

Crestone Peak Resources

DJ BASIN

S18-T1N-R67W (HINGLEY)

HINGLEY 3A-18H-N167

OH

PLAN #1

Anticollision Report

29 December, 2017

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,781.85usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	12/29/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	2,000.00	PLAN #1 (OH)	VESSI_GYROFLEX	VESSI Gyroflex Gyro	
2,001.00	12,647.07	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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)		
S18-T1N-R67W (HINGLEY)						
22-24 - KAISER-FRANCIS OIL - NO SURVEYS						Out of range
B C HOPKINS 3 - FRITZLER WELL - NO SURVEYS						Out of range
B C HOPKINS 4 - FRITZLER WELL - NO SURVEYS						Out of range
BLANCHE C 4 - KPK WELL - NO SURVEYS						Out of range
BLANCHE C HOPKINS 1 - KPK WELL - NO SURVEYS						Out of range
BLANCHE C HOPKINS 2 - KPK WELL - NO SURVEYS						Out of range
DACONO 16-13 - KMG WELL - GYRO	8,517.87	7,668.20	1,501.11	1,462.93	39.322	CC, ES
DACONO 16-13 - KMG WELL - GYRO	9,100.00	7,656.08	1,609.99	1,566.15	36.722	SF
EMERY31-13(1-68) 1 - NOBLE WELL - NO SURVEYS						Out of range
FOREMAN 1 - KPK WELL - NO SURVEYS						Out of range
FOREMAN 2 - KPK WELL - NO SURVEYS						Out of range
FOREMAN 3 - KPK WELL - SURVEYS						Out of range
FOREMAN UNIT 4 - KPK WELL - SURVEYS	12,647.07	7,707.56	1,303.18	1,242.26	21.394	CC, ES, SF
GRAHAM ELIZABETH W 1 - AMOCO WELL - NO SURV						Out of range
GRIFFITHS 13C-20HZX - KMG STK - SURVEYS						Out of range
GRIFFITHS 13C-20HZX - KMG WELL - SURVEYS						Out of range
GRIFFITHS 14N-20HZ - KMG WELL - SURVEYS						Out of range
GRIFFITHS 34N-20HZ - KMG WELL - SURVEYS						Out of range
GRIFFITHS 35C-20HZ - KMG WELL - SURVEYS						Out of range
GRIFFITHS 35N-20HZ - KMG WELL - SURVEYS						Out of range
GRIFFITHS 36C-20HZ - KMG WELL - SURVEYS						Out of range
HALEY 41-13 #1 - KMG WELL - NO SURVEYS						Out of range
HART 7-42 - KMG WELL - NO SURVEYS						Out of range
HERBERS 31-20 - CPR WELL - GYRO						Out of range
HICKS 13-18 - KPK WELL - NO SURVEYS	200.00	145.00	1,463.10	1,462.65	3,235.595	CC
HICKS 13-18 - KPK WELL - NO SURVEYS	300.00	244.98	1,463.24	1,462.39	1,717.824	ES
HICKS 13-18 - KPK WELL - NO SURVEYS	4,800.00	4,652.05	1,778.71	1,755.45	76.491	SF
HICKS 14-18 - BAYSWATER WELL - NO SURVEYS	1,661.89	1,608.43	286.06	279.63	44.511	CC
HICKS 14-18 - BAYSWATER WELL - NO SURVEYS	1,700.00	1,645.70	286.17	279.59	43.483	ES
HICKS 14-18 - BAYSWATER WELL - NO SURVEYS	4,200.00	4,109.66	603.29	584.73	32.510	SF
HICKS 23-18 - STARLIGHT WELL - NO SURVEYS	200.00	161.00	1,548.47	1,547.99	3,199.685	CC, ES
HICKS 23-18 - STARLIGHT WELL - NO SURVEYS	1,700.00	1,636.70	1,766.67	1,760.13	270.350	SF
HICKS 24-18 - BAYSWATER WELL - NO SURVEYS	200.00	177.00	451.28	450.76	867.114	CC, ES
HICKS 24-18 - BAYSWATER WELL - NO SURVEYS	5,200.00	5,000.00	1,383.43	1,359.52	57.845	SF
HICKS 4-18 - CPR WELL - GYRO	100.00	73.84	625.55	625.42	4,840.179	CC
HICKS 4-18 - CPR WELL - GYRO	200.00	172.46	625.85	625.39	1,372.444	ES
HICKS 4-18 - CPR WELL - GYRO	9,200.00	7,665.15	1,463.10	1,419.93	33.895	SF
HINGLEY 1 - CPR WELL - GYRO						Out of range
HINGLEY 12-18 - PDC WELL - GYRO	11,020.74	7,617.40	436.98	369.48	6.474	CC, ES, SF
HINGLEY 1A-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1-B - VESSELS WELL - NO SURVEYS						Out of range
HINGLEY 1B-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1C-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1D-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1E-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1F-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1G-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1H-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1I-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1J-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 1K-18H-A167 - OH - PLAN #1						Out of range
HINGLEY 2J - PDC WELL - GYRO	11,852.02	7,610.36	1,185.48	1,105.74	14.866	CC, ES
HINGLEY 2J - PDC WELL - GYRO	11,900.00	7,610.53	1,186.46	1,106.38	14.817	SF

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

Cathedral Energy Services

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Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
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Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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)		
S18-T1N-R67W (HINGLEY)						
HINGLEY 2S - TEXAS TEA WELL - NO SURVEYS						Out of range
HINGLEY 3B-18H-N167 - OH - PLAN #1	200.00	200.00	10.00	9.52	20.684	CC, ES
HINGLEY 3B-18H-N167 - OH - PLAN #1	12,647.07	12,750.92	305.18	156.84	2.057	SF
HINGLEY 3C-18H-N167 - OH - PLAN #1	200.00	201.00	20.00	19.51	41.220	CC, ES
HINGLEY 3C-18H-N167 - OH - PLAN #1	12,647.07	12,438.46	314.76	165.89	2.114	SF
HINGLEY 3D-18H-N167 - OH - PLAN #1	200.00	201.00	30.00	29.51	61.830	CC, ES
HINGLEY 3D-18H-N167 - OH - PLAN #1	12,647.07	12,577.99	630.12	472.53	3.998	SF
HINGLEY 3E-18H-N167 - OH - PLAN #1	200.85	201.86	40.00	39.25	53.611	CC, ES
HINGLEY 3E-18H-N167 - OH - PLAN #1	12,642.72	12,457.73	964.56	806.77	6.113	SF
HINGLEY 3F-18H-N167 - OH - PLAN #1	200.00	201.00	50.00	49.51	103.050	CC, ES
HINGLEY 3F-18H-N167 - OH - PLAN #1	12,647.07	12,714.36	995.15	836.85	6.286	SF
HINGLEY 3G-18H-N167 - OH - PLAN #1	200.00	201.00	60.00	59.51	123.660	CC, ES
HINGLEY 3G-18H-N167 - OH - PLAN #1	12,647.07	12,541.58	1,289.97	1,132.20	8.176	SF
HINGLEY 3H-18H-N167 - OH - PLAN #1	200.00	201.00	70.00	69.51	144.270	CC, ES
HINGLEY 3H-18H-N167 - OH - PLAN #1	12,647.07	12,449.83	1,622.80	1,465.37	10.308	SF
HINGLEY 3I-18H-N167 - OH - PLAN #1	200.00	201.00	80.00	79.51	164.880	CC, ES
HINGLEY 3I-18H-N167 - OH - PLAN #1	7,300.00	7,106.63	1,650.79	1,607.83	38.423	SF
HINGLEY 3J-18H-N167 BHL - OH - PLAN #1	200.00	201.00	90.00	89.51	185.490	CC, ES
HINGLEY 3J-18H-N167 BHL - OH - PLAN #1	6,800.00	6,567.83	1,761.48	1,722.71	45.439	SF
HINGLEY 3K-18H-N167 - OH - PLAN #1	102.12	103.12	100.00	99.86	696.629	CC
HINGLEY 3K-18H-N167 - OH - PLAN #1	200.00	199.92	100.28	99.79	206.822	ES
HINGLEY 3K-18H-N167 - OH - PLAN #1	6,500.00	6,254.39	1,775.63	1,738.71	48.083	SF
HINGLEY 3S - TEXAS TEA WELL - NO SURVEYS						Out of range
HINGLEY 4 - DENVER EAST WELL - NO SURVEYS						Out of range
HINGLEY 5 - DENVER EAST WELL - NO SURVEYS						Out of range
HINGLEY FARMS 32-18 - CPR WELL - GYRO						Out of range
HOPKINS 3 - KPK WELL - NO SURVEYS						Out of range
HOPKINS 32-19 1 - FRITZLER RESOURCES - NO SUR						Out of range
HOPKINS 41C-19#2 - FRITZLER RESOURCES - NO SU						Out of range
HSR RMF 12-8 - KMG WELL - NO SURVEYS						Out of range
JELTS 15C-19HZ - KMG WELL - SURVEYS						Out of range
JELTS 16N-19HZ - KMG WELL - SURVEYS						Out of range
JELTS 36N-19HZ - KMG WELL - SURVEYS						Out of range
JELTS 37C-19HZ - KMG WELL - SURVEYS						Out of range
JELTS 37N-19HZ - KMG WELL - SURVEYS						Out of range
JELTS 39C-19HZ - KMG WELL - SURVEYS						Out of range
JOHNSON 21-24 - MGF OIL CORP WELL - NO SURVE						Out of range
LAURIDSON 18-16 - KMG WELL - GYRO						Out of range
LAURIDSON 2-A - KPK WELL - NO SURVEYS						Out of range
LAURIDSON 31-24 - KPK WELL - NO SURVEYS						Out of range
LAURIDSON 32-24 - SRC ENERGY WELL - NO SURVE						Out of range
LAURIDSON 41-24 - STARLIGHT RES WELL - NO SUR	5,326.66	4,900.00	1,353.31	1,328.69	54.954	CC, ES
LAURIDSON 41-24 - STARLIGHT RES WELL - NO SUR	5,500.00	4,900.00	1,364.37	1,339.12	54.032	SF
LAURIDSON 42-24 - KPK WELL - NO SURVEYS						Out of range
LAURIDSON VV 18-10 - KMG WELL - GYRO						Out of range
LAURIDSON VV18-4J - KMG WELL - GYRO						Out of range
LAURIDSON-A 1 - KPK WELL - NO SURVEYS						Out of range
LINKUS 32-24 - PDC WELL - NO SURVEYS						Out of range
LINKUS 41-24 - PDC WELL - PDC WELL	7,484.57	7,296.25	899.64	866.03	26.763	CC, ES
LINKUS 41-24 - PDC WELL - PDC WELL	7,600.00	7,400.78	905.02	871.14	26.710	SF
M B SCHWAB 2 - KMG WELL - NO SURVEYS						Out of range
MARGUERITE TOTEMS U 2 - KMG WELL - GYRO						Out of range
MARK 1-A - CHAPARRAL RES - NO SURVEYS						Out of range

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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)		
S18-T1N-R67W (HINGLEY)						
NRC 11-8 - KMG WELL - SURVEYS						Out of range
NRC 12-8 - KMG WELL - SURVEYS						Out of range
NRC 13-8 - KMG WELL - SURVEYS						Out of range
NRC 14-8 - KMG WELL - SURVEYS						Out of range
NRC 15-8 - KMG WELL - SURVEYS						Out of range
NRC 22-8 - KMG WELL - SURVEYS						Out of range
NRC 23-8 - KMG WELL - SURVEYS						Out of range
NRC 28N-8HZ - KMG WELL - SURVEYS						Out of range
NRC 29N-8HZ - KMG WELL - SURVEYS						Out of range
NRC 30C-8HZ - KMG WELL - GYRO						Out of range
NRC 35-8 - KMG WELL - SURVEYS						Out of range
NRC 3C-8HZ - KMG WELL - SURVEYS						Out of range
NRC 4C-8HZ - KMG WELL - SURVEYS						Out of range
NRC 4N-8HZ - KMG WELL - SURVEYS						Out of range
PAUL HEINZE 1 - KPK WELL - NO SURVEYS						Out of range
RALPH 13C-19HZ - KMG WELL - SURVEYS	5,498.73	5,467.05	92.80	64.70	3.302	CC
RALPH 13C-19HZ - KMG WELL - SURVEYS	5,500.00	5,468.28	92.80	64.69	3.301	ES, SF
RALPH 14N-19HZ - KMG WELL - SURVEYS	2,190.39	2,158.95	781.25	772.80	92.428	CC
RALPH 14N-19HZ - KMG WELL - SURVEYS	2,200.00	2,166.62	781.27	772.78	92.107	ES
RALPH 14N-19HZ - KMG WELL - SURVEYS	7,300.00	7,148.63	1,738.83	1,701.45	46.527	SF
RALPH 34C-19HZ - KMG WELL - SURVEYS	7,580.03	7,540.74	76.37	35.91	1.888	CC, ES
RALPH 34C-19HZ - KMG WELL - SURVEYS	7,600.00	7,550.64	78.35	36.77	1.885	SF
RALPH 35C-19HZ - KMG WELL - SURVEYS	3,327.21	3,339.83	681.96	667.41	46.855	CC, ES
RALPH 35C-19HZ - KMG WELL - SURVEYS	7,600.00	7,415.27	1,306.47	1,267.87	33.846	SF
RALPH 35N-19HZ - KMG WELL - SURVEYS	4,335.13	4,322.24	294.71	273.73	14.050	CC, ES
RALPH 35N-19HZ - KMG WELL - SURVEYS	4,600.00	4,566.22	306.01	283.21	13.424	SF
RALPH 36C-19HZ - KMG WELL - SURVEYS	1,749.67	1,704.10	721.11	714.14	103.468	CC
RALPH 36C-19HZ - KMG WELL - SURVEYS	1,800.00	1,753.25	721.29	714.07	99.960	ES
RALPH 36C-19HZ - KMG WELL - SURVEYS	5,500.00	5,500.00	1,552.06	1,524.34	55.989	SF
ROCKY MOUNTAIN FUEL 1 - KMG WELL - NO SURVE						Out of range
SCHWAB #1-32-13 - KMG WELL - NO SURVEYS						Out of range
STONEBRAKER 24-12 - KMG WELL - KMG WELL						Out of range
STONEBRAKER 25-12 - KMG WELL - SURVEYS						Out of range
STONEBRAKER 8-12 - KMG WELL - KMG WELL						Out of range
TROUDT 44-7 - KMG WELL - GYRO						Out of range
UNDERHILL 28N-17HZ - KMG WELL - SURVEYS						Out of range
UPRR 42 PAN AM 'AL' 1 - KMG WELL - GYRO						Out of range
UPRR 42 PAN AM GAS 1 - KMG WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM N #2 - KPK WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM N 1 - KMG WELL - GYRO						Out of range
UPRR 42 PAN AM N 4 - KPK WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM-AJ 1 - KPK WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM-AJ 4 - KPK WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM-AS 1 - KMG WELL - GYRO						Out of range
UPRR 42 PAN AM-AV 1 - KPK WELL - SURVEYS						Out of range
UPRR 42 PAN AM-J 2 - KPK WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM-J 3 - KPK WELL - NO SURVEYS						Out of range
UPRR 42 PAN AM-N 3 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM 1 - KMG WELL - GYRO	6,147.36	5,923.56	1,066.14	1,035.68	35.000	CC
UPRR 43 PAN AM 1 - KMG WELL - GYRO	6,300.00	6,069.86	1,066.85	1,035.41	33.929	ES
UPRR 43 PAN AM 1 - KMG WELL - GYRO	7,200.00	6,948.24	1,099.83	1,062.82	29.717	SF
UPRR 43 PAN AM 1 2 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM 1 3 - KPK WELL - NO SURVEYS						Out of range

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

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Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
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Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)		Separation Factor	Warning
Offset Well - Wellbore - Design						
S18-T1N-R67W (HINGLEY)						
UPRR 43 PAN AM H 10 - KPK WELL - NO SURVEYS	5,064.98	4,879.00	688.00	662.57	27.055	CC, ES
UPRR 43 PAN AM H 10 - KPK WELL - NO SURVEYS	5,100.00	4,879.00	688.89	663.22	26.843	SF
UPRR 43 PAN AM H 2 - KPK WELL - NO SURVEYS	2,453.28	2,366.29	1,436.16	1,426.80	153.530	CC
UPRR 43 PAN AM H 2 - KPK WELL - NO SURVEYS	2,600.00	2,509.77	1,436.49	1,426.43	142.924	ES
UPRR 43 PAN AM H 2 - KPK WELL - NO SURVEYS	5,400.00	4,994.00	1,583.42	1,555.95	57.626	SF
UPRR 43 PAN AM I #5 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM O 1 - KMG WELL - NO SURVEYS	11,884.13	7,680.00	1,558.42	1,474.19	18.502	CC
UPRR 43 PAN AM O 1 - KMG WELL - NO SURVEYS	11,900.00	7,680.00	1,558.50	1,473.95	18.434	ES
UPRR 43 PAN AM O 1 - KMG WELL - NO SURVEYS	12,200.00	7,680.00	1,590.11	1,500.75	17.794	SF
UPRR 43 PAN AM-H 7 - AMOCO WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM-I 14 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM-I 15 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM-I 26 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM-I 31 - KPK WELL - NO SURVEYS						Out of range
UPRR 43 PAN AM-J 1 - KMG WELL - SURVEYS						Out of range
UPRR PAN AM H 3 - KPK WELL - NO SURVEYS						Out of range
UPRR43PANAM-I 16 - KPK WELL - NO SURVEYS	5,217.82	4,922.00	1,432.98	1,406.56	54.234	CC, ES
UPRR43PANAM-I 16 - KPK WELL - NO SURVEYS	5,500.00	4,922.00	1,460.50	1,432.80	52.728	SF

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Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - DACONO 16-13 - 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		
7,600.00	7,416.27	7,396.18	7,394.21	25.83	12.95	-56.27	224.26	-2,782.99	1,763.52	1,726.03	37.50	47.030		
7,700.00	7,489.93	7,473.47	7,471.49	25.85	13.08	-63.94	223.18	-2,782.06	1,720.20	1,682.75	37.44	45.941		
7,800.00	7,553.80	7,536.87	7,534.88	25.83	13.19	-71.03	222.30	-2,781.16	1,676.14	1,638.83	37.32	44.919		
7,900.00	7,606.64	7,587.08	7,585.08	25.77	13.27	-77.39	221.54	-2,780.50	1,633.57	1,596.42	37.15	43.971		
8,000.00	7,647.41	7,629.36	7,627.35	25.67	13.35	-82.94	220.84	-2,779.96	1,594.56	1,557.56	37.00	43.099		
8,100.00	7,675.32	7,658.73	7,656.71	25.56	13.39	-87.29	220.30	-2,779.53	1,561.04	1,524.13	36.91	42.297		
8,200.00	7,689.84	7,672.77	7,670.75	25.46	13.42	-90.18	220.03	-2,779.31	1,534.79	1,497.86	36.93	41.561		
8,300.00	7,692.00	7,672.95	7,670.93	25.38	13.42	-91.10	220.02	-2,779.31	1,516.83	1,479.73	37.10	40.885		
8,400.00	7,692.00	7,670.75	7,668.73	25.41	13.41	-91.02	220.07	-2,779.34	1,505.73	1,468.25	37.47	40.181		
8,500.00	7,692.00	7,668.58	7,666.56	25.67	13.41	-90.94	220.11	-2,779.38	1,501.21	1,463.17	38.05	39.458		
8,517.87	7,692.00	7,668.20	7,666.17	25.75	13.41	-90.92	220.12	-2,779.38	1,501.11	1,462.93	38.17	39.322 CC, ES		
8,600.00	7,692.00	7,666.44	7,664.41	26.21	13.41	-90.86	220.15	-2,779.41	1,503.35	1,464.56	38.79	38.751		
8,700.00	7,692.00	7,664.32	7,662.29	26.93	13.40	-90.77	220.19	-2,779.45	1,512.11	1,472.43	39.68	38.105		
8,800.00	7,692.00	7,662.22	7,660.20	27.75	13.40	-90.69	220.23	-2,779.48	1,527.38	1,486.71	40.67	37.555		
8,900.00	7,692.00	7,660.15	7,658.13	28.64	13.40	-90.62	220.27	-2,779.51	1,548.96	1,507.25	41.72	37.131		
9,000.00	7,692.00	7,658.10	7,656.08	29.59	13.39	-90.54	220.31	-2,779.54	1,576.60	1,533.82	42.78	36.850		
9,100.00	7,692.00	7,656.08	7,654.06	30.59	13.39	-90.46	220.35	-2,779.57	1,609.99	1,566.15	43.84	36.722 SF		
9,200.00	7,692.00	7,654.08	7,652.06	31.63	13.39	-90.38	220.39	-2,779.60	1,648.77	1,603.90	44.87	36.749		
9,300.00	7,692.00	7,652.10	7,650.08	32.72	13.38	-90.31	220.43	-2,779.63	1,692.57	1,646.73	45.84	36.924		
9,400.00	7,692.00	7,650.15	7,648.13	33.84	13.38	-90.23	220.46	-2,779.66	1,741.02	1,694.27	46.75	37.241		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - FOREMAN UNIT 4 - KPK WELL - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 72-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		
12,100.00	7,692.00	7,709.06	7,708.58	70.88	16.06	-91.51	5,389.91	-2,044.38	1,771.58	1,723.19	48.39	36.611		
12,200.00	7,692.00	7,708.79	7,708.32	72.37	16.06	-91.49	5,389.91	-2,044.38	1,682.42	1,632.42	49.99	33.654		
12,300.00	7,692.00	7,708.53	7,708.05	73.86	16.06	-91.47	5,389.92	-2,044.39	1,594.54	1,542.68	51.86	30.748		
12,400.00	7,692.00	7,708.25	7,707.78	75.35	16.06	-91.45	5,389.92	-2,044.39	1,508.17	1,454.15	54.02	27.917		
12,500.00	7,692.00	7,707.98	7,707.50	76.85	16.06	-91.43	5,389.92	-2,044.40	1,423.59	1,367.07	56.53	25.184		
12,600.00	7,692.00	7,707.69	7,707.21	78.35	16.06	-91.41	5,389.92	-2,044.40	1,341.14	1,281.73	59.41	22.574		
12,647.07	7,692.00	7,707.56	7,707.08	79.06	16.06	-91.40	5,389.92	-2,044.41	1,303.18	1,242.26	60.91	21.394	CC, ES, SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 13-18 - KPK 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							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	-28.93	1,280.51	-707.78	1,464.13					
100.00	100.00	45.00	45.00	0.07	0.05	-28.93	1,280.51	-707.78	1,463.10	1,462.98	0.12	N/A		
200.00	200.00	145.00	145.00	0.25	0.21	-28.93	1,280.51	-707.78	1,463.10	1,462.65	0.45	3,235.595 CC		
300.00	299.98	244.98	244.98	0.42	0.43	94.72	1,280.51	-707.78	1,463.24	1,462.39	0.85	1,717.824 ES		
400.00	399.84	344.84	344.84	0.60	0.66	94.92	1,280.51	-707.78	1,463.68	1,462.43	1.25	1,169.881		
500.00	499.45	444.45	444.45	0.78	0.88	95.24	1,280.51	-707.78	1,464.46	1,462.80	1.65	886.216		
600.00	598.70	543.70	543.70	0.96	1.10	95.69	1,280.51	-707.78	1,465.62	1,463.57	2.06	712.991		
700.00	697.47	642.47	642.47	1.15	1.32	96.25	1,280.51	-707.78	1,467.27	1,464.81	2.46	596.316		
800.00	795.62	740.62	740.62	1.33	1.55	96.94	1,280.51	-707.78	1,469.50	1,466.64	2.87	512.353		
900.00	893.41	838.41	838.41	1.52	1.77	97.72	1,280.51	-707.78	1,472.23	1,468.96	3.28	449.457		
1,000.00	891.20	836.20	836.20	1.70	1.99	98.51	1,280.51	-707.78	1,475.25	1,471.57	3.68	400.578		
1,100.00	1,088.98	1,033.98	1,033.98	1.89	2.20	99.30	1,280.51	-707.78	1,478.57	1,474.48	4.09	361.546		
1,200.00	1,186.77	1,131.77	1,131.77	2.07	2.42	100.08	1,280.51	-707.78	1,482.16	1,477.67	4.50	329.666		
1,300.00	1,284.55	1,229.55	1,229.55	2.26	2.64	100.86	1,280.51	-707.78	1,486.05	1,481.15	4.90	303.146		
1,400.00	1,382.34	1,327.34	1,327.34	2.45	2.86	101.63	1,280.51	-707.78	1,490.22	1,484.91	5.31	280.749		
1,500.00	1,480.12	1,425.12	1,425.12	2.63	3.08	102.40	1,280.51	-707.78	1,494.67	1,488.96	5.71	261.590		
1,600.00	1,577.91	1,522.91	1,522.91	2.82	3.30	103.16	1,280.51	-707.78	1,499.40	1,493.28	6.12	245.023		
1,700.00	1,675.70	1,620.70	1,620.70	3.01	3.52	103.92	1,280.51	-707.78	1,504.40	1,497.88	6.52	230.562		
1,800.00	1,773.48	1,718.48	1,718.48	3.19	3.74	104.68	1,280.51	-707.78	1,509.68	1,502.75	6.93	217.835		
1,900.00	1,871.27	1,816.27	1,816.27	3.38	3.96	105.43	1,280.51	-707.78	1,515.23	1,507.90	7.34	206.553		
2,000.00	1,969.05	1,914.05	1,914.05	3.56	4.18	106.17	1,280.51	-707.78	1,521.05	1,513.31	7.74	196.489		
2,100.00	2,066.84	2,011.84	2,011.84	3.68	4.40	106.91	1,280.51	-707.78	1,527.13	1,519.07	8.06	189.369		
2,200.00	2,164.62	2,109.62	2,109.62	3.73	4.62	107.64	1,280.51	-707.78	1,533.48	1,525.13	8.35	183.756		
2,300.00	2,262.41	2,207.41	2,207.41	3.85	4.84	108.37	1,280.51	-707.78	1,540.08	1,531.40	8.68	177.359		
2,400.00	2,360.19	2,305.19	2,305.19	4.03	5.06	109.09	1,280.51	-707.78	1,546.94	1,537.86	9.07	170.495		
2,500.00	2,457.98	2,402.98	2,402.98	4.26	5.28	109.81	1,280.51	-707.78	1,554.04	1,544.54	9.51	163.447		
2,600.00	2,555.77	2,500.77	2,500.77	4.52	5.50	110.52	1,280.51	-707.78	1,561.40	1,551.42	9.98	156.445		
2,700.00	2,653.55	2,601.45	2,598.55	4.82	5.73	111.22	1,280.51	-707.78	1,569.00	1,558.51	10.49	149.559		
2,800.00	2,751.34	2,703.66	2,696.34	5.15	5.96	111.91	1,280.51	-707.78	1,576.84	1,565.81	11.03	142.957		
2,900.00	2,849.12	2,805.88	2,794.12	5.50	6.19	112.60	1,280.51	-707.78	1,584.92	1,573.33	11.59	136.747		
3,000.00	2,946.91	2,908.09	2,891.91	5.87	6.42	113.28	1,280.51	-707.78	1,593.24	1,581.07	12.17	130.949		
3,100.00	3,044.69	2,989.69	2,989.69	6.26	6.60	113.96	1,280.51	-707.78	1,601.78	1,589.07	12.71	126.020		
3,200.00	3,142.48	3,087.48	3,087.48	6.66	6.82	114.63	1,280.51	-707.78	1,610.55	1,597.25	13.30	121.082		
3,300.00	3,240.27	3,185.27	3,185.27	7.07	7.04	115.29	1,280.51	-707.78	1,619.55	1,605.65	13.90	116.507		
3,400.00	3,338.05	3,283.05	3,283.05	7.49	7.26	115.94	1,280.51	-707.78	1,628.76	1,614.25	14.51	112.273		
3,500.00	3,435.84	3,380.84	3,380.84	7.91	7.48	116.59	1,280.51	-707.78	1,638.19	1,623.07	15.12	108.353		
3,600.00	3,533.62	3,478.62	3,478.62	8.35	7.70	117.23	1,280.51	-707.78	1,647.83	1,632.09	15.74	104.723		
3,700.00	3,631.41	3,576.41	3,576.41	8.78	7.92	117.86	1,280.51	-707.78	1,657.68	1,641.32	16.35	101.357		
3,800.00	3,729.19	3,674.19	3,674.19	9.23	8.14	118.48	1,280.51	-707.78	1,667.73	1,650.75	16.98	98.234		
3,900.00	3,826.98	3,771.98	3,771.98	9.67	8.36	119.10	1,280.51	-707.78	1,677.98	1,660.38	17.60	95.331		
4,000.00	3,924.77	3,869.77	3,869.77	10.12	8.58	119.71	1,280.51	-707.78	1,688.43	1,670.21	18.23	92.631		
4,100.00	4,022.55	3,967.55	3,967.55	10.58	8.80	120.31	1,280.51	-707.78	1,699.08	1,680.22	18.85	90.114		
4,200.00	4,120.34	4,065.34	4,065.34	11.03	9.02	120.91	1,280.51	-707.78	1,709.91	1,690.43	19.48	87.765		
4,300.00	4,218.12	4,163.12	4,163.12	11.49	9.24	121.50	1,280.51	-707.78	1,720.93	1,700.82	20.11	85.571		
4,400.00	4,315.91	4,260.91	4,260.91	11.95	9.46	122.08	1,280.51	-707.78	1,732.14	1,711.40	20.74	83.517		
4,500.00	4,413.69	4,358.69	4,358.69	12.41	9.68	122.65	1,280.51	-707.78	1,743.52	1,722.15	21.37	81.592		
4,600.00	4,511.48	4,456.48	4,456.48	12.88	9.90	123.22	1,280.51	-707.78	1,755.08	1,733.08	22.00	79.786		
4,700.00	4,609.27	4,554.27	4,554.27	13.34	10.12	123.78	1,280.51	-707.78	1,766.81	1,744.18	22.63	78.088		
4,800.00	4,707.05	4,652.05	4,652.05	13.81	10.34	124.33	1,280.51	-707.78	1,778.71	1,755.45	23.25	76.491 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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 14-18 - BAYSWATER 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
0.00	0.00	0.00	0.00	0.00	0.00	-73.93	103.89	-360.66	376.52				
100.00	100.00	70.00	70.00	0.07	0.07	-73.93	103.89	-360.66	375.32	375.18	0.14	2,702.361	
200.00	200.00	170.00	170.00	0.25	0.26	-73.93	103.89	-360.66	375.32	374.82	0.50	748.093	
300.00	299.98	269.98	269.98	0.42	0.48	49.88	103.89	-360.66	374.19	373.29	0.90	414.715	
400.00	399.84	369.84	369.84	0.60	0.71	50.55	103.89	-360.66	370.84	369.54	1.31	284.054	
500.00	499.45	469.45	469.45	0.78	0.93	51.69	103.89	-360.66	365.36	363.65	1.71	213.709	
600.00	598.70	568.70	568.70	0.96	1.16	53.33	103.89	-360.66	357.90	355.79	2.11	169.273	
700.00	697.47	667.47	667.47	1.15	1.38	55.53	103.89	-360.66	348.73	346.21	2.52	138.389	
800.00	795.62	765.62	765.62	1.33	1.60	58.34	103.89	-360.66	338.18	335.25	2.93	115.541	
900.00	893.41	863.41	863.41	1.52	1.82	61.41	103.89	-360.66	327.49	324.16	3.33	98.259	
1,000.00	991.20	961.20	961.20	1.70	2.04	64.66	103.89	-360.66	317.83	314.09	3.74	85.011	
1,100.00	1,088.98	1,058.98	1,058.98	1.89	2.26	68.10	103.89	-360.66	309.29	305.14	4.14	74.618	
1,200.00	1,186.77	1,156.77	1,156.77	2.07	2.48	71.72	103.89	-360.66	301.95	297.40	4.55	66.343	
1,300.00	1,284.55	1,254.55	1,254.55	2.26	2.70	75.49	103.89	-360.66	295.92	290.96	4.96	59.687	
1,400.00	1,382.34	1,352.34	1,352.34	2.45	2.92	79.39	103.89	-360.66	291.26	285.90	5.36	54.299	
1,500.00	1,480.12	1,450.12	1,450.12	2.63	3.14	83.39	103.89	-360.66	288.06	282.29	5.77	49.922	
1,600.00	1,577.91	1,547.91	1,547.91	2.82	3.36	87.46	103.89	-360.66	286.35	280.18	6.18	46.366	
1,661.89	1,638.43	1,608.43	1,608.43	2.93	3.49	90.00	103.89	-360.66	286.06	279.63	6.43	44.511 CC	
1,700.00	1,675.70	1,645.70	1,645.70	3.01	3.58	91.56	103.89	-360.66	286.17	279.59	6.58	43.483 ES	
1,800.00	1,773.48	1,743.48	1,743.48	3.19	3.80	95.64	103.89	-360.66	287.52	280.53	6.99	41.155	
1,900.00	1,871.27	1,841.27	1,841.27	3.38	4.02	99.67	103.89	-360.66	290.37	282.98	7.39	39.288	
2,000.00	1,969.05	1,939.05	1,939.05	3.56	4.24	103.60	103.89	-360.66	294.68	286.89	7.79	37.804	
2,100.00	2,066.84	2,036.84	2,036.84	3.68	4.46	107.40	103.89	-360.66	300.39	292.28	8.12	37.007	
2,200.00	2,164.62	2,134.62	2,134.62	3.73	4.68	111.05	103.89	-360.66	307.43	299.03	8.40	36.610	
2,300.00	2,262.41	2,232.41	2,232.41	3.85	4.90	114.54	103.89	-360.66	315.69	306.96	8.73	36.156	
2,400.00	2,360.19	2,330.19	2,330.19	4.03	5.11	117.84	103.89	-360.66	325.10	315.99	9.11	35.679	
2,500.00	2,457.98	2,427.98	2,427.98	4.26	5.33	120.95	103.89	-360.66	335.55	326.02	9.53	35.211	
2,600.00	2,555.77	2,525.77	2,525.77	4.52	5.55	123.87	103.89	-360.66	346.95	336.97	9.98	34.774	
2,700.00	2,653.55	2,623.55	2,623.55	4.82	5.77	126.60	103.89	-360.66	359.20	348.76	10.45	34.380	
2,800.00	2,751.34	2,721.34	2,721.34	5.15	5.99	129.15	103.89	-360.66	372.23	361.30	10.94	34.035	
2,900.00	2,849.12	2,819.12	2,819.12	5.50	6.21	131.53	103.89	-360.66	385.96	374.52	11.44	33.738	
3,000.00	2,946.91	2,916.91	2,916.91	5.87	6.43	133.75	103.89	-360.66	400.31	388.36	11.95	33.489	
3,100.00	3,044.69	3,014.69	3,014.69	6.26	6.65	135.81	103.89	-360.66	415.22	402.74	12.48	33.282	
3,200.00	3,142.48	3,112.48	3,112.48	6.66	6.87	137.73	103.89	-360.66	430.63	417.62	13.01	33.112	
3,300.00	3,240.27	3,210.27	3,210.27	7.07	7.09	139.52	103.89	-360.66	446.49	432.95	13.54	32.975	
3,400.00	3,338.05	3,308.05	3,308.05	7.49	7.31	141.19	103.89	-360.66	462.75	448.67	14.08	32.866	
3,500.00	3,435.84	3,405.84	3,405.84	7.91	7.53	142.75	103.89	-360.66	479.37	464.75	14.62	32.780	
3,600.00	3,533.62	3,503.62	3,503.62	8.35	7.75	144.20	103.89	-360.66	496.32	481.15	15.17	32.714	
3,700.00	3,631.41	3,601.41	3,601.41	8.78	7.97	145.56	103.89	-360.66	513.57	497.85	15.72	32.665	
3,800.00	3,729.19	3,700.81	3,699.19	9.23	8.20	146.82	103.89	-360.66	531.08	514.80	16.28	32.622	
3,900.00	3,826.98	3,803.02	3,796.98	9.67	8.43	148.01	103.89	-360.66	548.82	531.98	16.85	32.580	
4,000.00	3,924.77	3,905.23	3,894.77	10.12	8.66	149.13	103.89	-360.66	566.79	549.37	17.41	32.548	
4,100.00	4,022.55	4,007.45	3,992.55	10.58	8.88	150.17	103.89	-360.66	584.95	566.97	17.98	32.525	
4,200.00	4,120.34	4,109.66	4,090.34	11.03	9.11	151.16	103.89	-360.66	603.29	584.73	18.56	32.510 SF	
4,300.00	4,218.12	4,188.12	4,188.12	11.49	9.29	152.08	103.89	-360.66	621.80	602.72	19.08	32.591	
4,400.00	4,315.91	4,285.91	4,285.91	11.95	9.51	152.95	103.89	-360.66	640.45	620.81	19.64	32.601	
4,500.00	4,413.69	4,383.69	4,383.69	12.41	9.73	153.78	103.89	-360.66	659.24	639.03	20.21	32.615	
4,600.00	4,511.48	4,481.48	4,481.48	12.88	9.95	154.56	103.89	-360.66	678.16	657.37	20.78	32.631	
4,700.00	4,609.27	4,579.27	4,579.27	13.34	10.17	155.29	103.89	-360.66	697.19	675.83	21.35	32.650	
4,800.00	4,707.05	4,677.05	4,677.05	13.81	10.39	155.99	103.89	-360.66	716.32	694.40	21.93	32.670	
4,900.00	4,804.84	4,774.84	4,774.84	14.27	10.61	156.65	103.89	-360.66	735.56	713.06	22.50	32.692	
5,000.00	4,902.62	4,872.62	4,872.62	14.74	10.83	157.28	103.89	-360.66	754.88	731.81	23.07	32.715	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 14-18 - BAYSWATER 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						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,100.00	5,000.41	4,950.00	4,950.00	15.21	11.00	157.75	103.89	-360.66	774.56	750.91	23.65	32.756		
5,200.00	5,098.19	4,950.00	4,950.00	15.68	11.00	157.75	103.89	-360.66	802.52	778.50	24.02	33.411		
5,300.00	5,195.98	4,950.00	4,950.00	16.15	11.00	157.75	103.89	-360.66	841.52	817.38	24.13	34.870		
5,400.00	5,293.77	4,950.00	4,950.00	16.63	11.00	157.75	103.89	-360.66	890.09	866.03	24.05	37.006		
5,500.00	5,391.55	4,950.00	4,950.00	17.10	11.00	157.75	103.89	-360.66	946.76	922.92	23.85	39.699		
5,600.00	5,489.34	4,950.00	4,950.00	17.57	11.00	157.75	103.89	-360.66	1,010.18	986.61	23.58	42.847		
5,700.00	5,587.12	4,950.00	4,950.00	18.04	11.00	157.75	103.89	-360.66	1,079.15	1,055.88	23.28	46.359		
5,800.00	5,684.91	4,950.00	4,950.00	18.52	11.00	157.75	103.89	-360.66	1,152.68	1,129.70	22.98	50.157		
5,900.00	5,782.69	4,950.00	4,950.00	18.99	11.00	157.75	103.89	-360.66	1,229.95	1,207.25	22.70	54.175		
6,000.00	5,880.48	4,950.00	4,950.00	19.47	11.00	157.75	103.89	-360.66	1,310.30	1,287.85	22.45	58.356		
6,100.00	5,978.27	4,950.00	4,950.00	19.95	11.00	157.75	103.89	-360.66	1,393.20	1,370.96	22.24	62.654		
6,200.00	6,076.05	4,950.00	4,950.00	20.42	11.00	157.75	103.89	-360.66	1,478.21	1,456.16	22.05	67.030		
6,300.00	6,173.84	4,950.00	4,950.00	20.90	11.00	157.75	103.89	-360.66	1,565.00	1,543.09	21.90	71.450		
6,400.00	6,271.62	4,950.00	4,950.00	21.37	11.00	157.75	103.89	-360.66	1,653.27	1,631.49	21.79	75.888		
6,500.00	6,369.41	4,950.00	4,950.00	21.85	11.00	157.75	103.89	-360.66	1,742.82	1,721.12	21.70	80.322		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 23-18 - STARLIGHT 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							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			
0.00	0.00	0.00	0.00	0.00	0.00	24.59	1,408.00	644.44	1,548.96						
100.00	100.00	61.00	61.00	0.07	0.06	24.59	1,408.00	644.44	1,548.47	1,548.34	0.13	N/A			
200.00	200.00	161.00	161.00	0.25	0.24	24.59	1,408.00	644.44	1,548.47	1,547.99	0.48	3,199.685 CC, ES			
300.00	299.98	260.98	260.98	0.42	0.46	148.20	1,408.00	644.44	1,549.95	1,549.07	0.88	1,756.138			
400.00	399.84	360.84	360.84	0.60	0.69	148.25	1,408.00	644.44	1,554.41	1,553.12	1.28	1,211.169			
500.00	499.45	460.45	460.45	0.78	0.91	148.34	1,408.00	644.44	1,561.83	1,560.14	1.69	925.855			
600.00	598.70	559.70	559.70	0.96	1.13	148.47	1,408.00	644.44	1,572.23	1,570.14	2.09	751.635			
700.00	697.47	658.47	658.47	1.15	1.36	148.62	1,408.00	644.44	1,585.62	1,583.12	2.50	634.903			
800.00	795.62	756.62	756.62	1.33	1.58	148.80	1,408.00	644.44	1,602.01	1,599.10	2.90	551.709			
900.00	893.41	854.41	854.41	1.52	1.80	149.18	1,408.00	644.44	1,620.04	1,616.74	3.31	489.818			
1,000.00	991.20	952.20	952.20	1.70	2.02	149.55	1,408.00	644.44	1,638.15	1,634.45	3.71	441.698			
1,100.00	1,088.98	1,049.98	1,049.98	1.89	2.24	149.91	1,408.00	644.44	1,656.33	1,652.22	4.11	402.901			
1,200.00	1,186.77	1,147.77	1,147.77	2.07	2.46	150.27	1,408.00	644.44	1,674.57	1,670.06	4.51	370.977			
1,300.00	1,284.55	1,245.55	1,245.55	2.26	2.68	150.62	1,408.00	644.44	1,692.87	1,687.96	4.92	344.261			
1,400.00	1,382.34	1,343.34	1,343.34	2.45	2.90	150.96	1,408.00	644.44	1,711.24	1,705.91	5.32	321.583			
1,500.00	1,480.12	1,441.12	1,441.12	2.63	3.12	151.30	1,408.00	644.44	1,729.66	1,723.93	5.73	302.096			
1,600.00	1,577.91	1,538.91	1,538.91	2.82	3.34	151.63	1,408.00	644.44	1,748.13	1,742.00	6.13	285.176			
1,700.00	1,675.70	1,636.70	1,636.70	3.01	3.56	151.95	1,408.00	644.44	1,766.67	1,760.13	6.53	270.350 SF			

