4,288.45	4,391.29	4,302.69	21.17	20.28	124.27	-631.63	547.35	148.61	108.98	39.63	3.750		
4,500.00	4,385.28	4,508.83	4,400.27	21.71	20.86	124.85	-647.63	561.50	153.23	112.61	40.61	3.773		
4,600.00	4,482.11	4,608.95	4,497.84	22.25	21.35	125.40	-663.63	575.65	157.86	116.35	41.51	3.803		
4,700.00	4,578.94	4,690.93	4,595.41	22.78	21.75	125.93	-679.63	589.80	162.51	120.18	42.33	3.839		
4,800.00	4,675.77	4,809.19	4,692.98	23.32	22.33	126.42	-695.63	603.95	167.17	123.85	43.32	3.859		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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
4,900.00	4,772.60	4,909.30	4,790.55	23.85	22.82	126.88	-711.63	618.10	171.84	127.62	44.22	3.886	
5,000.00	4,869.43	5,009.42	4,888.12	24.39	23.31	127.32	-727.63	632.25	176.52	131.40	45.12	3.912	
5,100.00	4,966.25	5,109.54	4,985.69	24.92	23.80	127.74	-743.63	646.40	181.21	135.19	46.02	3.937	
5,200.00	5,063.08	5,209.66	5,083.26	25.46	24.29	128.14	-759.63	660.54	185.92	138.99	46.92	3.962	
5,300.00	5,159.91	5,309.78	5,180.83	26.00	24.78	128.51	-775.63	674.69	190.63	142.80	47.82	3.986	
5,400.00	5,256.74	5,409.90	5,278.40	26.53	25.27	128.87	-791.64	688.84	195.34	146.62	48.73	4.009	
5,500.00	5,353.57	5,489.98	5,375.97	27.07	25.66	129.21	-807.64	702.99	200.07	150.53	49.53	4.039	
5,600.00	5,450.40	5,589.86	5,473.55	27.61	26.15	129.54	-823.64	717.14	204.80	154.37	50.43	4.061	
5,700.00	5,547.23	5,689.75	5,571.12	28.14	26.64	129.85	-839.64	731.29	209.54	158.21	51.33	4.082	
5,800.00	5,644.06	5,789.63	5,668.69	28.68	27.12	130.15	-855.64	745.44	214.28	162.05	52.23	4.102	
5,900.00	5,740.89	5,889.51	5,768.26	29.21	27.61	130.43	-871.64	759.59	219.03	165.90	53.13	4.122	
6,000.00	5,837.72	5,989.39	5,863.83	29.75	28.10	130.71	-887.64	773.74	223.79	169.75	54.03	4.142	
6,100.00	5,934.55	6,089.27	5,961.40	30.29	28.59	130.97	-903.64	787.88	228.55	173.61	54.93	4.161	
6,200.00	6,031.38	6,189.15	6,058.97	30.82	29.08	131.22	-919.64	802.03	233.31	177.48	55.83	4.179	
6,300.00	6,128.21	6,289.03	6,156.54	31.36	29.57	131.46	-935.64	816.18	238.08	181.35	56.73	4.197	
6,400.00	6,225.04	6,388.92	6,254.11	31.90	30.06	131.69	-951.64	830.33	242.85	185.22	57.63	4.214	
6,500.00	6,321.87	6,492.18	6,355.43	32.43	30.53	132.72	-967.64	845.06	247.16	188.81	58.35	4.236	
6,600.00	6,418.70	6,594.17	6,456.25	32.97	30.89	136.83	-983.64	859.86	250.30	192.07	58.23	4.298	
6,638.96	6,456.42	6,632.25	6,493.70	33.18	30.99	139.17	-959.74	865.40	251.74	193.78	57.97	4.343	
6,650.00	6,467.12	6,642.86	6,504.09	33.24	31.02	142.68	-958.25	866.93	252.23	194.35	57.88	4.358	
6,700.00	6,515.86	6,690.34	6,550.27	33.49	31.12	161.30	-949.69	873.80	254.95	197.51	57.45	4.438	
6,750.00	6,564.86	6,736.94	6,594.95	33.71	31.20	-176.25	-938.29	880.47	258.48	201.48	57.00	4.535	
6,800.00	6,613.89	6,782.74	6,638.06	33.90	31.27	-153.51	-924.26	886.94	262.71	206.17	56.54	4.647	
6,850.00	6,662.69	6,827.79	6,679.50	34.06	31.32	-134.42	-907.76	893.19	267.57	211.50	56.07	4.772	
6,900.00	6,711.04	6,872.14	6,719.22	34.19	31.36	-119.96	-888.98	899.21	272.94	217.35	55.59	4.910	
6,950.00	6,758.71	6,915.87	6,757.17	34.31	31.39	-109.16	-868.06	905.00	278.71	223.61	55.10	5.058	
7,000.00	6,805.44	6,959.00	6,793.30	34.40	31.40	-100.92	-845.17	910.53	284.79	230.20	54.59	5.217	
7,050.00	6,851.03	7,001.60	6,827.58	34.47	31.41	-94.41	-820.45	915.82	291.07	237.01	54.06	5.384	
7,100.00	6,895.25	7,043.70	6,859.96	34.52	31.40	-89.14	-794.03	920.84	297.45	243.93	53.52	5.558	
7,150.00	6,937.88	7,085.35	6,890.43	34.55	31.39	-84.77	-766.04	925.60	303.84	250.87	52.97	5.736	
7,200.00	6,978.71	7,126.59	6,918.96	34.57	31.37	-81.08	-736.61	930.09	310.16	257.75	52.41	5.918	
7,250.00	7,017.55	7,167.45	6,945.53	34.57	31.35	-77.94	-705.86	934.31	316.34	264.48	51.86	6.100	
7,300.00	7,054.21	7,207.98	6,970.12	34.56	31.32	-75.24	-673.90	938.25	322.29	270.97	51.32	6.281	
7,350.00	7,088.50	7,248.20	6,992.72	34.54	31.28	-72.91	-640.83	941.91	327.96	277.16	50.80	6.456	
7,400.00	7,120.26	7,288.14	7,013.30	34.50	31.24	-70.90	-606.77	945.28	333.30	282.97	50.33	6.622	
7,450.00	7,149.34	7,327.85	7,031.87	34.46	31.20	-69.17	-571.82	948.36	338.25	288.34	49.91	6.777	
7,500.00	7,175.60	7,367.33	7,048.41	34.40	31.16	-67.69	-536.08	951.16	342.78	293.21	49.56	6.916	
7,550.00	7,198.90	7,406.63	7,062.90	34.34	31.12	-66.43	-499.65	953.66	346.83	297.54	49.29	7.037	
7,600.00	7,219.14	7,445.76	7,075.35	34.27	31.07	-65.37	-462.61	955.87	350.39	301.29	49.10	7.136	
7,650.00	7,236.20	7,484.76	7,085.74	34.19	31.02	-64.51	-425.08	957.79	353.42	304.40	49.02	7.210	
7,700.00	7,250.02	7,523.65	7,094.08	34.11	30.98	-63.82	-387.14	959.40	355.90	306.86	49.04	7.257	
7,750.00	7,260.53	7,562.45	7,100.35	34.03	30.94	-63.31	-348.87	960.72	357.81	308.64	49.17	7.277	
7,800.00	7,267.67	7,600.00	7,104.46	33.95	30.90	-62.96	-311.57	961.71	359.14	309.70	49.44	7.264	
7,850.00	7,271.40	7,639.88	7,106.70	33.86	30.86	-62.76	-271.76	962.45	359.88	310.11	49.77	7.231	
7,879.59	7,272.00	7,663.40	7,107.00	33.82	30.84	-62.72	-248.24	962.73	360.03	310.02	50.01	7.199	
7,900.00	7,272.00	7,683.81	7,107.00	33.78	30.83	-62.72	-227.84	962.95	360.03	309.97	50.06	7.192	
8,000.00	7,272.00	7,783.81	7,107.00	33.64	30.79	-62.72	-127.84	963.98	360.03	309.62	50.41	7.142	
8,100.00	7,272.00	7,883.81	7,107.00	33.51	30.82	-62.72	-27.85	965.02	360.03	309.11	50.92	7.071	
8,200.00	7,272.00	7,983.81	7,107.00	33.41	30.95	-62.72	72.14	966.05	360.03	308.45	51.58	6.980	
8,300.00	7,272.00	8,083.81	7,107.00	33.34	31.20	-62.72	172.14	967.08	360.03	307.63	52.40	6.871	
8,400.00	7,272.00	8,183.81	7,107.00	33.33	31.59	-62.72	272.13	968.12	360.03	306.68	53.36	6.748	
8,500.00	7,272.00	8,283.81	7,107.00	33.42	32.11	-62.72	372.13	969.15	360.03	305.58	54.45	6.612	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: O-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
8,600.00	7,272.00	8,383.81	7,107.00	33.70	32.74	-62.72	472.12	970.19	360.03	304.36	55.68	6.466	
8,700.00	7,272.00	8,483.81	7,107.00	34.22	33.47	-62.72	572.12	971.22	360.03	303.01	57.02	6.314	
8,800.00	7,272.00	8,583.81	7,107.00	34.94	34.27	-62.72	672.11	972.26	360.03	301.56	58.48	6.157	
8,900.00	7,272.00	8,683.81	7,107.00	35.77	35.14	-62.72	772.11	973.29	360.03	300.00	60.04	5.997	
9,000.00	7,272.00	8,783.81	7,107.00	36.67	36.06	-62.72	872.10	974.33	360.03	298.34	61.69	5.836	
9,100.00	7,272.00	8,883.81	7,107.00	37.62	37.03	-62.72	972.10	975.36	360.03	296.60	63.44	5.675	
9,200.00	7,272.00	8,983.81	7,107.00	38.62	38.04	-62.72	1,072.09	976.40	360.03	294.77	65.26	5.517	
9,300.00	7,272.00	9,083.81	7,107.00	39.66	39.09	-62.72	1,172.09	977.43	360.04	292.87	67.16	5.360	
9,400.00	7,272.00	9,183.81	7,107.00	40.73	40.18	-62.72	1,272.08	978.47	360.04	290.90	69.13	5.208	
9,500.00	7,272.00	9,283.81	7,107.00	41.83	41.30	-62.72	1,372.07	979.50	360.04	288.87	71.16	5.059	
9,600.00	7,272.00	9,383.81	7,107.00	42.96	42.44	-62.72	1,472.07	980.54	360.04	286.78	73.25	4.915	
9,700.00	7,272.00	9,483.81	7,107.00	44.12	43.61	-62.72	1,572.06	981.57	360.04	284.64	75.40	4.775	
9,800.00	7,272.00	9,583.81	7,107.00	45.30	44.81	-62.72	1,672.06	982.61	360.04	282.45	77.59	4.640	
9,900.00	7,272.00	9,683.81	7,107.00	46.51	46.03	-62.72	1,772.05	983.64	360.04	280.22	79.82	4.511	
10,000.00	7,272.00	9,783.81	7,107.00	47.73	47.26	-62.72	1,872.05	984.68	360.04	277.94	82.10	4.386	
10,100.00	7,272.00	9,883.81	7,107.00	48.98	48.52	-62.72	1,972.04	985.71	360.04	275.63	84.41	4.265	
10,200.00	7,272.00	9,983.81	7,107.00	50.24	49.80	-62.72	2,072.04	986.75	360.04	273.28	86.76	4.150	
10,300.00	7,272.00	10,083.81	7,107.00	51.52	51.09	-62.72	2,172.03	987.78	360.04	270.90	89.14	4.039	
10,400.00	7,272.00	10,183.81	7,107.00	52.81	52.40	-62.72	2,272.03	988.82	360.04	268.49	91.55	3.933	
10,500.00	7,272.00	10,283.81	7,107.00	54.11	53.72	-62.72	2,372.02	989.85	360.04	266.06	93.98	3.831	
10,600.00	7,272.00	10,383.81	7,107.00	55.44	55.05	-62.72	2,472.02	990.89	360.04	263.60	96.44	3.733	
10,700.00	7,272.00	10,483.81	7,107.00	56.77	56.39	-62.72	2,572.01	991.92	360.04	261.11	98.93	3.639	
10,800.00	7,272.00	10,583.81	7,107.00	58.11	57.75	-62.72	2,672.01	992.96	360.04	258.61	101.43	3.550	
10,900.00	7,272.00	10,683.81	7,107.00	59.47	59.12	-62.72	2,772.00	993.99	360.04	256.08	103.96	3.463	
11,000.00	7,272.00	10,783.81	7,107.00	60.83	60.50	-62.72	2,871.99	995.03	360.04	253.54	106.50	3.381	
11,100.00	7,272.00	10,883.81	7,107.00	62.21	61.88	-62.72	2,971.99	996.06	360.04	250.98	109.06	3.301	
11,200.00	7,272.00	10,983.81	7,107.00	63.59	63.28	-62.72	3,071.98	997.10	360.04	248.40	111.64	3.225	
11,300.00	7,272.00	11,083.81	7,107.00	64.98	64.68	-62.72	3,171.98	998.13	360.04	245.81	114.23	3.152	
11,400.00	7,272.00	11,183.81	7,107.00	66.38	66.09	-62.72	3,271.97	999.17	360.04	243.21	116.84	3.082	
11,500.00	7,272.00	11,283.81	7,107.00	67.79	67.51	-62.72	3,371.97	1,000.20	360.04	240.59	119.45	3.014	
11,600.00	7,272.00	11,383.81	7,107.00	69.20	68.93	-62.72	3,471.96	1,001.23	360.04	237.96	122.09	2.949	
11,700.00	7,272.00	11,483.81	7,107.00	70.62	70.36	-62.72	3,571.96	1,002.27	360.04	235.32	124.73	2.887	
11,800.00	7,272.00	11,583.81	7,107.00	72.05	71.80	-62.72	3,671.95	1,003.30	360.04	232.66	127.38	2.827	
11,900.00	7,272.00	11,683.81	7,107.00	73.48	73.24	-62.72	3,771.95	1,004.34	360.04	230.00	130.04	2.769	
12,000.00	7,272.00	11,783.81	7,107.00	74.92	74.69	-62.72	3,871.94	1,005.37	360.04	227.33	132.72	2.713	
12,100.00	7,272.00	11,883.81	7,107.00	76.36	76.14	-62.72	3,971.94	1,006.41	360.04	224.65	135.40	2.659	
12,200.00	7,272.00	11,983.81	7,107.00	77.81	77.59	-62.72	4,071.93	1,007.44	360.04	221.96	138.09	2.607	
12,204.39	7,272.00	11,988.20	7,107.00	77.87	77.66	-62.72	4,076.32	1,007.49	360.04	221.84	138.21	2.605	
12,261.45	7,272.00	12,038.73	7,107.00	78.70	78.40	-62.72	4,126.85	1,008.01	360.10	220.61	139.50	2.581 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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					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	81.54	1.47	9.89	10.00					
100.00	100.00	100.00	100.00	0.14	0.14	81.54	1.47	9.89	10.00	9.72	0.28	36.228		
104.05	104.05	104.05	104.05	0.15	0.15	81.54	1.47	9.89	10.00	9.69	0.31	32.781 CC		
200.00	200.00	199.86	199.86	0.50	0.49	83.10	1.24	10.26	10.34	9.35	0.99	10.461 ES		
300.00	300.00	299.47	299.40	0.85	0.84	92.53	-0.58	13.20	13.23	11.53	1.70	7.785		
400.00	400.00	398.71	398.40	1.21	1.20	102.46	-4.21	19.06	19.59	17.17	2.42	8.101		
500.00	499.98	497.54	496.69	1.56	1.57	-22.80	-9.62	27.79	27.99	24.87	3.12	8.981		
600.00	599.84	596.08	594.28	1.90	1.96	-20.71	-16.78	39.35	36.62	32.81	3.80	9.627		
700.00	699.45	694.32	691.05	2.26	2.38	-20.07	-25.68	53.72	45.36	40.86	4.50	10.082		
800.00	798.70	792.26	786.89	2.62	2.82	-20.17	-36.29	70.83	54.19	48.98	5.20	10.414		
900.00	897.47	889.91	881.71	3.01	3.29	-20.69	-48.58	90.66	63.09	57.17	5.92	10.659		
1,000.00	995.62	987.26	975.39	3.43	3.80	-21.48	-62.51	113.15	72.06	65.41	6.65	10.840		
1,100.00	1,093.06	1,085.69	1,069.29	3.87	4.35	-22.53	-78.07	138.26	80.67	73.25	7.42	10.876		
1,123.32	1,115.66	1,108.95	1,091.45	3.98	4.48	-22.87	-81.79	144.26	82.31	74.70	7.61	10.822		
1,200.00	1,189.91	1,185.44	1,164.33	4.34	4.93	-24.01	-94.02	164.00	87.43	79.19	8.24	10.610		
1,300.00	1,286.74	1,285.19	1,259.37	4.83	5.52	-25.31	-109.98	189.75	94.16	85.07	9.08	10.365		
1,400.00	1,383.57	1,384.95	1,354.41	5.32	6.12	-26.44	-125.93	215.50	100.93	90.98	9.94	10.150		
1,500.00	1,480.40	1,484.70	1,449.45	5.83	6.72	-27.43	-141.88	241.25	107.73	96.91	10.81	9.961		
1,600.00	1,577.23	1,584.45	1,544.49	6.34	7.32	-28.29	-157.84	267.00	114.56	102.86	11.70	9.794		
1,700.00	1,674.06	1,684.20	1,639.54	6.85	7.93	-29.06	-173.79	292.75	121.41	108.83	12.59	9.646		
1,800.00	1,770.88	1,783.96	1,734.58	7.37	8.54	-29.75	-189.75	318.50	128.29	114.80	13.49	9.513		
1,900.00	1,867.71	1,883.71	1,829.62	7.89	9.15	-30.37	-205.70	344.25	135.18	120.78	14.39	9.393		
2,000.00	1,964.54	1,983.46	1,924.66	8.41	9.76	-30.93	-221.66	370.00	142.08	126.78	15.30	9.285		
2,100.00	2,061.37	2,083.21	2,019.70	8.93	10.38	-31.43	-237.61	395.75	149.00	132.78	16.22	9.188		
2,200.00	2,158.20	2,182.96	2,114.75	9.46	11.00	-31.89	-253.57	421.50	155.92	138.79	17.14	9.099		
2,300.00	2,255.03	2,282.72	2,209.79	9.98	11.61	-32.31	-269.52	447.25	162.86	144.80	18.06	9.018		
2,400.00	2,351.86	2,382.47	2,304.83	10.51	12.23	-32.70	-285.48	473.00	169.80	150.82	18.99	8.944		
2,500.00	2,448.69	2,482.22	2,399.87	11.04	12.85	-33.06	-301.43	498.75	176.75	156.84	19.92	8.875		
2,600.00	2,545.52	2,581.97	2,494.91	11.57	13.47	-33.39	-317.39	524.49	183.71	162.86	20.85	8.812		