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 24-18 - BAYSWATER 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						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	90.22	-1.75	451.28	451.87					
100.00	100.00	77.00	77.00	0.07	0.08	90.22	-1.75	451.28	451.28	451.13	0.15	3,038.137		
200.00	200.00	177.00	177.00	0.25	0.28	90.22	-1.75	451.28	451.28	450.76	0.52	867.114 CC, ES		
300.00	299.98	276.98	276.98	0.42	0.50	-146.30	-1.75	451.28	452.73	451.81	0.92	491.639		
400.00	399.84	376.84	376.84	0.60	0.73	-146.61	-1.75	451.28	457.09	455.77	1.33	344.944		
500.00	499.45	476.45	476.45	0.78	0.95	-147.13	-1.75	451.28	464.40	462.67	1.73	268.367		
600.00	598.70	575.70	575.70	0.96	1.17	-147.81	-1.75	451.28	474.70	472.56	2.14	222.188		
700.00	697.47	674.47	674.47	1.15	1.40	-148.65	-1.75	451.28	488.04	485.50	2.54	191.920		
800.00	795.62	772.62	772.62	1.33	1.62	-149.60	-1.75	451.28	504.50	501.55	2.95	171.029		
900.00	893.41	870.41	870.41	1.52	1.84	-150.75	-1.75	451.28	522.75	519.40	3.35	155.868		
1,000.00	991.20	968.20	968.20	1.70	2.06	-151.83	-1.75	451.28	541.20	537.45	3.76	144.123		
1,100.00	1,088.98	1,065.98	1,065.98	1.89	2.28	-152.83	-1.75	451.28	559.82	555.67	4.16	134.663		
1,200.00	1,186.77	1,163.77	1,163.77	2.07	2.50	-153.77	-1.75	451.28	578.60	574.04	4.56	126.889		
1,300.00	1,284.55	1,261.55	1,261.55	2.26	2.72	-154.66	-1.75	451.28	597.53	592.56	4.96	120.393		
1,400.00	1,382.34	1,359.34	1,359.34	2.45	2.94	-155.49	-1.75	451.28	616.58	611.21	5.37	114.888		
1,500.00	1,480.12	1,457.12	1,457.12	2.63	3.16	-156.27	-1.75	451.28	635.75	629.98	5.77	110.168		
1,600.00	1,577.91	1,554.91	1,554.91	2.82	3.38	-157.00	-1.75	451.28	655.03	648.85	6.17	106.078		
1,700.00	1,675.70	1,652.70	1,652.70	3.01	3.60	-157.69	-1.75	451.28	674.40	667.82	6.58	102.501		
1,800.00	1,773.48	1,750.48	1,750.48	3.19	3.82	-158.35	-1.75	451.28	693.87	686.89	6.98	99.348		
1,900.00	1,871.27	1,848.27	1,848.27	3.38	4.04	-158.97	-1.75	451.28	713.42	706.03	7.39	96.549		
2,000.00	1,969.05	1,946.05	1,946.05	3.56	4.25	-159.55	-1.75	451.28	733.05	725.25	7.79	94.049		
2,100.00	2,066.84	2,043.84	2,043.84	3.68	4.47	-160.11	-1.75	451.28	752.74	744.59	8.15	92.317		
2,200.00	2,164.62	2,141.62	2,141.62	3.73	4.69	-160.63	-1.75	451.28	772.50	764.08	8.42	91.758		
2,300.00	2,262.41	2,239.41	2,239.41	3.85	4.91	-161.13	-1.75	451.28	792.32	783.60	8.72	90.820		
2,400.00	2,360.19	2,337.19	2,337.19	4.03	5.13	-161.61	-1.75	451.28	812.20	803.13	9.07	89.581		
2,500.00	2,457.98	2,434.98	2,434.98	4.26	5.35	-162.06	-1.75	451.28	832.12	822.68	9.44	88.123		
2,600.00	2,555.77	2,532.77	2,532.77	4.52	5.57	-162.50	-1.75	451.28	852.10	842.25	9.85	86.519		
2,700.00	2,653.55	2,630.55	2,630.55	4.82	5.79	-162.91	-1.75	451.28	872.12	861.84	10.28	84.833		
2,800.00	2,751.34	2,728.34	2,728.34	5.15	6.01	-163.30	-1.75	451.28	892.18	881.45	10.73	83.115		
2,900.00	2,849.12	2,826.12	2,826.12	5.50	6.23	-163.68	-1.75	451.28	912.28	901.07	11.21	81.401		
3,000.00	2,946.91	2,923.91	2,923.91	5.87	6.45	-164.04	-1.75	451.28	932.42	920.72	11.70	79.720		
3,100.00	3,044.69	3,021.69	3,021.69	6.26	6.67	-164.39	-1.75	451.28	952.59	940.39	12.20	78.088		
3,200.00	3,142.48	3,119.48	3,119.48	6.66	6.89	-164.72	-1.75	451.28	972.79	960.08	12.71	76.518		
3,300.00	3,240.27	3,217.27	3,217.27	7.07	7.11	-165.04	-1.75	451.28	993.02	979.79	13.24	75.017		
3,400.00	3,338.05	3,315.05	3,315.05	7.49	7.33	-165.34	-1.75	451.28	1,013.29	999.52	13.77	73.587		
3,500.00	3,435.84	3,412.84	3,412.84	7.91	7.55	-165.63	-1.75	451.28	1,033.57	1,019.26	14.31	72.229		
3,600.00	3,533.62	3,510.62	3,510.62	8.35	7.77	-165.92	-1.75	451.28	1,053.89	1,039.03	14.86	70.941		
3,700.00	3,631.41	3,608.41	3,608.41	8.78	7.99	-166.19	-1.75	451.28	1,074.22	1,058.82	15.41	69.722		
3,800.00	3,729.19	3,706.19	3,706.19	9.23	8.21	-166.45	-1.75	451.28	1,094.58	1,078.62	15.96	68.569		
3,900.00	3,826.98	3,803.98	3,803.98	9.67	8.43	-166.70	-1.75	451.28	1,114.96	1,098.44	16.52	67.478		
4,000.00	3,924.77	3,901.77	3,901.77	10.12	8.65	-166.94	-1.75	451.28	1,135.36	1,118.27	17.09	66.445		
4,100.00	4,022.55	4,000.45	3,999.55	10.58	8.87	-167.18	-1.75	451.28	1,155.78	1,138.12	17.66	65.461		
4,200.00	4,120.34	4,102.66	4,097.34	11.03	9.10	-167.40	-1.75	451.28	1,176.22	1,157.98	18.24	64.501		
4,300.00	4,218.12	4,204.88	4,195.12	11.49	9.33	-167.62	-1.75	451.28	1,196.67	1,177.85	18.82	63.593		
4,400.00	4,315.91	4,307.09	4,292.91	11.95	9.56	-167.83	-1.75	451.28	1,217.14	1,197.74	19.40	62.733		
4,500.00	4,413.69	4,409.31	4,390.69	12.41	9.79	-168.04	-1.75	451.28	1,237.62	1,217.63	19.99	61.919		
4,600.00	4,511.48	4,488.48	4,488.48	12.88	9.97	-168.23	-1.75	451.28	1,258.12	1,237.60	20.52	61.300		
4,700.00	4,609.27	4,586.27	4,586.27	13.34	10.19	-168.42	-1.75	451.28	1,278.64	1,257.53	21.10	60.589		
4,800.00	4,707.05	4,684.05	4,684.05	13.81	10.41	-168.61	-1.75	451.28	1,299.16	1,277.48	21.68	59.912		
4,900.00	4,804.84	4,781.84	4,781.84	14.27	10.63	-168.79	-1.75	451.28	1,319.70	1,297.43	22.27	59.268		
5,000.00	4,902.62	4,879.62	4,879.62	14.74	10.85	-168.96	-1.75	451.28	1,340.25	1,317.40	22.85	58.654		
5,100.00	5,000.41	4,977.41	4,977.41	15.21	11.07	-169.13	-1.75	451.28	1,360.81	1,337.38	23.43	58.068		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 24-18 - BAYSWATER 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						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	
5,200.00	5,098.19	5,000.00	5,000.00	15.68	11.12	-169.17	-1.75	451.28	1,383.43	1,359.52	23.92	57.845 SF	
5,300.00	5,195.98	5,000.00	5,000.00	16.15	11.12	-169.17	-1.75	451.28	1,412.60	1,388.32	24.28	58.186	
5,400.00	5,293.77	5,000.00	5,000.00	16.63	11.12	-169.17	-1.75	451.28	1,448.10	1,423.56	24.55	58.993	
5,500.00	5,391.55	5,000.00	5,000.00	17.10	11.12	-169.17	-1.75	451.28	1,489.49	1,464.75	24.74	60.217	
5,600.00	5,489.34	5,000.00	5,000.00	17.57	11.12	-169.17	-1.75	451.28	1,536.27	1,511.42	24.86	61.809	
5,700.00	5,587.12	5,000.00	5,000.00	18.04	11.12	-169.17	-1.75	451.28	1,587.98	1,563.06	24.92	63.724	
5,800.00	5,684.91	5,000.00	5,000.00	18.52	11.12	-169.17	-1.75	451.28	1,644.16	1,619.21	24.94	65.922	
5,900.00	5,782.69	5,000.00	5,000.00	18.99	11.12	-169.17	-1.75	451.28	1,704.35	1,679.42	24.93	68.367	
6,000.00	5,880.48	5,000.00	5,000.00	19.47	11.12	-169.17	-1.75	451.28	1,768.15	1,743.26	24.90	71.024	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 4-18 - 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		
0.00	0.00	0.00	0.00	0.00	0.00	19.93	588.01	213.24	625.98					
100.00	100.00	73.84	73.84	0.07	0.06	19.92	588.13	213.11	625.55	625.42	0.13	4,840.179 CC		
200.00	200.00	172.46	172.46	0.25	0.21	19.88	588.54	212.83	625.85	625.39	0.46	1,372.444 ES		
300.00	299.98	274.77	274.77	0.42	0.39	143.53	588.87	212.82	627.55	626.75	0.81	775.621		
400.00	399.84	371.60	371.60	0.60	0.56	143.73	589.07	212.66	631.91	630.76	1.15	547.146		
500.00	499.45	467.98	467.97	0.78	0.73	144.13	589.66	213.34	639.78	638.27	1.51	425.056		
600.00	598.70	567.13	567.12	0.96	0.90	144.67	590.49	214.13	650.78	648.92	1.86	349.583		
700.00	697.47	668.58	668.55	1.15	1.08	145.42	590.80	215.64	664.49	662.27	2.22	298.931		
800.00	795.62	764.14	764.10	1.33	1.25	146.26	590.70	217.44	681.00	678.43	2.58	264.273		
900.00	893.41	860.96	860.90	1.52	1.42	147.29	591.23	218.97	699.75	696.82	2.93	238.714		
1,000.00	991.20	959.74	959.67	1.70	1.59	148.29	591.62	220.40	718.53	715.24	3.29	218.629		
1,100.00	1,088.98	1,057.94	1,057.86	1.89	1.77	149.22	592.00	221.57	737.38	733.74	3.64	202.480		
1,200.00	1,186.77	1,159.44	1,159.36	2.07	1.95	150.11	592.30	222.50	756.20	752.20	4.00	188.932		
1,300.00	1,284.55	1,259.62	1,259.54	2.26	2.12	150.91	592.26	222.68	774.58	770.21	4.36	177.634		
1,400.00	1,382.34	1,359.76	1,359.68	2.45	2.29	151.65	592.26	222.51	792.94	788.22	4.72	168.066		
1,500.00	1,480.12	1,457.15	1,457.07	2.63	2.46	152.30	592.20	221.86	811.13	806.06	5.07	159.965		
1,600.00	1,577.91	1,557.06	1,556.97	2.82	2.63	152.96	592.18	221.46	829.59	824.16	5.43	152.835		
1,700.00	1,675.70	1,658.19	1,658.10	3.01	2.81	153.64	591.34	221.35	847.61	841.82	5.79	146.452		
1,800.00	1,773.48	1,754.01	1,753.92	3.19	2.97	154.25	590.60	221.06	865.68	859.55	6.14	141.038		
1,900.00	1,871.27	1,847.12	1,847.02	3.38	3.13	154.77	590.65	220.31	884.29	877.80	6.48	136.376		
2,000.00	1,969.05	1,942.31	1,942.21	3.56	3.30	155.27	591.15	219.79	903.47	896.64	6.84	132.180		
2,100.00	2,066.84	2,042.15	2,042.06	3.68	3.48	155.79	591.50	219.46	922.71	915.57	7.15	129.095		
2,200.00	2,164.62	2,138.06	2,137.95	3.73	3.64	156.23	592.04	218.46	941.82	934.46	7.36	127.954		
2,300.00	2,262.41	2,231.30	2,231.19	3.85	3.81	156.66	593.00	218.02	961.65	954.04	7.61	126.367		
2,400.00	2,360.19	2,334.77	2,334.66	4.03	3.99	157.13	593.67	217.59	981.27	973.35	7.91	123.984		
2,500.00	2,457.98	2,433.34	2,433.22	4.26	4.16	157.57	593.84	217.21	1,000.57	992.33	8.24	121.374		
2,600.00	2,555.77	2,530.16	2,530.04	4.52	4.33	158.00	594.08	217.10	1,020.14	1,011.54	8.60	118.620		
2,700.00	2,653.55	2,631.38	2,631.26	4.82	4.51	158.43	594.08	216.73	1,039.42	1,030.43	8.99	115.621		
2,800.00	2,751.34	2,729.29	2,729.17	5.15	4.68	158.81	594.29	216.23	1,058.85	1,049.45	9.40	112.692		
2,900.00	2,849.12	2,835.09	2,834.97	5.50	4.87	159.20	594.17	215.04	1,077.70	1,067.86	9.84	109.569		
3,000.00	2,946.91	2,932.00	2,931.86	5.87	5.04	159.51	594.21	213.33	1,096.34	1,086.07	10.28	106.693		
3,100.00	3,044.69	3,028.30	3,028.14	6.26	5.20	159.80	594.47	211.79	1,115.29	1,104.56	10.73	103.959		
3,200.00	3,142.48	3,129.25	3,129.08	6.66	5.38	160.11	594.46	210.15	1,134.03	1,122.83	11.20	101.240		
3,300.00	3,240.27	3,226.87	3,226.69	7.07	5.55	160.40	594.46	208.69	1,152.89	1,141.22	11.68	98.722		
3,400.00	3,338.05	3,335.11	3,334.91	7.49	5.74	160.71	594.14	206.59	1,171.29	1,159.10	12.19	96.121		
3,500.00	3,435.84	3,435.07	3,434.84	7.91	5.92	161.01	592.82	204.73	1,188.95	1,176.27	12.68	93.744		
3,600.00	3,533.62	3,528.39	3,528.14	8.35	6.08	161.26	592.48	202.78	1,207.25	1,194.07	13.17	91.644		
3,700.00	3,631.41	3,635.03	3,634.75	8.78	6.27	161.57	591.05	200.81	1,224.94	1,211.24	13.70	89.431		
3,800.00	3,729.19	3,728.94	3,728.64	9.23	6.43	161.85	589.64	199.50	1,242.84	1,228.65	14.20	87.539		
3,900.00	3,826.98	3,831.13	3,830.80	9.67	6.61	162.22	587.15	199.12	1,260.69	1,245.97	14.72	85.647		
4,000.00	3,924.77	3,919.17	3,918.80	10.12	6.76	162.53	584.74	198.88	1,278.46	1,263.25	15.21	84.040		
4,100.00	4,022.55	3,977.95	3,977.59	10.58	6.86	162.69	584.95	198.66	1,298.50	1,282.86	15.64	83.047		
4,200.00	4,120.34	4,053.04	4,052.62	11.03	7.00	162.81	587.69	198.53	1,321.10	1,305.00	16.10	82.071		
4,300.00	4,218.12	4,170.84	4,170.33	11.49	7.20	163.00	592.29	198.56	1,344.21	1,327.54	16.67	80.619		
4,400.00	4,315.91	4,256.15	4,255.58	11.95	7.35	163.11	595.07	197.32	1,365.88	1,348.71	17.17	79.566		
4,500.00	4,413.69	4,338.66	4,338.03	12.41	7.50	163.28	597.92	198.43	1,389.32	1,371.67	17.65	78.714		
4,600.00	4,511.48	4,442.40	4,441.71	12.88	7.68	163.50	601.27	199.80	1,412.65	1,394.45	18.19	77.640		
4,700.00	4,609.27	4,668.64	4,667.77	13.34	8.07	164.02	599.99	198.14	1,432.45	1,413.40	19.05	75.186		
4,800.00	4,707.05	4,771.49	4,770.30	13.81	8.25	164.07	598.21	190.25	1,446.35	1,426.75	19.60	73.785		
4,900.00	4,804.84	4,849.60	4,848.09	14.27	8.39	164.03	598.50	183.27	1,461.07	1,440.97	20.10	72.701		
5,000.00	4,902.62	4,922.47	4,920.69	14.74	8.52	163.97	600.07	177.22	1,477.49	1,456.92	20.58	71.804		
5,100.00	5,000.41	5,000.00	4,997.94	15.21	8.65	163.89	603.09	171.29	1,495.60	1,474.54	21.07	70.994		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HICKS 4-18 - 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
5,200.00	5,098.19	5,069.91	5,067.58	15.68	8.78	163.82	606.82	166.52	1,515.31	1,493.78	21.53	70.373	
5,300.00	5,195.98	5,143.46	5,140.86	16.15	8.91	163.74	611.49	162.38	1,536.58	1,514.58	22.00	69.829	
5,400.00	5,293.77	5,217.25	5,214.41	16.63	9.03	163.69	616.69	159.41	1,559.39	1,536.91	22.47	69.385	
5,500.00	5,391.55	5,292.96	5,289.88	17.10	9.17	163.67	622.47	157.51	1,583.57	1,560.63	22.95	69.011	
5,600.00	5,489.34	5,374.15	5,370.81	17.57	9.31	163.67	628.88	156.69	1,608.91	1,585.47	23.43	68.656	
5,700.00	5,587.12	5,515.77	5,512.18	18.04	9.56	163.82	636.61	157.93	1,633.76	1,609.64	24.12	67.738	
5,800.00	5,684.91	5,698.70	5,695.06	18.52	9.88	164.13	639.67	158.06	1,655.93	1,631.02	24.91	66.470	
5,900.00	5,782.69	5,765.75	5,762.10	18.99	9.99	164.28	638.63	157.99	1,674.90	1,649.53	25.37	66.030	
6,000.00	5,880.48	5,841.63	5,837.97	19.47	10.12	164.47	638.16	159.21	1,695.62	1,669.78	25.84	65.620	
6,100.00	5,978.27	5,934.64	5,930.97	19.95	10.28	164.70	638.12	161.07	1,717.08	1,690.71	26.37	65.127	
6,200.00	6,076.05	6,034.58	6,030.89	20.42	10.46	164.93	638.19	162.70	1,738.42	1,711.51	26.91	64.596	
6,300.00	6,173.84	6,127.00	6,123.30	20.90	10.62	165.09	639.23	163.38	1,759.96	1,732.53	27.44	64.143	
6,400.00	6,271.62	6,224.18	6,220.46	21.37	10.79	165.23	640.94	163.67	1,781.70	1,753.72	27.98	63.678	
7,900.00	7,606.64	7,617.29	7,613.36	25.77	13.21	75.47	645.20	164.61	1,764.11	1,728.66	35.45	49.761	
8,000.00	7,647.41	7,649.25	7,645.31	25.67	13.27	79.70	644.47	164.50	1,717.65	1,681.80	35.85	47.914	
8,100.00	7,675.32	7,670.66	7,666.72	25.56	13.31	84.07	644.01	164.49	1,670.79	1,634.50	36.28	46.049	
8,200.00	7,689.84	7,681.01	7,677.07	25.46	13.32	88.26	643.80	164.51	1,624.95	1,588.20	36.75	44.212	
8,300.00	7,692.00	7,681.11	7,677.16	25.38	13.32	90.40	643.80	164.51	1,581.63	1,544.37	37.26	42.450	
8,400.00	7,692.00	7,679.39	7,675.44	25.41	13.32	90.34	643.83	164.51	1,543.20	1,505.38	37.82	40.803	
8,500.00	7,692.00	7,677.66	7,673.71	25.67	13.32	90.27	643.87	164.50	1,510.43	1,471.99	38.44	39.292	
8,600.00	7,692.00	7,675.91	7,671.97	26.21	13.31	90.20	643.90	164.50	1,483.68	1,444.57	39.11	37.937	
8,700.00	7,692.00	7,674.15	7,670.21	26.93	13.31	90.13	643.94	164.50	1,463.29	1,423.48	39.81	36.758	
8,800.00	7,692.00	7,672.38	7,668.44	27.75	13.31	90.06	643.98	164.50	1,449.53	1,409.00	40.52	35.769	
8,900.00	7,692.00	7,670.60	7,666.65	28.64	13.31	89.99	644.02	164.49	1,442.57	1,401.34	41.24	34.984	
8,950.57	7,692.00	7,669.69	7,665.74	29.11	13.30	89.95	644.03	164.49	1,441.69	1,400.09	41.59	34.660	
9,000.00	7,692.00	7,668.79	7,664.85	29.59	13.30	89.91	644.05	164.49	1,442.53	1,400.61	41.92	34.408	
9,100.00	7,692.00	7,666.98	7,663.04	30.59	13.30	89.84	644.09	164.49	1,449.41	1,406.84	42.57	34.046	
9,200.00	7,692.00	7,665.15	7,661.21	31.63	13.30	89.77	644.13	164.49	1,463.10	1,419.93	43.17	33.895 SF	
9,300.00	7,692.00	7,663.30	7,659.36	32.72	13.29	89.70	644.17	164.49	1,483.41	1,439.72	43.70	33.949	
9,400.00	7,692.00	7,661.44	7,657.50	33.84	13.29	89.62	644.21	164.49	1,510.09	1,465.93	44.16	34.200	
9,500.00	7,692.00	7,659.57	7,655.63	35.00	13.29	89.55	644.25	164.49	1,542.80	1,498.25	44.54	34.637	
9,600.00	7,692.00	7,657.68	7,653.74	36.19	13.28	89.47	644.29	164.49	1,581.16	1,536.30	44.86	35.247	
9,700.00	7,692.00	7,655.77	7,651.83	37.40	13.28	89.40	644.33	164.49	1,624.77	1,579.66	45.11	36.018	
9,800.00	7,692.00	7,653.85	7,649.91	38.64	13.28	89.32	644.37	164.49	1,673.23	1,627.93	45.30	36.937	
9,900.00	7,692.00	7,651.91	7,647.97	39.90	13.27	89.24	644.41	164.50	1,726.13	1,680.69	45.44	37.989	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 12-18 - PDC 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		
9,300.00	7,692.00	7,694.05	7,692.05	32.72	13.40	97.77	2,714.18	-830.97	1,774.22	1,733.50	40.72	43.574		
9,400.00	7,692.00	7,687.31	7,685.33	33.84	13.39	96.91	2,714.50	-831.31	1,677.58	1,636.51	41.07	40.847		
9,500.00	7,692.00	7,680.98	7,679.01	35.00	13.38	96.11	2,714.79	-831.62	1,581.34	1,539.86	41.48	38.124		
9,600.00	7,692.00	7,675.03	7,673.07	36.19	13.37	95.34	2,715.05	-831.90	1,485.58	1,443.63	41.95	35.409		
9,700.00	7,692.00	7,669.42	7,667.48	37.40	13.36	94.62	2,715.29	-832.16	1,390.40	1,347.88	42.51	32.704		
9,800.00	7,692.00	7,664.13	7,662.20	38.64	13.35	93.94	2,715.51	-832.40	1,295.92	1,252.75	43.17	30.016		
9,900.00	7,692.00	7,659.13	7,657.20	39.90	13.34	93.29	2,715.72	-832.63	1,202.32	1,158.36	43.96	27.349		
10,000.00	7,692.00	7,654.40	7,652.48	41.19	13.33	92.68	2,715.90	-832.84	1,109.82	1,064.92	44.91	24.715		
10,100.00	7,692.00	7,649.91	7,648.00	42.49	13.32	92.09	2,716.08	-833.03	1,018.72	972.68	46.05	22.124		
10,200.00	7,692.00	7,645.64	7,643.74	43.81	13.32	91.54	2,716.24	-833.21	929.44	882.00	47.43	19.594		
10,300.00	7,692.00	7,641.59	7,639.69	45.14	13.31	91.01	2,716.39	-833.38	842.55	793.42	49.13	17.149		
10,400.00	7,692.00	7,637.73	7,635.84	46.50	13.30	90.50	2,716.52	-833.54	758.87	707.66	51.21	14.820		
10,500.00	7,692.00	7,634.06	7,632.17	47.86	13.30	90.02	2,716.65	-833.69	679.60	625.87	53.73	12.649		
10,600.00	7,692.00	7,630.55	7,628.67	49.24	13.29	89.56	2,716.77	-833.83	606.47	549.74	56.72	10.692		
10,700.00	7,692.00	7,627.20	7,625.32	50.62	13.29	89.12	2,716.88	-833.96	541.97	481.86	60.11	9.016		
10,800.00	7,692.00	7,624.00	7,622.13	52.02	13.28	88.71	2,716.99	-834.09	489.52	425.97	63.55	7.703		
10,900.00	7,692.00	7,620.93	7,619.06	53.43	13.28	88.30	2,717.08	-834.21	453.34	387.00	66.34	6.834		
11,000.00	7,692.00	7,618.00	7,616.13	54.85	13.27	87.92	2,717.18	-834.32	437.47	369.95	67.52	6.479		
11,020.74	7,692.00	7,617.40	7,615.54	55.14	13.27	87.84	2,717.19	-834.34	436.98	369.48	67.50	6.474 CC, ES, SF		
11,100.00	7,692.00	7,615.18	7,613.32	56.27	13.27	87.55	2,717.26	-834.42	444.10	377.58	66.52	6.676		
11,200.00	7,692.00	7,612.48	7,610.62	57.71	13.26	87.20	2,717.34	-834.52	472.29	408.60	63.69	7.415		
11,300.00	7,692.00	7,609.89	7,608.03	59.15	13.26	86.86	2,717.42	-834.62	518.53	458.55	59.98	8.645		
11,400.00	7,692.00	7,607.39	7,605.54	60.59	13.25	86.53	2,717.49	-834.71	578.51	522.27	56.24	10.287		
11,500.00	7,692.00	7,604.99	7,603.14	62.05	13.25	86.22	2,717.56	-834.79	648.43	595.50	52.93	12.252		
11,600.00	7,692.00	7,602.69	7,600.84	63.51	13.24	85.91	2,717.62	-834.88	725.42	675.25	50.17	14.458		
11,700.00	7,692.00	7,600.00	7,598.15	64.97	13.24	85.56	2,717.69	-834.97	807.46	759.51	47.95	16.839		
11,800.00	7,692.00	7,600.00	7,598.15	66.44	13.24	85.56	2,717.69	-834.97	893.17	846.98	46.19	19.337		
11,900.00	7,692.00	7,596.31	7,594.47	67.92	13.23	85.08	2,717.79	-835.09	981.57	936.79	44.78	21.918		
12,000.00	7,692.00	7,594.32	7,592.48	69.40	13.23	84.82	2,717.84	-835.16	1,072.01	1,028.34	43.67	24.549		
12,100.00	7,692.00	7,592.38	7,590.54	70.88	13.23	84.56	2,717.89	-835.22	1,164.01	1,121.24	42.78	27.210		
12,200.00	7,692.00	7,590.48	7,588.64	72.37	13.22	84.32	2,717.94	-835.28	1,257.23	1,215.17	42.07	29.887		
12,300.00	7,692.00	7,588.62	7,586.79	73.86	13.22	84.08	2,717.99	-835.34	1,351.42	1,309.93	41.49	32.571		
12,400.00	7,692.00	7,586.81	7,584.98	75.35	13.22	83.84	2,718.03	-835.40	1,446.38	1,405.36	41.03	35.255		
12,500.00	7,692.00	7,585.05	7,583.21	76.85	13.21	83.61	2,718.08	-835.45	1,541.98	1,501.33	40.65	37.934		
12,600.00	7,692.00	7,583.32	7,581.49	78.35	13.21	83.38	2,718.12	-835.50	1,638.10	1,597.76	40.34	40.606		
12,647.07	7,692.00	7,582.52	7,580.69	79.06	13.21	83.28	2,718.14	-835.52	1,683.50	1,643.29	40.22	41.861		

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Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 2J - PDC 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
10,600.00	7,692.00	7,606.32	7,604.80	49.24	13.20	89.02	3,546.22	-83.22	1,724.21	1,668.50	55.71	30.947	
10,700.00	7,692.00	7,606.65	7,605.13	50.62	13.20	89.04	3,546.22	-83.21	1,653.03	1,595.50	57.53	28.734	
10,800.00	7,692.00	7,606.98	7,605.46	52.02	13.20	89.06	3,546.22	-83.21	1,584.96	1,525.50	59.47	26.653	
10,900.00	7,692.00	7,607.31	7,605.79	53.43	13.21	89.07	3,546.23	-83.20	1,520.43	1,458.91	61.52	24.713	
11,000.00	7,692.00	7,607.64	7,606.13	54.85	13.21	89.09	3,546.23	-83.20	1,459.90	1,396.22	63.68	22.926	
11,100.00	7,692.00	7,607.98	7,606.46	56.27	13.21	89.10	3,546.23	-83.19	1,403.89	1,337.98	65.91	21.300	
11,200.00	7,692.00	7,608.31	7,606.80	57.71	13.21	89.12	3,546.23	-83.19	1,352.96	1,284.78	68.18	19.843	
11,300.00	7,692.00	7,608.65	7,607.13	59.15	13.21	89.14	3,546.23	-83.18	1,307.71	1,237.26	70.45	18.563	
11,400.00	7,692.00	7,608.80	7,607.28	60.59	13.21	89.14	3,546.23	-83.18	1,268.74	1,196.10	72.64	17.466	
11,500.00	7,692.00	7,609.14	7,607.62	62.05	13.21	89.16	3,546.23	-83.18	1,236.64	1,161.95	74.69	16.556	
11,600.00	7,692.00	7,609.48	7,607.97	63.51	13.21	89.18	3,546.23	-83.17	1,211.98	1,135.44	76.53	15.836	
11,700.00	7,692.00	7,609.83	7,608.31	64.97	13.21	89.19	3,546.23	-83.17	1,195.19	1,117.11	78.08	15.307	
11,800.00	7,692.00	7,610.18	7,608.66	66.44	13.21	89.21	3,546.24	-83.16	1,186.63	1,107.35	79.28	14.968	
11,852.02	7,692.00	7,610.36	7,608.84	67.21	13.21	89.22	3,546.24	-83.16	1,185.48	1,105.74	79.74	14.866 CC, ES	
11,900.00	7,692.00	7,610.53	7,609.01	67.92	13.21	89.23	3,546.24	-83.16	1,186.46	1,106.38	80.08	14.817 SF	
12,000.00	7,692.00	7,610.88	7,609.36	69.40	13.21	89.24	3,546.24	-83.15	1,194.68	1,114.23	80.46	14.848	
12,100.00	7,692.00	7,611.24	7,609.72	70.88	13.21	89.26	3,546.24	-83.15	1,211.14	1,130.71	80.44	15.057	
12,200.00	7,692.00	7,611.59	7,610.07	72.37	13.21	89.28	3,546.24	-83.14	1,235.50	1,155.46	80.04	15.437	
12,300.00	7,692.00	7,611.95	7,610.43	73.86	13.21	89.30	3,546.24	-83.14	1,267.30	1,187.99	79.32	15.978	
12,400.00	7,692.00	7,612.31	7,610.80	75.35	13.21	89.31	3,546.24	-83.13	1,306.01	1,227.67	78.33	16.673	
12,500.00	7,692.00	7,612.68	7,611.16	76.85	13.21	89.33	3,546.25	-83.13	1,351.02	1,273.86	77.15	17.511	
12,600.00	7,692.00	7,613.04	7,611.52	78.35	13.21	89.35	3,546.25	-83.12	1,401.73	1,325.89	75.84	18.484	
12,647.07	7,692.00	7,613.22	7,611.70	79.06	13.22	89.36	3,546.25	-83.12	1,427.40	1,352.22	75.18	18.986	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3B-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	90.36	-0.06	10.00	10.00				
100.00	100.00	100.00	100.00	0.07	0.07	90.36	-0.06	10.00	10.00	9.87	0.13	74.410	
200.00	200.00	200.00	200.00	0.25	0.25	90.36	-0.06	10.00	10.00	9.52	0.48	20.684 CC, ES	
300.00	299.98	299.98	299.98	0.42	0.42	-150.90	-0.06	10.00	11.49	10.66	0.83	13.782	
400.00	399.84	400.31	400.29	0.60	0.60	-156.87	-1.19	8.65	14.72	13.53	1.19	12.376	
500.00	499.45	500.75	500.59	0.78	0.77	-159.52	-4.57	4.61	18.19	16.64	1.55	11.735	
600.00	598.70	601.32	600.76	0.96	0.95	-160.36	-10.22	-2.15	21.81	19.90	1.91	11.398	
700.00	697.47	701.99	700.68	1.15	1.13	-160.13	-18.13	-11.60	25.57	23.28	2.28	11.211	
800.00	795.62	802.78	800.21	1.33	1.32	-159.25	-28.29	-23.76	29.45	26.80	2.65	11.111	
900.00	893.41	902.86	898.66	1.52	1.50	-157.96	-39.83	-37.56	33.08	30.06	3.01	10.977	
1,000.00	991.20	1,002.80	996.96	1.70	1.68	-156.90	-51.37	-51.36	36.68	33.30	3.38	10.860	
1,100.00	1,088.98	1,102.73	1,095.25	1.89	1.86	-156.02	-62.92	-65.17	40.29	36.55	3.74	10.762	
1,200.00	1,186.77	1,202.66	1,193.55	2.07	2.05	-155.29	-74.47	-78.98	43.91	39.80	4.11	10.680	
1,300.00	1,284.55	1,302.60	1,291.85	2.26	2.23	-154.67	-86.01	-92.79	47.54	43.06	4.48	10.611	
1,400.00	1,382.34	1,402.53	1,390.15	2.45	2.41	-154.14	-97.56	-106.60	51.17	46.32	4.85	10.551	
1,500.00	1,480.12	1,502.46	1,488.45	2.63	2.59	-153.68	-109.11	-120.41	54.81	49.59	5.22	10.499	
1,600.00	1,577.91	1,602.39	1,586.75	2.82	2.78	-153.28	-120.65	-134.22	58.45	52.86	5.59	10.454	
1,700.00	1,675.70	1,702.33	1,685.05	3.01	2.96	-152.92	-132.20	-148.02	62.09	56.13	5.96	10.415	
1,800.00	1,773.48	1,802.26	1,783.34	3.19	3.14	-152.61	-143.75	-161.83	65.74	59.40	6.33	10.380	
1,900.00	1,871.27	1,902.19	1,881.64	3.38	3.32	-152.33	-155.29	-175.64	69.38	62.68	6.70	10.348	
2,000.00	1,969.05	2,002.13	1,979.94	3.56	3.50	-152.07	-166.84	-189.45	73.03	65.96	7.07	10.324	
2,100.00	2,066.84	2,102.06	2,078.24	3.68	3.63	-151.84	-178.39	-203.26	76.68	69.40	7.28	10.538	
2,200.00	2,164.62	2,201.99	2,176.54	3.73	3.67	-151.63	-189.93	-217.07	80.33	72.96	7.37	10.900	
2,300.00	2,262.41	2,301.93	2,274.84	3.85	3.77	-151.44	-201.48	-230.88	83.98	76.43	7.55	11.120	
2,400.00	2,360.19	2,401.86	2,373.13	4.03	3.93	-151.26	-213.03	-244.69	87.63	79.81	7.82	11.210	
2,500.00	2,457.98	2,501.79	2,471.43	4.26	4.13	-151.10	-224.57	-258.49	91.28	83.13	8.16	11.190	
2,600.00	2,555.77	2,601.72	2,569.73	4.52	4.37	-150.95	-236.12	-272.30	94.94	86.37	8.56	11.085	
2,700.00	2,653.55	2,701.66	2,668.03	4.82	4.65	-150.81	-247.67	-286.11	98.59	89.56	9.03	10.919	
2,800.00	2,751.34	2,801.59	2,766.33	5.15	4.95	-150.69	-259.21	-299.92	102.24	92.70	9.54	10.714	
2,900.00	2,849.12	2,901.52	2,864.63	5.50	5.27	-150.57	-270.76	-313.73	105.90	95.80	10.10	10.486	
3,000.00	2,946.91	3,001.46	2,962.93	5.87	5.61	-150.46	-282.31	-327.54	109.55	98.86	10.69	10.248	
3,100.00	3,044.69	3,101.39	3,061.22	6.26	5.96	-150.35	-293.85	-341.35	113.21	101.90	11.31	10.009	
3,200.00	3,142.48	3,201.32	3,159.52	6.66	6.33	-150.25	-305.40	-355.16	116.87	104.91	11.96	9.773	
3,300.00	3,240.27	3,301.25	3,257.82	7.07	6.71	-150.16	-316.95	-368.96	120.52	107.90	12.63	9.546	
3,400.00	3,338.05	3,401.19	3,356.12	7.49	7.09	-150.08	-328.49	-382.77	124.18	110.87	13.31	9.328	
3,500.00	3,435.84	3,501.12	3,454.42	7.91	7.49	-150.00	-340.04	-396.58	127.84	113.82	14.01	9.122	
3,600.00	3,533.62	3,601.05	3,552.72	8.35	7.89	-149.92	-351.59	-410.39	131.49	116.76	14.73	8.927	
3,700.00	3,631.41	3,700.99	3,651.02	8.78	8.29	-149.85	-363.13	-424.20	135.15	119.69	15.46	8.744	
3,800.00	3,729.19	3,800.92	3,749.31	9.23	8.70	-149.78	-374.68	-438.01	138.81	122.61	16.19	8.572	
3,900.00	3,826.98	3,900.85	3,847.61	9.67	9.12	-149.71	-386.23	-451.82	142.46	125.53	16.94	8.410	
4,000.00	3,924.77	4,000.79	3,945.91	10.12	9.53	-149.65	-397.77	-465.63	146.12	128.43	17.69	8.259	
4,100.00	4,022.55	4,100.72	4,044.21	10.58	9.95	-149.59	-409.32	-479.43	149.78	131.33	18.45	8.117	
4,200.00	4,120.34	4,200.65	4,142.51	11.03	10.38	-149.53	-420.87	-493.24	153.44	134.22	19.22	7.984	
4,300.00	4,218.12	4,300.58	4,240.81	11.49	10.80	-149.48	-432.41	-507.05	157.10	137.11	19.99	7.858	
4,400.00	4,315.91	4,400.52	4,339.10	11.95	11.23	-149.43	-443.96	-520.86	160.75	139.99	20.77	7.741	
4,500.00	4,413.69	4,500.45	4,437.40	12.41	11.66	-149.38	-455.51	-534.67	164.41	142.87	21.55	7.630	
4,600.00	4,511.48	4,600.38	4,535.70	12.88	12.09	-149.33	-467.05	-548.48	168.07	145.74	22.33	7.526	
4,700.00	4,609.27	4,700.32	4,634.00	13.34	12.52	-149.29	-478.60	-562.29	171.73	148.61	23.12	7.428	
4,800.00	4,707.05	4,800.25	4,732.30	13.81	12.96	-149.25	-490.15	-576.10	175.39	151.48	23.91	7.336	
4,900.00	4,804.84	4,900.18	4,830.60	14.27	13.39	-149.21	-501.69	-589.90	179.05	154.35	24.70	7.248	
5,000.00	4,902.62	5,000.12	4,928.90	14.74	13.83	-149.17	-513.24	-603.71	182.71	157.21	25.50	7.165	
5,100.00	5,000.41	5,100.05	5,027.19	15.21	14.27	-149.13	-524.79	-617.52	186.37	160.07	26.30	7.087	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3B-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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
5,200.00	5,098.19	5,199.98	5,125.49	15.68	14.71	-149.09	-536.33	-631.33	190.03	162.93	27.10	7.013	
5,300.00	5,195.98	5,300.09	5,223.79	16.15	15.15	-149.06	-547.88	-645.14	193.68	165.79	27.90	6.942	
5,400.00	5,293.77	5,399.85	5,322.09	16.63	15.58	-149.02	-559.43	-658.95	197.34	168.64	28.70	6.875	
5,500.00	5,391.55	5,500.22	5,420.39	17.10	16.03	-148.99	-570.97	-672.76	201.00	171.49	29.51	6.811	
5,600.00	5,489.34	5,600.29	5,518.69	17.57	16.47	-148.96	-582.52	-686.56	204.66	174.35	30.32	6.751	
5,700.00	5,587.12	5,700.35	5,616.98	18.04	16.91	-148.93	-594.07	-700.37	208.32	177.20	31.13	6.693	
5,800.00	5,684.91	5,800.42	5,715.28	18.52	17.35	-148.90	-605.61	-714.18	211.98	180.05	31.94	6.638	
5,900.00	5,782.69	5,900.49	5,813.58	18.99	17.80	-148.87	-617.16	-727.99	215.64	182.89	32.75	6.585	
6,000.00	5,880.48	6,000.56	5,911.88	19.47	18.24	-148.84	-628.71	-741.80	219.30	185.74	33.56	6.534	
6,100.00	5,978.27	6,099.38	6,010.18	19.95	18.68	-148.82	-640.25	-755.61	222.96	188.59	34.37	6.487	
6,200.00	6,076.05	6,199.31	6,108.48	20.42	19.12	-148.79	-651.80	-769.42	226.62	191.44	35.18	6.441	
6,300.00	6,173.84	6,300.76	6,206.78	20.90	19.58	-148.77	-663.35	-783.23	230.28	194.28	36.00	6.396	
6,400.00	6,271.62	6,400.82	6,305.07	21.37	20.02	-148.74	-674.89	-797.03	233.94	197.12	36.82	6.354	
6,500.00	6,369.41	6,500.89	6,403.37	21.85	20.47	-148.72	-686.44	-810.84	237.60	199.96	37.64	6.313	
6,600.00	6,467.19	6,600.96	6,501.67	22.33	20.91	-148.70	-697.99	-824.65	241.26	202.81	38.45	6.274	
6,700.00	6,564.98	6,701.02	6,599.97	22.81	21.36	-148.68	-709.53	-838.46	244.92	205.65	39.27	6.236	
6,800.00	6,662.77	6,798.91	6,698.27	23.28	21.80	-148.65	-721.08	-852.27	248.58	208.50	40.08	6.202	
6,900.00	6,760.55	6,901.16	6,796.57	23.76	22.25	-148.63	-732.63	-866.08	252.24	211.33	40.91	6.165	
7,000.00	6,858.34	7,001.23	6,894.86	24.24	22.70	-148.61	-744.17	-879.89	255.90	214.17	41.73	6.132	
7,100.00	6,956.30	7,101.34	6,993.12	24.71	23.15	-167.79	-755.71	-893.69	259.51	216.91	42.60	6.092	
7,200.00	7,054.64	7,197.90	7,090.89	25.09	23.57	152.58	-765.51	-907.42	263.14	219.45	43.70	6.022	
7,300.00	7,151.66	7,298.57	7,190.47	25.39	23.92	130.97	-763.20	-921.37	267.45	222.77	44.68	5.986	
7,400.00	7,245.47	7,401.35	7,290.80	25.60	24.19	122.17	-746.33	-935.37	272.34	226.90	45.44	5.993	
7,500.00	7,334.25	7,506.32	7,389.73	25.74	24.39	118.57	-714.33	-949.14	277.63	231.68	45.95	6.042	
7,600.00	7,416.27	7,613.51	7,484.86	25.83	24.52	117.18	-666.97	-962.32	283.09	236.90	46.18	6.130	
7,700.00	7,489.93	7,722.88	7,573.62	25.85	24.59	116.82	-604.43	-974.57	288.44	242.27	46.18	6.247	
7,800.00	7,553.80	7,834.29	7,653.28	25.83	24.60	116.92	-527.47	-985.50	293.43	247.43	46.00	6.378	
7,900.00	7,606.64	7,947.55	7,721.17	25.77	24.55	117.19	-437.44	-994.74	297.78	251.99	45.80	6.502	
8,000.00	7,647.41	8,062.33	7,774.78	25.67	24.46	117.48	-336.34	-1,001.94	301.25	255.55	45.71	6.591	
8,100.00	7,675.32	8,178.27	7,812.01	25.56	24.34	117.69	-226.79	-1,006.83	303.66	257.76	45.89	6.617	
8,200.00	7,689.84	8,294.89	7,831.33	25.46	24.21	117.77	-111.93	-1,009.18	304.86	258.40	46.46	6.562	
8,300.00	7,692.00	8,403.85	7,834.00	25.38	24.11	117.75	-3.05	-1,009.23	304.98	257.62	47.36	6.440	
8,400.00	7,692.00	8,503.85	7,834.00	25.41	24.43	117.75	96.95	-1,008.92	304.98	256.58	48.40	6.301	
8,500.00	7,692.00	8,603.85	7,834.00	25.67	25.07	117.75	196.95	-1,008.62	304.99	255.39	49.59	6.150	
8,600.00	7,692.00	8,703.85	7,834.00	26.21	25.81	117.75	296.95	-1,008.32	304.99	254.07	50.92	5.990	
8,700.00	7,692.00	8,803.85	7,834.00	26.93	26.61	117.75	396.95	-1,008.01	304.99	252.63	52.37	5.824	
8,800.00	7,692.00	8,903.85	7,834.00	27.75	27.47	117.75	496.95	-1,007.71	305.00	251.07	53.93	5.655	
8,900.00	7,692.00	9,003.85	7,834.00	28.64	28.39	117.75	596.95	-1,007.41	305.00	249.40	55.61	5.485	
9,000.00	7,692.00	9,103.85	7,834.00	29.59	29.36	117.75	696.95	-1,007.10	305.01	247.63	57.38	5.316	
9,100.00	7,692.00	9,203.85	7,834.00	30.59	30.38	117.75	796.95	-1,006.80	305.01	245.78	59.24	5.149	
9,200.00	7,692.00	9,303.85	7,834.00	31.63	31.44	117.75	896.95	-1,006.50	305.02	243.84	61.17	4.986	
9,300.00	7,692.00	9,403.85	7,834.00	32.72	32.54	117.75	996.95	-1,006.19	305.02	241.84	63.19	4.827	
9,400.00	7,692.00	9,503.85	7,834.00	33.84	33.68	117.74	1,096.95	-1,005.89	305.03	239.76	65.26	4.674	
9,500.00	7,692.00	9,603.85	7,834.00	35.00	34.85	117.74	1,196.95	-1,005.58	305.03	237.63	67.40	4.526	
9,600.00	7,692.00	9,703.85	7,834.00	36.19	36.05	117.74	1,296.94	-1,005.28	305.04	235.44	69.59	4.383	
9,700.00	7,692.00	9,803.85	7,834.00	37.40	37.27	117.74	1,396.94	-1,004.98	305.04	233.21	71.83	4.247	
9,800.00	7,692.00	9,903.85	7,834.00	38.64	38.52	117.74	1,496.94	-1,004.67	305.05	230.93	74.12	4.116	
9,900.00	7,692.00	10,003.85	7,834.00	39.90	39.79	117.74	1,596.94	-1,004.37	305.05	228.60	76.45	3.990	
10,000.00	7,692.00	10,103.85	7,834.00	41.19	41.09	117.74	1,696.94	-1,004.07	305.06	226.24	78.81	3.871	
10,100.00	7,692.00	10,203.85	7,834.00	42.49	42.40	117.74	1,796.94	-1,003.76	305.06	223.85	81.21	3.756	
10,200.00	7,692.00	10,303.85	7,834.00	43.81	43.73	117.74	1,896.94	-1,003.46	305.06	221.43	83.64	3.647	
10,300.00	7,692.00	10,403.85	7,834.00	45.14	45.07	117.74	1,996.94	-1,003.16	305.07	218.97	86.10	3.543	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3B-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	
10,400.00	7,692.00	10,503.85	7,834.00	46.50	46.43	117.74	2,096.94	-1,002.85	305.07	216.49	88.58	3.444	
10,500.00	7,692.00	10,603.85	7,834.00	47.86	47.80	117.74	2,196.94	-1,002.55	305.08	213.99	91.09	3.349	
10,600.00	7,692.00	10,703.85	7,834.00	49.24	49.19	117.74	2,296.94	-1,002.24	305.08	211.46	93.62	3.259	
10,700.00	7,692.00	10,803.85	7,834.00	50.62	50.58	117.74	2,396.94	-1,001.94	305.09	208.92	96.17	3.172	
10,800.00	7,692.00	10,903.85	7,834.00	52.02	51.99	117.74	2,496.94	-1,001.64	305.09	206.35	98.74	3.090	
10,900.00	7,692.00	11,003.85	7,834.00	53.43	53.40	117.74	2,596.94	-1,001.33	305.10	203.77	101.33	3.011	
11,000.00	7,692.00	11,103.85	7,834.00	54.85	54.83	117.74	2,696.94	-1,001.03	305.10	201.17	103.93	2.936	
11,100.00	7,692.00	11,203.85	7,834.00	56.27	56.26	117.74	2,796.94	-1,000.73	305.11	198.56	106.55	2.864	
11,200.00	7,692.00	11,303.85	7,834.00	57.71	57.70	117.74	2,896.94	-1,000.42	305.11	195.93	109.18	2.795	
11,300.00	7,692.00	11,403.85	7,834.00	59.15	59.14	117.74	2,996.94	-1,000.12	305.12	193.29	111.82	2.729	
11,400.00	7,692.00	11,503.85	7,834.00	60.59	60.60	117.74	3,096.94	-999.82	305.12	190.64	114.48	2.665	
11,500.00	7,692.00	11,603.85	7,834.00	62.05	62.06	117.73	3,196.94	-999.51	305.13	187.98	117.14	2.605	
11,600.00	7,692.00	11,703.85	7,834.00	63.51	63.52	117.73	3,296.94	-999.21	305.13	185.31	119.82	2.547	
11,700.00	7,692.00	11,803.85	7,834.00	64.97	64.99	117.73	3,396.93	-998.90	305.13	182.63	122.51	2.491	
11,800.00	7,692.00	11,903.85	7,834.00	66.44	66.47	117.73	3,496.93	-998.60	305.14	179.93	125.21	2.437	
11,900.00	7,692.00	12,003.85	7,834.00	67.92	67.94	117.73	3,596.93	-998.30	305.14	177.23	127.91	2.386	
12,000.00	7,692.00	12,103.85	7,834.00	69.40	69.43	117.73	3,696.93	-997.99	305.15	174.53	130.62	2.336	
12,100.00	7,692.00	12,203.85	7,834.00	70.88	70.92	117.73	3,796.93	-997.69	305.15	171.81	133.34	2.288	
12,200.00	7,692.00	12,303.85	7,834.00	72.37	72.41	117.73	3,896.93	-997.39	305.16	169.09	136.07	2.243	
12,300.00	7,692.00	12,403.85	7,834.00	73.86	73.90	117.73	3,996.93	-997.08	305.16	166.36	138.80	2.199	
12,400.00	7,692.00	12,503.85	7,834.00	75.35	75.40	117.73	4,096.93	-996.78	305.17	163.62	141.54	2.156	
12,500.00	7,692.00	12,603.85	7,834.00	76.85	76.90	117.73	4,196.93	-996.47	305.17	160.88	144.29	2.115	
12,600.00	7,692.00	12,703.85	7,834.00	78.35	78.41	117.73	4,296.93	-996.17	305.18	158.13	147.04	2.075	
12,647.07	7,692.00	12,750.92	7,834.00	79.06	79.12	117.73	4,344.00	-996.03	305.18	156.84	148.34	2.057 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3C-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	90.36	-0.13	20.00	20.00				
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.13	20.00	20.00	19.86	0.14	146.912	
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.13	20.00	20.00	19.51	0.49	41.220 CC, ES	
300.00	299.98	300.98	300.98	0.42	0.43	-148.64	-0.13	20.00	21.47	20.63	0.84	25.701	
400.00	399.84	400.84	400.84	0.60	0.60	-154.59	-0.13	20.00	26.08	24.89	1.19	21.920	
500.00	499.45	501.52	501.50	0.78	0.78	-159.62	-1.23	18.58	32.54	30.99	1.55	21.049	
600.00	598.70	602.44	602.28	0.96	0.95	-162.59	-4.52	14.36	39.22	37.31	1.91	20.573	
700.00	697.47	703.61	703.04	1.15	1.13	-164.36	-10.00	7.31	46.02	43.75	2.27	20.265	
800.00	795.62	805.02	803.68	1.33	1.31	-165.39	-17.68	-2.56	52.88	50.24	2.64	20.041	
900.00	893.41	906.75	904.12	1.52	1.50	-165.55	-27.58	-15.28	58.22	55.21	3.01	19.353	
1,000.00	991.20	1,006.92	1,002.65	1.70	1.68	-165.05	-38.63	-29.49	61.53	58.16	3.37	18.252	
1,100.00	1,088.98	1,106.87	1,100.96	1.89	1.86	-164.59	-49.67	-43.68	64.81	61.08	3.73	17.355	
1,200.00	1,186.77	1,206.81	1,199.28	2.07	2.04	-164.18	-60.71	-57.88	68.11	64.01	4.10	16.609	
1,300.00	1,284.55	1,306.75	1,297.59	2.26	2.22	-163.80	-71.76	-72.07	71.40	66.93	4.47	15.979	
1,400.00	1,382.34	1,406.70	1,395.91	2.45	2.41	-163.46	-82.80	-86.26	74.70	69.86	4.84	15.445	
1,500.00	1,480.12	1,506.64	1,494.22	2.63	2.59	-163.15	-93.84	-100.46	78.00	72.79	5.21	14.981	
1,600.00	1,577.91	1,606.59	1,592.53	2.82	2.77	-162.86	-104.88	-114.65	81.30	75.73	5.58	14.579	
1,700.00	1,675.70	1,706.53	1,690.85	3.01	2.95	-162.59	-115.92	-128.84	84.61	78.66	5.95	14.226	
1,800.00	1,773.48	1,806.48	1,789.16	3.19	3.13	-162.35	-126.97	-143.03	87.91	81.59	6.32	13.913	
1,900.00	1,871.27	1,906.42	1,887.47	3.38	3.32	-162.12	-138.01	-157.23	91.22	84.53	6.69	13.635	
2,000.00	1,969.05	2,006.37	1,985.79	3.56	3.49	-161.91	-149.05	-171.42	94.53	87.47	7.05	13.400	
2,100.00	2,066.84	2,106.31	2,084.10	3.68	3.61	-161.71	-160.09	-185.61	97.84	90.58	7.26	13.484	
2,200.00	2,164.62	2,206.26	2,182.41	3.73	3.66	-161.53	-171.13	-199.81	101.15	93.81	7.35	13.771	
2,300.00	2,262.41	2,306.20	2,280.73	3.85	3.76	-161.36	-182.18	-214.00	104.46	96.94	7.52	13.895	
2,400.00	2,360.19	2,406.15	2,379.04	4.03	3.92	-161.19	-193.22	-228.19	107.78	100.01	7.77	13.872	
2,500.00	2,457.98	2,506.09	2,477.36	4.26	4.13	-161.04	-204.26	-242.39	111.09	103.00	8.09	13.730	
2,600.00	2,555.77	2,606.03	2,575.67	4.52	4.37	-160.90	-215.30	-256.58	114.40	105.93	8.48	13.497	
2,700.00	2,653.55	2,705.98	2,673.98	4.82	4.65	-160.76	-226.34	-270.77	117.72	108.80	8.92	13.203	
2,800.00	2,751.34	2,805.92	2,772.30	5.15	4.95	-160.63	-237.39	-284.96	121.04	111.63	9.40	12.870	
2,900.00	2,849.12	2,905.87	2,870.61	5.50	5.27	-160.51	-248.43	-299.16	124.35	114.42	9.93	12.519	
3,000.00	2,946.91	3,005.81	2,968.92	5.87	5.61	-160.40	-259.47	-313.35	127.67	117.17	10.50	12.164	
3,100.00	3,044.69	3,105.76	3,067.24	6.26	5.97	-160.29	-270.51	-327.54	130.99	119.90	11.09	11.813	
3,200.00	3,142.48	3,205.70	3,165.55	6.66	6.34	-160.19	-281.55	-341.74	134.30	122.60	11.71	11.474	
3,300.00	3,240.27	3,305.65	3,263.86	7.07	6.72	-160.09	-292.60	-355.93	137.62	125.28	12.34	11.149	
3,400.00	3,338.05	3,405.59	3,362.18	7.49	7.10	-159.99	-303.64	-370.12	140.94	127.94	13.00	10.841	
3,500.00	3,435.84	3,505.54	3,460.49	7.91	7.50	-159.90	-314.68	-384.32	144.26	130.59	13.67	10.551	
3,600.00	3,533.62	3,605.48	3,558.80	8.35	7.90	-159.82	-325.72	-398.51	147.58	133.22	14.36	10.278	
3,700.00	3,631.41	3,705.43	3,657.12	8.78	8.30	-159.74	-336.76	-412.70	150.90	135.84	15.06	10.023	
3,800.00	3,729.19	3,805.37	3,755.43	9.23	8.71	-159.66	-347.81	-426.90	154.22	138.46	15.76	9.784	
3,900.00	3,826.98	3,905.32	3,853.75	9.67	9.13	-159.58	-358.85	-441.09	157.54	141.06	16.48	9.560	
4,000.00	3,924.77	4,005.26	3,952.06	10.12	9.55	-159.51	-369.89	-455.28	160.86	143.66	17.20	9.351	
4,100.00	4,022.55	4,105.20	4,050.37	10.58	9.97	-159.44	-380.93	-469.47	164.18	146.25	17.93	9.155	
4,200.00	4,120.34	4,205.15	4,148.69	11.03	10.39	-159.37	-391.97	-483.67	167.50	148.83	18.67	8.971	
4,300.00	4,218.12	4,305.09	4,247.00	11.49	10.82	-159.31	-403.02	-497.86	170.82	151.41	19.41	8.800	
4,400.00	4,315.91	4,405.04	4,345.31	11.95	11.25	-159.25	-414.06	-512.05	174.14	153.98	20.16	8.638	
4,500.00	4,413.69	4,504.98	4,443.63	12.41	11.68	-159.19	-425.10	-526.25	177.47	156.56	20.91	8.487	
4,600.00	4,511.48	4,604.93	4,541.94	12.88	12.11	-159.13	-436.14	-540.44	180.79	159.12	21.67	8.344	
4,700.00	4,609.27	4,704.87	4,640.25	13.34	12.54	-159.08	-447.18	-554.63	184.11	161.69	22.42	8.210	
4,800.00	4,707.05	4,804.82	4,738.57	13.81	12.97	-159.03	-458.23	-568.83	187.43	164.25	23.19	8.084	
4,900.00	4,804.84	4,904.76	4,836.88	14.27	13.41	-158.97	-469.27	-583.02	190.75	166.80	23.95	7.964	
5,000.00	4,902.62	5,004.71	4,935.20	14.74	13.85	-158.93	-480.31	-597.21	194.08	169.36	24.72	7.852	
5,100.00	5,000.41	5,104.65	5,033.51	15.21	14.28	-158.88	-491.35	-611.40	197.40	171.91	25.49	7.745	