2,700.00	2,642.35	2,681.73	2,589.95	12.10	14.08	-33.69	-333.34	550.24	190.67	168.89	21.78	8.754		
2,800.00	2,739.18	2,781.48	2,685.00	12.63	14.70	-33.98	-349.30	575.99	197.64	174.92	22.72	8.700		
2,900.00	2,836.01	2,881.23	2,780.04	13.16	15.32	-34.24	-365.25	601.74	204.61	180.96	23.66	8.650		
3,000.00	2,932.84	2,980.98	2,875.08	13.70	15.94	-34.49	-381.21	627.49	211.59	186.99	24.59	8.603		
3,100.00	3,029.67	3,080.74	2,970.12	14.23	16.56	-34.72	-397.16	653.24	218.57	193.03	25.54	8.559		
3,200.00	3,126.50	3,180.49	3,065.16	14.76	17.18	-34.94	-413.11	678.99	225.55	199.07	26.48	8.518		
3,300.00	3,223.33	3,280.24	3,160.21	15.29	17.81	-35.14	-429.07	704.74	232.54	205.12	27.42	8.480		
3,400.00	3,320.15	3,379.99	3,255.25	15.83	18.43	-35.34	-445.02	730.49	239.53	211.16	28.37	8.444		
3,500.00	3,416.98	3,479.74	3,350.29	16.36	19.05	-35.52	-460.98	756.24	246.52	217.21	29.31	8.410		
3,600.00	3,513.81	3,579.50	3,445.33	16.90	19.67	-35.69	-476.93	781.99	253.51	223.26	30.26	8.378		
3,700.00	3,610.64	3,679.25	3,540.37	17.43	20.29	-35.85	-492.89	807.74	260.51	229.30	31.21	8.348		
3,800.00	3,707.47	3,779.00	3,635.41	17.96	20.91	-36.00	-508.84	833.49	267.51	235.35	32.15	8.320		
3,900.00	3,804.30	3,878.75	3,730.46	18.50	21.53	-36.15	-524.80	859.24	274.51	241.41	33.10	8.293		
4,000.00	3,901.13	3,978.51	3,825.50	19.03	22.16	-36.29	-540.75	884.99	281.51	247.46	34.05	8.267		
4,100.00	3,997.96	4,078.26	3,920.54	19.57	22.78	-36.42	-556.71	910.74	288.51	253.51	35.00	8.243		
4,200.00	4,094.79	4,178.01	4,015.58	20.10	23.40	-36.55	-572.66	936.48	295.52	259.57	35.95	8.219		
4,300.00	4,191.62	4,277.76	4,110.62	20.64	24.02	-36.67	-588.62	962.23	302.53	265.62	36.91	8.197		
4,400.00	4,288.45	4,377.52	4,205.67	21.17	24.64	-36.78	-604.57	987.98	309.53	271.68	37.86	8.176		
4,500.00	4,385.28	4,477.27	4,300.71	21.71	25.27	-36.89	-620.53	1,013.73	316.54	277.73	38.81	8.156		
4,600.00	4,482.11	4,577.02	4,395.75	22.25	25.89	-36.99	-636.48	1,039.48	323.55	283.79	39.76	8.137		
4,700.00	4,578.94	4,676.77	4,490.79	22.78	26.51	-37.10	-652.44	1,065.23	330.56	289.85	40.72	8.119		
4,800.00	4,675.77	4,776.52	4,585.83	23.32	27.13	-37.19	-668.39	1,090.98	337.57	295.90	41.67	8.101		
4,900.00	4,772.60	4,876.28	4,680.87	23.85	27.76	-37.28	-684.35	1,116.73	344.59	301.96	42.62	8.085		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	4,869.43	4,976.03	4,775.92	24.39	28.38	-37.37	-700.30	1,142.48	351.60	308.02	43.58	8.069	
5,100.00	4,966.25	5,075.78	4,870.96	24.92	29.00	-37.46	-716.25	1,168.23	358.61	314.08	44.53	8.053	
5,200.00	5,063.08	5,175.53	4,966.00	25.46	29.62	-37.54	-732.21	1,193.98	365.63	320.14	45.49	8.038	
5,300.00	5,159.91	5,275.29	5,061.04	26.00	30.25	-37.62	-748.16	1,219.73	372.64	326.20	46.44	8.024	
5,400.00	5,256.74	5,375.04	5,156.08	26.53	30.87	-37.69	-764.12	1,245.48	379.66	332.26	47.40	8.010	
5,500.00	5,353.57	5,474.79	5,251.12	27.07	31.49	-37.77	-780.07	1,271.23	386.68	338.32	48.35	7.997	
5,600.00	5,450.40	5,574.54	5,346.17	27.61	32.12	-37.84	-796.03	1,296.98	393.69	344.39	49.31	7.984	
5,700.00	5,547.23	5,674.30	5,441.21	28.14	32.74	-37.90	-811.98	1,322.72	400.71	350.45	50.26	7.972	
5,800.00	5,644.06	5,774.05	5,536.25	28.68	33.36	-37.97	-827.94	1,348.47	407.73	356.51	51.22	7.960	
5,900.00	5,740.89	5,873.80	5,631.29	29.21	33.98	-38.03	-843.89	1,374.22	414.75	362.57	52.18	7.949	
6,000.00	5,837.72	5,973.55	5,726.33	29.75	34.61	-38.09	-859.85	1,399.97	421.77	368.64	53.13	7.938	
6,100.00	5,934.55	6,073.30	5,821.38	30.29	35.23	-38.15	-875.80	1,425.72	428.79	374.70	54.09	7.927	
6,200.00	6,031.38	6,173.06	5,916.42	30.82	35.85	-38.21	-891.76	1,451.47	435.81	380.76	55.05	7.917	
6,300.00	6,128.21	6,272.81	6,011.46	31.36	36.48	-38.27	-907.71	1,477.22	442.83	386.83	56.00	7.907	
6,400.00	6,225.04	6,372.56	6,106.50	31.90	37.10	-38.32	-923.67	1,502.97	449.85	392.89	56.96	7.897	
6,500.00	6,321.87	6,472.31	6,201.54	32.43	37.72	-38.37	-939.62	1,528.72	456.87	398.95	57.92	7.888	
6,600.00	6,418.70	6,572.07	6,296.58	32.97	38.35	-38.42	-955.58	1,554.47	463.90	405.02	58.88	7.879	
6,638.96	6,456.42	6,610.93	6,333.69	33.18	38.58	-38.51	-961.27	1,564.53	466.63	407.37	59.26	7.874	
6,650.00	6,467.12	6,621.93	6,344.23	33.24	38.65	-35.87	-962.52	1,567.39	467.41	408.03	59.38	7.871	
6,700.00	6,515.86	6,671.65	6,392.07	33.49	38.92	-21.11	-966.10	1,580.40	470.95	411.08	59.88	7.865	
6,750.00	6,564.86	6,721.22	6,439.89	33.71	39.17	-2.41	-966.24	1,593.43	474.52	414.22	60.31	7.869	
6,800.00	6,613.89	6,770.65	6,487.46	33.90	39.39	16.72	-962.97	1,606.44	478.10	417.43	60.67	7.880	
6,850.00	6,662.69	6,819.95	6,534.56	34.06	39.58	32.34	-956.32	1,619.35	481.67	420.69	60.98	7.899	
6,900.00	6,711.04	6,869.13	6,580.99	34.19	39.74	43.51	-946.36	1,632.11	485.22	423.98	61.23	7.924	
6,950.00	6,758.71	6,918.18	6,626.52	34.31	39.87	51.20	-933.16	1,644.66	488.72	427.28	61.44	7.955	
7,000.00	6,805.44	6,967.12	6,670.97	34.40	39.98	56.52	-916.79	1,656.95	492.15	430.55	61.60	7.990	
7,050.00	6,851.03	7,015.96	6,714.13	34.47	40.07	60.29	-897.37	1,668.92	495.51	433.79	61.72	8.028	
7,100.00	6,895.25	7,064.69	6,755.83	34.52	40.14	63.03	-874.98	1,680.52	498.77	436.96	61.81	8.070	
7,150.00	6,937.88	7,113.33	6,795.87	34.55	40.19	65.05	-849.75	1,691.70	501.91	440.05	61.86	8.113	
7,200.00	6,978.71	7,161.89	6,834.11	34.57	40.23	66.58	-821.82	1,702.42	504.93	443.03	61.89	8.158	
7,250.00	7,017.55	7,210.37	6,870.36	34.57	40.24	67.75	-791.30	1,712.62	507.79	445.88	61.91	8.202	
7,300.00	7,054.21	7,258.78	6,904.49	34.56	40.24	68.65	-758.36	1,722.27	510.50	448.59	61.91	8.246	
7,350.00	7,088.50	7,307.13	6,936.34	34.54	40.23	69.35	-723.15	1,731.32	513.03	451.13	61.90	8.288	
7,400.00	7,120.26	7,355.43	6,965.79	34.50	40.21	69.90	-685.82	1,739.73	515.38	453.48	61.90	8.327	
7,450.00	7,149.34	7,403.68	6,992.72	34.46	40.17	70.33	-646.56	1,747.48	517.53	455.63	61.89	8.362	
7,500.00	7,175.60	7,451.88	7,017.02	34.40	40.13	70.68	-605.53	1,754.53	519.46	457.57	61.90	8.392	
7,550.00	7,198.90	7,500.06	7,038.58	34.34	40.07	70.95	-562.92	1,760.85	521.18	459.26	61.92	8.417	
7,600.00	7,219.14	7,548.21	7,057.31	34.27	40.01	71.17	-518.93	1,766.42	522.67	460.71	61.96	8.436	
7,650.00	7,236.20	7,596.34	7,073.14	34.19	39.94	71.34	-473.74	1,771.20	523.93	461.90	62.02	8.448	
7,700.00	7,250.02	7,644.46	7,086.00	34.11	39.87	71.47	-427.55	1,775.18	524.94	462.83	62.11	8.452	
7,750.00	7,260.53	7,692.57	7,095.84	34.03	39.79	71.58	-380.57	1,778.35	525.70	463.48	62.23	8.448	
7,800.00	7,267.67	7,740.69	7,102.61	33.95	39.71	71.66	-333.00	1,780.69	526.22	463.84	62.37	8.436	
7,850.00	7,271.40	7,788.81	7,106.28	33.86	39.63	71.71	-285.05	1,782.19	526.48	463.93	62.55	8.416	
7,879.59	7,272.00	7,825.82	7,107.00	33.82	39.57	71.74	-256.73	1,782.68	526.52	463.82	62.69	8.398	
7,900.00	7,272.00	7,837.54	7,107.00	33.78	39.55	71.74	-236.33	1,782.89	526.52	463.74	62.78	8.387	
8,000.00	7,272.00	7,937.54	7,107.00	33.64	39.39	71.74	-136.34	1,783.93	526.52	463.13	63.39	8.306	
8,100.00	7,272.00	8,037.54	7,107.00	33.51	39.25	71.74	-36.34	1,784.96	526.52	462.39	64.13	8.211	
8,200.00	7,272.00	8,137.54	7,107.00	33.41	39.11	71.74	63.65	1,786.00	526.52	461.52	65.00	8.100	
8,300.00	7,272.00	8,237.54	7,107.00	33.34	38.99	71.74	163.65	1,787.03	526.52	460.52	66.00	7.977	
8,400.00	7,272.00	8,337.54	7,107.00	33.33	38.87	71.74	263.64	1,788.07	526.52	459.39	67.13	7.844	
8,500.00	7,272.00	8,437.54	7,107.00	33.42	38.77	71.74	363.64	1,789.11	526.52	458.15	68.37	7.702	
8,600.00	7,272.00	8,537.54	7,107.00	33.70	38.67	71.74	463.63	1,790.14	526.52	456.80	69.72	7.552	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	8,637.54	7,107.00	34.22	38.58	71.74	563.63	1,791.18	526.52	455.35	71.17	7.398		
8,800.00	7,272.00	8,737.54	7,107.00	34.94	38.51	71.74	663.62	1,792.21	526.52	453.80	72.72	7.240		
8,900.00	7,272.00	8,837.54	7,107.00	35.77	38.44	71.74	763.62	1,793.25	526.52	452.16	74.36	7.081		
9,000.00	7,272.00	8,937.54	7,107.00	36.67	38.42	71.74	863.61	1,794.28	526.52	450.43	76.09	6.920		
9,100.00	7,272.00	9,037.54	7,107.00	37.62	38.56	71.74	963.61	1,795.32	526.52	448.63	77.89	6.759		
9,200.00	7,272.00	9,137.54	7,107.00	38.62	39.29	71.74	1,063.60	1,796.36	526.52	446.75	79.78	6.600		
9,300.00	7,272.00	9,237.54	7,107.00	39.66	40.28	71.74	1,163.60	1,797.39	526.52	444.80	81.73	6.442		
9,400.00	7,272.00	9,337.54	7,107.00	40.73	41.33	71.74	1,263.59	1,798.43	526.52	442.78	83.74	6.288		
9,500.00	7,272.00	9,437.54	7,107.00	41.83	42.43	71.74	1,363.58	1,799.46	526.52	440.71	85.82	6.136		
9,600.00	7,272.00	9,537.54	7,107.00	42.96	43.55	71.74	1,463.58	1,800.50	526.52	438.58	87.95	5.987		
9,700.00	7,272.00	9,637.54	7,107.00	44.12	44.70	71.74	1,563.57	1,801.53	526.52	436.40	90.13	5.842		
9,800.00	7,272.00	9,737.54	7,107.00	45.30	45.87	71.74	1,663.57	1,802.57	526.53	434.17	92.36	5.701		
9,900.00	7,272.00	9,837.54	7,107.00	46.51	47.06	71.74	1,763.56	1,803.61	526.53	431.89	94.63	5.564		
10,000.00	7,272.00	9,937.54	7,107.00	47.73	48.28	71.74	1,863.56	1,804.64	526.53	429.58	96.95	5.431		
10,100.00	7,272.00	10,037.54	7,107.00	48.98	49.51	71.74	1,963.55	1,805.68	526.53	427.23	99.30	5.302		
10,200.00	7,272.00	10,137.54	7,107.00	50.24	50.76	71.74	2,063.55	1,806.71	526.53	424.84	101.69	5.178		
10,300.00	7,272.00	10,237.54	7,107.00	51.52	52.03	71.74	2,163.54	1,807.75	526.53	422.41	104.11	5.057		
10,400.00	7,272.00	10,337.54	7,107.00	52.81	53.31	71.74	2,263.54	1,808.78	526.53	419.96	106.57	4.941		
10,500.00	7,272.00	10,437.54	7,107.00	54.11	54.61	71.74	2,363.53	1,809.82	526.53	417.48	109.05	4.828		
10,600.00	7,272.00	10,537.54	7,107.00	55.44	55.92	71.74	2,463.53	1,810.86	526.53	414.97	111.56	4.720		
10,700.00	7,272.00	10,637.54	7,107.00	56.77	57.24	71.74	2,563.52	1,811.89	526.53	412.43	114.10	4.615		
10,800.00	7,272.00	10,737.54	7,107.00	58.11	58.57	71.74	2,663.51	1,812.93	526.53	409.87	116.66	4.513		
10,900.00	7,272.00	10,837.54	7,107.00	59.47	59.92	71.74	2,763.51	1,813.96	526.53	407.29	119.24	4.416		
11,000.00	7,272.00	10,937.54	7,107.00	60.83	61.27	71.74	2,863.50	1,815.00	526.53	404.69	121.84	4.321		
11,100.00	7,272.00	11,037.54	7,107.00	62.21	62.64	71.74	2,963.50	1,816.03	526.53	402.07	124.47	4.230		
11,200.00	7,272.00	11,137.54	7,107.00	63.59	64.01	71.74	3,063.49	1,817.07	526.53	399.43	127.11	4.142		
11,300.00	7,272.00	11,237.54	7,107.00	64.98	65.39	71.74	3,163.49	1,818.11	526.53	396.77	129.76	4.058		
11,400.00	7,272.00	11,337.54	7,107.00	66.38	66.78	71.74	3,263.48	1,819.14	526.53	394.10	132.44	3.976		
11,500.00	7,272.00	11,437.54	7,107.00	67.79	68.18	71.74	3,363.48	1,820.18	526.53	391.41	135.12	3.897		
11,600.00	7,272.00	11,537.54	7,107.00	69.20	69.58	71.74	3,463.47	1,821.21	526.53	388.71	137.83	3.820		
11,700.00	7,272.00	11,637.54	7,107.00	70.62	70.99	71.74	3,563.47	1,822.25	526.53	385.99	140.54	3.746		
11,800.00	7,272.00	11,737.54	7,107.00	72.05	72.41	71.74	3,663.46	1,823.29	526.54	383.26	143.27	3.675		
11,900.00	7,272.00	11,837.54	7,107.00	73.48	73.84	71.74	3,763.46	1,824.32	526.54	380.52	146.01	3.606		
12,000.00	7,272.00	11,937.54	7,107.00	74.92	75.27	71.74	3,863.45	1,825.36	526.54	377.77	148.76	3.539		
12,100.00	7,272.00	12,037.54	7,107.00	76.36	76.70	71.74	3,963.45	1,826.39	526.54	375.01	151.53	3.475		
12,200.00	7,272.00	12,137.54	7,107.00	77.81	78.14	71.74	4,063.44	1,827.43	526.54	372.24	154.30	3.412		
12,261.45	7,272.00	12,198.99	7,107.00	78.70	79.03	71.74	4,124.89	1,828.06	526.54	370.53	156.01	3.375 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							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	2.94	19.78	20.00					
100.00	100.00	100.00	100.00	0.14	0.14	81.55	2.94	19.78	20.00	19.72	0.28	72.460		
200.00	200.00	200.00	200.00	0.50	0.50	81.55	2.94	19.78	20.00	19.01	0.99	20.142		
300.00	300.00	300.00	300.00	0.85	0.85	81.55	2.94	19.78	20.00	18.29	1.71	11.697		
400.00	400.00	400.00	400.00	1.21	1.21	81.55	2.94	19.78	20.00	17.57	2.43	8.241 CC		
500.00	499.98	499.44	499.42	1.56	1.56	-49.94	2.14	21.31	20.26	17.15	3.12	6.503 ES		
600.00	599.84	598.86	598.70	1.90	1.90	-52.33	-0.25	25.90	21.08	17.29	3.80	5.554		
700.00	699.45	698.27	697.74	2.26	2.26	-55.90	-4.23	33.54	22.52	18.02	4.49	5.010		
800.00	798.70	797.66	796.38	2.62	2.62	-60.18	-9.79	44.22	24.65	19.43	5.22	4.724		
900.00	897.47	897.01	894.52	3.01	3.01	-64.65	-16.93	57.92	27.56	21.58	5.98	4.610 SF		
1,000.00	995.62	996.32	992.02	3.43	3.42	-68.94	-25.63	74.63	31.28	24.50	6.79	4.610		
1,100.00	1,093.06	1,095.57	1,088.76	3.87	3.86	-72.82	-35.88	94.31	35.85	28.20	7.66	4.683		