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3C-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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
5,200.00	5,098.19	5,204.60	5,131.82	15.68	14.72	-158.83	-502.40	-625.60	200.72	174.46	26.26	7.644	
5,300.00	5,195.98	5,304.54	5,230.14	16.15	15.16	-158.79	-513.44	-639.79	204.05	177.01	27.03	7.548	
5,400.00	5,293.77	5,404.49	5,328.45	16.63	15.60	-158.74	-524.48	-653.98	207.37	179.56	27.81	7.457	
5,500.00	5,391.55	5,504.43	5,426.76	17.10	16.04	-158.70	-535.52	-668.18	210.69	182.11	28.59	7.370	
5,600.00	5,489.34	5,604.37	5,525.08	17.57	16.48	-158.66	-546.56	-682.37	214.01	184.65	29.36	7.288	
5,700.00	5,587.12	5,704.32	5,623.39	18.04	16.93	-158.62	-557.61	-696.56	217.34	187.19	30.14	7.210	
5,800.00	5,684.91	5,804.26	5,721.70	18.52	17.37	-158.58	-568.65	-710.76	220.66	189.73	30.93	7.135	
5,900.00	5,782.69	5,904.21	5,820.02	18.99	17.81	-158.55	-579.69	-724.95	223.98	192.28	31.71	7.064	
6,000.00	5,880.48	6,004.15	5,918.33	19.47	18.26	-158.51	-590.73	-739.14	227.31	194.82	32.49	6.996	
6,100.00	5,978.27	6,104.10	6,016.65	19.95	18.70	-158.48	-601.77	-753.34	230.63	197.35	33.28	6.931	
6,200.00	6,076.05	6,204.04	6,114.96	20.42	19.14	-158.44	-612.82	-767.53	233.96	199.89	34.06	6.868	
6,300.00	6,173.84	6,303.99	6,213.27	20.90	19.59	-158.41	-623.86	-781.72	237.28	202.43	34.85	6.809	
6,400.00	6,271.62	6,403.93	6,311.59	21.37	20.03	-158.38	-634.90	-795.91	240.60	204.97	35.64	6.751	
6,500.00	6,369.41	6,503.88	6,409.90	21.85	20.48	-158.35	-645.94	-810.11	243.93	207.50	36.43	6.696	
6,600.00	6,467.19	6,603.82	6,508.21	22.33	20.92	-158.32	-656.98	-824.30	247.25	210.04	37.22	6.644	
6,700.00	6,564.98	6,703.77	6,606.53	22.81	21.37	-158.29	-668.03	-838.49	250.58	212.57	38.01	6.593	
6,800.00	6,662.77	6,803.71	6,704.84	23.28	21.82	-158.26	-679.07	-852.69	253.90	215.10	38.80	6.544	
6,900.00	6,760.55	6,903.65	6,803.15	23.76	22.26	-158.23	-690.11	-866.88	257.22	217.64	39.59	6.498	
7,000.00	6,858.34	6,996.89	6,895.23	24.24	22.65	-159.31	-695.29	-880.16	261.72	221.54	40.18	6.514	
7,100.00	6,956.30	7,087.10	6,984.23	24.71	22.94	177.87	-688.80	-892.95	269.11	228.68	40.43	6.656	
7,200.00	7,054.64	7,175.34	7,069.84	25.09	23.16	132.35	-671.57	-905.23	277.39	236.81	40.58	6.836	
7,300.00	7,151.66	7,262.09	7,151.34	25.39	23.33	105.06	-644.40	-916.89	285.79	245.14	40.65	7.030	
7,400.00	7,245.47	7,347.60	7,227.92	25.60	23.45	91.19	-608.08	-927.81	293.87	253.23	40.64	7.232	
7,500.00	7,334.25	7,432.09	7,298.85	25.74	23.53	83.19	-563.39	-937.89	301.28	260.73	40.55	7.429	
7,600.00	7,416.27	7,515.77	7,363.50	25.83	23.57	78.08	-511.11	-947.04	307.73	267.30	40.44	7.610	
7,700.00	7,489.93	7,598.86	7,421.28	25.85	23.58	74.70	-452.04	-955.18	312.99	272.66	40.33	7.760	
7,800.00	7,553.80	7,681.53	7,471.68	25.83	23.56	72.50	-386.94	-962.24	316.89	276.58	40.31	7.862	
7,900.00	7,606.64	7,763.98	7,514.22	25.77	23.51	71.18	-316.61	-968.16	319.32	278.90	40.41	7.901	
8,000.00	7,647.41	7,846.40	7,548.47	25.67	23.45	70.61	-241.85	-972.86	320.22	279.51	40.71	7.867	
8,100.00	7,675.32	7,928.95	7,574.03	25.56	23.37	70.70	-163.48	-976.31	319.59	278.37	41.23	7.752	
8,200.00	7,689.84	8,011.84	7,590.56	25.46	23.28	71.39	-82.33	-978.44	317.51	275.52	41.99	7.561	
8,300.00	7,692.00	8,095.30	7,597.71	25.38	23.18	72.37	0.77	-979.22	314.70	271.76	42.94	7.329	
8,318.17	7,692.00	8,121.87	7,598.00	25.38	23.14	72.42	15.03	-979.22	314.55	271.40	43.15	7.290	
8,400.00	7,692.00	8,208.61	7,598.00	25.41	23.35	72.42	96.86	-978.97	314.55	270.68	43.87	7.170	
8,500.00	7,692.00	8,308.61	7,598.00	25.67	24.03	72.42	196.86	-978.66	314.56	269.65	44.91	7.004	
8,600.00	7,692.00	8,408.61	7,598.00	26.21	24.77	72.42	296.86	-978.36	314.56	268.44	46.13	6.820	
8,700.00	7,692.00	8,508.61	7,598.00	26.93	25.57	72.42	396.86	-978.06	314.57	267.06	47.51	6.621	
8,800.00	7,692.00	8,608.61	7,598.00	27.75	26.44	72.42	496.86	-977.75	314.57	265.53	49.04	6.415	
8,900.00	7,692.00	8,708.61	7,598.00	28.64	27.37	72.42	596.86	-977.45	314.58	263.87	50.71	6.203	
9,000.00	7,692.00	8,808.61	7,598.00	29.59	28.35	72.42	696.86	-977.15	314.58	262.08	52.51	5.991	
9,100.00	7,692.00	8,908.61	7,598.00	30.59	29.37	72.42	796.86	-976.84	314.59	260.17	54.41	5.781	
9,200.00	7,692.00	9,008.61	7,598.00	31.63	30.44	72.42	896.86	-976.54	314.59	258.17	56.42	5.576	
9,300.00	7,692.00	9,108.61	7,598.00	32.72	31.55	72.42	996.86	-976.24	314.60	256.08	58.52	5.376	
9,400.00	7,692.00	9,208.61	7,598.00	33.84	32.70	72.42	1,096.85	-975.93	314.60	253.90	60.70	5.183	
9,500.00	7,692.00	9,308.61	7,598.00	35.00	33.88	72.42	1,196.85	-975.63	314.61	251.66	62.95	4.998	
9,600.00	7,692.00	9,408.61	7,598.00	36.19	35.09	72.42	1,296.85	-975.33	314.61	249.35	65.27	4.821	
9,700.00	7,692.00	9,508.61	7,598.00	37.40	36.33	72.42	1,396.85	-975.02	314.62	246.98	67.64	4.651	
9,800.00	7,692.00	9,608.61	7,598.00	38.64	37.59	72.43	1,496.85	-974.72	314.62	244.55	70.07	4.490	
9,900.00	7,692.00	9,708.61	7,598.00	39.90	38.87	72.43	1,596.85	-974.41	314.63	242.08	72.54	4.337	
10,000.00	7,692.00	9,808.61	7,598.00	41.19	40.18	72.43	1,696.85	-974.11	314.63	239.57	75.06	4.192	
10,100.00	7,692.00	9,908.61	7,598.00	42.49	41.50	72.43	1,796.85	-973.81	314.64	237.02	77.61	4.054	
10,200.00	7,692.00	10,008.61	7,598.00	43.81	42.84	72.43	1,896.85	-973.50	314.64	234.44	80.20	3.923	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3C-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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
10,300.00	7,692.00	10,108.61	7,598.00	45.14	44.19	72.43	1,996.85	-973.20	314.65	231.82	82.82	3.799	
10,400.00	7,692.00	10,208.61	7,598.00	46.50	45.56	72.43	2,096.85	-972.90	314.65	229.18	85.47	3.681	
10,500.00	7,692.00	10,308.61	7,598.00	47.86	46.94	72.43	2,196.85	-972.59	314.66	226.50	88.15	3.570	
10,600.00	7,692.00	10,408.61	7,598.00	49.24	48.34	72.43	2,296.85	-972.29	314.66	223.81	90.85	3.464	
10,700.00	7,692.00	10,508.61	7,598.00	50.62	49.74	72.43	2,396.85	-971.99	314.66	221.09	93.57	3.363	
10,800.00	7,692.00	10,591.39	7,598.00	52.02	50.91	72.43	2,496.85	-971.68	314.67	218.60	96.07	3.275	
10,900.00	7,692.00	10,708.61	7,598.00	53.43	52.58	72.43	2,596.85	-971.38	314.67	215.60	99.07	3.176	
11,000.00	7,692.00	10,808.61	7,598.00	54.85	54.01	72.43	2,696.85	-971.08	314.68	212.83	101.85	3.090	
11,100.00	7,692.00	10,908.61	7,598.00	56.27	55.45	72.43	2,796.85	-970.77	314.68	210.05	104.64	3.007	
11,200.00	7,692.00	11,008.61	7,598.00	57.71	56.89	72.43	2,896.85	-970.47	314.69	207.25	107.44	2.929	
11,300.00	7,692.00	11,108.61	7,598.00	59.15	58.35	72.43	2,996.85	-970.17	314.69	204.43	110.26	2.854	
11,400.00	7,692.00	11,208.61	7,598.00	60.59	59.81	72.43	3,096.85	-969.86	314.70	201.61	113.09	2.783	
11,500.00	7,692.00	11,308.61	7,598.00	62.05	61.27	72.43	3,196.85	-969.56	314.70	198.77	115.93	2.715	
11,600.00	7,692.00	11,408.61	7,598.00	63.51	62.74	72.43	3,296.84	-969.25	314.71	195.92	118.79	2.649	
11,700.00	7,692.00	11,508.61	7,598.00	64.97	64.22	72.43	3,396.84	-968.95	314.71	193.07	121.65	2.587	
11,800.00	7,692.00	11,608.61	7,598.00	66.44	65.70	72.43	3,496.84	-968.65	314.72	190.20	124.52	2.527	
11,900.00	7,692.00	11,708.61	7,598.00	67.92	67.19	72.43	3,596.84	-968.34	314.72	187.33	127.40	2.470	
12,000.00	7,692.00	11,808.61	7,598.00	69.40	68.68	72.43	3,696.84	-968.04	314.73	184.44	130.28	2.416	
12,100.00	7,692.00	11,908.61	7,598.00	70.88	70.17	72.43	3,796.84	-967.74	314.73	181.55	133.18	2.363	
12,200.00	7,692.00	11,991.39	7,598.00	72.37	71.41	72.43	3,896.84	-967.43	314.74	178.91	135.83	2.317	
12,300.00	7,692.00	12,108.61	7,598.00	73.86	73.17	72.43	3,996.84	-967.13	314.74	175.76	138.99	2.265	
12,400.00	7,692.00	12,208.61	7,598.00	75.35	74.67	72.43	4,096.84	-966.83	314.75	172.85	141.90	2.218	
12,500.00	7,692.00	12,308.61	7,598.00	76.85	76.18	72.43	4,196.84	-966.52	314.75	169.93	144.82	2.173	
12,600.00	7,692.00	12,391.39	7,598.00	78.35	77.43	72.43	4,296.84	-966.22	314.76	167.26	147.49	2.134	
12,647.07	7,692.00	12,438.46	7,598.00	79.06	78.14	72.43	4,343.91	-966.08	314.76	165.89	148.87	2.114 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3D-18H-N167 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	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)						
0.00	0.00	1.00	1.00	0.00	0.00	90.36	-0.19	30.00	30.00					
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.19	30.00	30.00	29.86	0.14	220.368		
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.19	30.00	30.00	29.51	0.49	61.830 CC, ES		
300.00	299.98	300.98	300.98	0.42	0.43	-147.81	-0.19	30.00	31.46	30.63	0.84	37.663		
400.00	399.84	400.84	400.84	0.60	0.60	-152.21	-0.19	30.00	36.00	34.81	1.19	30.260		
500.00	499.45	500.46	500.46	0.78	0.78	-157.45	-0.19	30.00	43.90	42.36	1.55	28.400		
600.00	598.70	601.18	601.16	0.96	0.96	-161.09	-1.65	28.97	54.01	52.10	1.90	28.394		
700.00	697.47	702.20	702.03	1.15	1.13	-162.51	-6.03	25.91	64.83	62.57	2.26	28.664		
800.00	795.62	803.49	802.93	1.33	1.30	-162.62	-13.35	20.79	76.24	73.62	2.63	29.040		
900.00	893.41	905.19	903.84	1.52	1.48	-161.64	-23.62	13.59	86.70	83.71	2.99	28.985		
1,000.00	991.20	1,005.80	1,003.27	1.70	1.66	-159.72	-36.19	4.79	94.96	91.61	3.35	28.314		
1,100.00	1,088.98	1,105.43	1,101.69	1.89	1.84	-158.02	-48.89	-4.10	103.08	99.37	3.72	27.734		
1,200.00	1,186.77	1,205.05	1,200.10	2.07	2.02	-156.56	-61.58	-12.99	111.29	107.20	4.08	27.266		
1,300.00	1,284.55	1,304.68	1,298.51	2.26	2.20	-155.30	-74.28	-21.88	119.55	115.10	4.45	26.884		
1,400.00	1,382.34	1,404.31	1,396.93	2.45	2.38	-154.21	-86.98	-30.77	127.86	123.05	4.81	26.565		
1,500.00	1,480.12	1,503.93	1,495.34	2.63	2.56	-153.25	-99.67	-39.66	136.22	131.04	5.18	26.297		
1,600.00	1,577.91	1,603.56	1,593.75	2.82	2.74	-152.40	-112.37	-48.55	144.60	139.06	5.55	26.070		
1,700.00	1,675.70	1,703.18	1,692.17	3.01	2.92	-151.65	-125.07	-57.44	153.02	147.11	5.91	25.875		
1,800.00	1,773.48	1,802.81	1,790.58	3.19	3.10	-150.97	-137.76	-66.33	161.46	155.18	6.28	25.705		
1,900.00	1,871.27	1,902.44	1,888.99	3.38	3.28	-150.36	-150.46	-75.22	169.92	163.27	6.65	25.557		
2,000.00	1,969.05	2,002.06	1,987.40	3.56	3.45	-149.81	-163.15	-84.11	178.39	171.38	7.01	25.434		
2,100.00	2,066.84	2,101.69	2,085.82	3.68	3.57	-149.31	-175.85	-93.00	186.89	179.66	7.22	25.873		
2,200.00	2,164.62	2,201.31	2,184.23	3.73	3.61	-148.85	-188.55	-101.89	195.39	188.07	7.32	26.697		
2,300.00	2,262.41	2,300.94	2,282.64	3.85	3.70	-148.43	-201.24	-110.78	203.91	196.40	7.51	27.168		
2,400.00	2,360.19	2,400.57	2,381.06	4.03	3.85	-148.04	-213.94	-119.67	212.43	204.65	7.78	27.314		
2,500.00	2,457.98	2,500.19	2,479.47	4.26	4.03	-147.69	-226.63	-128.56	220.97	212.84	8.13	27.192		
2,600.00	2,555.77	2,600.18	2,577.88	4.52	4.26	-147.36	-239.33	-137.45	229.51	220.97	8.54	26.862		
2,700.00	2,653.55	2,700.56	2,676.30	4.82	4.51	-147.05	-252.03	-146.34	238.06	229.04	9.02	26.386		
2,800.00	2,751.34	2,800.93	2,774.71	5.15	4.79	-146.77	-264.72	-155.23	246.61	237.06	9.55	25.822		
2,900.00	2,849.12	2,898.70	2,873.12	5.50	5.08	-146.50	-277.42	-164.12	255.18	245.06	10.11	25.229		
3,000.00	2,946.91	3,001.68	2,971.54	5.87	5.41	-146.25	-290.11	-173.01	263.74	253.01	10.73	24.580		
3,100.00	3,044.69	3,102.05	3,069.95	6.26	5.74	-146.02	-302.81	-181.90	272.31	260.95	11.37	23.954		
3,200.00	3,142.48	3,202.42	3,168.36	6.66	6.09	-145.80	-315.51	-190.79	280.89	268.86	12.03	23.345		
3,300.00	3,240.27	3,302.80	3,266.77	7.07	6.44	-145.60	-328.20	-199.68	289.47	276.75	12.72	22.760		
3,400.00	3,338.05	3,403.17	3,365.19	7.49	6.81	-145.40	-340.90	-208.57	298.05	284.63	13.42	22.205		
3,500.00	3,435.84	3,496.45	3,463.60	7.91	7.15	-145.22	-353.60	-217.46	306.64	292.52	14.12	21.720		
3,600.00	3,533.62	3,603.92	3,562.01	8.35	7.56	-145.05	-366.29	-226.35	315.23	300.35	14.88	21.189		
3,700.00	3,631.41	3,704.29	3,660.43	8.78	7.94	-144.88	-378.99	-235.24	323.82	308.19	15.62	20.727		
3,800.00	3,729.19	3,804.67	3,758.84	9.23	8.33	-144.73	-391.68	-244.13	332.41	316.03	16.38	20.295		
3,900.00	3,826.98	3,894.96	3,857.25	9.67	8.68	-144.58	-404.38	-253.02	341.01	323.90	17.11	19.935		
4,000.00	3,924.77	3,994.58	3,955.67	10.12	9.07	-144.44	-417.08	-261.91	349.61	331.73	17.87	19.558		
4,100.00	4,022.55	4,105.79	4,054.08	10.58	9.52	-144.31	-429.77	-270.80	358.21	339.51	18.70	19.160		
4,200.00	4,120.34	4,206.16	4,152.49	11.03	9.92	-144.18	-442.47	-279.69	366.81	347.33	19.48	18.829		
4,300.00	4,218.12	4,306.54	4,250.91	11.49	10.32	-144.06	-455.16	-288.58	375.41	355.14	20.27	18.519		
4,400.00	4,315.91	4,406.91	4,349.32	11.95	10.73	-143.94	-467.86	-297.47	384.02	362.95	21.07	18.228		
4,500.00	4,413.69	4,507.29	4,447.73	12.41	11.14	-143.83	-480.56	-306.36	392.62	370.76	21.87	17.955		
4,600.00	4,511.48	4,607.66	4,546.15	12.88	11.54	-143.73	-493.25	-315.25	401.23	378.56	22.67	17.698		
4,700.00	4,609.27	4,708.03	4,644.56	13.34	11.96	-143.62	-505.95	-324.14	409.84	386.36	23.48	17.456		
4,800.00	4,707.05	4,808.41	4,742.97	13.81	12.37	-143.53	-518.64	-333.03	418.45	394.16	24.29	17.228		
4,900.00	4,804.84	4,891.22	4,841.38	14.27	12.71	-143.43	-531.34	-341.92	427.07	402.03	25.03	17.061		
5,000.00	4,902.62	4,996.86	4,945.74	14.74	13.15	-143.37	-544.53	-351.67	435.38	409.51	25.87	16.827		
5,100.00	5,000.41	5,099.09	5,046.73	15.21	13.57	-143.47	-556.03	-362.65	442.10	415.42	26.68	16.571		

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

Cathedral Energy Services

Anticollision Report

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Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3D-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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
5,200.00	5,098.19	5,198.86	5,145.29	15.68	13.98	-143.57	-567.20	-373.42	448.78	421.30	27.48	16.334	
5,300.00	5,195.98	5,301.36	5,243.85	16.15	14.41	-143.66	-578.37	-384.20	455.46	427.17	28.28	16.103	
5,400.00	5,293.77	5,401.59	5,342.41	16.63	14.82	-143.75	-589.54	-394.97	462.14	433.05	29.08	15.889	
5,500.00	5,391.55	5,501.81	5,440.97	17.10	15.24	-143.84	-600.72	-405.74	468.81	438.93	29.89	15.686	
5,600.00	5,489.34	5,597.96	5,539.53	17.57	15.64	-143.93	-611.89	-416.51	475.49	444.82	30.67	15.502	
5,700.00	5,587.12	5,702.27	5,638.09	18.04	16.08	-144.02	-623.06	-427.28	482.18	450.68	31.49	15.310	
5,800.00	5,684.91	5,802.49	5,736.65	18.52	16.49	-144.10	-634.24	-438.05	488.86	456.56	32.30	15.135	
5,900.00	5,782.69	5,897.28	5,835.21	18.99	16.89	-144.18	-645.41	-448.83	495.54	462.46	33.08	14.979	
6,000.00	5,880.48	6,002.94	5,933.77	19.47	17.33	-144.26	-656.58	-459.60	502.23	468.32	33.91	14.810	
6,100.00	5,978.27	6,103.17	6,032.33	19.95	17.76	-144.33	-667.75	-470.37	508.91	474.19	34.72	14.658	
6,200.00	6,076.05	6,203.40	6,130.88	20.42	18.18	-144.41	-678.93	-481.14	515.60	480.07	35.53	14.513	
6,300.00	6,173.84	6,303.62	6,229.44	20.90	18.60	-144.48	-690.10	-491.91	522.29	485.95	36.34	14.374	
6,400.00	6,271.62	6,403.85	6,328.00	21.37	19.02	-144.55	-701.27	-502.68	528.97	491.83	37.15	14.240	
6,500.00	6,369.41	6,495.93	6,426.56	21.85	19.41	-144.62	-712.45	-513.45	535.66	497.74	37.92	14.125	
6,600.00	6,467.19	6,604.30	6,525.12	22.33	19.87	-144.69	-723.62	-524.23	542.35	503.59	38.77	13.990	
6,700.00	6,564.98	6,704.52	6,623.68	22.81	20.29	-144.75	-734.79	-535.00	549.04	509.46	39.58	13.872	
6,800.00	6,662.77	6,804.75	6,722.24	23.28	20.71	-144.81	-745.96	-545.77	555.73	515.34	40.39	13.759	
6,900.00	6,760.55	6,895.02	6,820.80	23.76	21.09	-144.88	-757.14	-556.54	562.43	521.26	41.16	13.664	
7,000.00	6,858.34	6,995.19	6,919.78	24.24	21.52	-144.97	-768.08	-567.36	569.11	527.14	41.97	13.560	
7,100.00	6,956.30	7,096.06	7,019.96	24.71	21.87	-165.57	-769.48	-578.28	575.68	533.09	42.60	13.514	
7,200.00	7,054.64	7,195.45	7,117.91	25.09	22.13	150.85	-757.02	-588.91	582.41	539.38	43.03	13.534	
7,300.00	7,151.66	7,293.52	7,211.97	25.39	22.32	125.04	-731.48	-599.08	589.22	545.88	43.34	13.595	
7,400.00	7,245.47	7,390.37	7,300.60	25.60	22.45	112.24	-693.81	-608.62	595.94	552.38	43.56	13.681	
7,500.00	7,334.25	7,486.11	7,382.47	25.74	22.54	104.92	-645.10	-617.40	602.42	558.70	43.73	13.777	
7,600.00	7,416.27	7,580.86	7,456.43	25.83	22.59	100.17	-586.51	-625.28	608.52	564.64	43.88	13.869	
7,700.00	7,489.93	7,674.74	7,521.50	25.85	22.61	96.83	-519.28	-632.16	614.08	570.03	44.05	13.941	
7,800.00	7,553.80	7,767.87	7,576.87	25.83	22.62	94.40	-444.71	-637.97	618.97	574.70	44.27	13.981	
7,900.00	7,606.64	7,860.37	7,621.90	25.77	22.64	92.61	-364.12	-642.63	623.07	578.49	44.58	13.975	
8,000.00	7,647.41	7,952.36	7,656.07	25.67	22.68	91.32	-278.85	-646.10	626.28	581.28	45.00	13.916	
8,100.00	7,675.32	8,043.97	7,679.03	25.56	22.79	90.47	-190.26	-648.33	628.52	582.97	45.55	13.798	
8,200.00	7,689.84	8,135.31	7,690.56	25.46	23.00	90.00	-99.72	-649.31	629.73	583.51	46.22	13.623	
8,300.00	7,692.00	8,230.92	7,692.00	25.38	23.36	89.91	-4.13	-649.18	629.95	582.90	47.05	13.390	
8,400.00	7,692.00	8,330.92	7,692.00	25.41	23.87	89.91	95.87	-648.88	629.95	581.90	48.06	13.108	
8,500.00	7,692.00	8,430.92	7,692.00	25.67	24.50	89.91	195.87	-648.58	629.96	580.71	49.25	12.791	
8,600.00	7,692.00	8,530.92	7,692.00	26.21	25.22	89.91	295.86	-648.27	629.96	579.35	50.61	12.447	
8,700.00	7,692.00	8,630.92	7,692.00	26.93	26.03	89.91	395.86	-647.97	629.97	577.84	52.13	12.084	
8,800.00	7,692.00	8,730.92	7,692.00	27.75	26.90	89.91	495.86	-647.67	629.97	576.18	53.79	11.711	
8,900.00	7,692.00	8,830.92	7,692.00	28.64	27.84	89.91	595.86	-647.37	629.97	574.39	55.58	11.334	
9,000.00	7,692.00	8,930.92	7,692.00	29.59	28.83	89.91	695.86	-647.07	629.98	572.48	57.49	10.957	
9,100.00	7,692.00	9,030.92	7,692.00	30.59	29.87	89.91	795.86	-646.76	629.98	570.47	59.51	10.586	
9,200.00	7,692.00	9,130.92	7,692.00	31.63	30.95	89.91	895.86	-646.46	629.99	568.36	61.62	10.223	
9,300.00	7,692.00	9,230.92	7,692.00	32.72	32.08	89.91	995.86	-646.16	629.99	566.17	63.82	9.871	
9,400.00	7,692.00	9,330.92	7,692.00	33.84	33.24	89.91	1,095.86	-645.86	629.99	563.89	66.10	9.531	
9,500.00	7,692.00	9,430.92	7,692.00	35.00	34.44	89.91	1,195.86	-645.55	630.00	561.55	68.45	9.204	
9,600.00	7,692.00	9,530.92	7,692.00	36.19	35.66	89.91	1,295.86	-645.25	630.00	559.14	70.86	8.891	
9,700.00	7,692.00	9,630.92	7,692.00	37.40	36.91	89.91	1,395.86	-644.95	630.00	556.68	73.32	8.592	
9,800.00	7,692.00	9,730.92	7,692.00	38.64	38.18	89.91	1,495.86	-644.65	630.01	554.16	75.84	8.307	
9,900.00	7,692.00	9,830.92	7,692.00	39.90	39.48	89.91	1,595.86	-644.35	630.01	551.60	78.41	8.035	
10,000.00	7,692.00	9,930.92	7,692.00	41.19	40.80	89.91	1,695.86	-644.04	630.02	549.00	81.02	7.776	
10,100.00	7,692.00	10,030.92	7,692.00	42.49	42.13	89.91	1,795.86	-643.74	630.02	546.36	83.66	7.530	
10,200.00	7,692.00	10,130.92	7,692.00	43.81	43.48	89.91	1,895.86	-643.44	630.02	543.68	86.34	7.297	
10,300.00	7,692.00	10,230.92	7,692.00	45.14	44.84	89.91	1,995.86	-643.14	630.03	540.97	89.06	7.074	

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

Cathedral Energy Services

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Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3D-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM												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)		Between Centres (usft)	Between Ellipses (usft)					
10,400.00	7,692.00	10,330.92	7,692.00	46.50	46.22	89.91	2,095.86	-642.83	630.03	538.23	91.80	6.863	
10,500.00	7,692.00	10,430.92	7,692.00	47.86	47.61	89.91	2,195.86	-642.53	630.04	535.47	94.57	6.662	
10,600.00	7,692.00	10,530.92	7,692.00	49.24	49.01	89.91	2,295.86	-642.23	630.04	532.68	97.36	6.471	
10,700.00	7,692.00	10,630.92	7,692.00	50.62	50.42	89.91	2,395.86	-641.93	630.04	529.87	100.17	6.290	
10,800.00	7,692.00	10,730.92	7,692.00	52.02	51.84	89.91	2,495.85	-641.63	630.05	527.04	103.00	6.117	
10,900.00	7,692.00	10,830.92	7,692.00	53.43	53.27	89.91	2,595.85	-641.32	630.05	524.20	105.85	5.952	
11,000.00	7,692.00	10,930.92	7,692.00	54.85	54.71	89.91	2,695.85	-641.02	630.05	521.33	108.72	5.795	
11,100.00	7,692.00	11,030.92	7,692.00	56.27	56.16	89.91	2,795.85	-640.72	630.06	518.45	111.61	5.645	
11,200.00	7,692.00	11,130.92	7,692.00	57.71	57.61	89.91	2,895.85	-640.42	630.06	515.55	114.51	5.502	
11,300.00	7,692.00	11,230.92	7,692.00	59.15	59.07	89.91	2,995.85	-640.11	630.07	512.65	117.42	5.366	
11,400.00	7,692.00	11,330.92	7,692.00	60.59	60.54	89.91	3,095.85	-639.81	630.07	509.72	120.35	5.236	
11,500.00	7,692.00	11,430.92	7,692.00	62.05	62.01	89.91	3,195.85	-639.51	630.07	506.79	123.28	5.111	
11,600.00	7,692.00	11,530.92	7,692.00	63.51	63.48	89.91	3,295.85	-639.21	630.08	503.85	126.23	4.991	
11,700.00	7,692.00	11,630.92	7,692.00	64.97	64.96	89.91	3,395.85	-638.91	630.08	500.89	129.19	4.877	
11,800.00	7,692.00	11,730.92	7,692.00	66.44	66.45	89.91	3,495.85	-638.60	630.09	497.93	132.16	4.768	
11,900.00	7,692.00	11,830.92	7,692.00	67.92	67.94	89.91	3,595.85	-638.30	630.09	494.96	135.13	4.663	
12,000.00	7,692.00	11,930.92	7,692.00	69.40	69.43	89.91	3,695.85	-638.00	630.09	491.98	138.12	4.562	
12,100.00	7,692.00	12,030.92	7,692.00	70.88	70.93	89.91	3,795.85	-637.70	630.10	488.99	141.11	4.465	
12,200.00	7,692.00	12,130.92	7,692.00	72.37	72.43	89.91	3,895.85	-637.39	630.10	485.99	144.11	4.372	
12,300.00	7,692.00	12,230.92	7,692.00	73.86	73.94	89.91	3,995.85	-637.09	630.10	482.99	147.11	4.283	
12,400.00	7,692.00	12,330.92	7,692.00	75.35	75.44	89.91	4,095.85	-636.79	630.11	479.98	150.13	4.197	
12,500.00	7,692.00	12,430.92	7,692.00	76.85	76.95	89.91	4,195.85	-636.49	630.11	476.97	153.14	4.115	
12,600.00	7,692.00	12,530.92	7,692.00	78.35	78.47	89.91	4,295.85	-636.18	630.12	473.95	156.17	4.035	
12,647.07	7,692.00	12,577.99	7,692.00	79.06	79.18	89.91	4,342.92	-636.04	630.12	472.53	157.59	3.998 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3E-18H-N167 - OH - PLAN #1												Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HDGM												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
0.00	0.00	1.00	1.00	0.00	0.00	90.36	-0.25	40.00	40.00				
100.00	100.00	101.00	101.00	0.07	0.14	90.36	-0.25	40.00	40.00	39.79	0.21	191.578	
200.00	200.00	201.01	201.01	0.25	0.50	90.36	-0.25	40.00	40.00	39.26	0.74	53.932	
200.85	200.85	201.86	201.86	0.25	0.50	-146.05	-0.25	40.00	40.00	39.25	0.75	53.611	CC, ES
300.00	299.98	301.53	301.51	0.42	0.85	-145.08	-1.91	39.31	40.77	39.51	1.26	32.272	
400.00	399.84	401.98	401.82	0.60	1.20	-142.47	-6.82	37.26	43.18	41.39	1.79	24.124	
500.00	499.45	502.32	501.75	0.78	1.56	-138.75	-14.96	33.86	47.37	45.03	2.33	20.296	
600.00	598.70	602.34	601.05	0.96	1.94	-134.74	-26.12	29.19	53.52	50.62	2.90	18.482	
700.00	697.47	701.96	699.83	1.15	2.33	-133.20	-37.97	24.24	62.09	58.62	3.47	17.898	
800.00	795.62	801.34	798.38	1.33	2.72	-134.00	-49.80	19.30	73.06	69.02	4.05	18.048	
900.00	893.41	900.56	896.77	1.52	3.12	-135.61	-61.61	14.37	85.38	80.75	4.63	18.448	
1,000.00	991.20	999.77	995.15	1.70	3.52	-136.82	-73.42	9.43	97.75	92.54	5.21	18.768	
1,100.00	1,088.98	1,101.01	1,093.54	1.89	3.93	-137.75	-85.23	4.50	110.16	104.36	5.80	18.998	
1,200.00	1,186.77	1,201.80	1,191.92	2.07	4.33	-138.50	-97.03	-0.43	122.58	116.20	6.39	19.192	
1,300.00	1,284.55	1,302.59	1,290.31	2.26	4.74	-139.11	-108.84	-5.37	135.03	128.05	6.98	19.352	
1,400.00	1,382.34	1,403.37	1,388.69	2.45	5.15	-139.62	-120.65	-10.30	147.48	139.91	7.57	19.487	
1,500.00	1,480.12	1,504.16	1,487.08	2.63	5.56	-140.04	-132.46	-15.23	159.95	151.79	8.16	19.603	
1,600.00	1,577.91	1,604.95	1,585.46	2.82	5.97	-140.41	-144.26	-20.16	172.42	163.67	8.75	19.703	
1,700.00	1,675.70	1,694.27	1,683.85	3.01	6.34	-140.73	-156.07	-25.10	184.90	175.60	9.30	19.888	
1,800.00	1,773.48	1,806.52	1,782.23	3.19	6.79	-141.00	-167.88	-30.03	197.38	187.45	9.94	19.866	
1,900.00	1,871.27	1,907.31	1,880.62	3.38	7.20	-141.25	-179.69	-34.96	209.87	199.34	10.53	19.934	
2,000.00	1,969.05	2,008.09	1,979.00	3.56	7.61	-141.46	-191.50	-39.90	222.36	211.24	11.12	19.994	
2,100.00	2,066.84	2,108.88	2,077.39	3.68	8.03	-141.65	-203.30	-44.83	234.86	223.21	11.65	20.162	
2,200.00	2,164.62	2,209.67	2,175.77	3.73	8.44	-141.83	-215.11	-49.76	247.35	235.25	12.11	20.433	
2,300.00	2,262.41	2,289.55	2,274.16	3.85	8.76	-141.99	-226.92	-54.70	259.85	247.32	12.53	20.746	
2,400.00	2,360.19	2,388.76	2,372.54	4.03	9.17	-142.13	-238.73	-59.63	272.35	259.28	13.07	20.842	
2,500.00	2,457.98	2,487.97	2,470.93	4.26	9.57	-142.26	-250.53	-64.56	284.85	271.20	13.65	20.871	
2,600.00	2,555.77	2,587.19	2,569.31	4.52	9.98	-142.38	-262.34	-69.49	297.35	283.09	14.26	20.848	
2,700.00	2,653.55	2,686.40	2,667.70	4.82	10.38	-142.49	-274.15	-74.43	309.86	294.95	14.91	20.786	
2,800.00	2,751.34	2,785.62	2,766.08	5.15	10.79	-142.59	-285.96	-79.36	322.36	306.79	15.58	20.695	
2,900.00	2,849.12	2,884.83	2,864.47	5.50	11.19	-142.68	-297.76	-84.29	334.87	318.60	16.27	20.586	
3,000.00	2,946.91	2,984.04	2,962.85	5.87	11.60	-142.77	-309.57	-89.23	347.38	330.40	16.97	20.465	
3,100.00	3,044.69	3,083.26	3,061.24	6.26	12.00	-142.85	-321.38	-94.16	359.88	342.19	17.70	20.336	
3,200.00	3,142.48	3,182.47	3,159.62	6.66	12.41	-142.92	-333.19	-99.09	372.39	353.96	18.43	20.204	
3,300.00	3,240.27	3,281.68	3,258.00	7.07	12.81	-142.99	-345.00	-104.02	384.90	365.72	19.18	20.071	
3,400.00	3,338.05	3,380.90	3,356.39	7.49	13.22	-143.06	-356.80	-108.96	397.41	377.48	19.93	19.939	
3,500.00	3,435.84	3,480.11	3,454.77	7.91	13.62	-143.12	-368.61	-113.89	409.92	389.23	20.69	19.810	
3,600.00	3,533.62	3,579.32	3,553.16	8.35	14.03	-143.18	-380.42	-118.82	422.43	400.97	21.46	19.683	
3,700.00	3,631.41	3,678.54	3,651.54	8.78	14.44	-143.23	-392.23	-123.76	434.94	412.70	22.24	19.561	
3,800.00	3,729.19	3,777.75	3,749.93	9.23	14.84	-143.29	-404.03	-128.69	447.45	424.44	23.01	19.443	
3,900.00	3,826.98	3,876.96	3,848.31	9.67	15.25	-143.34	-415.84	-133.62	459.96	436.16	23.80	19.329	
4,000.00	3,924.77	3,976.18	3,946.70	10.12	15.65	-143.38	-427.65	-138.55	472.47	447.89	24.58	19.220	
4,100.00	4,022.55	4,075.39	4,045.08	10.58	16.06	-143.43	-439.46	-143.49	484.98	459.61	25.37	19.115	
4,200.00	4,120.34	4,174.60	4,143.47	11.03	16.46	-143.47	-451.26	-148.42	497.50	471.33	26.16	19.014	
4,300.00	4,218.12	4,273.82	4,241.85	11.49	16.87	-143.51	-463.07	-153.35	510.01	483.05	26.96	18.917	
4,400.00	4,315.91	4,373.03	4,340.24	11.95	17.27	-143.55	-474.88	-158.29	522.52	494.76	27.76	18.825	
4,500.00	4,413.69	4,472.25	4,438.62	12.41	17.68	-143.58	-486.69	-163.22	535.03	506.48	28.56	18.736	
4,600.00	4,511.48	4,571.46	4,537.01	12.88	18.09	-143.62	-498.50	-168.15	547.55	518.19	29.36	18.651	
4,700.00	4,609.27	4,670.67	4,635.39	13.34	18.49	-143.65	-510.30	-173.09	560.06	529.90	30.16	18.570	
4,800.00	4,707.05	4,769.89	4,733.78	13.81	18.90	-143.68	-522.11	-178.02	572.57	541.61	30.96	18.492	
4,900.00	4,804.84	4,869.10	4,832.16	14.27	19.30	-143.71	-533.92	-182.95	585.09	553.32	31.77	18.417	
5,000.00	4,902.62	4,968.31	4,930.55	14.74	19.71	-143.74	-545.73	-187.88	597.60	565.03	32.58	18.345	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3E-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.00	5,000.41	5,067.53	5,028.93	15.21	20.11	-143.77	-557.53	-192.82	610.11	576.73	33.38	18.276	
5,200.00	5,098.19	5,166.74	5,127.32	15.68	20.52	-143.79	-569.34	-197.75	622.63	588.44	34.19	18.210	
5,300.00	5,195.98	5,265.95	5,225.70	16.15	20.92	-143.82	-581.15	-202.68	635.14	600.14	35.00	18.147	
5,400.00	5,293.77	5,365.17	5,324.09	16.63	21.33	-143.84	-592.96	-207.62	647.66	611.85	35.81	18.086	
5,500.00	5,391.55	5,464.38	5,422.47	17.10	21.74	-143.87	-604.76	-212.55	660.17	623.55	36.62	18.027	
5,600.00	5,489.34	5,563.59	5,520.85	17.57	22.14	-143.89	-616.57	-217.48	672.69	635.25	37.43	17.970	
5,700.00	5,587.12	5,662.81	5,619.24	18.04	22.55	-143.91	-628.38	-222.41	685.20	646.96	38.25	17.916	
5,800.00	5,684.91	5,762.02	5,717.62	18.52	22.95	-143.93	-640.19	-227.35	697.71	658.66	39.06	17.864	
5,900.00	5,782.69	5,861.23	5,816.01	18.99	23.36	-143.95	-652.00	-232.28	710.23	670.36	39.87	17.813	
6,000.00	5,880.48	5,960.45	5,914.39	19.47	23.76	-143.97	-663.80	-237.21	722.74	682.06	40.69	17.764	
6,100.00	5,978.27	6,059.66	6,012.78	19.95	24.17	-143.99	-675.61	-242.15	735.26	693.76	41.50	17.717	
6,200.00	6,076.05	6,158.87	6,111.16	20.42	24.58	-144.01	-687.42	-247.08	747.77	705.46	42.31	17.672	
6,300.00	6,173.84	6,258.09	6,209.55	20.90	24.98	-144.03	-699.23	-252.01	760.29	717.16	43.13	17.628	
6,400.00	6,271.62	6,357.30	6,307.93	21.37	25.39	-144.04	-711.03	-256.95	772.80	728.86	43.95	17.586	
6,500.00	6,369.41	6,456.52	6,406.32	21.85	25.79	-144.06	-722.84	-261.88	785.32	740.56	44.76	17.545	
6,600.00	6,467.19	6,555.73	6,504.70	22.33	26.20	-144.08	-734.65	-266.81	797.83	752.26	45.58	17.505	
6,700.00	6,564.98	6,654.94	6,603.09	22.81	26.60	-144.09	-746.46	-271.74	810.35	763.96	46.39	17.467	
6,800.00	6,662.77	6,754.16	6,701.47	23.28	27.01	-144.11	-758.26	-276.68	822.87	775.65	47.21	17.429	
6,900.00	6,760.55	6,853.46	6,799.95	23.76	27.42	-144.12	-770.08	-281.61	835.38	787.35	48.03	17.393	
7,000.00	6,858.34	6,955.84	6,902.01	24.24	27.83	-144.14	-781.89	-286.54	847.89	799.04	48.85	17.357	
7,100.00	6,956.13	7,054.63	7,000.15	24.71	28.24	-144.15	-793.70	-291.47	860.40	810.73	49.67	17.321	
7,200.00	7,054.64	7,150.46	7,093.23	25.09	28.24	149.65	-743.12	-296.14	872.81	823.18	49.63	17.586	
7,300.00	7,151.66	7,243.93	7,180.40	25.39	28.40	123.08	-709.85	-300.38	885.86	835.99	49.88	17.761	
7,400.00	7,245.47	7,335.34	7,260.77	25.60	28.52	109.58	-666.60	-304.25	898.84	848.80	50.04	17.961	
7,500.00	7,334.25	7,424.98	7,333.62	25.74	28.61	101.63	-614.58	-307.73	911.40	861.25	50.16	18.171	
7,600.00	7,416.27	7,513.12	7,398.37	25.83	28.69	96.31	-554.94	-310.77	923.23	872.98	50.25	18.374	
7,700.00	7,489.93	7,600.01	7,454.57	25.85	28.76	92.49	-488.80	-313.38	934.02	883.68	50.34	18.553	
7,800.00	7,553.80	7,685.87	7,501.85	25.83	28.83	89.65	-417.23	-315.52	943.51	893.03	50.48	18.690	
7,900.00	7,606.64	7,770.89	7,539.92	25.77	28.93	87.54	-341.28	-317.19	951.45	900.76	50.69	18.771	
8,000.00	7,647.41	7,855.26	7,568.55	25.67	29.04	86.01	-261.97	-318.38	957.66	906.68	50.99	18.783	
8,100.00	7,675.32	7,939.15	7,587.59	25.56	29.19	85.00	-180.32	-319.09	961.99	910.59	51.39	18.718	
8,200.00	7,689.84	8,022.71	7,596.95	25.46	29.38	84.45	-97.33	-319.31	964.32	912.41	51.92	18.575	
8,300.00	7,692.00	8,115.01	7,598.00	25.38	29.64	84.35	-5.06	-319.09	964.73	912.15	52.57	18.350	
8,400.00	7,692.00	8,215.01	7,598.00	25.41	30.00	84.35	94.94	-318.80	964.72	911.31	53.41	18.061	
8,500.00	7,692.00	8,315.01	7,598.00	25.67	30.45	84.35	194.94	-318.50	964.72	910.29	54.43	17.725	
8,600.00	7,692.00	8,415.01	7,598.00	26.21	30.98	84.35	294.94	-318.21	964.72	909.12	55.60	17.351	
8,700.00	7,692.00	8,515.01	7,598.00	26.93	31.58	84.35	394.94	-317.91	964.71	907.79	56.92	16.948	
8,800.00	7,692.00	8,615.01	7,598.00	27.75	32.25	84.35	494.94	-317.62	964.71	906.32	58.39	16.523	
8,900.00	7,692.00	8,715.01	7,598.00	28.64	32.98	84.35	594.94	-317.33	964.71	904.72	59.98	16.083	
9,000.00	7,692.00	8,815.01	7,598.00	29.59	33.78	84.35	694.94	-317.03	964.70	903.01	61.70	15.637	
9,100.00	7,692.00	8,915.01	7,598.00	30.59	34.63	84.35	794.94	-316.74	964.70	901.18	63.52	15.188	
9,200.00	7,692.00	9,015.01	7,598.00	31.63	35.53	84.35	894.94	-316.44	964.69	899.25	65.44	14.741	
9,300.00	7,692.00	9,115.01	7,598.00	32.72	36.47	84.35	994.94	-316.15	964.69	897.23	67.46	14.300	
9,400.00	7,692.00	9,215.01	7,598.00	33.84	37.46	84.35	1,094.94	-315.85	964.69	895.13	69.56	13.868	
9,500.00	7,692.00	9,315.01	7,598.00	35.00	38.49	84.35	1,194.94	-315.56	964.68	892.95	71.74	13.448	
9,600.00	7,692.00	9,415.01	7,598.00	36.19	39.56	84.35	1,294.94	-315.26	964.68	890.70	73.98	13.039	
9,700.00	7,692.00	9,515.01	7,598.00	37.40	40.66	84.35	1,394.94	-314.97	964.67	888.38	76.29	12.644	
9,800.00	7,692.00	9,615.01	7,598.00	38.64	41.78	84.35	1,494.94	-314.67	964.67	886.01	78.66	12.264	
9,900.00	7,692.00	9,715.01	7,598.00	39.90	42.94	84.35	1,594.94	-314.38	964.67	883.59	81.08	11.898	
10,000.00	7,692.00	9,815.01	7,598.00	41.19	44.13	84.35	1,694.94	-314.09	964.66	881.11	83.55	11.546	
10,100.00	7,692.00	9,915.01	7,598.00	42.49	45.33	84.35	1,794.93	-313.79	964.66	878.60	86.06	11.209	
10,200.00	7,692.00	10,015.01	7,598.00	43.81	46.57	84.35	1,894.93	-313.50	964.66	876.04	88.62	10.886	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3E-18H-N167 - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Separation Factor		
10,300.00	7,692.00	10,115.01	7,598.00	45.14	47.82	84.35	1,994.93	-313.20	964.65	873.45	91.21	10.577		
10,400.00	7,692.00	10,215.01	7,598.00	46.50	49.09	84.35	2,094.93	-312.91	964.65	870.82	93.83	10.281		
10,500.00	7,692.00	10,315.01	7,598.00	47.86	50.37	84.35	2,194.93	-312.61	964.64	868.16	96.49	9.998		
10,600.00	7,692.00	10,415.01	7,598.00	49.24	51.68	84.35	2,294.93	-312.32	964.64	865.47	99.17	9.727		
10,700.00	7,692.00	10,515.01	7,598.00	50.62	53.00	84.35	2,394.93	-312.02	964.64	862.76	101.88	9.468		
10,800.00	7,692.00	10,615.01	7,598.00	52.02	54.33	84.35	2,494.93	-311.73	964.63	860.02	104.61	9.221		
10,900.00	7,692.00	10,715.01	7,598.00	53.43	55.67	84.35	2,594.93	-311.43	964.63	857.26	107.37	8.984		
11,000.00	7,692.00	10,815.01	7,598.00	54.85	57.03	84.35	2,694.93	-311.14	964.62	854.47	110.15	8.757		
11,100.00	7,692.00	10,915.01	7,598.00	56.27	58.40	84.35	2,794.93	-310.85	964.62	851.67	112.95	8.540		
11,200.00	7,692.00	11,015.01	7,598.00	57.71	59.78	84.35	2,894.93	-310.55	964.62	848.85	115.76	8.333		
11,300.00	7,692.00	11,115.01	7,598.00	59.15	61.17	84.35	2,994.93	-310.26	964.61	846.02	118.60	8.134		
11,400.00	7,692.00	11,215.01	7,598.00	60.59	62.57	84.35	3,094.93	-309.96	964.61	843.16	121.45	7.943		
11,500.00	7,692.00	11,315.01	7,598.00	62.05	63.97	84.35	3,194.93	-309.67	964.61	840.30	124.31	7.760		
11,600.00	7,692.00	11,415.01	7,598.00	63.51	65.39	84.35	3,294.93	-309.37	964.60	837.42	127.18	7.584		
11,700.00	7,692.00	11,515.01	7,598.00	64.97	66.81	84.35	3,394.93	-309.08	964.60	834.53	130.07	7.416		
11,800.00	7,692.00	11,615.01	7,598.00	66.44	68.24	84.35	3,494.93	-308.78	964.59	831.62	132.97	7.254		
11,900.00	7,692.00	11,715.01	7,598.00	67.92	69.67	84.35	3,594.93	-308.49	964.59	828.71	135.88	7.099		
12,000.00	7,692.00	11,815.01	7,598.00	69.40	71.11	84.35	3,694.93	-308.20	964.59	825.78	138.81	6.949		
12,100.00	7,692.00	11,915.01	7,598.00	70.88	72.56	84.35	3,794.93	-307.90	964.58	822.84	141.74	6.805		
12,200.00	7,692.00	12,015.01	7,598.00	72.37	74.01	84.35	3,894.93	-307.61	964.58	819.90	144.68	6.667		
12,300.00	7,692.00	12,115.01	7,598.00	73.86	75.47	84.35	3,994.93	-307.31	964.57	816.95	147.63	6.534		
12,400.00	7,692.00	12,215.01	7,598.00	75.35	76.93	84.35	4,094.92	-307.02	964.57	813.99	150.58	6.406		
12,500.00	7,692.00	12,315.01	7,598.00	76.85	78.40	84.35	4,194.92	-306.72	964.57	811.02	153.55	6.282		
12,600.00	7,692.00	12,415.01	7,598.00	78.35	79.87	84.35	4,294.92	-306.43	964.56	808.04	156.52	6.162		
12,642.72	7,692.00	12,457.73	7,598.00	79.00	80.50	84.35	4,337.65	-306.30	964.56	806.77	157.79	6.113 SF		
12,647.07	7,692.00	12,452.49	7,598.00	79.06	80.42	84.35	4,332.41	-306.32	964.61	806.93	157.67	6.118		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3F-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	90.36	-0.32	50.00	50.00				
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.32	50.00	50.00	49.86	0.14	367.280	
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.32	50.00	50.00	49.51	0.49	103.050 CC, ES	
300.00	299.98	300.99	300.99	0.42	0.43	-147.12	-0.32	50.00	51.46	50.62	0.84	61.596	
400.00	399.84	401.49	401.47	0.60	0.60	-148.26	-2.04	49.47	55.32	54.13	1.19	46.485	
500.00	499.45	501.98	501.82	0.78	0.77	-147.81	-7.12	47.92	61.03	59.48	1.55	39.439	
600.00	598.70	602.37	601.81	0.96	0.95	-146.17	-15.56	45.34	68.60	66.69	1.91	35.962	
700.00	697.47	702.28	701.00	1.15	1.13	-144.05	-26.99	41.84	78.20	75.93	2.27	34.475	
800.00	795.62	801.51	799.45	1.33	1.31	-143.33	-38.90	38.20	90.50	87.87	2.63	34.377	
900.00	893.41	900.56	897.71	1.52	1.48	-143.51	-50.79	34.57	104.30	101.31	3.00	34.825	
1,000.00	991.20	1,000.40	995.97	1.70	1.66	-143.66	-62.68	30.93	118.11	114.75	3.36	35.182	
1,100.00	1,088.98	1,101.36	1,094.22	1.89	1.84	-143.77	-74.57	27.30	131.92	128.20	3.72	35.446	
1,200.00	1,186.77	1,202.32	1,192.48	2.07	2.02	-143.87	-86.45	23.66	145.73	141.64	4.09	35.660	
1,300.00	1,284.55	1,303.28	1,290.74	2.26	2.20	-143.94	-98.34	20.03	159.54	155.09	4.45	35.838	
1,400.00	1,382.34	1,404.24	1,389.00	2.45	2.38	-144.01	-110.23	16.40	173.35	168.53	4.82	35.986	
1,500.00	1,480.12	1,505.19	1,487.26	2.63	2.56	-144.06	-122.12	12.76	187.16	181.98	5.18	36.113	
1,600.00	1,577.91	1,606.15	1,585.52	2.82	2.75	-144.11	-134.00	9.13	200.97	195.42	5.55	36.222	
1,700.00	1,675.70	1,707.11	1,683.78	3.01	2.93	-144.15	-145.89	5.49	214.78	208.86	5.91	36.317	
1,800.00	1,773.48	1,808.07	1,782.03	3.19	3.11	-144.19	-157.78	1.86	228.59	222.31	6.28	36.400	
1,900.00	1,871.27	1,909.03	1,880.29	3.38	3.29	-144.22	-169.66	-1.78	242.40	235.75	6.65	36.474	
2,000.00	1,969.05	2,009.99	1,978.55	3.56	3.47	-144.25	-181.55	-5.41	256.21	249.21	7.00	36.584	
2,100.00	2,066.84	2,089.06	2,076.81	3.68	3.56	-144.28	-193.44	-9.04	270.02	262.82	7.20	37.495	
2,200.00	2,164.62	2,188.10	2,175.07	3.73	3.60	-144.30	-205.33	-12.68	283.83	276.53	7.30	38.870	
2,300.00	2,262.41	2,287.14	2,273.33	3.85	3.67	-144.32	-217.21	-16.31	297.64	290.16	7.48	39.780	
2,400.00	2,360.19	2,386.18	2,371.59	4.03	3.79	-144.34	-229.10	-19.95	311.45	303.70	7.75	40.209	
2,500.00	2,457.98	2,485.22	2,469.84	4.26	3.95	-144.36	-240.99	-23.58	325.26	317.18	8.08	40.231	
2,600.00	2,555.77	2,584.26	2,568.10	4.52	4.14	-144.38	-252.87	-27.22	339.07	330.58	8.49	39.937	
2,700.00	2,653.55	2,683.31	2,666.36	4.82	4.37	-144.39	-264.76	-30.85	352.88	343.93	8.95	39.415	
2,800.00	2,751.34	2,782.35	2,764.62	5.15	4.62	-144.41	-276.65	-34.48	366.69	357.23	9.46	38.743	
2,900.00	2,849.12	2,881.39	2,862.88	5.50	4.89	-144.42	-288.54	-38.12	380.50	370.49	10.02	37.982	
3,000.00	2,946.91	2,980.43	2,961.14	5.87	5.17	-144.43	-300.42	-41.75	394.31	383.71	10.61	37.178	
3,100.00	3,044.69	3,079.47	3,059.40	6.26	5.47	-144.44	-312.31	-45.39	408.13	396.90	11.22	36.363	
3,200.00	3,142.48	3,178.51	3,157.65	6.66	5.79	-144.45	-324.20	-49.02	421.94	410.07	11.87	35.558	
3,300.00	3,240.27	3,277.56	3,255.91	7.07	6.11	-144.46	-336.09	-52.65	435.75	423.22	12.53	34.777	
3,400.00	3,338.05	3,376.60	3,354.17	7.49	6.45	-144.47	-347.97	-56.29	449.56	436.35	13.21	34.028	
3,500.00	3,435.84	3,475.64	3,452.43	7.91	6.79	-144.48	-359.86	-59.92	463.37	449.46	13.91	33.317	
3,600.00	3,533.62	3,574.68	3,550.69	8.35	7.13	-144.49	-371.75	-63.56	477.18	462.56	14.62	32.644	
3,700.00	3,631.41	3,673.72	3,648.95	8.78	7.49	-144.50	-383.63	-67.19	490.99	475.65	15.34	32.009	
3,800.00	3,729.19	3,772.77	3,747.21	9.23	7.84	-144.50	-395.52	-70.83	504.80	488.73	16.07	31.413	
3,900.00	3,826.98	3,871.81	3,845.46	9.67	8.21	-144.51	-407.41	-74.46	518.61	501.80	16.81	30.853	
4,000.00	3,924.77	3,970.85	3,943.72	10.12	8.57	-144.52	-419.30	-78.09	532.42	514.87	17.56	30.328	
4,100.00	4,022.55	4,069.89	4,041.98	10.58	8.94	-144.52	-431.18	-81.73	546.23	527.92	18.31	29.834	
4,200.00	4,120.34	4,168.93	4,140.24	11.03	9.31	-144.53	-443.07	-85.36	560.04	540.98	19.07	29.371	
4,300.00	4,218.12	4,267.97	4,238.50	11.49	9.68	-144.53	-454.96	-89.00	573.85	554.02	19.83	28.936	
4,400.00	4,315.91	4,367.02	4,336.76	11.95	10.06	-144.54	-466.84	-92.63	587.67	567.07	20.60	28.527	
4,500.00	4,413.69	4,466.06	4,435.01	12.41	10.44	-144.54	-478.73	-96.27	601.48	580.10	21.37	28.142	
4,600.00	4,511.48	4,565.10	4,533.27	12.88	10.82	-144.55	-490.62	-99.90	615.29	593.14	22.15	27.780	
4,700.00	4,609.27	4,664.14	4,631.53	13.34	11.20	-144.55	-502.51	-103.53	629.10	606.17	22.93	27.438	
4,800.00	4,707.05	4,763.18	4,729.79	13.81	11.58	-144.56	-514.39	-107.17	642.91	619.20	23.71	27.115	
4,900.00	4,804.84	4,862.22	4,828.05	14.27	11.97	-144.56	-526.28	-110.80	656.72	632.22	24.50	26.810	
5,000.00	4,902.62	4,961.27	4,926.31	14.74	12.35	-144.57	-538.17	-114.44	670.53	645.25	25.28	26.521	
5,100.00	5,000.41	5,060.31	5,024.57	15.21	12.74	-144.57	-550.06	-118.07	684.34	658.27	26.07	26.248	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3F-18H-N167 - OH - PLAN #1											Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM											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)		Between Centres (usft)	Between Ellipses (usft)				
5,200.00	5,098.19	5,159.35	5,122.82	15.68	13.13	-144.57	-561.94	-121.71	698.15	671.29	26.86	25.989
5,300.00	5,195.98	5,258.39	5,221.08	16.15	13.51	-144.58	-573.83	-125.34	711.96	684.31	27.66	25.743
5,400.00	5,293.77	5,357.43	5,319.34	16.63	13.90	-144.58	-585.72	-128.97	725.77	697.32	28.45	25.509
5,500.00	5,391.55	5,456.47	5,417.60	17.10	14.29	-144.59	-597.60	-132.61	739.58	710.34	29.25	25.286
5,600.00	5,489.34	5,555.52	5,515.86	17.57	14.68	-144.59	-609.49	-136.24	753.40	723.35	30.05	25.074
5,700.00	5,587.12	5,654.56	5,614.12	18.04	15.08	-144.59	-621.38	-139.88	767.21	736.36	30.85	24.872
5,800.00	5,684.91	5,753.60	5,712.38	18.52	15.47	-144.59	-633.27	-143.51	781.02	749.37	31.65	24.680
5,900.00	5,782.69	5,852.64	5,810.63	18.99	15.86	-144.60	-645.15	-147.15	794.83	762.38	32.45	24.496
6,000.00	5,880.48	5,951.68	5,908.89	19.47	16.25	-144.60	-657.04	-150.78	808.64	775.39	33.25	24.320
6,100.00	5,978.27	6,050.72	6,007.15	19.95	16.65	-144.60	-668.93	-154.41	822.45	788.40	34.05	24.151
6,200.00	6,076.05	6,149.77	6,105.41	20.42	17.04	-144.61	-680.81	-158.05	836.26	801.40	34.86	23.990
6,300.00	6,173.84	6,248.81	6,203.67	20.90	17.43	-144.61	-692.70	-161.68	850.07	814.41	35.66	23.836
6,400.00	6,271.62	6,347.85	6,301.93	21.37	17.83	-144.61	-704.59	-165.32	863.88	827.41	36.47	23.687
6,500.00	6,369.41	6,446.89	6,400.19	21.85	18.22	-144.61	-716.48	-168.95	877.69	840.42	37.28	23.545
6,600.00	6,467.19	6,545.93	6,498.44	22.33	18.62	-144.62	-728.36	-172.59	891.50	853.42	38.08	23.409
6,700.00	6,564.98	6,644.97	6,596.70	22.81	19.01	-144.62	-740.25	-176.22	905.32	866.42	38.89	23.277
6,800.00	6,662.77	6,744.02	6,694.96	23.28	19.41	-144.62	-752.14	-179.85	919.13	879.42	39.70	23.151
6,900.00	6,760.55	6,843.06	6,793.22	23.76	19.81	-144.62	-764.03	-183.49	932.94	892.43	40.51	23.029
7,000.00	6,858.34	6,942.10	6,891.48	24.24	20.20	-144.62	-775.91	-187.12	946.75	905.43	41.32	22.912
7,100.00	6,956.30	7,041.09	6,989.68	24.71	20.60	-164.57	-787.79	-190.75	960.63	918.50	42.13	22.802
7,200.00	7,054.64	7,150.76	7,098.74	25.09	21.02	153.01	-798.01	-195.07	974.64	931.69	42.95	22.693
7,300.00	7,151.66	7,272.31	7,219.80	25.39	21.35	128.43	-791.36	-201.53	987.15	943.57	43.58	22.651
7,400.00	7,245.47	7,396.80	7,340.68	25.60	21.61	116.74	-763.52	-209.95	997.61	953.60	44.01	22.668
7,500.00	7,334.25	7,523.44	7,456.71	25.74	21.81	110.38	-714.25	-220.13	1,005.69	961.42	44.28	22.714
7,600.00	7,416.27	7,651.21	7,563.04	25.83	21.97	106.42	-644.66	-231.74	1,011.17	966.73	44.44	22.752
7,700.00	7,489.93	7,778.98	7,655.21	25.85	22.13	103.70	-557.32	-244.32	1,013.93	969.32	44.60	22.731
7,800.00	7,553.80	7,905.57	7,729.71	25.83	22.33	101.71	-456.01	-257.34	1,013.93	969.07	44.86	22.602
7,900.00	7,606.64	8,029.94	7,784.32	25.77	22.63	100.20	-345.20	-270.29	1,011.27	965.97	45.30	22.325
8,000.00	7,647.41	8,151.24	7,818.26	25.67	23.04	99.03	-229.56	-282.69	1,006.11	960.16	45.95	21.896
8,100.00	7,675.32	8,242.76	7,830.74	25.56	23.44	98.37	-139.38	-291.44	999.25	952.54	46.71	21.393
8,200.00	7,689.84	8,300.00	7,833.73	25.46	23.73	98.19	-82.29	-294.14	995.41	948.01	47.40	20.999
8,255.81	7,692.94	8,332.88	7,834.00	25.40	23.90	98.10	-49.42	-294.30	995.03	947.22	47.81	20.812
8,300.00	7,692.00	8,377.10	7,834.00	25.38	24.14	98.15	-5.19	-294.17	995.00	946.77	48.23	20.629
8,400.00	7,692.00	8,477.10	7,834.00	25.41	24.75	98.15	94.81	-293.87	995.00	945.67	49.33	20.169
8,500.00	7,692.00	8,577.10	7,834.00	25.67	25.44	98.15	194.81	-293.57	995.01	944.40	50.60	19.663
8,600.00	7,692.00	8,677.10	7,834.00	26.21	26.21	98.15	294.81	-293.27	995.01	942.98	52.03	19.124
8,700.00	7,692.00	8,777.10	7,834.00	26.93	27.04	98.15	394.81	-292.97	995.01	941.41	53.60	18.563
8,800.00	7,692.00	8,877.10	7,834.00	27.75	27.95	98.15	494.81	-292.67	995.01	939.71	55.31	17.991
8,900.00	7,692.00	8,977.10	7,834.00	28.64	28.91	98.15	594.80	-292.37	995.02	937.88	57.13	17.415
9,000.00	7,692.00	9,077.10	7,834.00	29.59	29.92	98.15	694.80	-292.07	995.02	935.95	59.07	16.844
9,100.00	7,692.00	9,177.10	7,834.00	30.59	30.98	98.15	794.80	-291.77	995.02	933.91	61.11	16.283
9,200.00	7,692.00	9,277.10	7,834.00	31.63	32.08	98.15	894.80	-291.46	995.02	931.79	63.24	15.735
9,300.00	7,692.00	9,377.10	7,834.00	32.72	33.22	98.15	994.80	-291.16	995.03	929.58	65.44	15.204
9,400.00	7,692.00	9,477.10	7,834.00	33.84	34.40	98.15	1,094.80	-290.86	995.03	927.30	67.73	14.692
9,500.00	7,692.00	9,577.10	7,834.00	35.00	35.60	98.15	1,194.80	-290.56	995.03	924.96	70.07	14.200
9,600.00	7,692.00	9,677.10	7,834.00	36.19	36.84	98.15	1,294.80	-290.26	995.03	922.55	72.48	13.728
9,700.00	7,692.00	9,777.10	7,834.00	37.40	38.10	98.15	1,394.80	-289.96	995.04	920.09	74.94	13.277
9,800.00	7,692.00	9,877.10	7,834.00	38.64	39.38	98.15	1,494.80	-289.66	995.04	917.59	77.45	12.847
9,900.00	7,692.00	9,977.10	7,834.00	39.90	40.68	98.15	1,594.80	-289.36	995.04	915.03	80.01	12.437
10,000.00	7,692.00	10,077.10	7,834.00	41.19	42.01	98.15	1,694.80	-289.06	995.04	912.44	82.60	12.046
10,100.00	7,692.00	10,177.10	7,834.00	42.49	43.34	98.15	1,794.80	-288.76	995.05	909.81	85.23	11.674
10,200.00	7,692.00	10,277.10	7,834.00	43.81	44.70	98.15	1,894.80	-288.46	995.05	907.15	87.90	11.321