1,123.32	1,115.66	1,118.71	1,111.20	3.98	3.97	-73.65	-38.49	99.32	37.04	29.17	7.87	4.707		
1,200.00	1,189.91	1,194.76	1,184.61	4.34	4.34	-74.90	-47.66	116.93	41.52	32.94	8.58	4.839		
1,300.00	1,286.74	1,293.74	1,279.31	4.83	4.86	-72.98	-60.94	142.43	48.83	39.31	9.52	5.129		
1,400.00	1,383.57	1,392.26	1,372.54	5.32	5.42	-68.68	-75.66	170.67	58.03	47.59	10.45	5.555		
1,500.00	1,480.40	1,508.87	1,465.22	5.83	6.14	-63.81	-91.56	201.20	69.09	57.63	11.46	6.029		
1,600.00	1,577.23	1,590.35	1,558.18	6.34	6.66	-60.20	-107.59	231.98	80.62	68.33	12.29	6.560		
1,700.00	1,674.06	1,689.57	1,651.13	6.85	7.31	-57.49	-123.63	262.76	92.39	79.17	13.22	6.988		
1,800.00	1,770.88	1,788.79	1,744.08	7.37	7.96	-55.40	-139.66	293.54	104.32	90.16	14.16	7.369		
1,900.00	1,867.71	1,888.02	1,837.04	7.89	8.63	-53.74	-155.69	324.32	116.36	101.26	15.10	7.708		
2,000.00	1,964.54	1,987.24	1,929.99	8.41	9.30	-52.39	-171.73	355.10	128.47	112.43	16.04	8.010		
2,100.00	2,061.37	2,086.46	2,022.95	8.93	9.98	-51.28	-187.76	385.88	140.64	123.66	16.99	8.280		
2,200.00	2,158.20	2,185.68	2,115.90	9.46	10.66	-50.34	-203.79	416.66	152.86	134.93	17.93	8.524		
2,300.00	2,255.03	2,284.91	2,208.86	9.98	11.34	-49.54	-219.83	447.44	165.11	146.23	18.88	8.743		
2,400.00	2,351.86	2,384.13	2,301.81	10.51	12.03	-48.85	-235.86	478.22	177.39	157.55	19.84	8.943		
2,500.00	2,448.69	2,483.35	2,394.77	11.04	12.72	-48.25	-251.89	509.00	189.69	168.90	20.79	9.124		
2,600.00	2,545.52	2,582.57	2,487.72	11.57	13.41	-47.73	-267.93	539.78	202.01	180.27	21.75	9.290		
2,700.00	2,642.35	2,681.79	2,580.67	12.10	14.10	-47.26	-283.96	570.56	214.34	191.64	22.70	9.442		
2,800.00	2,739.18	2,781.02	2,673.63	12.63	14.80	-46.85	-300.00	601.34	226.69	203.03	23.66	9.581		
2,900.00	2,836.01	2,880.24	2,766.58	13.16	15.50	-46.47	-316.03	632.12	239.05	214.43	24.62	9.710		
3,000.00	2,932.84	2,979.46	2,859.54	13.70	16.19	-46.14	-332.06	662.91	251.41	225.84	25.58	9.829		
3,100.00	3,029.67	3,078.68	2,952.49	14.23	16.89	-45.83	-348.10	693.69	263.79	237.25	26.54	9.940		
3,200.00	3,126.50	3,177.91	3,045.45	14.76	17.59	-45.56	-364.13	724.47	276.17	248.67	27.50	10.043		
3,300.00	3,223.33	3,277.13	3,138.40	15.29	18.29	-45.30	-380.16	755.25	288.55	260.09	28.46	10.139		
3,400.00	3,320.15	3,376.35	3,231.36	15.83	18.99	-45.07	-396.20	786.03	300.94	271.52	29.42	10.229		
3,500.00	3,416.98	3,475.57	3,324.31	16.36	19.69	-44.86	-412.23	816.81	313.34	282.95	30.38	10.313		
3,600.00	3,513.81	3,574.80	3,417.27	16.90	20.39	-44.66	-428.26	847.59	325.74	294.39	31.35	10.391		
3,700.00	3,610.64	3,674.02	3,510.22	17.43	21.09	-44.48	-444.30	878.37	338.14	305.83	32.31	10.465		
3,800.00	3,707.47	3,773.24	3,603.17	17.96	21.80	-44.31	-460.33	909.15	350.55	317.27	33.27	10.535		
3,900.00	3,804.30	3,872.46	3,696.13	18.50	22.50	-44.15	-476.37	939.93	362.96	328.72	34.24	10.601		
4,000.00	3,901.13	3,971.68	3,789.08	19.03	23.20	-44.00	-492.40	970.71	375.37	340.17	35.20	10.663		
4,100.00	3,997.96	4,070.91	3,882.04	19.57	23.91	-43.86	-508.43	1,001.49	387.78	351.61	36.17	10.722		
4,200.00	4,094.79	4,170.13	3,974.99	20.10	24.61	-43.73	-524.47	1,032.27	400.20	363.07	37.13	10.778		
4,300.00	4,191.62	4,269.35	4,067.95	20.64	25.31	-43.61	-540.50	1,063.05	412.61	374.52	38.10	10.831		
4,400.00	4,288.45	4,368.57	4,160.90	21.17	26.02	-43.49	-556.53	1,093.83	425.03	385.97	39.06	10.881		
4,500.00	4,385.28	4,467.80	4,253.86	21.71	26.72	-43.39	-572.57	1,124.61	437.46	397.43	40.03	10.929		
4,600.00	4,482.11	4,567.02	4,346.81	22.25	27.43	-43.28	-588.60	1,155.39	449.88	408.88	40.99	10.974		
4,700.00	4,578.94	4,666.24	4,439.77	22.78	28.13	-43.19	-604.63	1,186.17	462.30	420.34	41.96	11.018		
4,800.00	4,675.77	4,765.46	4,532.72	23.32	28.84	-43.09	-620.67	1,216.95	474.73	431.80	42.93	11.059		
4,900.00	4,772.60	4,864.68	4,625.67	23.85	29.54	-43.01	-636.70	1,247.73	487.15	443.26	43.89	11.099		
5,000.00	4,869.43	4,963.91	4,718.63	24.39	30.25	-42.92	-652.74	1,278.52	499.58	454.72	44.86	11.137		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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				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	4,966.25	5,063.13	4,811.58	24.92	30.95	-42.85	-668.77	1,309.30	512.01	466.18	45.82	11.173		
5,200.00	5,063.08	5,162.35	4,904.54	25.46	31.66	-42.77	-684.80	1,340.08	524.44	477.65	46.79	11.208		
5,300.00	5,159.91	5,261.57	4,997.49	26.00	32.37	-42.70	-700.84	1,370.86	536.87	489.11	47.76	11.241		
5,400.00	5,256.74	5,360.80	5,090.45	26.53	33.07	-42.63	-716.87	1,401.64	549.30	500.57	48.72	11.273		
5,500.00	5,353.57	5,460.02	5,183.40	27.07	33.78	-42.56	-732.90	1,432.42	561.73	512.04	49.69	11.304		
5,600.00	5,450.40	5,559.24	5,276.36	27.61	34.48	-42.50	-748.94	1,463.20	574.16	523.50	50.66	11.334		
5,700.00	5,547.23	5,658.46	5,369.31	28.14	35.19	-42.44	-764.97	1,493.98	586.60	534.97	51.63	11.362		
5,800.00	5,644.06	5,757.69	5,462.27	28.68	35.90	-42.39	-781.00	1,524.76	599.03	546.44	52.59	11.390		
5,900.00	5,740.89	5,856.91	5,555.22	29.21	36.60	-42.33	-797.04	1,555.54	611.46	557.90	53.56	11.416		
6,000.00	5,837.72	5,956.13	5,648.17	29.75	37.31	-42.28	-813.07	1,586.32	623.90	569.37	54.53	11.442		
6,100.00	5,934.55	6,055.35	5,741.13	30.29	38.02	-42.23	-829.11	1,617.10	636.33	580.84	55.50	11.466		
6,200.00	6,031.38	6,154.57	5,834.08	30.82	38.72	-42.18	-845.14	1,647.88	648.77	592.30	56.46	11.490		
6,300.00	6,128.21	6,253.80	5,927.04	31.36	39.43	-42.13	-861.17	1,678.66	661.20	603.77	57.43	11.513		
6,400.00	6,225.04	6,353.02	6,019.99	31.90	40.14	-42.09	-877.21	1,709.44	673.64	615.24	58.40	11.535		
6,500.00	6,321.87	6,452.24	6,112.95	32.43	40.84	-42.04	-893.24	1,740.22	686.08	626.71	59.37	11.556		
6,600.00	6,418.70	6,551.46	6,205.90	32.97	41.55	-42.00	-909.27	1,771.00	698.52	638.18	60.34	11.577		
6,638.96	6,456.42	6,609.88	6,242.11	33.18	41.97	-41.98	-915.52	1,782.99	703.36	642.54	60.82	11.565		
6,650.00	6,467.12	6,601.07	6,252.38	33.24	41.90	-39.32	-917.29	1,786.39	704.73	643.91	60.82	11.588		
6,700.00	6,515.86	6,650.62	6,298.79	33.49	42.26	-24.29	-925.30	1,801.76	710.82	649.62	61.20	11.614		
6,750.00	6,564.86	6,700.13	6,344.93	33.71	42.61	-5.04	-933.25	1,817.04	716.75	655.30	61.45	11.664		
6,800.00	6,613.89	6,748.59	6,390.57	33.90	42.96	14.89	-941.13	1,832.15	722.58	661.02	61.56	11.738		
6,850.00	6,662.69	6,803.46	6,435.49	34.06	43.35	31.54	-948.88	1,847.03	728.41	666.84	61.58	11.829		
6,900.00	6,711.04	6,843.49	6,479.48	34.19	43.63	43.93	-956.46	1,861.59	734.39	672.99	61.40	11.960		
6,950.00	6,758.71	6,890.11	6,523.31	34.31	43.95	52.93	-962.84	1,876.12	740.67	679.48	61.19	12.104		
7,000.00	6,805.44	6,937.88	6,568.52	34.40	44.26	59.54	-966.27	1,891.14	747.28	686.31	60.98	12.255		
7,050.00	6,851.03	6,986.91	6,615.03	34.47	44.55	64.59	-966.48	1,906.62	754.19	693.42	60.77	12.410		
7,100.00	6,895.25	7,037.34	6,662.76	34.52	44.82	68.57	-963.20	1,922.54	761.36	700.78	60.58	12.567		
7,150.00	6,937.88	7,089.29	6,711.56	34.55	45.07	71.82	-956.13	1,938.86	768.74	708.32	60.43	12.722		
7,200.00	6,978.71	7,142.90	6,761.25	34.57	45.29	74.54	-944.94	1,955.52	776.28	715.98	60.30	12.874		
7,250.00	7,017.55	7,198.29	6,811.60	34.57	45.48	76.87	-929.29	1,972.45	783.92	723.71	60.20	13.021		
7,300.00	7,054.21	7,255.60	6,862.32	34.56	45.65	78.90	-908.84	1,989.55	791.57	731.43	60.14	13.163		
7,350.00	7,088.50	7,314.97	6,913.04	34.54	45.78	80.70	-883.21	2,006.69	799.17	739.06	60.10	13.297		
7,400.00	7,120.26	7,376.52	6,963.28	34.50	45.89	82.29	-852.05	2,023.74	806.61	746.52	60.09	13.424		
7,450.00	7,149.34	7,440.34	7,012.49	34.46	45.97	83.72	-815.06	2,040.51	813.81	753.71	60.09	13.542		
7,500.00	7,175.60	7,506.52	7,059.98	34.40	46.02	84.99	-771.98	2,056.77	820.65	760.53	60.12	13.650		
7,550.00	7,198.90	7,575.06	7,104.96	34.34	46.04	86.13	-722.68	2,072.26	827.03	766.86	60.17	13.744		
7,600.00	7,219.14	7,645.94	7,146.55	34.27	46.03	87.13	-667.15	2,086.67	832.84	772.58	60.26	13.821		
7,650.00	7,236.20	7,719.07	7,183.76	34.19	45.99	87.99	-605.60	2,099.70	837.96	777.56	60.40	13.873		
7,700.00	7,250.02	7,794.25	7,215.59	34.11	45.93	88.70	-538.47	2,111.00	842.29	781.67	60.62	13.895		
7,750.00	7,260.53	7,871.23	7,241.08	34.03	45.84	89.27	-466.46	2,120.22	845.73	784.79	60.94	13.879		
7,800.00	7,267.67	7,949.64	7,259.34	33.95	45.74	89.68	-390.56	2,127.09	848.19	786.82	61.37	13.821		
7,850.00	7,271.40	8,029.05	7,269.69	33.86	45.63	89.93	-311.98	2,131.35	849.63	787.69	61.94	13.717		
7,879.59	7,272.00	8,076.32	7,271.91	33.82	45.56	89.99	-264.79	2,132.58	849.97	787.64	62.33	13.636		
7,900.00	7,272.00	8,101.15	7,272.00	33.78	45.52	90.00	-239.96	2,132.87	849.99	787.50	62.49	13.603		
8,000.00	7,272.00	8,201.15	7,272.00	33.64	45.38	90.00	-139.96	2,133.90	849.99	787.07	62.92	13.510		
8,100.00	7,272.00	8,301.15	7,272.00	33.51	45.25	90.00	-39.97	2,134.94	849.99	786.49	63.50	13.385		
8,200.00	7,272.00	8,401.15	7,272.00	33.41	45.13	90.00	60.03	2,135.98	849.99	785.75	64.24	13.232		
8,300.00	7,272.00	8,501.15	7,272.00	33.34	45.02	90.00	160.02	2,137.01	849.99	784.88	65.12	13.054		
8,400.00	7,272.00	8,601.15	7,272.00	33.33	44.92	90.00	260.02	2,138.05	849.99	783.86	66.13	12.853		
8,500.00	7,272.00	8,701.15	7,272.00	33.42	44.83	90.00	360.01	2,139.08	849.99	782.71	67.28	12.633		
8,600.00	7,272.00	8,801.15	7,272.00	33.70	44.75	90.00	460.00	2,140.12	850.00	781.44	68.56	12.398		
8,700.00	7,272.00	8,901.15	7,272.00	34.22	44.67	90.00	560.00	2,141.16	850.00	780.05	69.95	12.151		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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
8,800.00	7,272.00	9,001.15	7,272.00	34.94	44.61	90.00	659.99	2,142.19	850.00	778.54	71.46	11.895	
8,900.00	7,272.00	9,101.15	7,272.00	35.77	44.55	90.00	759.99	2,143.23	850.00	776.93	73.07	11.633	
9,000.00	7,272.00	9,201.15	7,272.00	36.67	44.51	90.00	859.98	2,144.26	850.00	775.23	74.77	11.368	
9,100.00	7,272.00	9,301.15	7,272.00	37.62	44.49	90.00	959.98	2,145.30	850.00	773.43	76.57	11.100	
9,200.00	7,272.00	9,401.15	7,272.00	38.62	44.50	90.00	1,059.97	2,146.34	850.00	771.54	78.46	10.834	
9,300.00	7,272.00	9,501.15	7,272.00	39.66	44.55	90.00	1,159.97	2,147.37	850.00	769.58	80.42	10.569	
9,400.00	7,272.00	9,601.15	7,272.00	40.73	44.69	90.00	1,259.96	2,148.41	850.00	767.54	82.46	10.308	
9,500.00	7,272.00	9,701.15	7,272.00	41.83	44.98	90.00	1,359.96	2,149.45	850.00	765.44	84.56	10.052	
9,600.00	7,272.00	9,801.15	7,272.00	42.96	45.53	90.00	1,459.95	2,150.48	850.00	763.27	86.73	9.800	
9,700.00	7,272.00	9,901.15	7,272.00	44.12	46.33	90.00	1,559.95	2,151.52	850.01	761.05	88.96	9.555	
9,800.00	7,272.00	10,001.15	7,272.00	45.30	47.29	90.00	1,659.94	2,152.55	850.01	758.77	91.24	9.316	
9,900.00	7,272.00	10,101.15	7,272.00	46.51	48.36	90.00	1,759.93	2,153.59	850.01	756.44	93.57	9.084	
10,000.00	7,272.00	10,201.15	7,272.00	47.73	49.49	90.00	1,859.93	2,154.63	850.01	754.06	95.95	8.859	
10,100.00	7,272.00	10,301.15	7,272.00	48.98	50.65	90.00	1,959.92	2,155.66	850.01	751.64	98.37	8.641	
10,200.00	7,272.00	10,401.15	7,272.00	50.24	51.85	90.00	2,059.92	2,156.70	850.01	749.18	100.83	8.430	
10,300.00	7,272.00	10,501.15	7,272.00	51.52	53.08	90.00	2,159.91	2,157.73	850.01	746.68	103.33	8.226	
10,400.00	7,272.00	10,601.15	7,272.00	52.81	54.32	90.00	2,259.91	2,158.77	850.01	744.15	105.86	8.029	
10,500.00	7,272.00	10,701.15	7,272.00	54.11	55.59	90.00	2,359.90	2,159.81	850.01	741.58	108.43	7.839	
10,600.00	7,272.00	10,801.15	7,272.00	55.44	56.87	90.00	2,459.90	2,160.84	850.01	738.99	111.03	7.656	
10,700.00	7,272.00	10,901.15	7,272.00	56.77	58.16	90.00	2,559.89	2,161.88	850.01	736.36	113.65	7.479	
10,800.00	7,272.00	11,001.15	7,272.00	58.11	59.47	90.00	2,659.89	2,162.92	850.02	733.72	116.30	7.309	
10,900.00	7,272.00	11,101.15	7,272.00	59.47	60.79	90.00	2,759.88	2,163.95	850.02	731.04	118.97	7.145	
11,000.00	7,272.00	11,201.15	7,272.00	60.83	62.12	90.00	2,859.88	2,164.99	850.02	728.35	121.67	6.986	
11,100.00	7,272.00	11,301.15	7,272.00	62.21	63.47	90.00	2,959.87	2,166.02	850.02	725.63	124.39	6.834	
11,200.00	7,272.00	11,401.15	7,272.00	63.59	64.82	90.00	3,059.86	2,167.06	850.02	722.89	127.13	6.686	
11,300.00	7,272.00	11,501.15	7,272.00	64.98	66.19	90.00	3,159.86	2,168.10	850.02	720.14	129.88	6.544	
11,400.00	7,272.00	11,601.15	7,272.00	66.38	67.56	90.00	3,259.85	2,169.13	850.02	717.36	132.66	6.408	
11,500.00	7,272.00	11,701.15	7,272.00	67.79	68.94	90.00	3,359.85	2,170.17	850.02	714.57	135.45	6.276	
11,600.00	7,272.00	11,801.15	7,272.00	69.20	70.33	90.00	3,459.84	2,171.20	850.02	711.77	138.25	6.148	
11,700.00	7,272.00	11,901.15	7,272.00	70.62	71.72	90.00	3,559.84	2,172.24	850.02	708.95	141.07	6.025	
11,800.00	7,272.00	12,001.15	7,272.00	72.05	73.13	90.00	3,659.83	2,173.28	850.02	706.12	143.91	5.907	
11,900.00	7,272.00	12,101.15	7,272.00	73.48	74.53	90.00	3,759.83	2,174.31	850.03	703.27	146.75	5.792	
12,000.00	7,272.00	12,201.15	7,272.00	74.92	75.95	90.00	3,859.82	2,175.35	850.03	700.41	149.61	5.682	
12,100.00	7,272.00	12,301.15	7,272.00	76.36	77.37	90.00	3,959.82	2,176.38	850.03	697.54	152.48	5.575	
12,200.00	7,272.00	12,401.15	7,272.00	77.81	78.80	90.00	4,059.81	2,177.42	850.03	694.66	155.36	5.471	
12,261.45	7,272.00	12,462.60	7,272.00	78.70	79.68	90.00	4,121.26	2,178.06	850.03	692.89	157.14	5.409	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	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	108.688		
103.50	103.50	103.50	103.50	0.15	0.15	81.55	4.41	29.67	30.00	29.70	0.30	99.631 CC		
200.00	200.00	199.56	199.56	0.50	0.49	81.99	4.23	30.06	30.36	29.37	0.99	30.742 ES		
300.00	300.00	298.57	298.50	0.85	0.84	85.20	2.78	33.17	33.32	31.62	1.70	19.625		
400.00	400.00	397.22	396.91	1.21	1.20	90.13	-0.09	39.34	39.46	37.05	2.41	16.347		
500.00	499.98	495.46	494.63	1.56	1.57	-36.61	-4.37	48.54	47.62	44.51	3.11	15.303		
600.00	599.84	593.40	591.64	1.90	1.95	-34.72	-10.04	60.72	56.30	52.50	3.80	14.810		
700.00	699.45	691.03	687.82	2.26	2.36	-34.06	-17.08	75.85	65.36	60.86	4.50	14.519		
800.00	798.70	788.33	783.06	2.62	2.80	-34.21	-25.47	93.88	74.75	69.54	5.21	14.336		
900.00	897.47	885.31	877.26	3.01	3.27	-34.87	-35.19	114.76	84.48	78.53	5.94	14.210		
1,000.00	995.62	981.95	970.30	3.43	3.77	-35.88	-46.20	138.43	94.55	87.85	6.70	14.115		
1,100.00	1,093.06	1,078.25	1,062.09	3.87	4.32	-37.12	-58.49	164.83	104.98	97.50	7.48	14.030		
1,123.32	1,115.66	1,100.66	1,083.31	3.98	4.45	-37.43	-61.53	171.38	107.47	99.80	7.67	14.011		
1,200.00	1,189.91	1,174.13	1,152.45	4.34	4.91	-38.31	-72.01	193.88	116.61	108.31	8.30	14.042		
1,300.00	1,286.74	1,270.08	1,241.79	4.83	5.56	-38.77	-86.78	225.62	131.17	122.02	9.15	14.336		
1,400.00	1,383.57	1,368.87	1,333.38	5.32	6.26	-38.97	-102.39	259.18	146.69	136.63	10.06	14.583		
1,500.00	1,480.40	1,467.65	1,424.97	5.83	6.97	-39.14	-118.01	292.74	162.21	151.23	10.98	14.773		
1,600.00	1,577.23	1,566.44	1,516.56	6.34	7.68	-39.28	-133.63	326.30	177.74	165.83	11.91	14.921		
1,700.00	1,674.06	1,665.23	1,608.15	6.85	8.41	-39.40	-149.24	359.86	193.26	180.41	12.85	15.039		
1,800.00	1,770.88	1,764.01	1,699.74	7.37	9.14	-39.50	-164.86	393.41	208.79	194.99	13.80	15.134		
1,900.00	1,867.71	1,862.80	1,791.33	7.89	9.88	-39.58	-180.48	426.97	224.31	209.57	14.75	15.212		
2,000.00	1,964.54	1,961.59	1,882.92	8.41	10.62	-39.66	-196.10	460.53	239.84	224.14	15.70	15.276		
2,100.00	2,061.37	2,060.37	1,974.51	8.93	11.36	-39.72	-211.71	494.09	255.37	238.71	16.66	15.330		
2,200.00	2,158.20	2,159.16	2,066.10	9.46	12.10	-39.78	-227.33	527.65	270.90	253.28	17.62	15.375		
2,300.00	2,255.03	2,257.95	2,157.69	9.98	12.85	-39.83	-242.95	561.21	286.42	267.84	18.58	15.414		
2,400.00	2,351.86	2,356.73	2,249.28	10.51	13.60	-39.88	-258.56	594.76	301.95	282.40	19.55	15.448		
2,500.00	2,448.69	2,455.52	2,340.87	11.04	14.35	-39.92	-274.18	628.32	317.48	296.97	20.51	15.477		
2,600.00	2,545.52	2,554.31	2,432.46	11.57	15.09	-39.96	-289.80	661.88	333.01	311.53	21.48	15.502		
2,700.00	2,642.35	2,653.09	2,524.05	12.10	15.85	-39.99	-305.41	695.44	348.54	326.08	22.45	15.524		
2,800.00	2,739.18	2,751.88	2,615.64	12.63	16.60	-40.03	-321.03	729.00	364.06	340.64	23.42	15.543		
2,900.00	2,836.01	2,850.67	2,707.23	13.16	17.35	-40.06	-336.65	762.56	379.59	355.20	24.39	15.561		
3,000.00	2,932.84	2,949.45	2,798.82	13.70	18.10	-40.08	-352.26	796.11	395.12	369.75	25.37	15.576		
3,100.00	3,029.67	3,048.24	2,890.41	14.23	18.85	-40.11	-367.88	829.67	410.65	384.31	26.34	15.590		
3,200.00	3,126.50	3,147.03	2,982.00	14.76	19.61	-40.13	-383.50	863.23	426.18	398.86	27.32	15.602		
3,300.00	3,223.33	3,245.81	3,073.59	15.29	20.36	-40.15	-399.11	896.79	441.71	413.42	28.29	15.613		
3,400.00	3,320.15	3,344.60	3,165.18	15.83	21.12	-40.17	-414.73	930.35	457.24	427.97	29.27	15.623		
3,500.00	3,416.98	3,443.39	3,256.77	16.36	21.87	-40.19	-430.35	963.91	472.76	442.52	30.24	15.632		
3,600.00	3,513.81	3,542.18	3,348.36	16.90	22.63	-40.21	-445.96	997.47	488.29	457.07	31.22	15.641		
3,700.00	3,610.64	3,640.96	3,439.95	17.43	23.38	-40.22	-461.58	1,031.02	503.82	471.63	32.20	15.648		
3,800.00	3,707.47	3,739.75	3,531.54	17.96	24.14	-40.24	-477.20	1,064.58	519.35	486.18	33.17	15.655		
3,900.00	3,804.30	3,838.54	3,623.13	18.50	24.89	-40.25	-492.82	1,098.14	534.88	500.73	34.15	15.662		
4,000.00	3,901.13	3,937.32	3,714.72	19.03	25.65	-40.27	-508.43	1,131.70	550.41	515.28	35.13	15.667		
4,100.00	3,997.96	4,036.11	3,806.31	19.57	26.40	-40.28	-524.05	1,165.26	565.94	529.83	36.11	15.673		
4,200.00	4,094.79	4,134.90	3,897.90	20.10	27.16	-40.29	-539.67	1,198.82	581.47	544.38	37.09	15.678		
4,300.00	4,191.62	4,233.68	3,989.49	20.64	27.92	-40.30	-555.28	1,232.37	597.00	558.93	38.07	15.683		
4,400.00	4,288.45	4,332.47	4,081.08	21.17	28.67	-40.31	-570.90	1,265.93	612.53	573.48	39.05	15.687		
4,500.00	4,385.28	4,431.26	4,172.67	21.71	29.43	-40.32	-586.52	1,299.49	628.06	588.03	40.03	15.691		
4,600.00	4,482.11	4,530.04	4,264.26	22.25	30.19	-40.33	-602.13	1,333.05	643.58	602.58	41.01	15.694		
4,700.00	4,578.94	4,628.83	4,355.85	22.78	30.94	-40.34	-617.75	1,366.61	659.11	617.13	41.99	15.698		
4,800.00	4,675.77	4,727.62	4,447.44	23.32	31.70	-40.35	-633.37	1,400.17	674.64	631.68	42.97	15.701		
4,900.00	4,772.60	4,826.40	4,539.04	23.85	32.46	-40.36	-648.98	1,433.72	690.17	646.22	43.95	15.704		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: O-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
5,000.00	4,869.43	4,925.19	4,630.63	24.39	33.22	-40.37	-664.60	1,467.28	705.70	660.77	44.93	15.707	
5,100.00	4,966.25	5,023.98	4,722.22	24.92	33.97	-40.38	-680.22	1,500.84	721.23	675.32	45.91	15.710	
5,200.00	5,063.08	5,122.76	4,813.81	25.46	34.73	-40.39	-695.83	1,534.40	736.76	689.87	46.89	15.712	
5,300.00	5,159.91	5,221.55	4,905.40	26.00	35.49	-40.39	-711.45	1,567.96	752.29	704.42	47.87	15.714	
5,400.00	5,256.74	5,320.34	4,996.99	26.53	36.24	-40.40	-727.07	1,601.52	767.82	718.97	48.85	15.717	
5,500.00	5,353.57	5,419.12	5,088.58	27.07	37.00	-40.41	-742.69	1,635.07	783.35	733.51	49.84	15.719	
5,600.00	5,450.40	5,517.91	5,180.17	27.61	37.76	-40.41	-758.30	1,668.63	798.88	748.06	50.82	15.721	
5,700.00	5,547.23	5,616.70	5,271.76	28.14	38.52	-40.42	-773.92	1,702.19	814.41	762.61	51.80	15.723	
5,800.00	5,644.06	5,715.48	5,363.35	28.68	39.28	-40.43	-789.54	1,735.75	829.94	777.16	52.78	15.724	
5,900.00	5,740.89	5,814.27	5,454.94	29.21	40.03	-40.43	-805.15	1,769.31	845.47	791.70	53.76	15.726	
6,000.00	5,837.72	5,913.06	5,546.53	29.75	40.79	-40.44	-820.77	1,802.87	861.00	806.25	54.74	15.727	
6,100.00	5,934.55	6,011.85	5,638.12	30.29	41.55	-40.44	-836.39	1,836.42	876.52	820.80	55.73	15.729	
6,200.00	6,031.38	6,110.63	5,729.71	30.82	42.31	-40.45	-852.00	1,869.98	892.05	835.34	56.71	15.730	
6,300.00	6,128.21	6,209.42	5,821.30	31.36	43.07	-40.45	-867.62	1,903.54	907.58	849.89	57.69	15.732	
6,400.00	6,225.04	6,308.21	5,912.89	31.90	43.82	-40.46	-883.24	1,937.10	923.11	864.44	58.67	15.733	
6,500.00	6,321.87	6,406.99	6,004.48	32.43	44.58	-40.46	-898.85	1,970.66	938.64	878.99	59.66	15.734	
6,600.00	6,418.70	6,505.78	6,096.07	32.97	45.34	-40.47	-914.47	2,004.22	954.17	893.53	60.64	15.735	
6,638.96	6,456.42	6,544.26	6,131.75	33.18	45.64	-40.47	-920.55	2,017.29	960.22	899.20	61.02	15.736	
6,650.00	6,467.12	6,555.17	6,141.86	33.24	45.72	-37.84	-922.28	2,021.00	961.93	900.81	61.13	15.736	
6,700.00	6,515.86	6,604.50	6,187.60	33.49	46.10	-23.02	-930.08	2,037.75	969.63	908.10	61.54	15.757	
6,750.00	6,564.86	6,653.56	6,233.08	33.71	46.47	-4.05	-937.83	2,054.42	977.24	915.41	61.83	15.806	
6,800.00	6,613.89	6,702.09	6,278.08	33.90	46.85	15.52	-945.51	2,070.91	984.77	922.77	62.00	15.883	
6,850.00	6,662.69	6,749.87	6,322.38	34.06	47.21	31.77	-953.06	2,087.14	992.30	930.23	62.07	15.987	
6,900.00	6,711.04	6,796.09	6,365.33	34.19	47.56	43.64	-959.59	2,102.89	999.91	937.87	62.04	16.117	
6,950.00	6,758.71	6,842.70	6,408.93	34.31	47.89	52.02	-963.28	2,118.95	1,007.67	945.69	61.98	16.258	
7,000.00	6,805.44	6,890.28	6,453.54	34.40	48.21	58.03	-963.93	2,135.44	1,015.55	953.65	61.90	16.405	
7,050.00	6,851.03	6,938.91	6,499.05	34.47	48.51	62.47	-961.33	2,152.34	1,023.52	961.70	61.82	16.557	
7,100.00	6,895.25	6,988.67	6,545.32	34.52	48.78	65.86	-955.26	2,169.60	1,031.54	969.81	61.74	16.708	
7,150.00	6,937.88	7,039.65	6,592.17	34.55	49.03	68.54	-945.51	2,187.15	1,039.57	977.91	61.67	16.857	
7,200.00	6,978.71	7,091.96	6,639.41	34.57	49.25	70.69	-931.83	2,204.93	1,047.57	985.95	61.62	17.002	
7,250.00	7,017.55	7,145.69	6,686.80	34.57	49.45	72.47	-913.99	2,222.86	1,055.47	993.89	61.58	17.138	
7,300.00	7,054.21	7,200.93	6,734.04	34.56	49.62	73.97	-891.74	2,240.83	1,063.24	1,001.66	61.58	17.266	
7,350.00	7,088.50	7,257.77	6,780.79	34.54	49.77	75.25	-864.85	2,258.72	1,070.80	1,009.20	61.60	17.383	
7,400.00	7,120.26	7,316.29	6,826.66	34.50	49.88	76.36	-833.11	2,276.38	1,078.11	1,016.46	61.65	17.487	
7,450.00	7,149.34	7,376.55	6,871.16	34.46	49.97	77.32	-796.34	2,293.65	1,085.10	1,023.36	61.73	17.578	
7,500.00	7,175.60	7,438.61	6,913.75	34.40	50.04	78.16	-754.43	2,310.32	1,091.69	1,029.84	61.84	17.652	
7,550.00	7,198.90	7,502.48	6,953.84	34.34	50.07	78.90	-707.34	2,326.18	1,097.82	1,035.83	61.99	17.710	
7,600.00	7,219.14	7,568.14	6,990.75	34.27	50.08	79.55	-655.12	2,340.98	1,103.42	1,041.25	62.17	17.748	
7,650.00	7,236.20	7,635.54	7,023.78	34.19	50.06	80.10	-597.96	2,354.45	1,108.41	1,046.02	62.39	17.765	
7,700.00	7,250.02	7,704.57	7,052.21	34.11	50.03	80.57	-536.22	2,366.31	1,112.74	1,050.08	62.67	17.757	
7,750.00	7,260.53	7,775.07	7,075.34	34.03	49.97	80.95	-470.40	2,376.30	1,116.34	1,053.35	62.99	17.721	
7,800.00	7,267.67	7,846.84	7,092.52	33.95	49.89	81.24	-401.20	2,384.17	1,119.15	1,055.77	63.38	17.657	
7,850.00	7,271.40	7,919.62	7,103.20	33.86	49.80	81.43	-329.45	2,389.68	1,121.13	1,057.29	63.84	17.561	
7,879.59	7,272.00	7,963.04	7,106.30	33.82	49.75	81.50	-286.19	2,391.77	1,121.90	1,057.75	64.14	17.490	
7,900.00	7,272.00	7,993.10	7,107.00	33.78	49.71	81.54	-256.16	2,392.68	1,122.23	1,057.87	64.37	17.435	
8,000.00	7,272.00	8,106.03	7,107.00	33.64	49.57	81.55	-155.31	2,394.87	1,123.36	1,058.44	64.92	17.304	
8,100.00	7,272.00	8,193.97	7,107.00	33.51	49.47	81.56	-55.34	2,397.05	1,124.49	1,058.95	65.54	17.158	
8,200.00	7,272.00	8,293.96	7,107.00	33.41	49.36	81.57	44.63	2,399.22	1,125.61	1,059.28	66.33	16.971	
8,300.00	7,272.00	8,406.05	7,107.00	33.34	49.25	81.58	144.60	2,401.39	1,126.74	1,059.43	67.31	16.740	
8,400.00	7,272.00	8,506.05	7,107.00	33.33	49.16	81.59	244.57	2,403.57	1,127.86	1,059.49	68.37	16.496	
8,500.00	7,272.00	8,606.06	7,107.00	33.42	49.08	81.60	344.54	2,405.74	1,128.99	1,059.43	69.56	16.231	
8,600.00	7,272.00	8,706.07	7,107.00	33.70	49.01	81.60	444.51	2,407.91	1,130.12	1,059.26	70.86	15.948	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning	
8,700.00	7,272.00	8,806.07	7,107.00	34.22	48.95	81.61	544.48	2,410.09	1,131.24	1,058.97	72.28	15.652		
8,800.00	7,272.00	8,906.08	7,107.00	34.94	48.90	81.62	644.45	2,412.26	1,132.37	1,058.58	73.79	15.345		
8,900.00	7,272.00	9,006.08	7,107.00	35.77	48.86	81.63	744.42	2,414.43	1,133.50	1,058.09	75.41	15.031		
9,000.00	7,272.00	9,106.09	7,107.00	36.67	48.84	81.64	844.39	2,416.61	1,134.62	1,057.50	77.12	14.713		
9,100.00	7,272.00	9,193.90	7,107.00	37.62	48.83	81.65	944.36	2,418.78	1,135.75	1,056.94	78.81	14.412		
9,200.00	7,272.00	9,306.10	7,107.00	38.62	48.84	81.65	1,044.33	2,420.95	1,136.88	1,056.09	80.79	14.072		
9,300.00	7,272.00	9,393.89	7,107.00	39.66	48.86	81.66	1,144.30	2,423.13	1,138.00	1,055.38	82.62	13.774		
9,400.00	7,272.00	9,506.12	7,107.00	40.73	48.94	81.67	1,244.27	2,425.30	1,139.13	1,054.37	84.76	13.440		
9,500.00	7,272.00	9,593.88	7,107.00	41.83	49.03	81.68	1,344.24	2,427.47	1,140.26	1,053.54	86.72	13.149		
9,600.00	7,272.00	9,706.13	7,107.00	42.96	49.23	81.69	1,444.21	2,429.65	1,141.38	1,052.39	88.99	12.826		
9,700.00	7,272.00	9,793.86	7,107.00	44.12	49.46	81.70	1,544.18	2,431.82	1,142.51	1,051.45	91.06	12.547		
9,800.00	7,272.00	9,906.14	7,107.00	45.30	49.89	81.70	1,644.15	2,434.00	1,143.64	1,050.19	93.44	12.239		
9,900.00	7,272.00	10,006.15	7,107.00	46.51	50.44	81.71	1,744.12	2,436.17	1,144.76	1,049.02	95.74	11.957		