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3F-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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
10,300.00	7,692.00	10,377.10	7,834.00	45.14	46.07	98.15	1,994.80	-288.16	995.05	904.46	90.59	10.984	
10,400.00	7,692.00	10,477.10	7,834.00	46.50	47.45	98.15	2,094.80	-287.85	995.05	901.74	93.31	10.663	
10,500.00	7,692.00	10,577.10	7,834.00	47.86	48.85	98.15	2,194.80	-287.55	995.05	898.99	96.06	10.359	
10,600.00	7,692.00	10,677.10	7,834.00	49.24	50.25	98.15	2,294.80	-287.25	995.06	896.22	98.83	10.068	
10,700.00	7,692.00	10,777.10	7,834.00	50.62	51.67	98.15	2,394.80	-286.95	995.06	893.44	101.62	9.792	
10,800.00	7,692.00	10,877.10	7,834.00	52.02	53.09	98.15	2,494.80	-286.65	995.06	890.63	104.44	9.528	
10,900.00	7,692.00	10,977.10	7,834.00	53.43	54.53	98.15	2,594.80	-286.35	995.06	887.80	107.27	9.277	
11,000.00	7,692.00	11,077.10	7,834.00	54.85	55.97	98.15	2,694.80	-286.05	995.07	884.95	110.11	9.037	
11,100.00	7,692.00	11,177.10	7,834.00	56.27	57.41	98.15	2,794.79	-285.75	995.07	882.10	112.97	8.808	
11,200.00	7,692.00	11,277.10	7,834.00	57.71	58.87	98.15	2,894.79	-285.45	995.07	879.22	115.85	8.589	
11,300.00	7,692.00	11,377.10	7,834.00	59.15	60.33	98.15	2,994.79	-285.15	995.07	876.34	118.74	8.380	
11,400.00	7,692.00	11,477.10	7,834.00	60.59	61.80	98.15	3,094.79	-284.85	995.08	873.44	121.64	8.181	
11,500.00	7,692.00	11,577.10	7,834.00	62.05	63.27	98.15	3,194.79	-284.55	995.08	870.53	124.55	7.989	
11,600.00	7,692.00	11,677.10	7,834.00	63.51	64.75	98.15	3,294.79	-284.25	995.08	867.61	127.48	7.806	
11,700.00	7,692.00	11,777.10	7,834.00	64.97	66.23	98.15	3,394.79	-283.94	995.08	864.67	130.41	7.630	
11,800.00	7,692.00	11,877.10	7,834.00	66.44	67.72	98.15	3,494.79	-283.64	995.09	861.73	133.35	7.462	
11,900.00	7,692.00	11,977.10	7,834.00	67.92	69.21	98.15	3,594.79	-283.34	995.09	858.79	136.30	7.301	
12,000.00	7,692.00	12,077.10	7,834.00	69.40	70.71	98.15	3,694.79	-283.04	995.09	855.83	139.26	7.145	
12,100.00	7,692.00	12,177.10	7,834.00	70.88	72.20	98.15	3,794.79	-282.74	995.09	852.86	142.23	6.996	
12,200.00	7,692.00	12,277.10	7,834.00	72.37	73.71	98.15	3,894.79	-282.44	995.10	849.89	145.20	6.853	
12,300.00	7,692.00	12,377.10	7,834.00	73.86	75.21	98.15	3,994.79	-282.14	995.10	846.91	148.18	6.715	
12,400.00	7,692.00	12,477.10	7,834.00	75.35	76.72	98.15	4,094.79	-281.84	995.10	843.93	151.17	6.583	
12,500.00	7,692.00	12,577.10	7,834.00	76.85	78.23	98.15	4,194.79	-281.54	995.10	840.94	154.16	6.455	
12,600.00	7,692.00	12,677.10	7,834.00	78.35	79.74	98.15	4,294.79	-281.24	995.10	837.94	157.16	6.332	
12,601.01	7,692.00	12,678.12	7,834.00	78.37	79.76	98.15	4,295.80	-281.23	995.10	837.91	157.19	6.330	
12,647.07	7,692.00	12,714.36	7,834.00	79.06	80.31	98.15	4,332.04	-281.12	995.15	836.85	158.31	6.286 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3G-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	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)					
0.00	0.00	1.00	1.00	0.00	0.00	90.36	-0.38	60.00	60.00	59.86	0.14	440.736	
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.38	60.00	60.00	59.51	0.49	123.660 CC, ES	
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.38	60.00	60.00	60.62	0.84	73.565	
300.00	299.98	300.98	300.98	0.42	0.43	-146.94	-0.38	60.00	61.46	64.71	1.19	55.401	
400.00	399.84	400.84	400.84	0.60	0.60	-149.38	-0.38	60.00	65.90	71.69	1.55	47.396	
500.00	499.45	500.89	500.87	0.78	0.78	-151.41	-2.15	59.87	73.24	81.21	1.90	43.680	
600.00	598.70	600.84	600.68	0.96	0.95	-151.76	-7.40	59.49	83.11	93.21	2.26	42.189	
700.00	697.47	700.57	700.02	1.15	1.12	-150.92	-16.09	58.87	95.47	107.79	2.63	42.062	
800.00	795.62	800.32	798.44	1.33	1.30	-149.55	-27.72	58.03	110.42	123.95	2.98	42.525	
900.00	893.41	898.30	896.32	1.52	1.47	-148.88	-39.71	57.17	126.93	140.11	3.35	42.769	
1,000.00	991.20	1,003.09	994.20	1.70	1.66	-148.36	-51.70	56.31	143.47	156.29	3.72	43.030	
1,100.00	1,088.98	1,104.47	1,092.08	1.89	1.84	-147.95	-63.69	55.45	160.01	172.48	4.08	43.242	
1,200.00	1,186.77	1,205.85	1,189.96	2.07	2.02	-147.62	-75.68	54.58	176.56	188.67	4.45	43.416	
1,300.00	1,284.55	1,307.24	1,287.85	2.26	2.20	-147.35	-87.68	53.72	193.11	204.86	4.81	43.563	
1,400.00	1,382.34	1,408.62	1,385.73	2.45	2.38	-147.12	-99.67	52.86	209.67	221.09	5.14	43.989	
1,500.00	1,480.12	1,490.00	1,483.61	2.63	2.52	-146.92	-111.66	52.00	226.23	237.29	5.50	44.117	
1,600.00	1,577.91	1,588.61	1,581.49	2.82	2.70	-146.75	-123.65	51.14	242.79	253.49	5.86	44.228	
1,700.00	1,675.70	1,687.23	1,679.37	3.01	2.88	-146.60	-135.64	50.27	259.36	269.70	6.22	44.326	
1,800.00	1,773.48	1,785.85	1,777.25	3.19	3.05	-146.47	-147.63	49.41	275.92	285.91	6.59	44.413	
1,900.00	1,871.27	1,884.46	1,875.13	3.38	3.23	-146.35	-159.62	48.55	292.49	302.11	6.95	44.490	
2,000.00	1,969.05	1,983.08	1,973.01	3.56	3.41	-146.25	-171.61	47.69	309.06	318.44	7.18	45.332	
2,100.00	2,066.84	2,081.70	2,070.89	3.68	3.53	-146.15	-183.60	46.82	325.63	334.91	7.29	46.962	
2,200.00	2,164.62	2,180.31	2,168.77	3.73	3.58	-146.07	-195.60	45.96	342.20	351.31	7.46	48.081	
2,300.00	2,262.41	2,278.93	2,266.65	3.85	3.65	-145.99	-207.59	45.10	358.77	367.62	7.72	48.621	
2,400.00	2,360.19	2,377.54	2,364.54	4.03	3.76	-145.92	-219.58	44.24	375.34	383.86	8.05	48.668	
2,500.00	2,457.98	2,476.16	2,462.42	4.26	3.92	-145.86	-231.57	43.38	391.91	400.03	8.45	48.331	
2,600.00	2,555.77	2,574.78	2,560.30	4.52	4.11	-145.80	-243.56	42.51	408.48	416.15	8.91	47.714	
2,700.00	2,653.55	2,673.39	2,658.18	4.82	4.33	-145.75	-255.55	41.65	425.06	432.21	9.41	46.913	
2,800.00	2,751.34	2,772.01	2,756.06	5.15	4.57	-145.70	-267.54	40.79	441.63	448.24	9.96	45.999	
2,900.00	2,849.12	2,870.63	2,853.94	5.50	4.84	-145.65	-279.53	39.93	458.20	464.23	10.54	45.031	
3,000.00	2,946.91	2,969.24	2,951.82	5.87	5.12	-145.61	-291.52	39.06	474.77	480.19	11.16	44.046	
3,100.00	3,044.69	3,067.86	3,049.70	6.26	5.41	-145.57	-303.52	38.20	491.35	496.13	11.79	43.071	
3,200.00	3,142.48	3,166.48	3,147.58	6.66	5.72	-145.53	-315.51	37.34	507.92	512.04	12.45	42.125	
3,300.00	3,240.27	3,265.09	3,245.46	7.07	6.04	-145.50	-327.50	36.48	524.50	527.94	13.13	41.217	
3,400.00	3,338.05	3,363.71	3,343.35	7.49	6.37	-145.46	-339.49	35.62	541.07	543.82	13.82	40.353	
3,500.00	3,435.84	3,462.33	3,441.23	7.91	6.71	-145.43	-351.48	34.75	557.64	559.69	14.52	39.535	
3,600.00	3,533.62	3,560.94	3,539.11	8.35	7.05	-145.40	-363.47	33.89	574.22	575.55	15.24	38.764	
3,700.00	3,631.41	3,659.56	3,636.99	8.78	7.40	-145.37	-375.46	33.03	590.79	591.40	15.97	38.038	
3,800.00	3,729.19	3,758.18	3,734.87	9.23	7.75	-145.35	-387.45	32.17	607.37	607.24	16.70	37.357	
3,900.00	3,826.98	3,856.79	3,832.75	9.67	8.11	-145.32	-399.45	31.30	623.94	623.07	17.44	36.717	
4,000.00	3,924.77	3,955.41	3,930.63	10.12	8.47	-145.30	-411.44	30.44	640.52	638.90	18.19	35.552	
4,100.00	4,022.55	4,054.02	4,028.51	10.58	8.83	-145.28	-423.43	29.58	657.09	654.72	19.71	35.022	
4,200.00	4,120.34	4,152.64	4,126.39	11.03	9.20	-145.26	-435.42	28.72	673.67	670.53	20.47	34.524	
4,300.00	4,218.12	4,251.26	4,224.27	11.49	9.57	-145.24	-447.41	27.86	690.24	686.34	21.24	34.055	
4,400.00	4,315.91	4,349.87	4,322.15	11.95	9.94	-145.22	-459.40	26.99	706.82	702.15	22.01	33.613	
4,500.00	4,413.69	4,448.49	4,420.04	12.41	10.31	-145.20	-471.39	26.13	723.39	717.95	22.79	33.196	
4,600.00	4,511.48	4,547.11	4,517.92	12.88	10.69	-145.18	-483.38	25.27	739.97	733.75	23.57	32.803	
4,700.00	4,609.27	4,645.72	4,615.80	13.34	11.07	-145.16	-495.37	24.41	756.54	749.55	24.35	32.431	
4,800.00	4,707.05	4,744.34	4,713.68	13.81	11.44	-145.15	-507.37	23.54	773.12	765.34	25.13	32.079	
4,900.00	4,804.84	4,842.96	4,811.56	14.27	11.82	-145.13	-519.36	22.68	789.69	781.14	25.92	31.746	
5,000.00	4,902.62	4,941.57	4,909.44	14.74	12.20	-145.12	-531.35	21.82	806.27				
5,100.00	5,000.41	5,040.19	5,007.32	15.21	12.59	-145.10	-543.34	20.96	822.85				