10,000.00	7,272.00	10,106.16	7,107.00	47.73	51.15	81.72	1,844.09	2,438.34	1,145.89	1,047.80	98.09	11.682		
10,100.00	7,272.00	10,206.16	7,107.00	48.98	52.00	81.73	1,944.06	2,440.52	1,147.02	1,046.54	100.48	11.416		
10,200.00	7,272.00	10,306.17	7,107.00	50.24	52.97	81.74	2,044.03	2,442.69	1,148.14	1,045.24	102.90	11.157		
10,300.00	7,272.00	10,393.82	7,107.00	51.52	53.89	81.75	2,144.00	2,444.86	1,149.27	1,044.05	105.22	10.923		
10,400.00	7,272.00	10,506.18	7,107.00	52.81	55.14	81.75	2,243.97	2,447.04	1,150.40	1,042.53	107.86	10.665		
10,500.00	7,272.00	10,606.19	7,107.00	54.11	56.30	81.76	2,343.94	2,449.21	1,151.52	1,041.13	110.39	10.431		
10,600.00	7,272.00	10,706.19	7,107.00	55.44	57.50	81.77	2,443.91	2,451.38	1,152.65	1,039.70	112.95	10.205		
10,700.00	7,272.00	10,806.20	7,107.00	56.77	58.72	81.78	2,543.88	2,453.56	1,153.78	1,038.24	115.54	9.986		
10,800.00	7,272.00	10,893.79	7,107.00	58.11	59.82	81.79	2,643.85	2,455.73	1,154.90	1,036.91	117.99	9.788		
10,900.00	7,272.00	11,006.21	7,107.00	59.47	61.25	81.79	2,743.82	2,457.90	1,156.03	1,035.25	120.78	9.571		
11,000.00	7,272.00	11,093.78	7,107.00	60.83	62.38	81.80	2,843.79	2,460.08	1,157.16	1,033.88	123.28	9.387		
11,100.00	7,272.00	11,206.23	7,107.00	62.21	63.84	81.81	2,943.76	2,462.25	1,158.28	1,032.16	126.12	9.184		
11,200.00	7,272.00	11,293.77	7,107.00	63.59	65.00	81.82	3,043.73	2,464.42	1,159.41	1,030.76	128.65	9.012		
11,300.00	7,272.00	11,406.24	7,107.00	64.98	66.50	81.83	3,143.70	2,466.60	1,160.54	1,029.00	131.54	8.823		
11,400.00	7,272.00	11,493.75	7,107.00	66.38	67.67	81.83	3,243.67	2,468.77	1,161.66	1,027.56	134.10	8.663		
11,500.00	7,272.00	11,606.25	7,107.00	67.79	69.19	81.84	3,343.64	2,470.95	1,162.79	1,025.77	137.02	8.486		
11,600.00	7,272.00	11,693.74	7,107.00	69.20	70.39	81.85	3,443.61	2,473.12	1,163.92	1,024.30	139.62	8.337		
11,700.00	7,272.00	11,806.27	7,107.00	70.62	71.93	81.86	3,543.58	2,475.29	1,165.05	1,022.48	142.57	8.172		
11,800.00	7,272.00	11,906.27	7,107.00	72.05	73.31	81.87	3,643.55	2,477.47	1,166.17	1,020.81	145.36	8.022		
11,900.00	7,272.00	12,006.28	7,107.00	73.48	74.70	81.87	3,743.52	2,479.64	1,167.30	1,019.13	148.17	7.878		
12,000.00	7,272.00	12,106.29	7,107.00	74.92	76.09	81.88	3,843.49	2,481.81	1,168.43	1,017.44	150.99	7.738		
12,100.00	7,272.00	12,206.29	7,107.00	76.36	77.49	81.89	3,943.46	2,483.99	1,169.55	1,015.73	153.82	7.603		
12,200.00	7,272.00	12,293.70	7,107.00	77.81	78.72	81.90	4,043.43	2,486.16	1,170.68	1,014.19	156.49	7.481		
12,261.45	7,272.00	12,355.15	7,107.00	78.70	79.59	81.90	4,104.86	2,487.50	1,171.37	1,013.13	158.24	7.403 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 0-MWD+HDGM													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	81.55	5.88	39.57	40.00					
100.00	100.00	100.00	100.00	0.14	0.14	81.55	5.88	39.57	40.00	39.72	0.28	144.916		
200.00	200.00	200.00	200.00	0.50	0.50	81.55	5.88	39.57	40.00	39.01	0.99	40.284		
300.00	300.00	300.00	300.00	0.85	0.85	81.55	5.88	39.57	40.00	38.29	1.71	23.393		
400.00	400.00	400.00	400.00	1.21	1.21	81.55	5.88	39.57	40.00	37.57	2.43	16.482 CC		
500.00	499.98	498.77	498.75	1.56	1.56	-49.83	5.33	41.18	40.39	37.28	3.12	12.965 ES		
600.00	599.84	597.52	597.36	1.90	1.90	-51.94	3.67	46.00	41.60	37.81	3.79	10.966		
700.00	699.45	696.22	695.69	2.26	2.25	-55.17	0.91	54.04	43.74	39.25	4.49	9.745		
800.00	798.70	794.85	793.60	2.62	2.62	-59.17	-2.95	65.26	46.93	41.73	5.20	9.018		
900.00	897.47	893.39	890.95	3.01	3.00	-63.54	-7.89	79.65	51.33	45.38	5.95	8.623		
1,000.00	995.62	991.81	987.61	3.43	3.41	-67.90	-13.91	97.17	57.04	50.29	6.75	8.455		
1,100.00	1,093.06	1,090.09	1,083.44	3.87	3.85	-72.01	-21.00	117.79	64.12	56.52	7.60	8.438 SF		
1,123.32	1,115.66	1,112.99	1,105.66	3.98	3.95	-72.91	-22.80	123.04	65.97	58.17	7.81	8.450		
1,200.00	1,189.91	1,188.22	1,178.32	4.34	4.31	-75.05	-29.13	141.47	72.86	64.35	8.51	8.563		
1,300.00	1,286.74	1,286.09	1,272.03	4.83	4.82	-75.60	-38.30	168.13	83.66	74.22	9.45	8.855		
1,400.00	1,383.57	1,383.46	1,364.25	5.32	5.38	-74.39	-48.44	197.65	96.45	86.05	10.40	9.274		
1,500.00	1,480.40	1,480.11	1,454.70	5.83	5.98	-72.11	-59.51	229.86	111.34	99.98	11.35	9.807		
1,600.00	1,577.23	1,575.85	1,543.11	6.34	6.64	-69.27	-71.44	264.60	128.54	116.25	12.29	10.457		
1,700.00	1,674.06	1,670.47	1,629.23	6.85	7.35	-66.21	-84.17	301.65	148.27	135.06	13.21	11.225		
1,800.00	1,770.88	1,764.35	1,713.37	7.37	8.11	-63.16	-97.70	341.03	170.66	156.56	14.10	12.100		
1,900.00	1,867.71	1,861.16	1,799.61	7.89	8.95	-60.50	-111.99	382.62	194.34	179.27	15.07	12.898		
2,000.00	1,964.54	1,957.97	1,885.86	8.41	9.80	-58.42	-126.28	424.21	218.33	202.29	16.04	13.614		
2,100.00	2,061.37	2,054.77	1,972.10	8.93	10.67	-56.76	-140.57	465.80	242.54	225.52	17.01	14.256		
2,200.00	2,158.20	2,151.58	2,058.34	9.46	11.55	-55.39	-154.86	507.39	266.90	248.91	17.99	14.834		
2,300.00	2,255.03	2,248.39	2,144.58	9.98	12.43	-54.25	-169.15	548.98	291.39	272.41	18.98	15.355		
2,400.00	2,351.86	2,345.19	2,230.83	10.51	13.32	-53.29	-183.44	590.57	315.96	296.00	19.96	15.827		
2,500.00	2,448.69	2,442.00	2,317.07	11.04	14.22	-52.47	-197.73	632.16	340.61	319.66	20.95	16.255		
2,600.00	2,545.52	2,538.81	2,403.31	11.57	15.12	-51.76	-212.02	673.74	365.32	343.37	21.95	16.645		
2,700.00	2,642.35	2,635.62	2,489.55	12.10	16.03	-51.14	-226.31	715.33	390.07	367.13	22.94	17.002		
2,800.00	2,739.18	2,732.42	2,575.80	12.63	16.94	-50.59	-240.60	756.92	414.86	390.92	23.94	17.330		
2,900.00	2,836.01	2,829.23	2,662.04	13.16	17.85	-50.11	-254.89	798.51	439.68	414.74	24.94	17.631		
3,000.00	2,932.84	2,926.04	2,748.28	13.70	18.77	-49.67	-269.18	840.10	464.53	438.59	25.94	17.909		
3,100.00	3,029.67	3,022.84	2,834.52	14.23	19.69	-49.28	-283.47	881.69	489.40	462.46	26.94	18.167		
3,200.00	3,126.50	3,119.65	2,920.76	14.76	20.60	-48.93	-297.76	923.28	514.28	486.34	27.94	18.406		
3,300.00	3,223.33	3,216.46	3,007.01	15.29	21.52	-48.61	-312.05	964.87	539.19	510.25	28.95	18.628		
3,400.00	3,320.15	3,313.27	3,093.25	15.83	22.45	-48.32	-326.34	1,006.46	564.11	534.16	29.95	18.835		
3,500.00	3,416.98	3,410.07	3,179.49	16.36	23.37	-48.05	-340.63	1,048.05	589.04	558.09	30.95	19.029		
3,600.00	3,513.81	3,506.88	3,265.73	16.90	24.29	-47.81	-354.92	1,089.64	613.99	582.03	31.96	19.211		
3,700.00	3,610.64	3,603.69	3,351.98	17.43	25.22	-47.58	-369.21	1,131.23	638.94	605.97	32.97	19.381		
3,800.00	3,707.47	3,700.49	3,438.22	17.96	26.14	-47.37	-383.50	1,172.82	663.90	629.93	33.98	19.541		
3,900.00	3,804.30	3,802.70	3,524.46	18.50	27.12	-47.18	-397.79	1,214.41	688.87	653.85	35.02	19.673		
4,000.00	3,901.13	3,894.11	3,610.70	19.03	27.99	-47.00	-412.08	1,256.00	713.85	677.86	35.99	19.834		
4,100.00	3,997.96	4,009.09	3,696.94	19.57	29.10	-46.83	-426.37	1,297.59	738.83	701.72	37.11	19.909		
4,200.00	4,094.79	4,087.72	3,783.19	20.10	29.85	-46.67	-440.66	1,339.18	763.82	725.81	38.01	20.095		
4,300.00	4,191.62	4,184.53	3,869.43	20.64	30.78	-46.53	-454.95	1,380.76	788.81	749.79	39.02	20.216		
4,400.00	4,288.45	4,281.34	3,955.67	21.17	31.71	-46.39	-469.24	1,422.35	813.81	773.78	40.03	20.330		
4,500.00	4,385.28	4,378.14	4,041.91	21.71	32.64	-46.26	-483.53	1,463.94	838.81	797.77	41.04	20.438		
4,600.00	4,482.11	4,474.95	4,128.16	22.25	33.57	-46.14	-497.82	1,505.53	863.82	821.76	42.05	20.542		
4,700.00	4,578.94	4,571.76	4,214.40	22.78	34.50	-46.02	-512.11	1,547.12	888.83	845.76	43.06	20.640		
4,800.00	4,675.77	4,668.56	4,300.64	23.32	35.43	-45.91	-526.40	1,588.71	913.84	869.76	44.08	20.734		
4,900.00	4,772.60	4,765.37	4,386.88	23.85	36.36	-45.81	-540.69	1,630.30	938.85	893.77	45.09	20.823		
5,000.00	4,869.43	4,862.18	4,473.13	24.39	37.29	-45.71	-554.98	1,671.89	963.87	917.77	46.10	20.909		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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:													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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor					
5,100.00	4,966.25	4,958.99	4,559.37	24.92	38.22	-45.62	-569.27	1,713.48	988.89	941.78	47.11	20.990					
5,200.00	5,063.08	5,055.79	4,645.61	25.46	39.15	-45.53	-583.56	1,755.07	1,013.91	965.79	48.12	21.069					
5,300.00	5,159.91	5,152.60	4,731.85	26.00	40.08	-45.44	-597.85	1,796.66	1,038.94	989.80	49.14	21.143					
5,400.00	5,256.74	5,249.41	4,818.09	26.53	41.01	-45.36	-612.14	1,838.25	1,063.97	1,013.82	50.15	21.215					
5,500.00	5,353.57	5,346.21	4,904.34	27.07	41.95	-45.29	-626.43	1,879.84	1,089.00	1,037.83	51.16	21.284					
5,600.00	5,450.40	5,443.02	4,990.58	27.61	42.88	-45.21	-640.72	1,921.43	1,114.03	1,061.85	52.18	21.351					
5,700.00	5,547.23	5,539.83	5,076.82	28.14	43.81	-45.14	-655.01	1,963.02	1,139.06	1,085.87	53.19	21.414					
5,800.00	5,644.06	5,636.64	5,163.06	28.68	44.74	-45.08	-669.30	2,004.61	1,164.09	1,109.89	54.21	21.475					
5,900.00	5,740.89	5,733.44	5,249.31	29.21	45.67	-45.01	-683.59	2,046.20	1,189.13	1,133.91	55.22	21.534					
6,000.00	5,837.72	5,830.25	5,335.55	29.75	46.61	-44.95	-697.88	2,087.78	1,214.16	1,157.93	56.23	21.591					
6,100.00	5,934.55	5,927.06	5,421.79	30.29	47.54	-44.89	-712.17	2,129.37	1,239.20	1,181.95	57.25	21.646					
6,200.00	6,031.38	6,023.86	5,508.03	30.82	48.47	-44.84	-726.46	2,170.96	1,264.24	1,205.98	58.26	21.699					
6,300.00	6,128.21	6,120.67	5,594.27	31.36	49.41	-44.78	-740.75	2,212.55	1,289.28	1,230.00	59.28	21.750					
6,400.00	6,225.04	6,217.48	5,680.52	31.90	50.34	-44.73	-755.04	2,254.14	1,314.32	1,254.03	60.29	21.799					
6,500.00	6,321.87	6,314.29	5,766.76	32.43	51.27	-44.68	-769.33	2,295.73	1,339.36	1,278.06	61.31	21.846					
6,600.00	6,418.70	6,411.09	5,853.00	32.97	52.21	-44.63	-783.62	2,337.32	1,364.41	1,302.08	62.32	21.892					
6,638.96	6,456.42	6,448.80	5,886.60	33.18	52.57	-44.61	-789.19	2,353.52	1,374.16	1,311.44	62.72	21.910					
6,650.00	6,467.12	6,459.50	5,896.12	33.24	52.67	-42.07	-790.77	2,358.12	1,376.92	1,314.09	62.83	21.915					
6,700.00	6,515.86	6,507.86	5,939.21	33.49	53.14	-27.65	-797.91	2,378.89	1,389.20	1,325.93	63.26	21.960					
6,750.00	6,564.86	6,555.98	5,982.08	33.71	53.60	-9.12	-805.01	2,399.57	1,401.10	1,337.51	63.59	22.034					
6,800.00	6,613.89	6,603.62	6,024.52	33.90	54.06	9.99	-812.04	2,420.04	1,412.63	1,348.82	63.81	22.137					

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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: 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	
108.88	108.88	107.88	107.88	0.17	0.17	81.55	7.35	49.46	50.00	49.66	0.34	148.763 CC	
200.00	200.00	198.11	198.10	0.50	0.48	81.87	7.14	50.01	50.52	49.54	0.98	51.400 ES	
300.00	300.00	296.46	296.38	0.85	0.83	83.77	5.83	53.45	53.83	52.14	1.69	31.803	
400.00	400.00	394.44	394.11	1.21	1.19	86.82	3.34	60.01	60.30	57.90	2.41	25.054	
500.00	499.98	492.01	491.13	1.56	1.56	-41.19	-0.33	69.65	68.78	65.67	3.10	22.160	
600.00	599.84	589.26	587.42	1.90	1.95	-39.89	-5.14	82.32	77.87	74.07	3.79	20.533	
700.00	699.45	686.17	682.87	2.26	2.35	-39.53	-11.10	97.97	87.47	82.98	4.49	19.470	
800.00	798.70	782.73	777.35	2.62	2.79	-39.83	-18.17	116.57	97.56	92.35	5.21	18.735	
900.00	897.47	878.93	870.76	3.01	3.26	-40.59	-26.33	138.04	108.14	102.19	5.94	18.198	
1,000.00	995.62	974.75	962.99	3.43	3.76	-41.67	-35.57	162.33	119.22	112.52	6.70	17.787	
1,100.00	1,093.06	1,070.19	1,053.93	3.87	4.31	-42.98	-45.85	189.38	130.86	123.36	7.50	17.448	
1,123.32	1,115.66	1,092.39	1,074.95	3.98	4.44	-43.31	-48.40	196.07	133.65	125.96	7.69	17.379	
1,200.00	1,189.91	1,165.16	1,143.42	4.34	4.90	-44.28	-57.15	219.09	143.79	135.46	8.34	17.245 SF	
1,300.00	1,286.74	1,259.39	1,231.12	4.83	5.54	-44.92	-69.39	251.29	159.66	150.47	9.19	17.365	
1,400.00	1,383.57	1,352.68	1,316.78	5.32	6.23	-45.00	-82.52	285.80	178.44	168.38	10.06	17.745	
1,500.00	1,480.40	1,447.14	1,402.37	5.83	6.99	-44.69	-96.73	323.17	199.84	188.89	10.95	18.258	
1,600.00	1,577.23	1,544.70	1,490.52	6.34	7.80	-44.37	-111.58	362.23	221.75	209.86	11.90	18.639	
1,700.00	1,674.06	1,642.26	1,578.68	6.85	8.62	-44.11	-126.43	401.30	243.68	230.82	12.86	18.951	
1,800.00	1,770.88	1,739.82	1,666.84	7.37	9.45	-43.89	-141.29	440.36	265.60	251.78	13.83	19.211	
1,900.00	1,867.71	1,837.39	1,755.00	7.89	10.29	-43.71	-156.14	479.43	287.53	272.73	14.80	19.430	
2,000.00	1,964.54	1,934.95	1,843.15	8.41	11.14	-43.55	-170.99	518.49	309.46	293.69	15.78	19.617	
2,100.00	2,061.37	2,032.51	1,931.31	8.93	11.99	-43.41	-185.85	557.56	331.40	314.64	16.76	19.778	
2,200.00	2,158.20	2,130.07	2,019.47	9.46	12.84	-43.29	-200.70	596.62	353.33	335.59	17.74	19.918	
2,300.00	2,255.03	2,227.63	2,107.62	9.98	13.69	-43.18	-215.56	635.69	375.27	356.54	18.73	20.041	
2,400.00	2,351.86	2,325.20	2,195.78	10.51	14.55	-43.09	-230.41	674.75	397.20	377.49	19.71	20.149	
2,500.00	2,448.69	2,422.76	2,283.94	11.04	15.41	-43.00	-245.26	713.81	419.14	398.44	20.70	20.246	
2,600.00	2,545.52	2,520.32	2,372.10	11.57	16.28	-42.92	-260.12	752.88	441.08	419.39	21.69	20.332	
2,700.00	2,642.35	2,617.88	2,460.25	12.10	17.14	-42.86	-274.97	791.94	463.02	440.34	22.69	20.409	
2,800.00	2,739.18	2,715.44	2,548.41	12.63	18.00	-42.79	-289.82	831.01	484.96	461.28	23.68	20.480	
2,900.00	2,836.01	2,813.01	2,636.57	13.16	18.87	-42.73	-304.68	870.07	506.90	482.23	24.68	20.543	
3,000.00	2,932.84	2,910.57	2,724.73	13.70	19.74	-42.68	-319.53	909.14	528.85	503.18	25.67	20.601	
3,100.00	3,029.67	3,008.13	2,812.88	14.23	20.60	-42.63	-334.39	948.20	550.79	524.12	26.67	20.654	
3,200.00	3,126.50	3,105.69	2,901.04	14.76	21.47	-42.59	-349.24	987.26	572.73	545.07	27.66	20.703	
3,300.00	3,223.33	3,203.26	2,989.20	15.29	22.34	-42.55	-364.09	1,026.33	594.67	566.01	28.66	20.748	
3,400.00	3,320.15	3,300.82	3,077.35	15.83	23.21	-42.51	-378.95	1,065.39	616.62	586.96	29.66	20.789	
3,500.00	3,416.98	3,398.38	3,165.51	16.36	24.08	-42.47	-393.80	1,104.46	638.56	607.90	30.66	20.828	
3,600.00	3,513.81	3,504.06	3,253.67	16.90	25.02	-42.44	-408.65	1,143.52	660.50	628.80	31.70	20.833	
3,700.00	3,610.64	3,606.50	3,341.83	17.43	25.94	-42.41	-423.51	1,182.59	682.45	649.71	32.73	20.850	
3,800.00	3,707.47	3,708.93	3,429.98	17.96	26.85	-42.38	-438.36	1,221.65	704.39	670.63	33.76	20.865	
3,900.00	3,804.30	3,788.63	3,518.14	18.50	27.56	-42.35	-453.22	1,260.71	726.33	691.67	34.66	20.956	
4,000.00	3,901.13	3,886.19	3,606.30	19.03	28.44	-42.32	-468.07	1,299.78	748.28	712.62	35.66	20.984	
4,100.00	3,997.96	3,983.75	3,694.46	19.57	29.31	-42.30	-482.92	1,338.84	770.22	733.56	36.66	21.009	
4,200.00	4,094.79	4,081.31	3,782.61	20.10	30.18	-42.28	-497.78	1,377.91	792.17	754.50	37.66	21.033	
4,300.00	4,191.62	4,178.88	3,870.77	20.64	31.05	-42.25	-512.63	1,416.97	814.11	775.45	38.66	21.056	
4,400.00	4,288.45	4,276.44	3,958.93	21.17	31.93	-42.23	-527.48	1,456.04	836.05	796.39	39.67	21.077	
4,500.00	4,385.28	4,374.00	4,047.08	21.71	32.80	-42.21	-542.34	1,495.10	858.00	817.33	40.67	21.097	
4,600.00	4,482.11	4,471.56	4,135.24	22.25	33.67	-42.20	-557.19	1,534.16	879.94	838.27	41.67	21.116	
4,700.00	4,578.94	4,569.12	4,223.40	22.78	34.54	-42.18	-572.05	1,573.23	901.89	859.22	42.67	21.134	
4,800.00	4,675.77	4,666.69	4,311.56	23.32	35.42	-42.16	-586.90	1,612.29	923.83	880.16	43.68	21.152	
4,900.00	4,772.60	4,764.25	4,399.71	23.85	36.29	-42.14	-601.75	1,651.36	945.78	901.10	44.68	21.168	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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							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	4,869.43	4,861.81	4,487.87	24.39	37.16	-42.13	-616.61	1,690.42	967.72	922.04	45.68	21.183					
5,100.00	4,966.25	4,959.37	4,576.03	24.92	38.04	-42.11	-631.46	1,729.49	989.67	942.98	46.69	21.198					
5,200.00	5,063.08	5,056.93	4,664.18	25.46	38.91	-42.10	-646.31	1,768.55	1,011.61	963.92	47.69	21.212					
5,300.00	5,159.91	5,154.50	4,752.34	26.00	39.79	-42.09	-661.17	1,807.61	1,033.56	984.87	48.69	21.226					
5,400.00	5,256.74	5,252.06	4,840.50	26.53	40.66	-42.07	-676.02	1,846.68	1,055.50	1,005.81	49.70	21.238					
5,500.00	5,353.57	5,349.62	4,928.66	27.07	41.53	-42.06	-690.87	1,885.74	1,077.45	1,026.75	50.70	21.251					
5,600.00	5,450.40	5,447.18	5,016.81	27.61	42.41	-42.05	-705.73	1,924.81	1,099.40	1,047.69	51.71	21.262					
5,700.00	5,547.23	5,544.74	5,104.97	28.14	43.28	-42.04	-720.58	1,963.87	1,121.34	1,068.63	52.71	21.274					
5,800.00	5,644.06	5,642.31	5,193.13	28.68	44.16	-42.03	-735.44	2,002.94	1,143.29	1,089.57	53.71	21.284					
5,900.00	5,740.89	5,739.87	5,281.29	29.21	45.03	-42.02	-750.29	2,042.00	1,165.23	1,110.51	54.72	21.295					
6,000.00	5,837.72	5,837.43	5,369.44	29.75	45.91	-42.01	-765.14	2,081.07	1,187.18	1,131.45	55.72	21.305					
6,100.00	5,934.55	5,934.99	5,457.60	30.29	46.78	-42.00	-780.00	2,120.13	1,209.12	1,152.39	56.73	21.314					
6,200.00	6,031.38	6,032.55	5,545.76	30.82	47.65	-41.99	-794.85	2,159.19	1,231.07	1,173.34	57.73	21.323					
6,300.00	6,128.21	6,130.12	5,633.91	31.36	48.53	-41.98	-809.70	2,198.26	1,253.01	1,194.28	58.74	21.332					
6,400.00	6,225.04	6,227.68	5,722.07	31.90	49.40	-41.97	-824.56	2,237.32	1,274.96	1,215.22	59.74	21.341					
6,500.00	6,321.87	6,325.24	5,810.23	32.43	50.28	-41.96	-839.41	2,276.39	1,296.91	1,236.16	60.75	21.349					
6,600.00	6,418.70	6,422.80	5,898.39	32.97	51.15	-41.95	-854.27	2,315.45	1,318.85	1,257.10	61.75	21.357					
6,638.96	6,456.42	6,460.81	5,932.73	33.18	51.49	-41.95	-860.05	2,330.67	1,327.40	1,265.26	62.15	21.359					
6,650.00	6,467.12	6,471.58	5,942.46	33.24	51.59	-39.38	-861.69	2,334.98	1,329.82	1,267.57	62.25	21.361					
6,700.00	6,515.86	6,520.32	5,986.50	33.49	52.03	-24.85	-869.11	2,354.50	1,340.66	1,277.98	62.68	21.388					
6,750.00	6,564.86	6,568.79	6,030.30	33.71	52.46	-6.23	-876.49	2,373.90	1,351.29	1,288.28	63.01	21.446					
6,800.00	6,613.89	6,616.77	6,073.65	33.90	52.89	12.96	-883.80	2,393.12	1,361.71	1,298.48	63.23	21.535					
6,850.00	6,662.69	6,664.01	6,116.35	34.06	53.32	28.79	-890.99	2,412.03	1,371.93	1,308.58	63.36	21.654					
6,900.00	6,711.04	6,710.30	6,158.17	34.19	53.73	40.29	-898.04	2,430.57	1,382.00	1,318.61	63.39	21.801					
6,950.00	6,758.71	6,755.41	6,198.93	34.31	54.14	48.39	-904.90	2,448.63	1,391.98	1,328.64	63.34	21.976					
7,000.00	6,805.44	6,800.89	6,238.42	34.40	54.54	54.19	-911.56	2,466.13	1,401.94	1,338.72	63.23	22.174					
7,050.00	6,851.03	6,841.19	6,276.44	34.47	54.90	58.49	-917.97	2,482.98	1,411.98	1,348.96	63.02	22.404					

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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								
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	-60.59	628.64	-1,115.42	1,280.40							
100.00	100.00	90.41	90.41	0.14	0.08	-60.60	628.50	-1,115.57	1,280.44	1,280.22	0.22	5,816.342				
200.00	200.00	189.20	189.20	0.50	0.26	-60.61	628.36	-1,115.85	1,280.61	1,279.86	0.75	1,702.755				
300.00	300.00	288.31	288.31	0.85	0.43	-60.61	628.59	-1,115.99	1,280.85	1,279.57	1.29	996.699				
400.00	400.00	386.00	385.99	1.21	0.60	-60.59	629.17	-1,116.12	1,281.25	1,279.44	1.82	705.771	ES			
500.00	499.98	489.60	489.60	1.56	0.78	168.79	629.64	-1,116.23	1,283.28	1,280.94	2.34	547.613				
600.00	599.84	590.69	590.68	1.90	0.96	168.84	630.21	-1,116.08	1,288.57	1,285.70	2.86	450.046				
700.00	699.45	693.49	693.48	2.26	1.14	168.91	630.77	-1,115.69	1,297.05	1,293.66	3.39	382.375				
800.00	798.70	790.97	790.96	2.62	1.31	168.99	631.24	-1,115.33	1,308.94	1,305.02	3.92	334.063				
900.00	897.47	889.99	889.98	3.01	1.49	169.11	632.09	-1,114.82	1,324.28	1,319.83	4.45	297.447				
1,000.00	995.62	989.24	989.22	3.43	1.66	169.23	632.89	-1,114.25	1,342.94	1,337.95	4.99	269.053				
1,100.00	1,093.06	1,085.08	1,085.06	3.87	1.83	169.36	633.67	-1,113.73	1,365.01	1,359.48	5.53	246.862				
1,123.32	1,115.66	1,106.71	1,106.68	3.98	1.87	169.40	633.91	-1,113.60	1,370.66	1,365.00	5.66	242.216				
1,200.00	1,189.91	1,178.33	1,178.30	4.34	2.00	169.58	634.92	-1,113.15	1,389.64	1,383.57	6.06	229.133				
1,300.00	1,286.74	1,283.50	1,283.43	4.83	2.19	169.88	636.96	-1,111.89	1,414.21	1,407.59	6.62	213.692	SF			

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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 23-4 - 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				
9,100.00	7,272.00	7,259.94	7,257.71	37.62	12.72	-89.48	1,582.78	63.66	1,376.29	1,326.74	49.55	27.775				
9,200.00	7,272.00	7,262.42	7,260.18	38.62	12.73	-89.59	1,582.83	63.66	1,335.64	1,284.89	50.74	26.321				
9,300.00	7,272.00	7,264.82	7,262.59	39.66	12.73	-89.70	1,582.89	63.67	1,301.41	1,249.43	51.97	25.040				
9,400.00	7,272.00	7,267.16	7,264.93	40.73	12.74	-89.81	1,582.95	63.68	1,274.13	1,220.92	53.21	23.947				
9,500.00	7,272.00	7,269.44	7,267.21	41.83	12.74	-89.92	1,583.00	63.68	1,254.24	1,199.84	54.40	23.056				
9,600.00	7,272.00	7,271.65	7,269.42	42.96	12.74	-90.02	1,583.05	63.69	1,242.10	1,186.59	55.52	22.374				
9,700.00	7,272.00	7,273.80	7,271.57	44.12	12.75	-90.12	1,583.10	63.69	1,237.95	1,181.44	56.51	21.905				
9,701.53	7,272.00	7,273.84	7,271.60	44.14	12.75	-90.12	1,583.10	63.69	1,237.95	1,181.42	56.53	21.899	CC, ES			
9,800.00	7,272.00	7,275.90	7,273.66	45.30	12.75	-90.22	1,583.14	63.70	1,241.86	1,184.49	57.37	21.648				
9,900.00	7,272.00	7,277.94	7,275.70	46.51	12.75	-90.31	1,583.19	63.70	1,253.75	1,195.70	58.05	21.599	SF			
10,000.00	7,272.00	7,279.92	7,277.69	47.73	12.76	-90.40	1,583.23	63.71	1,273.41	1,214.85	58.55	21.748				
10,100.00	7,272.00	7,281.86	7,279.62	48.98	12.76	-90.49	1,583.27	63.71	1,300.47	1,241.59	58.89	22.085				
10,200.00	7,272.00	7,283.74	7,281.51	50.24	12.76	-90.58	1,583.31	63.71	1,334.50	1,275.44	59.06	22.597				
10,300.00	7,272.00	7,285.58	7,283.34	51.52	12.77	-90.66	1,583.35	63.72	1,374.97	1,315.88	59.09	23.271				

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	-107.74	-56.22	-175.74	184.64				
100.00	100.00	92.43	92.43	0.14	0.07	-107.60	-55.84	-176.01	184.65	184.44	0.21	888.631	
200.00	200.00	193.42	193.41	0.50	0.24	-107.29	-54.91	-176.38	184.73	183.99	0.74	251.310	
242.96	242.96	235.97	235.96	0.65	0.32	-107.16	-54.49	-176.44	184.66	183.70	0.96	191.721	
300.00	300.00	292.25	292.23	0.85	0.42	-106.95	-53.88	-176.75	184.78	183.52	1.27	145.966 ES	
400.00	400.00	391.26	391.24	1.21	0.59	-106.56	-52.85	-177.77	185.47	183.68	1.80	103.163	
500.00	499.98	490.23	490.20	1.56	0.77	123.43	-52.47	-179.14	187.65	185.33	2.32	80.967	
600.00	599.84	589.89	589.84	1.90	0.94	124.84	-52.31	-180.77	192.12	189.29	2.84	67.745	
700.00	699.45	691.39	691.33	2.26	1.12	127.16	-51.52	-182.12	198.38	195.01	3.37	58.912	
800.00	798.70	790.44	790.37	2.62	1.30	129.92	-50.89	-182.80	206.57	202.66	3.91	52.874	
900.00	897.47	889.01	888.94	3.01	1.47	132.91	-50.92	-183.49	217.69	213.24	4.46	48.843	
1,000.00	995.62	987.33	987.25	3.43	1.64	135.89	-52.00	-184.05	231.83	226.81	5.02	46.210	
1,100.00	1,093.06	1,084.69	1,084.60	3.87	1.81	138.94	-53.30	-184.59	249.17	243.59	5.58	44.622	
1,123.32	1,115.66	1,107.34	1,107.25	3.98	1.85	139.65	-53.59	-184.73	253.71	247.99	5.72	44.354	
1,200.00	1,189.91	1,182.33	1,182.23	4.34	1.98	142.07	-54.62	-185.08	269.07	262.91	6.16	43.713	
1,300.00	1,286.74	1,280.22	1,280.11	4.83	2.15	144.81	-56.08	-185.26	289.42	282.70	6.72	43.063	
1,400.00	1,383.57	1,376.78	1,376.66	5.32	2.32	147.17	-57.51	-185.33	310.22	302.94	7.28	42.600	
1,500.00	1,480.40	1,473.29	1,473.16	5.83	2.48	149.28	-58.67	-185.56	331.68	323.84	7.84	42.299	
1,600.00	1,577.23	1,571.95	1,571.82	6.34	2.66	151.28	-59.21	-185.55	353.43	345.03	8.40	42.061	
1,700.00	1,674.06	1,671.12	1,670.99	6.85	2.83	153.18	-59.14	-184.76	374.94	365.98	8.96	41.834	
1,800.00	1,770.88	1,768.70	1,768.56	7.37	2.99	154.79	-59.55	-183.68	396.37	386.85	9.52	41.647	
1,900.00	1,867.71	1,865.59	1,865.44	7.89	3.16	156.27	-59.68	-182.55	418.11	408.04	10.07	41.524	
2,000.00	1,964.54	1,959.90	1,959.75	8.41	3.33	157.47	-60.38	-181.86	440.29	429.68	10.61	41.485 SF	
2,100.00	2,061.37	2,054.66	2,054.51	8.93	3.49	158.57	-60.83	-181.87	463.40	452.25	11.16	41.530	
2,200.00	2,158.20	2,149.43	2,149.28	9.46	3.66	159.55	-61.35	-182.16	486.93	475.23	11.70	41.606	
2,300.00	2,255.03	2,243.49	2,243.33	9.98	3.82	160.47	-61.37	-182.89	511.19	498.94	12.24	41.748	
2,400.00	2,351.86	2,340.51	2,340.35	10.51	3.99	161.26	-61.90	-184.13	535.83	523.03	12.80	41.863	
2,500.00	2,448.69	2,438.59	2,438.42	11.04	4.17	161.97	-62.72	-185.14	560.21	546.85	13.36	41.935	
2,600.00	2,545.52	2,536.84	2,536.67	11.57	4.34	162.68	-62.93	-185.88	584.67	570.75	13.92	42.009	
2,700.00	2,642.35	2,636.16	2,635.98	12.10	4.51	163.37	-63.27	-185.91	608.52	594.04	14.48	42.025	
2,800.00	2,739.18	2,729.80	2,729.62	12.63	4.68	163.97	-63.42	-186.21	632.76	617.74	15.02	42.131	
2,900.00	2,836.01	2,826.19	2,826.00	13.16	4.85	164.59	-63.00	-186.49	657.31	641.74	15.57	42.220	
3,000.00	2,932.84	2,925.83	2,925.65	13.70	5.02	165.15	-63.01	-186.88	681.81	665.67	16.13	42.261	
3,100.00	3,029.67	3,026.54	3,026.35	14.23	5.20	165.69	-63.16	-186.41	705.56	688.85	16.70	42.245	
3,200.00	3,126.50	3,116.79	3,116.61	14.76	5.35	166.16	-63.04	-186.35	729.83	712.61	17.22	42.371	
3,300.00	3,223.33	3,211.88	3,211.69	15.29	5.52	166.61	-62.75	-186.74	754.64	736.87	17.77	42.467	