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3G-18H-N167 - OH - PLAN #1											Offset Site Error: 0.00 usft		
Survey Program: 0-VESSI_GYROFLEX, 2001-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	
5,200.00	5,098.19	5,138.81	5,105.20	15.68	12.97	-145.09	-555.33	20.10	839.42	812.71	26.71	31.429	
5,300.00	5,195.98	5,237.42	5,203.08	16.15	13.35	-145.08	-567.32	19.23	856.00	828.50	27.50	31.129	
5,400.00	5,293.77	5,336.04	5,300.96	16.63	13.74	-145.07	-579.31	18.37	872.57	844.28	28.29	30.844	
5,500.00	5,391.55	5,434.66	5,398.84	17.10	14.12	-145.05	-591.30	17.51	889.15	860.07	29.08	30.573	
5,600.00	5,489.34	5,533.27	5,496.73	17.57	14.51	-145.04	-603.29	16.65	905.72	875.85	29.88	30.314	
5,700.00	5,587.12	5,631.89	5,594.61	18.04	14.90	-145.03	-615.29	15.79	922.30	891.63	30.67	30.068	
5,800.00	5,684.91	5,730.50	5,692.49	18.52	15.29	-145.02	-627.28	14.92	938.88	907.41	31.47	29.833	
5,900.00	5,782.69	5,829.12	5,790.37	18.99	15.67	-145.01	-639.27	14.06	955.45	923.18	32.27	29.609	
6,000.00	5,880.48	5,927.74	5,888.25	19.47	16.06	-145.00	-651.26	13.20	972.03	938.96	33.07	29.394	
6,100.00	5,978.27	6,026.35	5,986.13	19.95	16.45	-144.99	-663.25	12.34	988.60	954.74	33.87	29.189	
6,200.00	6,076.05	6,124.97	6,084.01	20.42	16.84	-144.98	-675.24	11.47	1,005.18	970.51	34.67	28.992	
6,300.00	6,173.84	6,223.59	6,181.89	20.90	17.23	-144.97	-687.23	10.61	1,021.76	986.28	35.47	28.804	
6,400.00	6,271.62	6,322.20	6,279.77	21.37	17.62	-144.96	-699.22	9.75	1,038.33	1,002.06	36.28	28.623	
6,500.00	6,369.41	6,420.82	6,377.65	21.85	18.01	-144.95	-711.21	8.89	1,054.91	1,017.83	37.08	28.449	
6,600.00	6,467.19	6,519.44	6,475.53	22.33	18.40	-144.95	-723.21	8.03	1,071.49	1,033.60	37.88	28.283	
6,700.00	6,564.98	6,618.05	6,573.42	22.81	18.79	-144.94	-735.20	7.16	1,088.06	1,049.37	38.69	28.122	
6,800.00	6,662.77	6,716.67	6,671.30	23.28	19.19	-144.93	-747.19	6.30	1,104.64	1,065.14	39.50	27.968	
6,900.00	6,760.55	6,815.29	6,769.18	23.76	19.58	-144.92	-759.18	5.44	1,121.21	1,080.91	40.30	27.820	
7,000.00	6,858.34	6,913.90	6,867.06	24.24	19.97	-144.91	-771.17	4.58	1,137.79	1,096.68	41.11	27.677	
7,100.00	6,956.30	7,012.40	6,965.18	24.71	20.33	-165.20	-779.05	3.78	1,154.42	1,112.56	41.86	27.577	
7,200.00	7,054.64	7,110.47	7,063.02	25.09	20.59	151.22	-773.79	3.20	1,171.29	1,128.87	42.42	27.609	
7,300.00	7,151.66	7,208.19	7,158.91	25.39	20.81	125.40	-755.31	2.85	1,188.13	1,145.28	42.85	27.728	
7,400.00	7,245.47	7,305.70	7,251.19	25.60	20.98	112.58	-724.05	2.73	1,204.59	1,161.42	43.17	27.901	
7,500.00	7,334.25	7,403.11	7,338.29	25.74	21.13	105.22	-680.60	2.85	1,220.37	1,176.95	43.42	28.104	
7,600.00	7,416.27	7,500.53	7,418.70	25.83	21.27	100.43	-625.74	3.20	1,235.15	1,191.52	43.63	28.309	
7,700.00	7,489.93	7,598.04	7,491.00	25.85	21.41	97.05	-560.42	3.78	1,248.64	1,204.81	43.84	28.484	
7,800.00	7,553.80	7,695.72	7,553.85	25.83	21.57	94.57	-485.75	4.57	1,260.59	1,216.51	44.08	28.598	
7,900.00	7,606.64	7,793.60	7,606.07	25.77	21.78	92.74	-403.07	5.57	1,270.75	1,226.35	44.40	28.620	
8,000.00	7,647.41	7,891.70	7,646.61	25.67	22.04	91.42	-313.83	6.76	1,278.94	1,234.11	44.83	28.527	
8,100.00	7,675.32	7,990.00	7,674.63	25.56	22.37	90.54	-219.69	8.11	1,285.00	1,239.60	45.40	28.305	
8,200.00	7,689.84	8,088.50	7,689.53	25.46	22.76	90.06	-122.42	9.60	1,288.80	1,242.69	46.10	27.955	
8,300.00	7,692.00	8,187.65	7,692.00	25.38	23.23	89.96	-23.34	11.20	1,290.50	1,243.55	46.95	27.488	
8,400.00	7,692.00	8,287.65	7,692.00	25.41	23.79	89.96	76.63	12.84	1,291.84	1,243.86	47.98	26.925	
8,500.00	7,692.00	8,387.64	7,692.00	25.67	24.44	89.96	176.61	14.47	1,293.18	1,243.99	49.19	26.292	
8,600.00	7,692.00	8,487.63	7,692.00	26.21	25.17	89.96	276.59	16.11	1,294.51	1,243.95	50.56	25.603	
8,700.00	7,692.00	8,587.62	7,692.00	26.93	25.97	89.96	376.57	17.74	1,295.85	1,243.76	52.09	24.877	
8,800.00	7,692.00	8,687.61	7,692.00	27.75	26.84	89.96	476.55	19.38	1,297.19	1,243.43	53.76	24.129	
8,900.00	7,692.00	8,787.60	7,692.00	28.64	27.77	89.96	576.52	21.02	1,298.53	1,242.97	55.56	23.371	
9,000.00	7,692.00	8,887.59	7,692.00	29.59	28.76	89.96	676.50	22.65	1,299.86	1,242.39	57.48	22.616	
9,100.00	7,692.00	8,987.58	7,692.00	30.59	29.80	89.96	776.48	24.29	1,301.20	1,241.70	59.50	21.870	
9,200.00	7,692.00	9,087.57	7,692.00	31.63	30.88	89.96	876.46	25.92	1,302.54	1,240.93	61.61	21.140	
9,300.00	7,692.00	9,187.57	7,692.00	32.72	32.01	89.96	976.43	27.56	1,303.88	1,240.06	63.82	20.432	
9,400.00	7,692.00	9,287.56	7,692.00	33.84	33.17	89.96	1,076.41	29.19	1,305.22	1,239.12	66.09	19.748	
9,500.00	7,692.00	9,387.55	7,692.00	35.00	34.36	89.96	1,176.39	30.83	1,306.55	1,238.11	68.44	19.090	
9,600.00	7,692.00	9,487.54	7,692.00	36.19	35.58	89.96	1,276.37	32.47	1,307.89	1,237.04	70.85	18.460	
9,700.00	7,692.00	9,587.53	7,692.00	37.40	36.83	89.96	1,376.34	34.10	1,309.23	1,235.91	73.32	17.857	
9,800.00	7,692.00	9,687.52	7,692.00	38.64	38.10	89.96	1,476.32	35.74	1,310.57	1,234.73	75.83	17.282	
9,900.00	7,692.00	9,787.51	7,692.00	39.90	39.40	89.96	1,576.30	37.37	1,311.90	1,233.51	78.40	16.734	
10,000.00	7,692.00	9,887.50	7,692.00	41.19	40.71	89.96	1,676.28	39.01	1,313.24	1,232.24	81.00	16.212	
10,100.00	7,692.00	9,987.49	7,692.00	42.49	42.04	89.96	1,776.26	40.65	1,314.58	1,230.94	83.64	15.716	
10,200.00	7,692.00	10,087.48	7,692.00	43.81	43.39	89.96	1,876.23	42.28	1,315.92	1,229.60	86.32	15.245	
10,300.00	7,692.00	10,187.48	7,692.00	45.14	44.75	89.96	1,976.21	43.92	1,317.25	1,228.23	89.03	14.796	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3G-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM												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)		Between Centres (usft)	Between Ellipses (usft)					
10,400.00	7,692.00	10,287.47	7,692.00	46.50	46.13	89.96	2,076.19	45.55	1,318.59	1,226.83	91.76	14.369	
10,500.00	7,692.00	10,387.46	7,692.00	47.86	47.52	89.96	2,176.17	47.19	1,319.93	1,225.41	94.53	13.964	
10,600.00	7,692.00	10,487.45	7,692.00	49.24	48.91	89.96	2,276.14	48.83	1,321.27	1,223.96	97.31	13.578	
10,700.00	7,692.00	10,587.44	7,692.00	50.62	50.32	89.96	2,376.12	50.46	1,322.61	1,222.49	100.12	13.211	
10,800.00	7,692.00	10,687.43	7,692.00	52.02	51.74	89.96	2,476.10	52.10	1,323.94	1,221.00	102.94	12.861	
10,900.00	7,692.00	10,787.42	7,692.00	53.43	53.17	89.96	2,576.08	53.73	1,325.28	1,219.49	105.79	12.528	
11,000.00	7,692.00	10,887.41	7,692.00	54.85	54.60	89.96	2,676.05	55.37	1,326.62	1,217.97	108.65	12.210	
11,100.00	7,692.00	10,987.40	7,692.00	56.27	56.04	89.96	2,776.03	57.00	1,327.96	1,216.43	111.53	11.907	
11,200.00	7,692.00	11,087.40	7,692.00	57.71	57.49	89.96	2,876.01	58.64	1,329.29	1,214.87	114.42	11.618	
11,300.00	7,692.00	11,187.39	7,692.00	59.15	58.95	89.96	2,975.99	60.28	1,330.63	1,213.30	117.33	11.341	
11,400.00	7,692.00	11,287.38	7,692.00	60.59	60.41	89.96	3,075.96	61.91	1,331.97	1,211.72	120.24	11.077	
11,500.00	7,692.00	11,387.37	7,692.00	62.05	61.87	89.96	3,175.94	63.55	1,333.31	1,210.13	123.17	10.825	
11,600.00	7,692.00	11,487.36	7,692.00	63.51	63.34	89.96	3,275.92	65.18	1,334.64	1,208.53	126.11	10.583	
11,700.00	7,692.00	11,587.35	7,692.00	64.97	64.82	89.96	3,375.90	66.82	1,335.98	1,206.92	129.06	10.351	
11,800.00	7,692.00	11,687.34	7,692.00	66.44	66.30	89.96	3,475.88	68.46	1,337.32	1,205.30	132.02	10.129	
11,900.00	7,692.00	11,792.80	7,692.00	67.92	67.87	89.96	3,581.32	70.16	1,338.64	1,203.54	135.11	9.908	
12,000.00	7,692.00	11,980.35	7,692.00	69.40	70.70	89.96	3,768.80	66.32	1,336.30	1,196.54	139.76	9.562	
12,100.00	7,692.00	12,112.54	7,692.00	70.88	72.75	89.96	3,900.65	56.93	1,328.71	1,185.43	143.28	9.273	
12,200.00	7,692.00	12,212.22	7,692.00	72.37	74.30	89.96	4,000.03	49.21	1,320.67	1,174.34	146.33	9.025	
12,300.00	7,692.00	12,311.89	7,692.00	73.86	75.86	89.96	4,099.40	41.49	1,312.63	1,163.24	149.39	8.787	
12,400.00	7,692.00	12,411.57	7,692.00	75.35	77.41	89.96	4,198.78	33.77	1,304.59	1,152.13	152.46	8.557	
12,500.00	7,692.00	12,511.24	7,692.00	76.85	78.94	89.96	4,298.16	26.05	1,296.54	1,141.05	155.49	8.338	
12,600.00	7,692.00	12,541.58	7,692.00	78.35	79.33	89.96	4,328.40	23.71	1,290.37	1,133.04	157.32	8.202	
12,634.50	7,692.00	12,541.58	7,692.00	78.87	79.33	89.96	4,328.40	23.71	1,289.91	1,132.24	157.67	8.181	
12,647.07	7,692.00	12,541.58	7,692.00	79.06	79.33	89.96	4,328.40	23.71	1,289.97	1,132.20	157.77	8.176 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3H-18H-N167 - OH - PLAN #1													Offset Site Error: 0.00 usft	
Survey Program: 0-VESSI_GYROFLEX, 2001-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	90.36	-0.44	70.00	70.00					
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.44	70.00	70.00	69.86	0.14	514.192		
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.44	70.00	70.00	69.51	0.49	144.270	CC, ES	
300.00	299.98	300.22	300.20	0.42	0.42	-145.47	-2.12	70.51	71.98	71.14	0.84	86.120		
400.00	399.84	399.20	399.04	0.60	0.60	-143.94	-7.06	72.03	77.93	76.73	1.19	65.280		
500.00	499.45	497.66	497.12	0.78	0.77	-141.85	-15.22	74.53	87.91	86.35	1.56	56.528		
600.00	598.70	604.15	594.62	0.96	0.97	-139.71	-26.35	77.94	101.88	99.95	1.93	52.781		
700.00	697.47	705.61	692.37	1.15	1.15	-138.80	-38.20	81.57	118.83	116.53	2.30	51.747		
800.00	795.62	792.45	789.66	1.33	1.30	-139.01	-50.00	85.19	138.37	135.74	2.64	52.468		
900.00	893.41	909.79	886.64	1.52	1.51	-139.79	-61.76	88.79	159.33	156.30	3.03	52.573		
1,000.00	991.20	987.97	983.62	1.70	1.65	-140.41	-73.51	92.40	180.31	176.96	3.35	53.805		
1,100.00	1,088.98	1,085.72	1,080.60	1.89	1.82	-140.89	-85.27	96.00	201.30	197.59	3.71	54.298		
1,200.00	1,186.77	1,183.48	1,177.58	2.07	2.00	-141.29	-97.03	99.61	222.31	218.24	4.06	54.699		
1,300.00	1,284.55	1,281.24	1,274.57	2.26	2.18	-141.61	-108.79	103.21	243.32	238.90	4.42	55.033		
1,400.00	1,382.34	1,379.00	1,371.55	2.45	2.35	-141.89	-120.55	106.82	264.34	259.56	4.78	55.313		
1,500.00	1,480.12	1,476.76	1,468.53	2.63	2.53	-142.12	-132.30	110.42	285.37	280.23	5.14	55.552		
1,600.00	1,577.91	1,574.52	1,565.51	2.82	2.71	-142.32	-144.06	114.02	306.40	300.90	5.50	55.759		
1,700.00	1,675.70	1,672.28	1,662.49	3.01	2.88	-142.50	-155.82	117.63	327.43	321.58	5.85	55.939		
1,800.00	1,773.48	1,770.03	1,759.47	3.19	3.06	-142.65	-167.58	121.23	348.47	342.25	6.21	56.097		
1,900.00	1,871.27	1,867.79	1,856.46	3.38	3.24	-142.79	-179.34	124.84	369.50	362.93	6.57	56.237		
2,000.00	1,969.05	1,965.55	1,953.44	3.56	3.41	-142.91	-191.09	128.44	390.54	383.61	6.93	56.362		
2,100.00	2,066.84	2,063.31	2,050.42	3.68	3.54	-143.02	-202.85	132.05	411.58	404.40	7.19	57.262		
2,200.00	2,164.62	2,161.07	2,147.40	3.73	3.61	-143.12	-214.61	135.65	432.62	425.32	7.30	59.249		
2,300.00	2,262.41	2,258.83	2,244.38	3.85	3.67	-143.21	-226.37	139.26	453.67	446.20	7.47	60.742		
2,400.00	2,360.19	2,356.59	2,341.37	4.03	3.76	-143.29	-238.13	142.86	474.71	466.99	7.72	61.507		
2,500.00	2,457.98	2,454.34	2,438.35	4.26	3.90	-143.37	-249.88	146.46	495.76	487.71	8.04	61.644		
2,600.00	2,555.77	2,552.10	2,535.33	4.52	4.09	-143.44	-261.64	150.07	516.80	508.37	8.43	61.289		
2,700.00	2,653.55	2,649.86	2,632.31	4.82	4.30	-143.50	-273.40	153.67	537.85	528.97	8.88	60.570		
2,800.00	2,751.34	2,747.62	2,729.29	5.15	4.54	-143.56	-285.16	157.28	558.90	549.52	9.38	59.606		
2,900.00	2,849.12	2,845.38	2,826.28	5.50	4.79	-143.61	-296.91	160.88	579.94	570.03	9.92	58.491		
3,000.00	2,946.91	2,943.14	2,923.26	5.87	5.07	-143.66	-308.67	164.49	600.99	590.50	10.49	57.297		
3,100.00	3,044.69	3,040.90	3,020.24	6.26	5.36	-143.71	-320.43	168.09	622.04	610.95	11.09	56.076		
3,200.00	3,142.48	3,138.65	3,117.22	6.66	5.67	-143.75	-332.19	171.69	643.09	631.37	11.72	54.862		
3,300.00	3,240.27	3,236.41	3,214.20	7.07	5.98	-143.80	-343.95	175.30	664.14	651.77	12.37	53.679		
3,400.00	3,338.05	3,334.17	3,311.19	7.49	6.31	-143.83	-355.70	178.90	685.19	672.15	13.04	52.540		
3,500.00	3,435.84	3,431.93	3,408.17	7.91	6.64	-143.87	-367.46	182.51	706.24	692.51	13.73	51.454		
3,600.00	3,533.62	3,529.69	3,505.15	8.35	6.98	-143.90	-379.22	186.11	727.29	712.86	14.42	50.425		
3,700.00	3,631.41	3,627.45	3,602.13	8.78	7.33	-143.94	-390.98	189.72	748.34	733.20	15.13	49.453		
3,800.00	3,729.19	3,725.20	3,699.11	9.23	7.68	-143.97	-402.74	193.32	769.39	753.54	15.85	48.538		
3,900.00	3,826.98	3,822.96	3,796.09	9.67	8.03	-144.00	-414.49	196.92	790.44	773.86	16.58	47.678		
4,000.00	3,924.77	3,920.72	3,893.08	10.12	8.39	-144.02	-426.25	200.53	811.49	794.17	17.31	46.869		
4,100.00	4,022.55	4,018.48	3,990.06	10.58	8.75	-144.05	-438.01	204.13	832.54	814.48	18.06	46.109		
4,200.00	4,120.34	4,116.24	4,087.04	11.03	9.12	-144.08	-449.77	207.74	853.59	834.79	18.80	45.395		
4,300.00	4,218.12	4,214.00	4,184.02	11.49	9.49	-144.10	-461.52	211.34	874.64	855.09	19.56	44.724		
4,400.00	4,315.91	4,311.76	4,281.00	11.95	9.86	-144.12	-473.28	214.95	895.69	875.38	20.31	44.092		
4,500.00	4,413.69	4,409.51	4,377.99	12.41	10.23	-144.14	-485.04	218.55	916.74	895.67	21.08	43.498		
4,600.00	4,511.48	4,507.27	4,474.97	12.88	10.60	-144.16	-496.80	222.16	937.80	915.95	21.84	42.937		
4,700.00	4,609.27	4,605.03	4,571.95	13.34	10.98	-144.18	-508.56	225.76	958.85	936.24	22.61	42.409		
4,800.00	4,707.05	4,702.79	4,668.93	13.81	11.36	-144.20	-520.31	229.36	979.90	956.52	23.38	41.909		
4,900.00	4,804.84	4,800.55	4,765.91	14.27	11.74	-144.22	-532.07	232.97	1,000.95	976.80	24.16	41.437		
5,000.00	4,902.62	4,901.69	4,862.90	14.74	12.13	-144.24	-543.83	236.57	1,022.00	997.06	24.95	40.969		
5,100.00	5,000.41	5,003.93	4,959.88	15.21	12.53	-144.25	-555.59	240.18	1,043.06	1,017.31	25.74	40.519		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3H-18H-N167 - OH - PLAN #1											Offset Site Error: 0.00 usft		
Survey Program: 0-VESSI_GYROFLEX, 2001-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
5,200.00	5,098.19	5,093.82	5,056.86	15.68	12.88	-144.27	-567.35	243.78	1,064.11	1,037.61	26.49	40.166	
5,300.00	5,195.98	5,208.42	5,153.84	16.15	13.33	-144.28	-579.10	247.39	1,085.16	1,057.82	27.34	39.689	
5,400.00	5,293.77	5,289.34	5,250.82	16.63	13.65	-144.30	-590.86	250.99	1,106.21	1,078.15	28.06	39.422	
5,500.00	5,391.55	5,387.10	5,347.80	17.10	14.03	-144.31	-602.62	254.59	1,127.26	1,098.42	28.85	39.078	
5,600.00	5,489.34	5,484.86	5,444.79	17.57	14.42	-144.33	-614.38	258.20	1,148.32	1,118.68	29.63	38.749	
5,700.00	5,587.12	5,582.62	5,541.77	18.04	14.80	-144.34	-626.13	261.80	1,169.37	1,138.95	30.42	38.436	
5,800.00	5,684.91	5,680.37	5,638.75	18.52	15.19	-144.35	-637.89	265.41	1,190.42	1,159.21	31.21	38.137	
5,900.00	5,782.69	5,778.13	5,735.73	18.99	15.58	-144.37	-649.65	269.01	1,211.47	1,179.47	32.01	37.852	
6,000.00	5,880.48	5,875.89	5,832.71	19.47	15.96	-144.38	-661.41	272.62	1,232.53	1,199.73	32.80	37.579	
6,100.00	5,978.27	5,973.65	5,929.70	19.95	16.35	-144.39	-673.17	276.22	1,253.58	1,219.99	33.59	37.318	
6,200.00	6,076.05	6,071.41	6,026.68	20.42	16.74	-144.40	-684.92	279.83	1,274.63	1,240.25	34.39	37.068	
6,300.00	6,173.84	6,169.17	6,123.66	20.90	17.13	-144.41	-696.68	283.43	1,295.69	1,260.50	35.18	36.828	
6,400.00	6,271.62	6,266.93	6,220.64	21.37	17.52	-144.42	-708.44	287.03	1,316.74	1,280.76	35.98	36.598	
6,500.00	6,369.41	6,364.68	6,317.62	21.85	17.91	-144.43	-720.20	290.64	1,337.79	1,301.02	36.78	36.377	
6,600.00	6,467.19	6,462.44	6,414.61	22.33	18.30	-144.44	-731.96	294.24	1,358.84	1,321.27	37.57	36.165	
6,700.00	6,564.98	6,560.20	6,511.59	22.81	18.69	-144.45	-743.71	297.85	1,379.90	1,341.53	38.37	35.961	
6,800.00	6,662.77	6,657.96	6,608.57	23.28	19.08	-144.46	-755.47	301.45	1,400.95	1,361.78	39.17	35.765	
6,900.00	6,760.55	6,755.72	6,705.55	23.76	19.47	-144.47	-767.23	305.06	1,422.00	1,382.03	39.97	35.576	
7,000.00	6,858.34	6,853.68	6,802.74	24.24	19.86	-144.48	-778.98	308.67	1,443.06	1,402.28	40.77	35.394	
7,100.00	6,956.30	6,954.06	6,902.88	24.71	20.20	-144.49	-783.14	312.41	1,464.07	1,422.57	41.50	35.279	
7,200.00	7,054.64	7,053.37	7,001.57	25.09	20.45	-144.50	-773.43	316.15	1,485.18	1,443.14	42.04	35.328	
7,300.00	7,151.66	7,151.84	7,097.16	25.39	20.65	-144.51	-750.42	319.80	1,506.04	1,463.59	42.45	35.482	
7,400.00	7,245.47	7,249.63	7,188.09	25.60	20.82	-144.52	-714.81	323.32	1,526.24	1,483.49	42.75	35.703	
7,500.00	7,334.25	7,346.90	7,272.88	25.74	20.96	-144.53	-667.42	326.64	1,545.37	1,502.39	42.98	35.956	
7,600.00	7,416.27	7,443.78	7,350.19	25.83	21.08	-144.54	-609.24	329.72	1,563.06	1,519.89	43.17	36.204	
7,700.00	7,489.93	7,540.37	7,418.76	25.85	21.22	-144.55	-541.37	332.49	1,578.96	1,535.59	43.37	36.406	
7,800.00	7,553.80	7,636.75	7,477.47	25.83	21.37	-144.56	-465.07	334.92	1,592.76	1,549.15	43.61	36.520	
7,900.00	7,606.64	7,732.95	7,525.34	25.77	21.57	-144.57	-381.73	336.97	1,604.18	1,560.24	43.94	36.510	
8,000.00	7,647.41	7,828.99	7,561.58	25.67	21.83	-144.58	-292.88	338.59	1,613.01	1,568.63	44.38	36.349	
8,100.00	7,675.32	7,924.86	7,585.58	25.56	22.16	-144.59	-200.15	339.77	1,619.07	1,574.12	44.95	36.022	
8,200.00	7,689.84	8,020.52	7,597.00	25.46	22.56	-144.60	-105.25	340.48	1,622.24	1,576.59	45.65	35.534	
8,300.00	7,692.00	8,118.73	7,598.00	25.38	23.04	-144.61	-7.06	340.81	1,622.73	1,576.21	46.52	34.882	
8,400.00	7,692.00	8,218.73	7,598.00	25.41	23.63	-144.62	92.94	341.11	1,622.73	1,575.15	47.58	34.107	
8,500.00	7,692.00	8,318.73	7,598.00	25.67	24.31	-144.63	192.94	341.41	1,622.73	1,573.91	48.82	33.241	
8,600.00	7,692.00	8,418.73	7,598.00	26.21	25.07	-144.64	292.94	341.71	1,622.73	1,572.51	50.22	32.310	
8,700.00	7,692.00	8,518.73	7,598.00	26.93	25.90	-144.65	392.94	342.01	1,622.73	1,570.95	51.79	31.336	
8,800.00	7,692.00	8,618.73	7,598.00	27.75	26.81	-144.66	492.94	342.30	1,622.73	1,569.24	53.49	30.339	
8,900.00	7,692.00	8,718.73	7,598.00	28.64	27.77	-144.67	592.94	342.60	1,622.73	1,567.41	55.32	29.335	
9,000.00	7,692.00	8,818.73	7,598.00	29.59	28.79	-144.68	692.94	342.90	1,622.73	1,565.47	57.26	28.339	
9,100.00	7,692.00	8,918.73	7,598.00	30.59	29.85	-144.69	792.94	343.20	1,622.73	1,563.42	59.31	27.359	
9,200.00	7,692.00	9,018.73	7,598.00	31.63	30.96	-144.70	892.94	343.50	1,622.73	1,561.28	61.46	26.405	
9,300.00	7,692.00	9,118.73	7,598.00	32.72	32.11	-144.71	992.93	343.80	1,622.73	1,559.05	63.68	25.481	
9,400.00	7,692.00	9,218.73	7,598.00	33.84	33.30	-144.72	1,092.93	344.09	1,622.73	1,556.74	65.99	24.592	
9,500.00	7,692.00	9,318.73	7,598.00	35.00	34.52	-144.73	1,192.93	344.39	1,622.73	1,554.37	68.36	23.738	
9,600.00	7,692.00	9,418.73	7,598.00	36.19	35.76	-144.74	1,292.93	344.69	1,622.73	1,551.94	70.79	22.922	
9,700.00	7,692.00	9,518.73	7,598.00	37.40	37.03	-144.75	1,392.93	344.99	1,622.73	1,549.45	73.28	22.144	
9,800.00	7,692.00	9,618.73	7,598.00	38.64	38.33	-144.76	1,492.93	345.29	1,622.73	1,546.91	75.82	21.403	
9,900.00	7,692.00	9,718.73	7,598.00	39.90	39.64	-144.77	1,592.93	345.59	1,622.73	1,544.33	78.40	20.697	
10,000.00	7,692.00	9,818.73	7,598.00	41.19	40.98	-144.78	1,692.93	345.88	1,622.73	1,541.70	81.03	20.027	
10,100.00	7,692.00	9,918.73	7,598.00	42.49	42.33	-144.79	1,792.93	346.18	1,622.73	1,539.04	83.69	19.390	
10,200.00	7,692.00	10,018.73	7,598.00	43.81	43.69	-144.80	1,892.93	346.48	1,622.73	1,536.35	86.38	18.786	
10,300.00	7,692.00	10,118.73	7,598.00	45.14	45.07	-144.81	1,992.93	346.78	1,622.73	1,533.62	89.11	18.211	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3H-18H-N167 - OH - PLAN #1										Offset Site Error:		0.00 usft	
Survey Program: 0-VESSI_GYROFLEX, 2001-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
10,400.00	7,692.00	10,218.73	7,598.00	46.50	46.46	86.64	2,092.93	347.08	1,622.73	1,530.87	91.86	17.666	
10,500.00	7,692.00	10,318.73	7,598.00	47.86	47.87	86.64	2,192.93	347.37	1,622.73	1,528.09	94.64	17.147	
10,600.00	7,692.00	10,418.73	7,598.00	49.24	49.28	86.64	2,292.93	347.67	1,622.73	1,525.29	97.44	16.654	
10,700.00	7,692.00	10,518.73	7,598.00	50.62	50.71	86.64	2,392.93	347.97	1,622.73	1,522.47	100.26	16.185	
10,800.00	7,692.00	10,618.73	7,598.00	52.02	52.14	86.64	2,492.93	348.27	1,622.73	1,519.63	103.10	15.739	
10,900.00	7,692.00	10,718.73	7,598.00	53.43	53.58	86.64	2,592.93	348.57	1,622.73	1,516.77	105.96	15.315	
11,000.00	7,692.00	10,818.73	7,598.00	54.85	55.03	86.64	2,692.93	348.87	1,622.73	1,513.89	108.84	14.910	
11,100.00	7,692.00	10,918.73	7,598.00	56.27	56.49	86.64	2,792.93	349.16	1,622.73	1,511.00	111.73	14.524	
11,200.00	7,692.00	11,018.73	7,598.00	57.71	57.95	86.64	2,892.93	349.46	1,622.73	1,508.10	114.63	14.156	
11,300.00	7,692.00	11,118.73	7,598.00	59.15	59.42	86.64	2,992.93	349.76	1,622.73	1,505.18	117.55	13.805	
11,400.00	7,692.00	11,218.73	7,598.00	60.59	60.90	86.64	3,092.93	350.06	1,622.73	1,502.25	120.48	13.469	
11,500.00	7,692.00	11,318.73	7,598.00	62.05	62.38	86.64	3,192.92	350.36	1,622.73	1,499.31	123.42	13.148	
11,600.00	7,692.00	11,418.73	7,598.00	63.51	63.86	86.64	3,292.92	350.65	1,622.73	1,496.35	126.37	12.841	
11,700.00	7,692.00	11,518.73	7,598.00	64.97	65.35	86.64	3,392.92	350.95	1,622.73	1,493.39	129.33	12.547	
11,800.00	7,692.00	11,618.73	7,598.00	66.44	66.84	86.64	3,492.92	351.25	1,622.73	1,490.42	132.30	12.265	
11,900.00	7,692.00	11,718.73	7,598.00	67.92	68.34	86.64	3,592.92	351.55	1,622.73	1,487.44	135.28	11.995	
12,000.00	7,692.00	11,818.73	7,598.00	69.40	69.84	86.64	3,692.92	351.85	1,622.73	1,484.46	138.27	11.736	
12,100.00	7,692.00	11,918.73	7,598.00	70.88	71.35	86.64	3,792.92	352.15	1,622.73	1,481.46	141.26	11.487	
12,200.00	7,692.00	12,018.73	7,598.00	72.37	72.85	86.64	3,892.92	352.44	1,622.73	1,478.46	144.27	11.248	
12,300.00	7,692.00	12,118.73	7,598.00	73.86	74.36	86.64	3,992.92	352.74	1,622.73	1,475.45	147.27	11.018	
12,400.00	7,692.00	12,218.73	7,598.00	75.35	75.88	86.64	4,092.92	353.04	1,622.73	1,472.44	150.29	10.797	
12,500.00	7,692.00	12,318.73	7,598.00	76.85	77.39	86.64	4,192.92	353.34	1,622.72	1,469.42	153.31	10.585	
12,600.00	7,692.00	12,418.73	7,598.00	78.35	78.91	86.64	4,292.92	353.64	1,622.72	1,466.39	156.33	10.380	
12,635.13	7,692.00	12,453.86	7,598.00	78.88	79.45	86.64	4,328.05	353.74	1,622.72	1,465.33	157.40	10.310	
12,647.07	7,692.00	12,449.83	7,598.00	79.06	79.38	86.64	4,324.03	353.73	1,622.80	1,465.37	157.44	10.308 SF	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3I-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	90.36	-0.51	80.00	80.00				
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.51	80.00	80.00	79.86	0.14	587.648	
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.51	80.00	80.00	79.51	0.49	164.880 CC, ES	
300.00	299.98	300.98	300.98	0.42	0.43	-146.72	-0.51	80.00	81.45	80.62	0.84	97.503	
400.00	399.84	400.84	400.84	0.60	0.60	-148.59	-0.51	80.00	85.88	84.69	1.19	72.193	
500.00	499.45	499.31	499.29	0.78	0.77	-150.27	-2.07	80.73	94.04	92.49	1.55	60.838	
600.00	598.70	597.31	597.16	0.96	0.94	-150.80	-6.66	82.87	106.49	104.58	1.90	55.927	
700.00	697.47	694.56	694.04	1.15	1.11	-150.46	-14.22	86.39	123.12	120.86	2.26	54.392	
800.00	795.62	790.76	789.55	1.33	1.28	-149.56	-24.62	91.24	143.92	141.29	2.62	54.840	
900.00	893.41	887.92	885.77	1.52	1.46	-148.76	-36.79	96.92	166.99	164.01	2.98	56.011	
1,000.00	991.20	985.20	982.12	1.70	1.63	-148.16	-48.99	102.61	190.09	186.76	3.34	56.993	
1,100.00	1,088.98	1,082.47	1,078.46	1.89	1.80	-147.69	-61.18	108.29	213.21	209.52	3.69	57.774	
1,200.00	1,186.77	1,179.75	1,174.80	2.07	1.98	-147.31	-73.38	113.98	236.34	232.29	4.05	58.410	
1,300.00	1,284.55	1,277.03	1,271.15	2.26	2.15	-147.00	-85.57	119.66	259.47	255.07	4.40	58.936	
1,400.00	1,382.34	1,374.31	1,367.49	2.45	2.33	-146.74	-97.76	125.35	282.62	277.86	4.76	59.380	
1,500.00	1,480.12	1,471.59	1,463.83	2.63	2.50	-146.52	-109.96	131.04	305.76	300.65	5.12	59.758	
1,600.00	1,577.91	1,568.86	1,560.18	2.82	2.67	-146.33	-122.15	136.72	328.91	323.44	5.47	60.084	
1,700.00	1,675.70	1,666.14	1,656.52	3.01	2.85	-146.17	-134.35	142.41	352.07	346.23	5.83	60.367	
1,800.00	1,773.48	1,763.42	1,752.86	3.19	3.02	-146.02	-146.54	148.09	375.22	369.03	6.19	60.617	
1,900.00	1,871.27	1,860.70	1,849.20	3.38	3.20	-145.90	-158.73	153.78	398.38	391.83	6.55	60.837	
2,000.00	1,969.05	1,957.98	1,945.55	3.56	3.37	-145.78	-170.93	159.47	421.54	414.63	6.91	61.034	
2,100.00	2,066.84	2,055.25	2,041.89	3.68	3.51	-145.68	-183.12	165.15	444.70	437.52	7.18	61.955	
2,200.00	2,164.62	2,152.53	2,138.23	3.73	3.59	-145.59	-195.31	170.84	467.86	460.57	7.30	64.127	
2,300.00	2,262.41	2,249.81	2,234.58	3.85	3.64	-145.51	-207.51	176.53	491.03	483.57	7.46	65.829	
2,400.00	2,360.19	2,347.09	2,330.92	4.03	3.75	-145.43	-219.70	182.21	514.19	506.49	7.70	66.736	
2,500.00	2,457.98	2,444.37	2,427.26	4.26	3.90	-145.36	-231.90	187.90	537.35	529.33	8.03	66.955	
2,600.00	2,555.77	2,541.64	2,523.61	4.52	4.09	-145.30	-244.09	193.58	560.52	552.11	8.41	66.626	
2,700.00	2,653.55	2,638.92	2,619.95	4.82	4.30	-145.24	-256.28	199.27	583.69	574.83	8.86	65.892	
2,800.00	2,751.34	2,736.20	2,716.29	5.15	4.54	-145.19	-268.48	204.96	606.85	597.50	9.35	64.884	
2,900.00	2,849.12	2,833.48	2,812.64	5.50	4.81	-145.14	-280.67	210.64	630.02	620.13	9.89	63.701	
3,000.00	2,946.91	2,930.76	2,908.98	5.87	5.09	-145.09	-292.86	216.33	653.19	642.72	10.46	62.427	
3,100.00	3,044.69	3,028.03	3,005.32	6.26	5.39	-145.05	-305.06	222.01	676.35	665.29	11.07	61.117	
3,200.00	3,142.48	3,125.31	3,101.67	6.66	5.70	-145.01	-317.25	227.70	699.52	687.83	11.70	59.812	
3,300.00	3,240.27	3,222.59	3,198.01	7.07	6.02	-144.97	-329.45	233.39	722.69	710.35	12.35	58.537	
3,400.00	3,338.05	3,319.87	3,294.35	7.49	6.36	-144.93	-341.64	239.07	745.86	732.85	13.01	57.308	
3,500.00	3,435.84	3,417.15	3,390.69	7.91	6.70	-144.90	-353.83	244.76	769.03	755.33	13.70	56.135	
3,600.00	3,533.62	3,514.42	3,487.04	8.35	7.04	-144.87	-366.03	250.44	792.20	777.80	14.40	55.022	
3,700.00	3,631.41	3,611.70	3,583.38	8.78	7.40	-144.84	-378.22	256.13	815.37	800.26	15.11	53.970	
3,800.00	3,729.19	3,708.98	3,679.72	9.23	7.75	-144.81	-390.42	261.82	838.54	822.71	15.83	52.979	
3,900.00	3,826.98	3,806.26	3,776.07	9.67	8.12	-144.79	-402.61	267.50	861.71	845.15	16.56	52.046	
4,000.00	3,924.77	3,903.54	3,872.41	10.12	8.48	-144.76	-414.80	273.19	884.88	867.58	17.29	51.169	
4,100.00	4,022.55	4,000.81	3,968.75	10.58	8.85	-144.74	-427.00	278.88	908.05	890.01	18.04	50.346	
4,200.00	4,120.34	4,101.91	4,065.10	11.03	9.24	-144.71	-439.19	284.56	931.22	912.42	18.80	49.533	
4,300.00	4,218.12	4,204.63	4,161.44	11.49	9.64	-144.69	-451.38	290.25	954.39	934.81	19.58	48.755	
4,400.00	4,315.91	4,307.35	4,257.78	11.95	10.04	-144.67	-463.58	295.93	977.56	957.20	20.36	48.025	
4,500.00	4,413.69	4,389.93	4,354.13	12.41	10.36	-144.65	-475.77	301.62	1,000.73	979.67	21.06	47.512	
4,600.00	4,511.48	4,487.20	4,450.47	12.88	10.74	-144.63	-487.97	307.31	1,023.90	1,002.07	21.83	46.904	
4,700.00	4,609.27	4,584.48	4,546.81	13.34	11.12	-144.62	-500.16	312.99	1,047.07	1,024.47	22.60	46.330	
4,800.00	4,707.05	4,681.76	4,643.16	13.81	11.51	-144.60	-512.35	318.68	1,070.24	1,046.87	23.37	45.789	
4,900.00	4,804.84	4,779.04	4,739.50	14.27	11.89	-144.58	-524.55	324.36	1,093.41	1,069.26	24.15	45.276	
5,000.00	4,902.62	4,876.32	4,835.84	14.74	12.28	-144.57	-536.74	330.05	1,116.58	1,091.65	24.93	44.791	
5,100.00	5,000.41	4,973.59	4,932.18	15.21	12.67	-144.55	-548.94	335.74	1,139.75	1,114.04	25.71	44.332	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3I-18H-N167 - OH - PLAN #1											Offset Site Error:		0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	
5,200.00	5,098.19	5,070.87	5,028.53	15.68	13.06	-144.54	-561.13	341.42	1,162.93	1,136.43	26.49	43.896	
5,300.00	5,195.98	5,168.15	5,124.87	16.15	13.45	-144.52	-573.32	347.11	1,186.10	1,158.82	27.28	43.482	
5,400.00	5,293.77	5,265.43	5,221.21	16.63	13.84	-144.51	-585.52	352.79	1,209.27	1,181.20	28.06	43.089	
5,500.00	5,391.55	5,362.71	5,317.56	17.10	14.23	-144.50	-597.71	358.48	1,232.44	1,203.59	28.85	42.714	
5,600.00	5,489.34	5,459.98	5,413.90	17.57	14.62	-144.49	-609.90	364.17	1,255.61	1,225.97	29.64	42.358	