3,400.00	3,320.15	3,306.90	3,306.71	15.83	5.69	167.05	-62.14	-187.19	779.70	761.39	18.31	42.573	
3,500.00	3,416.98	3,398.80	3,398.60	16.36	5.85	167.48	-61.02	-187.77	805.21	786.36	18.84	42.732	
3,600.00	3,513.81	3,491.76	3,491.55	16.90	6.01	167.90	-59.54	-188.68	831.23	811.85	19.38	42.898	
3,700.00	3,610.64	3,586.10	3,585.87	17.43	6.17	168.26	-58.49	-190.22	857.60	837.69	19.92	43.055	
3,800.00	3,707.47	3,680.65	3,680.40	17.96	6.34	168.57	-57.66	-192.11	884.21	863.75	20.46	43.211	
3,900.00	3,804.30	3,784.10	3,783.82	18.50	6.52	168.98	-55.55	-193.25	910.65	889.61	21.05	43.268	
4,000.00	3,901.13	3,889.06	3,888.75	19.03	6.70	169.42	-53.39	-193.22	936.21	914.57	21.64	43.270	
4,100.00	3,997.96	3,982.45	3,982.12	19.57	6.87	169.79	-51.52	-192.86	961.47	939.30	22.17	43.367	
4,200.00	4,094.79	4,077.51	4,077.14	20.10	7.03	170.20	-48.79	-192.36	987.09	964.38	22.71	43.462	
4,300.00	4,191.62	4,180.96	4,180.55	20.64	7.21	170.62	-45.94	-191.62	1,012.55	989.25	23.29	43.471	
4,400.00	4,288.45	4,277.38	4,276.93	21.17	7.38	171.01	-43.37	-190.41	1,037.55	1,013.71	23.84	43.522	
4,500.00	4,385.28	4,366.56	4,366.06	21.71	7.53	171.36	-40.72	-189.51	1,062.97	1,038.62	24.35	43.648	
4,600.00	4,482.11	4,463.76	4,463.20	22.25	7.70	171.73	-37.33	-188.85	1,088.95	1,064.05	24.90	43.725	
4,700.00	4,578.94	4,561.37	4,560.76	22.78	7.87	172.08	-34.24	-187.96	1,114.62	1,089.16	25.46	43.782	
4,800.00	4,675.77	4,652.95	4,652.29	23.32	8.03	172.39	-31.38	-187.37	1,140.53	1,114.54	25.98	43.893	
4,900.00	4,772.60	4,742.41	4,741.71	23.85	8.19	172.64	-28.84	-187.57	1,167.00	1,140.49	26.50	44.036	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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						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	4,869.43	4,835.21	4,834.46	24.39	8.35	172.90	-25.72	-188.05	1,194.01	1,166.97	27.03	44.167	
5,100.00	4,966.25	4,938.94	4,938.12	24.92	8.54	173.20	-22.14	-188.32	1,220.89	1,193.27	27.62	44.201	
5,200.00	5,063.08	5,046.94	5,046.09	25.46	8.73	173.47	-19.36	-187.97	1,246.85	1,218.62	28.23	44.168	
5,300.00	5,159.91	5,155.34	5,154.46	26.00	8.92	173.74	-16.85	-186.82	1,272.12	1,243.28	28.84	44.113	
5,400.00	5,256.74	5,267.12	5,266.17	26.53	9.11	174.04	-14.30	-184.06	1,296.25	1,266.80	29.46	44.004	
5,500.00	5,353.57	5,366.52	5,365.51	27.07	9.28	174.29	-12.62	-181.10	1,319.68	1,289.66	30.02	43.959	
5,600.00	5,450.40	5,457.32	5,456.28	27.61	9.44	174.49	-11.38	-178.83	1,343.34	1,312.79	30.55	43.977	
5,700.00	5,547.23	5,547.79	5,546.74	28.14	9.60	174.65	-10.50	-177.46	1,367.55	1,336.48	31.07	44.014	
5,800.00	5,644.06	5,640.84	5,639.77	28.68	9.76	174.81	-9.35	-176.28	1,392.13	1,360.52	31.61	44.043	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	-102.29	-31.08	-142.71	146.28				
100.00	100.00	92.72	92.72	0.14	0.09	-102.39	-31.29	-142.43	145.83	145.60	0.23	632.750	
200.00	200.00	192.49	192.49	0.50	0.29	-102.74	-32.06	-141.80	145.38	144.59	0.79	184.224	
289.71	289.71	281.76	281.71	0.82	0.50	-103.79	-34.59	-140.98	145.16	143.84	1.32	110.364 CC	
300.00	300.00	291.88	291.82	0.85	0.52	-103.98	-35.07	-140.86	145.16	143.79	1.38	105.430 ES	
400.00	400.00	390.52	390.17	1.21	0.78	-106.90	-42.41	-139.62	145.93	143.94	1.99	73.381	
500.00	499.98	487.30	486.26	1.56	1.05	118.57	-53.72	-137.86	148.89	146.29	2.61	57.100	
600.00	599.84	580.63	578.76	1.90	1.32	115.91	-66.03	-138.95	157.34	154.12	3.22	48.893	
700.00	699.45	675.17	672.37	2.26	1.59	115.05	-78.25	-144.03	171.19	167.38	3.81	44.943	
800.00	798.70	771.93	768.25	2.62	1.87	116.11	-88.58	-151.84	188.12	183.70	4.42	42.556	
900.00	897.47	867.11	862.51	3.01	2.16	117.85	-98.67	-160.49	207.65	202.60	5.05	41.116	
1,000.00	995.62	962.09	956.35	3.43	2.47	119.89	-109.36	-170.41	230.57	224.86	5.72	40.345	
1,100.00	1,093.06	1,063.95	1,057.11	3.87	2.76	122.30	-120.74	-180.07	254.74	248.34	6.41	39.771	
1,123.32	1,115.66	1,087.75	1,080.70	3.98	2.83	122.90	-123.26	-182.03	260.40	253.83	6.57	39.637	
1,200.00	1,189.91	1,159.80	1,152.12	4.34	3.04	124.90	-130.79	-187.86	279.27	272.17	7.10	39.355	
1,300.00	1,286.74	1,253.34	1,244.72	4.83	3.34	127.10	-140.88	-196.32	305.29	297.49	7.80	39.141	
1,400.00	1,383.57	1,348.80	1,339.20	5.32	3.65	129.02	-151.15	-205.37	332.09	323.57	8.51	39.019	
1,500.00	1,480.40	1,446.96	1,436.42	5.83	3.94	130.78	-161.19	-214.50	358.95	349.73	9.22	38.945	
1,600.00	1,577.23	1,543.93	1,532.55	6.34	4.22	132.34	-170.57	-222.96	385.47	375.56	9.91	38.888	
1,700.00	1,674.06	1,631.10	1,618.90	6.85	4.50	133.55	-179.29	-231.22	412.98	402.40	10.58	39.031	
1,800.00	1,770.88	1,722.85	1,709.49	7.37	4.81	134.55	-189.37	-241.61	442.48	431.19	11.29	39.196	
1,900.00	1,867.71	1,825.88	1,811.31	7.89	5.16	135.56	-200.46	-252.83	471.69	459.64	12.05	39.151	
2,000.00	1,964.54	1,927.31	1,911.80	8.41	5.46	136.53	-210.49	-262.24	499.41	486.63	12.78	39.092	
2,100.00	2,061.37	2,028.43	2,012.19	8.93	5.76	137.53	-219.33	-270.61	526.26	512.77	13.49	39.013	
2,200.00	2,158.20	2,115.90	2,098.93	9.46	6.02	138.25	-227.50	-278.29	553.70	539.54	14.15	39.117	
2,300.00	2,255.03	2,222.97	2,205.13	9.98	6.35	139.01	-237.91	-286.97	580.57	565.65	14.92	38.922	
2,400.00	2,351.86	2,318.66	2,300.00	10.51	6.64	139.54	-248.09	-294.33	607.11	591.48	15.63	38.846	
2,500.00	2,448.69	2,416.98	2,397.54	11.04	6.94	140.06	-258.45	-301.04	632.85	616.49	16.36	38.692 SF	
2,600.00	2,545.52	2,497.37	2,477.20	11.57	7.19	140.46	-266.70	-307.96	660.34	643.35	17.00	38.855	
2,700.00	2,642.35	2,596.96	2,575.88	12.10	7.51	140.96	-276.44	-317.27	688.64	670.91	17.72	38.853	
2,800.00	2,739.18	2,698.65	2,676.70	12.63	7.82	141.43	-286.43	-325.93	716.17	697.71	18.46	38.800	
2,900.00	2,836.01	2,789.98	2,767.21	13.16	8.10	141.77	-295.98	-333.55	743.56	724.41	19.15	38.828	
3,000.00	2,932.84	2,868.63	2,845.06	13.70	8.35	142.06	-303.95	-341.45	772.59	752.81	19.78	39.062	
3,100.00	3,029.67	2,974.24	2,949.64	14.23	8.69	142.49	-313.66	-352.41	802.06	781.52	20.53	39.058	
3,200.00	3,126.50	3,049.88	3,024.47	14.76	8.94	142.77	-320.67	-360.92	832.31	811.18	21.14	39.378	
3,300.00	3,223.33	3,164.13	3,137.57	15.29	9.30	143.21	-330.70	-373.62	862.60	840.66	21.94	39.320	
3,400.00	3,320.15	3,268.36	3,240.83	15.83	9.62	143.53	-340.76	-383.52	891.27	868.59	22.68	39.291	
3,500.00	3,416.98	3,367.17	3,338.68	16.36	9.94	143.74	-351.47	-392.17	919.13	895.71	23.42	39.248	
3,600.00	3,513.81	3,457.37	3,427.94	16.90	10.23	143.90	-361.46	-400.46	947.40	923.28	24.12	39.283	
3,700.00	3,610.64	3,556.33	3,525.89	17.43	10.56	144.08	-372.23	-409.58	975.72	950.86	24.86	39.253	
3,800.00	3,707.47	3,654.78	3,623.32	17.96	10.88	144.23	-383.26	-418.38	1,003.76	978.16	25.60	39.216	
3,900.00	3,804.30	3,755.07	3,722.58	18.50	11.20	144.37	-394.67	-427.15	1,031.59	1,005.25	26.34	39.160	
4,000.00	3,901.13	3,852.69	3,819.36	19.03	11.50	144.56	-404.74	-434.93	1,058.80	1,031.74	27.06	39.122	
4,100.00	3,997.96	3,937.70	3,903.70	19.57	11.76	144.78	-412.41	-442.25	1,086.76	1,059.05	27.72	39.209	
4,200.00	4,094.79	4,028.45	3,993.65	20.10	12.04	144.97	-421.02	-450.78	1,115.44	1,087.04	28.40	39.276	
4,300.00	4,191.62	4,120.48	4,084.78	20.64	12.34	145.13	-430.24	-459.64	1,144.31	1,115.21	29.10	39.323	
4,400.00	4,288.45	4,196.88	4,160.29	21.17	12.60	145.22	-438.39	-467.93	1,174.26	1,144.53	29.73	39.498	
4,500.00	4,385.28	4,317.49	4,279.62	21.71	12.99	145.39	-450.62	-480.46	1,203.81	1,173.24	30.57	39.379	
4,600.00	4,482.11	4,413.35	4,374.66	22.25	13.29	145.58	-459.29	-489.35	1,232.47	1,201.20	31.27	39.411	
4,700.00	4,578.94	4,502.61	4,463.05	22.78	13.57	145.71	-468.26	-497.99	1,261.40	1,229.45	31.96	39.471	
4,800.00	4,675.77	4,588.20	4,547.65	23.32	13.86	145.78	-477.65	-507.01	1,291.04	1,258.40	32.64	39.553	
4,900.00	4,772.60	4,687.11	4,645.28	23.85	14.21	145.82	-489.34	-517.75	1,320.88	1,287.48	33.40	39.545	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Total	Separation	Warning	
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W	Centres	Ellipses	Uncertainty	Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	Axis			
5,000.00	4,869.43	4,788.42	4,745.23	24.39	14.57	145.84	-501.93	-528.46	1,350.39	1,316.21	34.18	39.509		
5,100.00	4,966.25	4,883.68	4,839.30	24.92	14.90	145.87	-513.39	-538.14	1,379.53	1,344.62	34.92	39.509		
5,200.00	5,063.08	4,960.00	4,914.71	25.46	15.15	145.93	-521.63	-546.44	1,409.52	1,373.97	35.55	39.649		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	-100.40	-21.61	-117.81	120.37				
100.00	100.00	88.96	88.96	0.14	0.10	-100.48	-21.72	-117.43	119.42	119.19	0.23	511.727	
200.00	200.00	190.75	190.73	0.50	0.27	-100.96	-22.43	-115.83	118.01	117.25	0.76	154.575	
300.00	300.00	291.44	291.30	0.85	0.50	-102.83	-25.56	-112.20	115.12	113.76	1.35	85.024	
400.00	400.00	391.19	390.83	1.21	0.75	-105.92	-30.84	-108.10	112.45	110.49	1.96	57.444	
490.47	490.45	480.99	480.19	1.53	1.00	119.71	-38.35	-103.68	111.26	108.74	2.52	44.157 CC	
500.00	499.98	490.42	489.56	1.56	1.03	119.29	-39.32	-103.18	111.27	108.69	2.58	43.132 ES	
600.00	599.84	589.82	588.21	1.90	1.30	115.39	-50.31	-97.86	112.85	109.65	3.20	35.307	
700.00	699.45	689.92	687.52	2.26	1.58	113.01	-61.61	-92.37	116.25	112.41	3.84	30.310	
800.00	798.70	789.76	786.48	2.62	1.89	111.97	-73.43	-86.49	121.00	116.49	4.51	26.807	
900.00	897.47	889.33	885.16	3.01	2.21	112.39	-85.37	-80.68	127.20	121.99	5.21	24.395	
1,000.00	995.62	988.65	983.53	3.43	2.54	113.89	-97.74	-74.75	134.87	128.92	5.95	22.655	
1,100.00	1,093.06	1,087.17	1,080.82	3.87	2.89	115.65	-112.02	-68.72	144.80	138.08	6.72	21.543	
1,123.32	1,115.66	1,110.49	1,103.85	3.98	2.95	116.18	-115.44	-67.29	147.37	140.48	6.89	21.378	
1,200.00	1,189.91	1,187.09	1,179.55	4.34	3.18	118.26	-126.11	-62.61	155.89	148.44	7.45	20.913	
1,300.00	1,286.74	1,286.93	1,278.33	4.83	3.48	120.89	-139.23	-56.33	166.86	158.67	8.19	20.367	
1,400.00	1,383.57	1,386.06	1,376.49	5.32	3.78	123.38	-151.60	-50.10	177.96	169.03	8.93	19.934	
1,500.00	1,480.40	1,485.02	1,474.56	5.83	4.08	125.77	-163.31	-44.03	189.36	179.71	9.65	19.619	
1,600.00	1,577.23	1,584.01	1,572.79	6.34	4.37	128.17	-174.13	-38.35	201.26	190.89	10.36	19.419	
1,700.00	1,674.06	1,684.44	1,672.42	6.85	4.68	130.29	-185.16	-32.06	212.98	201.89	11.08	19.214	
1,800.00	1,770.88	1,784.42	1,771.46	7.37	5.00	131.94	-196.97	-25.16	224.40	212.58	11.81	18.993	
1,900.00	1,867.71	1,883.52	1,869.61	7.89	5.31	133.42	-208.64	-18.10	235.77	223.24	12.53	18.809	
2,000.00	1,964.54	1,981.83	1,967.00	8.41	5.62	134.76	-220.24	-11.34	247.53	234.29	13.24	18.692	
2,100.00	2,061.37	2,078.77	2,063.11	8.93	5.92	136.04	-231.36	-5.17	259.91	245.97	13.94	18.651	
2,200.00	2,158.20	2,176.00	2,159.54	9.46	6.21	137.18	-242.64	0.08	273.36	258.74	14.62	18.692	
2,300.00	2,255.03	2,278.26	2,261.12	9.98	6.51	138.59	-252.94	5.69	286.83	271.53	15.31	18.740	
2,400.00	2,351.86	2,382.28	2,364.52	10.51	6.80	140.27	-261.43	13.27	298.70	282.75	15.95	18.725	
2,500.00	2,448.69	2,480.42	2,462.03	11.04	7.08	141.84	-268.93	21.28	309.94	293.38	16.56	18.714	
2,600.00	2,545.52	2,576.40	2,557.37	11.57	7.36	143.01	-277.62	28.22	322.22	305.03	17.19	18.749	
2,700.00	2,642.35	2,670.34	2,650.70	12.10	7.63	143.95	-286.78	33.73	335.90	318.09	17.81	18.858	
2,800.00	2,739.18	2,772.42	2,752.10	12.63	7.92	144.86	-296.90	39.64	349.74	331.25	18.48	18.923	
2,900.00	2,836.01	2,875.82	2,854.67	13.16	8.24	145.57	-308.12	46.45	362.75	343.58	19.18	18.915	
3,000.00	2,932.84	2,973.38	2,951.31	13.70	8.55	146.07	-319.56	53.23	375.35	355.48	19.86	18.896	
3,100.00	3,029.67	3,073.28	3,050.26	14.23	8.87	146.51	-331.50	60.00	388.10	367.54	20.56	18.873	
3,200.00	3,126.50	3,169.43	3,145.57	14.76	9.17	146.97	-342.50	66.30	401.18	379.95	21.23	18.896	
3,300.00	3,223.33	3,266.39	3,241.77	15.29	9.46	147.46	-353.15	72.07	414.93	393.04	21.89	18.953	
3,400.00	3,320.15	3,369.88	3,344.51	15.83	9.77	148.08	-363.64	78.84	428.28	405.71	22.57	18.976	
3,500.00	3,416.98	3,468.11	3,441.97	16.36	10.06	148.59	-373.92	85.52	441.36	418.13	23.23	19.003	
3,600.00	3,513.81	3,566.46	3,539.46	16.90	10.37	148.95	-385.18	91.91	454.59	430.68	23.90	19.017	
3,700.00	3,610.64	3,663.66	3,635.85	17.43	10.67	149.30	-396.12	97.95	468.16	443.59	24.57	19.053	
3,800.00	3,707.47	3,762.85	3,734.37	17.96	10.96	149.80	-405.94	104.06	482.04	456.82	25.22	19.113	
3,900.00	3,804.30	3,862.55	3,833.43	18.50	11.25	150.38	-414.97	110.85	495.49	469.64	25.85	19.166	
4,000.00	3,901.13	3,957.90	3,928.11	19.03	11.53	150.76	-424.72	116.46	509.65	483.16	26.49	19.241	
4,100.00	3,997.96	4,056.36	4,025.74	19.57	11.83	150.95	-436.35	121.71	524.03	496.85	27.18	19.282	
4,200.00	4,094.79	4,159.29	4,127.73	20.10	12.16	151.07	-449.11	127.05	538.45	510.54	27.91	19.292	
4,300.00	4,191.62	4,259.64	4,227.01	20.64	12.48	151.12	-462.36	133.30	551.66	523.02	28.64	19.265	
4,400.00	4,288.45	4,352.22	4,318.79	21.17	12.77	151.29	-473.30	138.51	565.77	536.48	29.29	19.316	
4,500.00	4,385.28	4,452.18	4,418.00	21.71	13.07	151.51	-484.41	143.52	580.63	550.65	29.98	19.370	
4,600.00	4,482.11	4,554.01	4,518.95	22.25	13.39	151.67	-496.50	149.26	594.71	564.03	30.69	19.381	
4,700.00	4,578.94	4,654.24	4,618.27	22.78	13.70	151.79	-508.67	155.01	608.66	577.26	31.39	19.389	
4,800.00	4,675.77	4,758.83	4,721.82	23.32	14.04	151.88	-521.86	161.43	622.10	589.97	32.14	19.359	
4,900.00	4,772.60	4,857.79	4,819.71	23.85	14.37	151.92	-534.88	167.99	634.95	602.10	32.85	19.328	

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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	4,869.43	4,949.55	4,910.68	24.39	14.65	152.09	-545.31	173.89	648.41	614.92	33.49	19.364		
5,100.00	4,966.25	5,053.93	5,014.34	24.92	14.95	152.42	-555.58	180.54	662.29	628.13	34.16	19.387		
5,200.00	5,063.08	5,148.15	5,107.86	25.46	15.24	152.68	-565.21	186.75	675.88	641.10	34.79	19.429		
5,300.00	5,159.91	5,248.63	5,207.62	26.00	15.53	152.93	-575.50	193.00	689.84	654.39	35.45	19.460		
5,400.00	5,256.74	5,354.46	5,312.53	26.53	15.87	153.10	-587.50	199.97	703.19	667.02	36.17	19.443		
5,500.00	5,353.57	5,447.17	5,404.50	27.07	16.15	153.30	-597.33	206.26	716.52	679.73	36.79	19.474		
5,600.00	5,450.40	5,533.13	5,489.90	27.61	16.39	153.52	-605.79	211.10	731.17	693.81	37.36	19.570		
5,700.00	5,547.23	5,641.92	5,597.96	28.14	16.71	153.73	-617.00	216.81	746.10	708.01	38.08	19.591		
5,800.00	5,644.06	5,747.92	5,703.07	28.68	17.04	153.88	-628.90	223.75	759.50	720.71	38.80	19.576		
5,900.00	5,740.89	5,832.03	5,786.53	29.21	17.29	154.02	-637.93	228.80	773.62	734.25	39.37	19.648		
6,000.00	5,837.72	5,903.66	5,857.88	29.75	17.47	154.24	-643.70	231.50	790.55	750.74	39.81	19.859		
6,100.00	5,934.55	5,991.27	5,945.31	30.29	17.67	154.59	-648.94	233.03	809.97	769.60	40.37	20.065		
6,200.00	6,031.38	6,077.95	6,031.88	30.82	17.85	154.97	-653.27	233.77	830.54	789.64	40.90	20.305		
6,300.00	6,128.21	6,164.73	6,118.63	31.36	18.00	155.48	-655.16	234.00	852.50	811.11	41.39	20.596		
6,400.00	6,225.04	6,256.07	6,209.97	31.90	18.14	156.09	-655.54	233.74	875.53	833.67	41.86	20.917		
6,500.00	6,321.87	6,345.72	6,299.62	32.43	18.27	156.67	-655.56	233.13	899.17	856.85	42.32	21.249		
6,600.00	6,418.70	6,431.11	6,384.94	32.97	18.36	157.39	-652.36	232.54	924.07	881.37	42.70	21.639		
6,638.96	6,456.42	6,469.28	6,422.95	33.18	18.38	157.83	-648.96	232.80	933.97	891.15	42.82	21.810		
6,650.00	6,467.12	6,479.61	6,433.21	33.24	18.38	160.94	-647.81	232.95	936.77	893.91	42.85	21.859		
6,700.00	6,515.86	6,520.42	6,473.65	33.49	18.39	177.65	-642.41	233.71	949.00	906.02	42.98	22.080		
6,750.00	6,564.86	6,558.46	6,511.22	33.71	18.39	-161.92	-636.48	234.36	960.64	917.54	43.10	22.289		
6,800.00	6,613.89	6,595.92	6,548.08	33.90	18.39	-141.24	-629.80	234.88	971.69	928.48	43.21	22.486		
6,850.00	6,662.69	6,638.38	6,589.66	34.06	18.37	-124.24	-621.21	235.39	982.02	938.69	43.33	22.666		
6,900.00	6,711.04	6,676.94	6,627.36	34.19	18.35	-111.92	-613.17	235.63	991.46	948.01	43.45	22.820		
6,950.00	6,758.71	6,720.26	6,669.44	34.31	18.31	-103.28	-602.89	235.97	1,000.01	956.45	43.57	22.954		
7,000.00	6,805.44	6,759.37	6,707.19	34.40	18.28	-97.16	-592.66	236.39	1,007.57	963.89	43.68	23.066		
7,050.00	6,851.03	6,796.48	6,742.72	34.47	18.24	-92.74	-581.96	236.67	1,014.38	970.59	43.80	23.161		
7,100.00	6,895.25	6,830.00	6,774.46	34.52	18.19	-89.46	-571.19	236.85	1,020.55	976.64	43.91	23.243		
7,150.00	6,937.88	6,862.00	6,804.09	34.55	18.13	-86.94	-559.13	237.07	1,026.23	982.23	44.00	23.323		
7,200.00	6,978.71	6,893.00	6,831.91	34.57	18.06	-84.96	-545.48	237.46	1,031.42	987.35	44.07	23.402		
7,250.00	7,017.55	6,925.00	6,859.61	34.57	17.97	-83.42	-529.46	237.96	1,036.16	992.03	44.13	23.481		
7,300.00	7,054.21	6,946.39	6,877.42	34.56	17.90	-82.08	-517.62	238.24	1,040.57	996.38	44.19	23.546		
7,350.00	7,088.50	6,970.89	6,896.89	34.54	17.81	-81.01	-502.76	238.47	1,044.83	1,000.58	44.25	23.612		
7,400.00	7,120.26	6,996.02	6,915.74	34.50	17.72	-80.13	-486.16	238.61	1,048.89	1,004.59	44.30	23.676		
7,450.00	7,149.34	7,020.00	6,932.53	34.46	17.62	-79.40	-469.04	238.71	1,052.70	1,008.35	44.35	23.735		
7,500.00	7,175.60	7,051.00	6,952.26	34.40	17.48	-78.84	-445.15	238.75	1,056.31	1,011.95	44.35	23.816		
7,550.00	7,198.90	7,069.04	6,962.60	34.34	17.40	-78.28	-430.38	238.68	1,059.70	1,015.26	44.44	23.844		
7,600.00	7,219.14	7,092.98	6,974.94	34.27	17.28	-77.85	-409.87	238.44	1,062.97	1,018.47	44.50	23.887		
7,650.00	7,236.20	7,119.56	6,986.91	34.19	17.15	-77.53	-386.15	238.06	1,065.98	1,021.44	44.55	23.930		
7,700.00	7,250.02	7,150.52	6,999.15	34.11	16.99	-77.34	-357.71	237.47	1,068.56	1,023.99	44.57	23.975		
7,750.00	7,260.53	7,183.25	7,009.87	34.03	16.84	-77.26	-326.81	236.88	1,070.55	1,025.96	44.59	24.007		
7,800.00	7,267.67	7,209.00	7,016.37	33.95	16.72	-77.20	-301.90	236.47	1,072.02	1,027.32	44.70	23.982		
7,850.00	7,271.40	7,233.00	7,020.83	33.86	16.61	-77.20	-278.33	235.99	1,073.15	1,028.31	44.84	23.931		
7,879.59	7,272.00	7,254.30	7,023.73	33.82	16.52	-77.29	-257.23	235.39	1,073.65	1,028.78	44.87	23.927		
7,900.00	7,272.00	7,270.00	7,025.40	33.78	16.45	-77.38	-241.63	234.84	1,074.07	1,029.19	44.88	23.931		
8,000.00	7,272.00	7,344.08	7,028.96	33.64	16.18	-77.61	-167.72	231.81	1,077.84	1,032.81	45.03	23.936		
8,100.00	7,272.00	7,446.44	7,029.76	33.51	15.99	-77.70	-65.42	228.57	1,081.76	1,036.65	45.11	23.980		
8,200.00	7,272.00	7,587.89	7,028.51	33.41	16.36	-77.67	76.00	226.86	1,084.20	1,038.82	45.38	23.891		
8,300.00	7,272.00	7,682.48	7,027.36	33.34	16.78	-77.61	170.58	227.79	1,084.53	1,038.51	46.01	23.571		
8,400.00	7,272.00	7,781.34	7,027.24	33.33	17.30	-77.62	269.44	227.68	1,085.67	1,038.87	46.81	23.196		
8,500.00	7,272.00	7,880.88	7,027.90	33.42	17.97	-77.66	368.97	227.82	1,086.40	1,038.49	47.92	22.673		
8,600.00	7,272.00	7,989.97	7,028.39	33.70	18.92	-77.70	478.06	228.31	1,086.86	1,037.44	49.43	21.989		

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 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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				
8,700.00	7,272.00	8,082.83	7,028.89	34.22	19.81	-77.73	570.92	228.75	1,087.31	1,036.36	50.95	21.342				
8,800.00	7,272.00	8,195.18	7,029.98	34.94	20.97	-77.79	683.26	229.38	1,087.57	1,034.76	52.81	20.595				
8,900.00	7,272.00	8,301.97	7,032.23	35.77	22.16	-77.90	790.02	230.69	1,086.93	1,032.16	54.77	19.844				
9,000.00	7,272.00	8,412.99	7,035.81	36.67	23.52	-78.08	900.96	232.71	1,085.49	1,028.50	56.99	19.046				
9,100.00	7,272.00	8,515.04	7,038.62	37.62	24.87	-78.21	1,002.93	235.27	1,083.48	1,024.24	59.24	18.290				
9,200.00	7,272.00	8,619.47	7,039.68	38.62	26.34	-78.24	1,107.30	238.74	1,081.03	1,019.39	61.64	17.538				
9,300.00	7,272.00	8,711.90	7,039.83	39.66	27.68	-78.22	1,199.68	241.76	1,078.81	1,014.86	63.95	16.871				
9,400.00	7,272.00	8,804.77	7,038.94	40.73	29.07	-78.16	1,292.52	244.24	1,077.40	1,011.08	66.32	16.245				
9,500.00	7,272.00	8,900.74	7,038.59	41.83	30.48	-78.13	1,388.46	246.46	1,076.23	1,007.46	68.77	15.651				
9,600.00	7,272.00	8,993.71	7,038.47	42.96	31.86	-78.12	1,481.41	247.88	1,075.77	1,004.57	71.20	15.110				
9,638.68	7,272.00	9,030.62	7,038.48	43.41	32.42	-78.12	1,518.33	248.29	1,075.74	1,003.56	72.18	14.904				
9,700.00	7,272.00	9,089.79	7,038.34	44.12	33.36	-78.11	1,577.50	248.87	1,075.80	1,002.00	73.80	14.577				
9,800.00	7,272.00	9,180.59	7,037.92	45.30	34.82	-78.09	1,668.29	249.24	1,076.50	1,000.17	76.33	14.103				
9,900.00	7,272.00	9,282.24	7,037.34	46.51	36.40	-78.07	1,769.93	249.45	1,077.43	998.34	79.09	13.622				
10,000.00	7,272.00	9,373.32	7,037.69	47.73	37.84	-78.11	1,861.02	249.08	1,078.76	997.11	81.66	13.211				
10,100.00	7,272.00	9,460.04	7,037.68	48.98	39.26	-78.13	1,947.72	248.08	1,080.94	996.76	84.18	12.841				
10,200.00	7,272.00	9,545.10	7,038.21	50.24	40.63	-78.19	2,032.75	245.61	1,084.65	997.99	86.66	12.516				
10,300.00	7,272.00	9,653.61	7,038.45	51.52	42.43	-78.25	2,141.22	242.51	1,088.40	998.58	89.82	12.118				
10,400.00	7,272.00	9,744.31	7,038.39	52.81	43.97	-78.28	2,231.87	239.76	1,092.39	999.86	92.53	11.805				
10,500.00	7,272.00	9,840.57	7,038.90	54.11	45.56	-78.36	2,328.08	236.50	1,096.63	1,001.25	95.38	11.497				
10,600.00	7,272.00	9,951.64	7,039.25	55.44	47.42	-78.43	2,439.07	232.41	1,101.23	1,002.55	98.68	11.160				
10,700.00	7,272.00	10,084.12	7,038.92	56.77	49.62	-78.44	2,571.53	230.90	1,103.39	1,000.90	102.49	10.766				
10,800.00	7,272.00	10,171.48	7,039.19	58.11	51.07	-78.46	2,658.89	230.94	1,104.35	999.20	105.15	10.503				
10,900.00	7,272.00	10,275.35	7,039.04	59.47	52.86	-78.48	2,762.76	229.79	1,106.49	998.19	108.30	10.217				
11,000.00	7,272.00	10,397.25	7,038.08	60.83	54.92	-78.43	2,884.64	230.83	1,106.78	994.92	111.86	9.894				
11,100.00	7,272.00	10,493.61	7,037.97	62.21	56.54	-78.42	2,981.00	232.22	1,106.41	991.62	114.79	9.639				
11,127.04	7,272.00	10,519.55	7,037.85	62.58	57.00	-78.42	3,006.93	232.52	1,106.40	990.79	115.60	9.571				
11,200.00	7,272.00	10,590.01	7,037.49	63.59	58.22	-78.40	3,077.39	233.24	1,106.49	988.71	117.77	9.395				
11,300.00	7,272.00	10,693.56	7,037.55	64.98	59.96	-78.40	3,180.94	234.08	1,106.70	985.80	120.90	9.154				
11,400.00	7,272.00	10,799.77	7,037.90	66.38	61.75	-78.42	3,287.13	235.83	1,106.01	981.90	124.12	8.911				
11,487.06	7,272.00	10,879.58	7,038.24	67.61	63.11	-78.43	3,366.94	236.86	1,105.72	979.11	126.61	8.733				
11,500.00	7,272.00	10,891.58	7,038.26	67.79	63.32	-78.43	3,378.93	236.97	1,105.73	978.74	126.99	8.707				
11,600.00	7,272.00	10,988.14	7,038.11	69.20	65.04	-78.43	3,475.49	237.69	1,106.04	975.99	130.05	8.505				
11,700.00	7,272.00	11,078.11	7,037.56	70.62	66.63	-78.41	3,565.46	237.94	1,106.91	974.00	132.91	8.328				
11,800.00	7,272.00	11,170.30	7,037.68	72.05	68.17	-78.43	3,657.65	237.35	1,108.52	972.76	135.77	8.165				
11,900.00	7,272.00	11,265.57	7,038.83	73.48	69.80	-78.51	3,752.90	236.01	1,110.68	971.90	138.78	8.003				
12,000.00	7,272.00	11,362.15	7,040.11	74.92	71.48	-78.61	3,849.45	233.93	1,113.54	971.67	141.86	7.849				
12,100.00	7,272.00	11,455.84	7,041.25	76.36	73.11	-78.69	3,943.11	231.84	1,116.50	971.63	144.86	7.707				
12,200.00	7,272.00	11,554.62	7,042.20	77.81	74.85	-78.78	4,041.85	229.18	1,119.97	971.92	148.05	7.565				
12,261.45	7,272.00	11,616.98	7,042.94	78.70	75.91	-78.84	4,104.18	227.55	1,122.03	972.01	150.02	7.479 SF				

Cathedral Energy Services

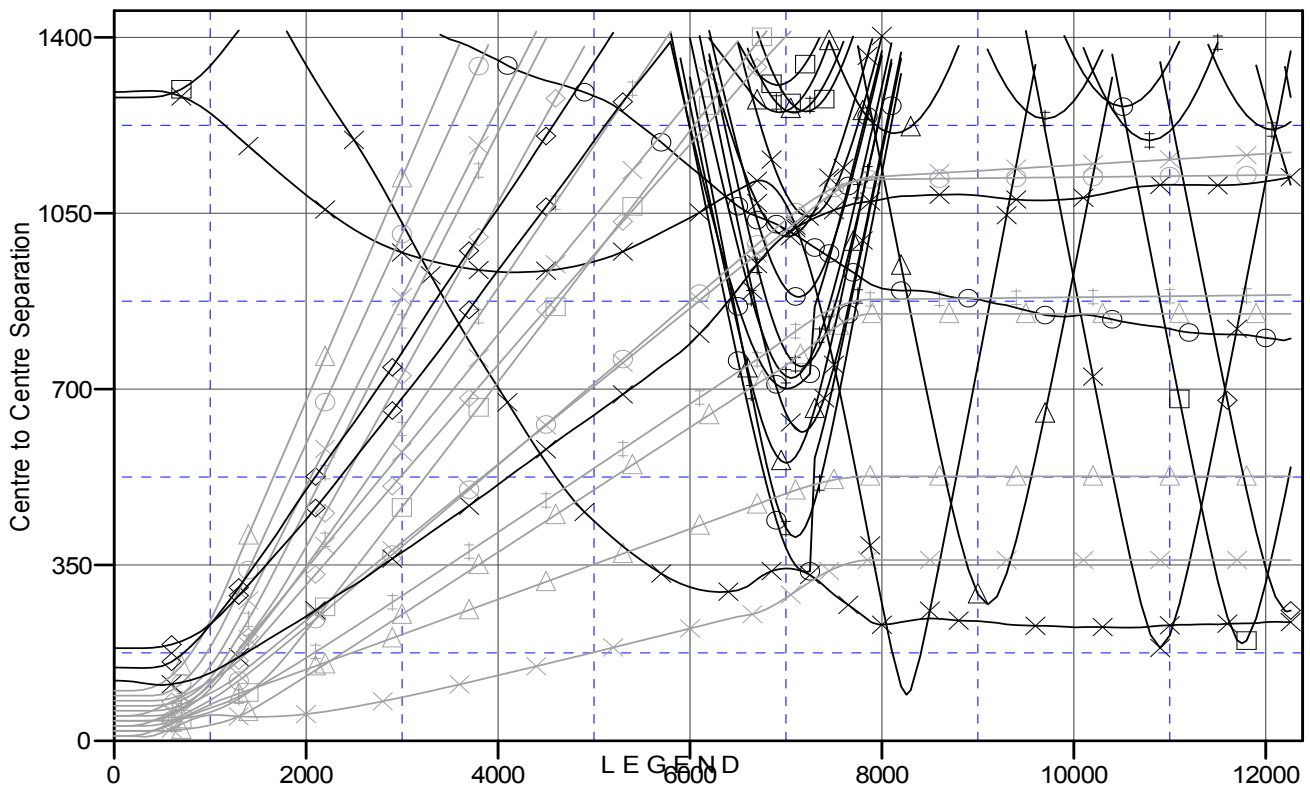
Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3M-4H-N165 - Slot RUEGGE 3
Project:	DJ BASIN	TVD Reference:	23' LB @ 4938.00usft
Reference Site:	S4-T1N-R65W	MD Reference:	23' LB @ 4938.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	RUEGGE 3M-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' LB @ 4938.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

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

Ladder Plot



27N1-9HZ, KMG WELL, PLAN ONLY V0	✕ JOKER 1N1-9HZ, KMG WELL, SURVEYS V0	✕ RUEGGE 3H-4H-N165, OH, PLAN#1 V0
27N2-9HZ, KMG WELL, SURVEYS V0	✕ JOKER 1N2-9HZ, KMG WELL, SURVEYS V0	✕ RUEGGE 3I-4H-N165, OH, PLAN#1 V0
28N1-9HZ, KMG WELL, PLAN ONLY V0	✕ JOKER 27N1-9HZ, KMG WELL, SURVEYS V0	○ RUEGGE 3J-4H-N165, OH, PLAN#1 V0
28N2-9HZ, KMG WELL, SURVEYS V0	○ JOKER 27N2-9HZ, KMG WELL, SURVEYS V0	✕ RUEGGE 3K-4H-N165, OH, PLAN#1 V0
28N3-9HZ, KMG WELL, SURVEYS V0	△ MAYER X 33-15DI, KMG WELL, GYRO V0	✕ RUEGGE 3L-4H-N165, OH, PLAN#1 V0
2N3-9HZ, KMG WELL, SURVEYS V0	△ MORITZ-ANSCHUTZ 1, KMG WELL, NO SURVEYS V0	△ RUEGGE 3N-4H-N165, OH, PLAN#1 V0
IC9HZ, KMG WELL, SURVEYS V0	△ OLIN 1, CPR WELL, GYRO V0	△ RUEGGE 3O-4H-N165, OH, PLAN#1 V0
IN9HZ, KMG WELL, SURVEYS V0	◇ OLIN 31-4, CPR WELL, SURVEYS V0	✕ RUEGGE 3P-4H-N165, OH, PLAN#1 V0
Q2-9HZ, KMG WELL, SURVEYS V0	✕ OLIN 32-4, CPR WELL, GYRO V0	✕ RUEGGE 3Q-4H-N165, OH, PLAN#1 V0
N33-4, CPR WELL, GYRO V0	✕ OLIN 41-4, CPR WELL, SURVEYS V0	◇ RUEGGE 3R-4H-N165, OH, PLAN#1 V0
N34-4, CPR WELL, GYRO V0	✕ OLIN 42-4A, CPR WELL, SURVEYS V0	✕ STELLING 1, CPR WELL, GYRO V0
N44-4, CPR WELL, GYRO V0	△ RUEGGE 3C-4H-N165, OH, PLAN#1 V0	✕ STELLING 23-4, CPR WELL, GYRO V0

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