5,700.00	5,587.12	5,557.26	5,510.24	18.04	15.02	-144.47	-622.10	369.85	1,278.78	1,248.35	30.43	42.018	
5,800.00	5,684.91	5,654.54	5,606.59	18.52	15.41	-144.46	-634.29	375.54	1,301.95	1,270.73	31.23	41.693	
5,900.00	5,782.69	5,751.82	5,702.93	18.99	15.80	-144.45	-646.49	381.23	1,325.13	1,293.10	32.02	41.383	
6,000.00	5,880.48	5,849.10	5,799.27	19.47	16.20	-144.44	-658.68	386.91	1,348.30	1,315.48	32.82	41.087	
6,100.00	5,978.27	5,946.38	5,895.62	19.95	16.59	-144.43	-670.87	392.60	1,371.47	1,337.86	33.61	40.803	
6,200.00	6,076.05	6,043.65	5,991.96	20.42	16.99	-144.42	-683.07	398.28	1,394.64	1,360.23	34.41	40.532	
6,300.00	6,173.84	6,140.93	6,088.30	20.90	17.39	-144.41	-695.26	403.97	1,417.81	1,382.61	35.21	40.271	
6,400.00	6,271.62	6,238.21	6,184.64	21.37	17.78	-144.40	-707.45	409.66	1,440.98	1,404.98	36.01	40.021	
6,500.00	6,369.41	6,335.49	6,280.99	21.85	18.18	-144.39	-719.65	415.34	1,464.16	1,427.35	36.80	39.782	
6,600.00	6,467.19	6,432.77	6,377.33	22.33	18.58	-144.38	-731.84	421.03	1,487.33	1,449.72	37.61	39.551	
6,700.00	6,564.98	6,530.04	6,473.67	22.81	18.97	-144.38	-744.04	426.71	1,510.50	1,472.09	38.41	39.330	
6,800.00	6,662.77	6,627.32	6,570.02	23.28	19.37	-144.37	-756.23	432.40	1,533.67	1,494.46	39.21	39.116	
6,900.00	6,760.55	6,724.60	6,666.36	23.76	19.77	-144.36	-768.42	438.09	1,556.84	1,516.83	40.01	38.911	
7,000.00	6,858.34	6,821.88	6,762.70	24.24	20.17	-144.35	-780.62	443.77	1,580.02	1,539.20	40.81	38.713	
7,100.00	6,956.30	6,919.09	6,858.98	24.71	20.57	-164.75	-792.80	449.46	1,603.26	1,561.65	41.61	38.534	
7,200.00	7,054.64	7,015.12	6,954.09	25.09	20.96	151.75	-804.84	455.07	1,626.86	1,584.53	42.33	38.432	
7,300.00	7,151.66	7,106.63	7,044.73	25.39	21.33	126.37	-816.21	460.43	1,650.79	1,607.83	42.96	38.423 SF	
7,400.00	7,245.47	7,189.35	7,127.12	25.60	21.63	113.95	-820.42	465.90	1,675.43	1,631.98	43.44	38.567	
7,500.00	7,334.25	7,274.92	7,212.19	25.74	21.86	106.94	-814.77	472.52	1,700.66	1,656.84	43.82	38.810	
7,600.00	7,416.27	7,364.13	7,299.43	25.83	22.06	102.45	-798.13	480.36	1,726.11	1,681.98	44.13	39.111	
7,700.00	7,489.93	7,457.94	7,388.08	25.85	22.22	99.34	-769.09	489.52	1,751.36	1,706.96	44.40	39.442	
7,800.00	7,553.80	7,557.51	7,477.07	25.83	22.35	97.11	-725.87	500.08	1,775.96	1,731.31	44.65	39.774	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3J-18H-N167 BHL - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	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)						
0.00	0.00	1.00	1.00	0.00	0.00	90.36	-0.57	90.00	90.00					
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.57	90.00	90.00	89.86	0.14	661.104		
200.00	200.00	201.00	201.00	0.25	0.25	90.36	-0.57	90.00	90.00	89.51	0.49	185.490 CC, ES		
300.00	299.98	300.98	300.98	0.42	0.43	-146.64	-0.57	90.00	91.45	90.62	0.84	109.473		
400.00	399.84	398.84	398.82	0.60	0.60	-147.46	-1.91	91.06	96.91	95.72	1.19	81.373		
500.00	499.45	496.20	496.04	0.78	0.76	-147.66	-5.84	94.16	107.36	105.81	1.55	69.216		
600.00	598.70	592.68	592.17	0.96	0.94	-147.36	-12.29	99.26	122.76	120.84	1.91	64.176		
700.00	697.47	687.93	686.74	1.15	1.11	-146.74	-21.15	106.26	143.02	140.75	2.27	62.877		
800.00	795.62	783.34	781.12	1.33	1.28	-146.06	-32.15	114.95	167.84	165.21	2.63	63.759		
900.00	893.41	879.75	876.43	1.52	1.45	-145.98	-43.56	123.96	194.40	191.41	2.99	65.094		
1,000.00	991.20	976.16	971.73	1.70	1.63	-145.93	-54.96	132.97	220.96	217.62	3.34	66.203		
1,100.00	1,088.98	1,072.57	1,067.04	1.89	1.80	-145.89	-66.37	141.98	247.52	243.83	3.69	67.075		
1,200.00	1,186.77	1,168.98	1,162.35	2.07	1.97	-145.85	-77.77	150.99	274.08	270.03	4.04	67.776		
1,300.00	1,284.55	1,265.38	1,257.65	2.26	2.15	-145.83	-89.18	160.00	300.64	296.24	4.40	68.351		
1,400.00	1,382.34	1,361.79	1,352.96	2.45	2.32	-145.80	-100.58	169.02	327.20	322.44	4.75	68.839		
1,500.00	1,480.12	1,458.20	1,448.27	2.63	2.49	-145.79	-111.98	178.03	353.76	348.65	5.11	69.240		
1,600.00	1,577.91	1,554.61	1,543.57	2.82	2.67	-145.77	-123.39	187.04	380.32	374.85	5.47	69.588		
1,700.00	1,675.70	1,651.02	1,638.88	3.01	2.84	-145.75	-134.79	196.05	406.88	401.06	5.82	69.889		
1,800.00	1,773.48	1,747.43	1,734.18	3.19	3.02	-145.74	-146.20	205.06	433.44	427.26	6.18	70.151		
1,900.00	1,871.27	1,843.83	1,829.49	3.38	3.19	-145.73	-157.60	214.07	460.00	453.47	6.54	70.383		
2,000.00	1,969.05	1,940.24	1,924.80	3.56	3.37	-145.72	-169.01	223.08	486.56	479.67	6.89	70.588		
2,100.00	2,066.84	2,036.65	2,020.10	3.68	3.52	-145.71	-180.41	232.09	513.12	505.94	7.18	71.416		
2,200.00	2,164.62	2,133.06	2,115.41	3.73	3.61	-145.70	-191.82	241.10	539.68	532.37	7.31	73.778		
2,300.00	2,262.41	2,229.47	2,210.71	3.85	3.66	-145.70	-203.22	250.11	566.24	558.78	7.47	75.825		
2,400.00	2,360.19	2,325.87	2,306.02	4.03	3.75	-145.69	-214.62	259.12	592.80	585.10	7.70	76.970		
2,500.00	2,457.98	2,422.28	2,401.33	4.26	3.89	-145.68	-226.03	268.13	619.37	611.35	8.01	77.322		
2,600.00	2,555.77	2,518.69	2,496.63	4.52	4.08	-145.68	-237.43	277.14	645.93	637.54	8.38	77.036		
2,700.00	2,653.55	2,615.10	2,591.94	4.82	4.29	-145.67	-248.84	286.15	672.49	663.67	8.82	76.271		
2,800.00	2,751.34	2,711.51	2,687.25	5.15	4.54	-145.67	-260.24	295.16	699.05	689.75	9.30	75.175		
2,900.00	2,849.12	2,807.91	2,782.55	5.50	4.80	-145.67	-271.65	304.17	725.61	715.78	9.82	73.864		
3,000.00	2,946.91	2,904.32	2,877.86	5.87	5.09	-145.66	-283.05	313.19	752.17	741.78	10.38	72.433		
3,100.00	3,044.69	3,000.73	2,973.16	6.26	5.39	-145.66	-294.46	322.20	778.73	767.75	10.98	70.951		
3,200.00	3,142.48	3,102.86	3,068.47	6.66	5.73	-145.65	-305.86	331.21	805.29	793.68	11.61	69.356		
3,300.00	3,240.27	3,206.45	3,163.78	7.07	6.08	-145.65	-317.26	340.22	831.85	819.58	12.27	67.771		
3,400.00	3,338.05	3,289.95	3,259.08	7.49	6.37	-145.65	-328.67	349.23	858.41	845.52	12.89	66.593		
3,500.00	3,435.84	3,386.36	3,354.39	7.91	6.72	-145.64	-340.07	358.24	884.97	871.41	13.56	65.242		
3,600.00	3,533.62	3,482.77	3,449.70	8.35	7.07	-145.64	-351.48	367.25	911.53	897.28	14.25	63.958		
3,700.00	3,631.41	3,579.18	3,545.00	8.78	7.43	-145.64	-362.88	376.26	938.09	923.14	14.95	62.742		
3,800.00	3,729.19	3,675.59	3,640.31	9.23	7.79	-145.64	-374.29	385.27	964.65	948.99	15.66	61.595		
3,900.00	3,826.98	3,772.00	3,735.61	9.67	8.16	-145.63	-385.69	394.28	991.22	974.84	16.38	60.514		
4,000.00	3,924.77	3,868.40	3,830.92	10.12	8.53	-145.63	-397.10	403.29	1,017.78	1,000.67	17.11	59.497		
4,100.00	4,022.55	3,964.81	3,926.23	10.58	8.90	-145.63	-408.50	412.30	1,044.34	1,026.50	17.84	58.541		
4,200.00	4,120.34	4,061.22	4,021.53	11.03	9.28	-145.63	-419.91	421.31	1,070.90	1,052.32	18.58	57.641		
4,300.00	4,218.12	4,157.63	4,116.84	11.49	9.66	-145.63	-431.31	430.32	1,097.46	1,078.14	19.32	56.794		
4,400.00	4,315.91	4,254.04	4,212.14	11.95	10.05	-145.62	-442.71	439.33	1,124.02	1,103.95	20.07	55.997		
4,500.00	4,413.69	4,350.44	4,307.45	12.41	10.43	-145.62	-454.12	448.34	1,150.58	1,129.75	20.83	55.245		
4,600.00	4,511.48	4,446.85	4,402.76	12.88	10.82	-145.62	-465.52	457.36	1,177.14	1,155.56	21.58	54.537		
4,700.00	4,609.27	4,543.26	4,498.06	13.34	11.21	-145.62	-476.93	466.37	1,203.70	1,181.36	22.35	53.868		
4,800.00	4,707.05	4,639.67	4,593.37	13.81	11.60	-145.62	-488.33	475.38	1,230.26	1,207.15	23.11	53.236		
4,900.00	4,804.84	4,736.08	4,688.68	14.27	11.99	-145.62	-499.74	484.39	1,256.82	1,232.95	23.88	52.639		
5,000.00	4,902.62	4,832.48	4,783.98	14.74	12.38	-145.62	-511.14	493.40	1,283.38	1,258.74	24.65	52.073		
5,100.00	5,000.41	4,928.89	4,879.29	15.21	12.78	-145.61	-522.55	502.41	1,309.94	1,284.53	25.42	51.537		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3J-18H-N167 BHL - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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		
5,200.00	5,098.19	5,025.30	4,974.59	15.68	13.17	-145.61	-533.95	511.42	1,336.51	1,310.31	26.19	51.028		
5,300.00	5,195.98	5,121.71	5,069.90	16.15	13.57	-145.61	-545.35	520.43	1,363.07	1,336.10	26.97	50.544		
5,400.00	5,293.77	5,218.12	5,165.21	16.63	13.97	-145.61	-556.76	529.44	1,389.63	1,361.88	27.75	50.085		
5,500.00	5,391.55	5,314.53	5,260.51	17.10	14.37	-145.61	-568.16	538.45	1,416.19	1,387.66	28.52	49.647		
5,600.00	5,489.34	5,410.93	5,355.82	17.57	14.76	-145.61	-579.57	547.46	1,442.75	1,413.44	29.31	49.231		
5,700.00	5,587.12	5,507.34	5,451.13	18.04	15.16	-145.61	-590.97	556.47	1,469.31	1,439.22	30.09	48.833		
5,800.00	5,684.91	5,603.75	5,546.43	18.52	15.56	-145.61	-602.38	565.48	1,495.87	1,465.00	30.87	48.454		
5,900.00	5,782.69	5,700.16	5,641.74	18.99	15.96	-145.61	-613.78	574.49	1,522.43	1,490.77	31.66	48.091		
6,000.00	5,880.48	5,803.43	5,737.04	19.47	16.39	-145.60	-625.19	583.50	1,548.99	1,516.52	32.47	47.705		
6,100.00	5,978.27	5,892.97	5,832.35	19.95	16.77	-145.60	-636.59	592.51	1,575.55	1,542.32	33.23	47.413		
6,200.00	6,076.05	5,989.38	5,927.66	20.42	17.17	-145.60	-647.99	601.53	1,602.11	1,568.09	34.02	47.095		
6,300.00	6,173.84	6,085.79	6,022.96	20.90	17.57	-145.60	-659.40	610.54	1,628.67	1,593.87	34.81	46.791		
6,400.00	6,271.62	6,182.20	6,118.27	21.37	17.97	-145.60	-670.80	619.55	1,655.23	1,619.64	35.60	46.498		
6,500.00	6,369.41	6,278.61	6,213.58	21.85	18.38	-145.60	-682.21	628.56	1,681.80	1,645.41	36.39	46.218		
6,600.00	6,467.19	6,375.01	6,308.88	22.33	18.78	-145.60	-693.61	637.57	1,708.36	1,671.18	37.18	45.948		
6,700.00	6,564.98	6,471.42	6,404.19	22.81	19.18	-145.60	-705.02	646.58	1,734.92	1,696.94	37.97	45.688		
6,800.00	6,662.77	6,567.83	6,499.49	23.28	19.59	-145.60	-716.42	655.59	1,761.48	1,722.71	38.77	45.439 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3K-18H-N167 - OH - PLAN #1												Offset Site Error:	0.00 usft
Survey Program: 0-VESSI_GYROFLEX, 2001-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	90.36	-0.63	100.00	100.00				
100.00	100.00	101.00	101.00	0.07	0.07	90.36	-0.63	100.00	100.00	99.86	0.14	734.560	
102.12	102.12	103.12	103.12	0.07	0.07	90.36	-0.63	100.00	100.00	99.86	0.14	696.629 CC	
200.00	200.00	199.92	199.91	0.25	0.24	90.56	-0.98	100.27	100.28	99.79	0.48	206.822 ES	
300.00	299.98	297.65	297.58	0.42	0.42	-144.89	-3.64	102.33	103.88	103.04	0.84	123.605	
400.00	399.84	394.89	394.59	0.60	0.59	-143.65	-8.89	106.42	112.52	111.32	1.20	93.441	
500.00	499.45	491.27	490.47	0.78	0.77	-142.34	-16.66	112.47	126.19	124.62	1.57	80.395	
600.00	598.70	586.46	584.78	0.96	0.95	-141.08	-26.82	120.38	144.83	142.90	1.94	74.841	
700.00	697.47	681.65	678.65	1.15	1.12	-140.01	-39.24	130.05	168.17	165.88	2.29	73.294	
800.00	795.62	778.11	773.69	1.33	1.29	-139.63	-52.26	140.19	194.50	191.85	2.65	73.351	
900.00	893.41	874.19	868.35	1.52	1.47	-139.92	-65.23	150.29	222.22	219.22	3.01	73.922	
1,000.00	991.20	970.26	963.01	1.70	1.64	-140.15	-78.20	160.38	249.95	246.59	3.36	74.435	
1,100.00	1,088.98	1,066.34	1,057.67	1.89	1.81	-140.34	-91.17	170.48	277.68	273.97	3.71	74.822	
1,200.00	1,186.77	1,162.41	1,152.33	2.07	1.99	-140.50	-104.14	180.58	305.41	301.34	4.07	75.119	
1,300.00	1,284.55	1,258.49	1,246.99	2.26	2.16	-140.63	-117.11	190.67	333.14	328.72	4.42	75.371	
1,400.00	1,382.34	1,354.56	1,341.65	2.45	2.34	-140.74	-130.08	200.77	360.88	356.10	4.78	75.555	
1,500.00	1,480.12	1,450.64	1,436.30	2.63	2.51	-140.83	-143.05	210.86	388.61	383.48	5.13	75.712	
1,600.00	1,577.91	1,546.71	1,530.96	2.82	2.69	-140.91	-156.01	220.96	416.35	410.86	5.49	75.843	
1,700.00	1,675.70	1,642.79	1,625.62	3.01	2.87	-140.99	-168.98	231.06	444.09	438.24	5.85	75.954	
1,800.00	1,773.48	1,738.86	1,720.28	3.19	3.04	-141.05	-181.95	241.15	471.82	465.62	6.20	76.048	
1,900.00	1,871.27	1,834.94	1,814.94	3.38	3.22	-141.10	-194.92	251.25	499.56	493.00	6.56	76.129	
2,000.00	1,969.05	1,931.01	1,909.60	3.56	3.39	-141.15	-207.89	261.34	527.30	520.38	6.92	76.199	
2,100.00	2,066.84	2,027.09	2,004.26	3.68	3.55	-141.20	-220.86	271.44	555.04	547.82	7.22	76.862	
2,200.00	2,164.62	2,123.16	2,098.92	3.73	3.65	-141.24	-233.83	281.54	582.78	575.42	7.36	79.187	
2,300.00	2,262.41	2,219.24	2,193.57	3.85	3.70	-141.28	-246.80	291.63	610.52	603.00	7.51	81.273	
2,400.00	2,360.19	2,315.31	2,288.23	4.03	3.79	-141.31	-259.77	301.73	638.26	630.51	7.75	82.369	
2,500.00	2,457.98	2,411.39	2,382.89	4.26	3.94	-141.34	-272.74	311.82	666.00	657.93	8.06	82.618	
2,600.00	2,555.77	2,507.46	2,477.55	4.52	4.13	-141.37	-285.70	321.92	693.74	685.29	8.44	82.182	
2,700.00	2,653.55	2,603.54	2,572.21	4.82	4.36	-141.40	-298.67	332.02	721.48	712.59	8.88	81.235	
2,800.00	2,751.34	2,700.39	2,666.87	5.15	4.61	-141.42	-311.64	342.11	749.22	739.84	9.37	79.924	
2,900.00	2,849.12	2,804.31	2,761.53	5.50	4.92	-141.44	-324.61	352.21	776.96	767.02	9.93	78.236	
3,000.00	2,946.91	2,908.24	2,856.19	5.87	5.24	-141.46	-337.58	362.31	804.70	794.17	10.53	76.440	
3,100.00	3,044.69	2,987.84	2,950.84	6.26	5.51	-141.48	-350.55	372.40	832.44	821.35	11.08	75.120	
3,200.00	3,142.48	3,083.91	3,045.50	6.66	5.84	-141.50	-363.52	382.50	860.18	848.47	11.71	73.455	
3,300.00	3,240.27	3,179.99	3,140.16	7.07	6.18	-141.52	-376.49	392.59	887.92	875.56	12.36	71.831	
3,400.00	3,338.05	3,276.06	3,234.82	7.49	6.53	-141.54	-389.46	402.69	915.66	902.63	13.03	70.267	
3,500.00	3,435.84	3,372.14	3,329.48	7.91	6.89	-141.55	-402.42	412.79	943.40	929.68	13.72	68.775	
3,600.00	3,533.62	3,468.21	3,424.14	8.35	7.26	-141.57	-415.39	422.88	971.14	956.72	14.42	67.361	
3,700.00	3,631.41	3,564.29	3,518.80	8.78	7.63	-141.58	-428.36	432.98	998.88	983.75	15.13	66.025	
3,800.00	3,729.19	3,660.36	3,613.45	9.23	8.01	-141.59	-441.33	443.07	1,026.62	1,010.77	15.85	64.767	
3,900.00	3,826.98	3,756.44	3,708.11	9.67	8.40	-141.60	-454.30	453.17	1,054.36	1,037.78	16.58	63.584	
4,000.00	3,924.77	3,852.51	3,802.77	10.12	8.78	-141.62	-467.27	463.27	1,082.10	1,064.78	17.32	62.472	
4,100.00	4,022.55	3,948.59	3,897.43	10.58	9.17	-141.63	-480.24	473.36	1,109.84	1,091.78	18.07	61.428	
4,200.00	4,120.34	4,044.66	3,992.09	11.03	9.57	-141.64	-493.21	483.46	1,137.58	1,118.77	18.82	60.447	
4,300.00	4,218.12	4,140.74	4,086.75	11.49	9.97	-141.65	-506.18	493.55	1,165.33	1,145.75	19.58	59.525	
4,400.00	4,315.91	4,236.81	4,181.41	11.95	10.36	-141.66	-519.15	503.65	1,193.07	1,172.73	20.34	58.658	
4,500.00	4,413.69	4,332.89	4,276.07	12.41	10.77	-141.67	-532.11	513.75	1,220.81	1,199.70	21.11	57.842	
4,600.00	4,511.48	4,428.96	4,370.72	12.88	11.17	-141.67	-545.08	523.84	1,248.55	1,226.67	21.88	57.073	
4,700.00	4,609.27	4,525.04	4,465.38	13.34	11.57	-141.68	-558.05	533.94	1,276.29	1,253.64	22.65	56.347	
4,800.00	4,707.05	4,621.11	4,560.04	13.81	11.98	-141.69	-571.02	544.04	1,304.03	1,280.60	23.43	55.662	
4,900.00	4,804.84	4,717.19	4,654.70	14.27	12.39	-141.70	-583.99	554.13	1,331.77	1,307.57	24.21	55.015	
5,000.00	4,902.62	4,813.26	4,749.36	14.74	12.80	-141.71	-596.96	564.23	1,359.51	1,334.52	24.99	54.403	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - HINGLEY 3K-18H-N167 - OH - PLAN #1													Offset Site Error: 0.00 usft	
Survey Program: 0-VESSI_GYROFLEX, 2001-MWD+HDGM													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,100.00	5,000.41	4,909.34	4,844.02	15.21	13.21	-141.71	-609.93	574.32	1,387.26	1,361.48	25.77	53.822		
5,200.00	5,098.19	5,005.41	4,938.68	15.68	13.62	-141.72	-622.90	584.42	1,415.00	1,388.43	26.56	53.272		
5,300.00	5,195.98	5,101.49	5,033.34	16.15	14.03	-141.73	-635.87	594.52	1,442.74	1,415.39	27.35	52.749		
5,400.00	5,293.77	5,197.56	5,127.99	16.63	14.45	-141.73	-648.83	604.61	1,470.48	1,442.34	28.14	52.253		
5,500.00	5,391.55	5,306.36	5,222.65	17.10	14.91	-141.74	-661.80	614.71	1,498.22	1,469.23	28.99	51.688		
5,600.00	5,489.34	5,389.71	5,317.31	17.57	15.27	-141.74	-674.77	624.80	1,525.96	1,496.23	29.73	51.331		
5,700.00	5,587.12	5,485.79	5,411.97	18.04	15.69	-141.75	-687.74	634.90	1,553.70	1,523.18	30.52	50.902		
5,800.00	5,684.91	5,581.86	5,506.63	18.52	16.11	-141.75	-700.71	645.00	1,581.44	1,550.12	31.32	50.493		
5,900.00	5,782.69	5,677.94	5,601.29	18.99	16.52	-141.76	-713.68	655.09	1,609.19	1,577.07	32.12	50.102		
6,000.00	5,880.48	5,774.01	5,695.95	19.47	16.94	-141.76	-726.65	665.19	1,636.93	1,604.01	32.92	49.728		
6,100.00	5,978.27	5,870.09	5,790.61	19.95	17.36	-141.77	-739.62	675.29	1,664.67	1,630.95	33.72	49.371		
6,200.00	6,076.05	5,966.16	5,885.26	20.42	17.77	-141.77	-752.59	685.38	1,692.41	1,657.89	34.52	49.028		
6,300.00	6,173.84	6,062.24	5,979.92	20.90	18.19	-141.78	-765.55	695.48	1,720.15	1,684.83	35.32	48.700		
6,400.00	6,271.62	6,158.31	6,074.58	21.37	18.61	-141.78	-778.52	705.57	1,747.89	1,711.77	36.12	48.385		
6,500.00	6,369.41	6,254.39	6,169.24	21.85	19.03	-141.79	-791.49	715.67	1,775.63	1,738.71	36.93	48.083 SF		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - LAURIDSON 41-24 - STARLIGHT RES 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					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
3,200.00	3,142.48	3,102.48	3,102.48	6.66	6.86	4.07	-1,185.55	-2,007.04	1,767.22	1,754.61	12.60	140.216	
3,300.00	3,240.27	3,200.27	3,200.27	7.07	7.08	4.12	-1,185.55	-2,007.04	1,746.34	1,733.22	13.12	133.083	
3,400.00	3,338.05	3,301.95	3,298.05	7.49	7.30	4.17	-1,185.55	-2,007.04	1,725.47	1,711.81	13.66	126.328	
3,500.00	3,435.84	3,404.16	3,395.84	7.91	7.53	4.22	-1,185.55	-2,007.04	1,704.59	1,690.39	14.20	120.008	
3,600.00	3,533.62	3,506.38	3,493.62	8.35	7.76	4.27	-1,185.55	-2,007.04	1,683.72	1,668.96	14.76	114.103	
3,700.00	3,631.41	3,608.59	3,591.41	8.78	7.99	4.33	-1,185.55	-2,007.04	1,662.85	1,647.54	15.31	108.583	
3,800.00	3,729.19	3,689.19	3,689.19	9.23	8.17	4.38	-1,185.55	-2,007.04	1,641.98	1,626.15	15.83	103.735	
3,900.00	3,826.98	3,786.98	3,786.98	9.67	8.39	4.44	-1,185.55	-2,007.04	1,621.11	1,604.73	16.39	98.932	
4,000.00	3,924.77	3,884.77	3,884.77	10.12	8.61	4.50	-1,185.55	-2,007.04	1,600.24	1,583.30	16.95	94.423	
4,100.00	4,022.55	3,982.55	3,982.55	10.58	8.83	4.55	-1,185.55	-2,007.04	1,579.38	1,561.87	17.51	90.185	
4,200.00	4,120.34	4,080.34	4,080.34	11.03	9.05	4.62	-1,185.55	-2,007.04	1,558.52	1,540.44	18.08	86.197	
4,300.00	4,218.12	4,178.12	4,178.12	11.49	9.27	4.68	-1,185.55	-2,007.04	1,537.65	1,519.00	18.65	82.440	
4,400.00	4,315.91	4,275.91	4,275.91	11.95	9.49	4.74	-1,185.55	-2,007.04	1,516.79	1,497.57	19.23	78.896	
4,500.00	4,413.69	4,373.69	4,373.69	12.41	9.71	4.81	-1,185.55	-2,007.04	1,495.94	1,476.14	19.80	75.548	
4,600.00	4,511.48	4,471.48	4,471.48	12.88	9.93	4.88	-1,185.55	-2,007.04	1,475.08	1,454.70	20.38	72.383	
4,700.00	4,609.27	4,569.27	4,569.27	13.34	10.15	4.95	-1,185.55	-2,007.04	1,454.23	1,433.27	20.96	69.386	
4,800.00	4,707.05	4,667.05	4,667.05	13.81	10.37	5.02	-1,185.55	-2,007.04	1,433.38	1,411.84	21.54	66.545	
4,900.00	4,804.84	4,764.84	4,764.84	14.27	10.59	5.09	-1,185.55	-2,007.04	1,412.53	1,390.40	22.12	63.849	
5,000.00	4,902.62	4,862.62	4,862.62	14.74	10.81	5.17	-1,185.55	-2,007.04	1,391.68	1,368.97	22.71	61.288	
5,100.00	5,000.41	4,900.00	4,900.00	15.21	10.90	5.20	-1,185.55	-2,007.04	1,372.16	1,348.81	23.35	58.757	
5,200.00	5,098.19	4,900.00	4,900.00	15.68	10.90	5.20	-1,185.55	-2,007.04	1,359.23	1,335.26	23.97	56.698	
5,300.00	5,195.98	4,900.00	4,900.00	16.15	10.90	5.20	-1,185.55	-2,007.04	1,353.58	1,329.08	24.50	55.244	
5,326.66	5,222.05	4,900.00	4,900.00	16.28	10.90	5.20	-1,185.55	-2,007.04	1,353.31	1,328.69	24.63	54.954 CC, ES	
5,400.00	5,293.77	4,900.00	4,900.00	16.63	10.90	5.20	-1,185.55	-2,007.04	1,355.30	1,330.37	24.93	54.365	
5,500.00	5,391.55	4,900.00	4,900.00	17.10	10.90	5.20	-1,185.55	-2,007.04	1,364.37	1,339.12	25.25	54.032 SF	
5,600.00	5,489.34	4,900.00	4,900.00	17.57	10.90	5.20	-1,185.55	-2,007.04	1,380.64	1,355.18	25.47	54.211	
5,700.00	5,587.12	4,900.00	4,900.00	18.04	10.90	5.20	-1,185.55	-2,007.04	1,403.87	1,378.28	25.59	54.868	
5,800.00	5,684.91	4,900.00	4,900.00	18.52	10.90	5.20	-1,185.55	-2,007.04	1,433.71	1,408.09	25.62	55.969	
5,900.00	5,782.69	4,900.00	4,900.00	18.99	10.90	5.20	-1,185.55	-2,007.04	1,469.76	1,444.18	25.57	57.478	
6,000.00	5,880.48	4,900.00	4,900.00	19.47	10.90	5.20	-1,185.55	-2,007.04	1,511.57	1,486.11	25.47	59.359	
6,100.00	5,978.27	4,900.00	4,900.00	19.95	10.90	5.20	-1,185.55	-2,007.04	1,558.69	1,533.38	25.31	61.576	
6,200.00	6,076.05	4,900.00	4,900.00	20.42	10.90	5.20	-1,185.55	-2,007.04	1,610.65	1,585.52	25.13	64.094	
6,300.00	6,173.84	4,900.00	4,900.00	20.90	10.90	5.20	-1,185.55	-2,007.04	1,666.99	1,642.06	24.93	66.879	
6,400.00	6,271.62	4,900.00	4,900.00	21.37	10.90	5.20	-1,185.55	-2,007.04	1,727.29	1,702.58	24.71	69.897	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - LINKUS 41-24 - PDC WELL - PDC WELL												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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
2,800.00	2,751.34	2,695.55	2,695.29	5.15	4.62	7.39	-1,053.45	-1,990.38	1,773.88	1,764.58	9.30	190.711	
2,900.00	2,849.12	2,792.65	2,792.37	5.50	4.79	7.54	-1,051.98	-1,991.86	1,753.81	1,744.09	9.72	180.442	
3,000.00	2,946.91	2,886.81	2,886.50	5.87	4.96	7.70	-1,050.54	-1,993.44	1,733.87	1,723.72	10.15	170.828	
3,100.00	3,044.69	2,979.84	2,979.50	6.26	5.12	7.85	-1,049.18	-1,995.22	1,714.19	1,703.60	10.59	161.820	
3,200.00	3,142.48	3,072.02	3,071.66	6.66	5.29	8.01	-1,048.01	-1,997.23	1,694.83	1,683.78	11.05	153.402	
3,300.00	3,240.27	3,165.88	3,165.48	7.07	5.45	8.17	-1,047.10	-1,999.46	1,675.80	1,664.28	11.52	145.503	
3,400.00	3,338.05	3,262.20	3,261.77	7.49	5.62	8.33	-1,046.44	-2,001.81	1,656.95	1,644.95	12.00	138.083	
3,500.00	3,435.84	3,359.20	3,358.74	7.91	5.80	8.49	-1,045.67	-2,004.30	1,638.18	1,625.69	12.49	131.146	
3,600.00	3,533.62	3,459.14	3,458.63	8.35	5.97	8.69	-1,044.48	-2,007.08	1,619.45	1,606.45	12.99	124.628	
3,700.00	3,631.41	3,555.51	3,554.96	8.78	6.14	8.88	-1,043.15	-2,009.71	1,600.62	1,587.12	13.50	118.580	
3,800.00	3,729.19	3,651.87	3,651.27	9.23	6.32	9.08	-1,041.99	-2,012.52	1,582.04	1,568.03	14.01	112.939	
3,900.00	3,826.98	3,751.43	3,750.78	9.67	6.49	9.29	-1,040.74	-2,015.39	1,563.42	1,548.90	14.53	107.624	
4,000.00	3,924.77	3,851.35	3,850.65	10.12	6.67	9.51	-1,039.39	-2,018.21	1,544.74	1,529.69	15.05	102.640	
4,100.00	4,022.55	3,949.53	3,948.78	10.58	6.84	9.73	-1,038.02	-2,020.88	1,525.97	1,510.40	15.58	97.974	
4,200.00	4,120.34	4,043.72	4,042.93	11.03	7.01	9.95	-1,036.65	-2,023.60	1,507.35	1,491.25	16.10	93.629	
4,300.00	4,218.12	4,137.23	4,136.38	11.49	7.18	10.18	-1,035.21	-2,026.69	1,489.09	1,472.47	16.63	89.563	
4,400.00	4,315.91	4,234.54	4,233.61	11.95	7.35	10.43	-1,033.66	-2,030.12	1,471.05	1,453.89	17.16	85.720	
4,500.00	4,413.69	4,336.19	4,335.18	12.41	7.53	10.71	-1,031.83	-2,033.69	1,452.93	1,435.22	17.70	82.070	
4,600.00	4,511.48	4,438.20	4,437.11	12.88	7.71	11.00	-1,029.72	-2,037.03	1,434.53	1,416.28	18.25	78.611	
4,700.00	4,609.27	4,542.02	4,540.86	13.34	7.90	11.31	-1,027.44	-2,040.24	1,415.96	1,397.16	18.80	75.328	
4,800.00	4,707.05	4,650.73	4,649.51	13.81	8.09	11.64	-1,024.75	-2,042.89	1,396.72	1,377.37	19.35	72.178	
4,900.00	4,804.84	4,751.47	4,750.19	14.27	8.27	11.96	-1,022.11	-2,044.80	1,376.98	1,357.08	19.90	69.197	
5,000.00	4,902.62	4,847.62	4,846.29	14.74	8.44	12.27	-1,019.57	-2,046.69	1,357.33	1,336.88	20.45	66.384	
5,100.00	5,000.41	4,944.24	4,942.85	15.21	8.61	12.59	-1,017.02	-2,048.69	1,337.81	1,316.82	21.00	63.716	
5,200.00	5,098.19	5,041.69	5,040.26	15.68	8.78	12.93	-1,014.52	-2,050.75	1,318.41	1,296.86	21.55	61.181	
5,300.00	5,195.98	5,140.05	5,138.56	16.15	8.96	13.26	-1,012.18	-2,052.73	1,299.03	1,276.92	22.10	58.767	
5,400.00	5,293.77	5,238.15	5,236.62	16.63	9.13	13.60	-1,009.92	-2,054.65	1,279.66	1,257.00	22.66	56.467	
5,500.00	5,391.55	5,336.83	5,335.26	17.10	9.30	13.95	-1,007.74	-2,056.51	1,260.31	1,237.09	23.22	54.274	
5,600.00	5,489.34	5,436.91	5,435.30	17.57	9.48	14.32	-1,005.53	-2,058.26	1,240.87	1,217.09	23.78	52.174	
5,700.00	5,587.12	5,536.54	5,534.89	18.04	9.66	14.68	-1,003.47	-2,059.74	1,221.29	1,196.94	24.35	50.164	
5,800.00	5,684.91	5,635.52	5,633.85	18.52	9.83	15.04	-1,001.58	-2,061.09	1,201.67	1,176.76	24.91	48.240	
5,900.00	5,782.69	5,735.16	5,733.46	18.99	10.01	15.42	-999.74	-2,062.22	1,181.93	1,156.45	25.48	46.393	
6,000.00	5,880.48	5,833.40	5,831.68	19.47	10.18	15.78	-998.14	-2,063.21	1,162.18	1,136.13	26.04	44.624	
6,100.00	5,978.27	5,932.40	5,930.67	19.95	10.36	16.15	-996.69	-2,064.04	1,142.37	1,115.75	26.61	42.926	
6,200.00	6,076.05	6,031.20	6,029.46	20.42	10.54	16.53	-995.38	-2,064.76	1,122.54	1,095.36	27.18	41.295	
6,300.00	6,173.84	6,130.75	6,129.00	20.90	10.71	16.91	-994.21	-2,065.26	1,102.59	1,074.83	27.75	39.726	
6,400.00	6,271.62	6,229.72	6,227.96	21.37	10.89	17.29	-993.26	-2,065.61	1,082.61	1,054.28	28.33	38.217	
6,500.00	6,369.41	6,332.94	6,331.18	21.85	11.07	17.69	-992.38	-2,065.61	1,062.38	1,033.48	28.90	36.761	
6,600.00	6,467.19	6,435.45	6,433.69	22.33	11.24	18.10	-991.45	-2,064.93	1,041.54	1,012.07	29.47	35.342	
6,700.00	6,564.98	6,531.28	6,529.51	22.81	11.41	18.49	-990.55	-2,064.27	1,020.73	990.68	30.05	33.969	
6,800.00	6,662.77	6,627.69	6,625.92	23.28	11.58	18.91	-989.69	-2,063.73	1,000.10	969.47	30.63	32.652	
6,900.00	6,760.55	6,723.77	6,721.99	23.76	11.74	19.34	-988.90	-2,063.30	979.64	948.43	31.21	31.385	
7,000.00	6,858.34	6,819.38	6,817.59	24.24	11.91	19.78	-988.15	-2,063.07	959.46	927.66	31.80	30.170	
7,100.00	6,956.30	6,917.11	6,915.33	24.71	12.08	-0.11	-987.15	-2,062.97	939.83	907.46	32.38	29.028	
7,200.00	7,054.64	7,014.28	7,012.49	25.09	12.25	-43.83	-986.01	-2,063.04	923.31	890.47	32.84	28.114	
7,300.00	7,151.66	7,116.42	7,114.62	25.39	12.43	-70.41	-984.62	-2,062.89	910.42	877.24	33.18	27.438	
7,400.00	7,245.47	7,214.51	7,212.69	25.60	12.60	-84.47	-983.16	-2,062.31	902.09	868.66	33.44	26.980	
7,484.57	7,320.95	7,296.25	7,294.41	25.72	12.75	-92.23	-981.76	-2,061.41	899.64	866.03	33.61	26.763 CC, ES	
7,500.00	7,334.25	7,310.76	7,308.92	25.74	12.77	-93.41	-981.49	-2,061.20	899.73	866.08	33.65	26.739	
7,600.00	7,416.27	7,400.78	7,398.91	25.83	12.93	-99.78	-979.57	-2,059.54	905.02	871.14	33.88	26.710 SF	
7,700.00	7,489.93	7,474.39	7,472.48	25.85	13.06	-104.03	-978.09	-2,057.87	920.14	885.91	34.23	26.885	
7,800.00	7,553.80	7,533.87	7,531.94	25.83	13.16	-106.41	-977.36	-2,056.42	946.86	912.16	34.70	27.285	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - LINKUS 41-24 - PDC WELL - PDC WELL													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	
7,900.00	7,606.64	7,579.31	7,577.36	25.77	13.23	-106.85	-977.45	-2,055.29	986.07	950.77	35.31	27.928	
8,000.00	7,647.41	7,614.13	7,612.17	25.67	13.29	-105.33	-977.91	-2,054.41	1,037.30	1,001.32	35.98	28.826	
8,100.00	7,675.32	7,638.37	7,636.40	25.56	13.33	-101.55	-978.34	-2,053.79	1,099.12	1,062.45	36.67	29.970	
8,200.00	7,689.84	7,649.84	7,647.87	25.46	13.35	-95.02	-978.57	-2,053.49	1,169.55	1,132.23	37.32	31.334	
8,300.00	7,692.00	7,649.93	7,647.95	25.38	13.35	-90.00	-978.57	-2,053.49	1,246.15	1,208.24	37.91	32.873	
8,400.00	7,692.00	7,648.08	7,646.11	25.41	13.35	-89.86	-978.53	-2,053.54	1,326.13	1,287.68	38.44	34.497	
8,500.00	7,692.00	7,646.28	7,644.30	25.67	13.35	-89.73	-978.50	-2,053.59	1,408.66	1,369.73	38.93	36.182	
8,600.00	7,692.00	7,644.51	7,642.54	26.21	13.34	-89.59	-978.46	-2,053.63	1,493.33	1,453.95	39.38	37.921	
8,700.00	7,692.00	7,642.78	7,640.81	26.93	13.34	-89.47	-978.43	-2,053.68	1,579.79	1,540.01	39.79	39.707	
8,800.00	7,692.00	7,641.09	7,639.12	27.75	13.34	-89.34	-978.39	-2,053.72	1,667.76	1,627.61	40.15	41.535	
8,900.00	7,692.00	7,639.43	7,637.46	28.64	13.34	-89.22	-978.36	-2,053.76	1,757.02	1,716.54	40.49	43.398	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 13C-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 16-ISWWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	3.00	3.00	0.00	0.00	-169.69	-828.65	-150.69	842.24					
100.00	100.00	104.20	104.20	0.07	0.10	-169.72	-828.65	-150.33	842.18	842.01	0.17	5,044.540		
200.00	200.00	207.85	207.85	0.25	0.31	-169.78	-828.46	-149.41	841.84	841.28	0.56	1,515.459		
300.00	299.98	305.92	305.90	0.42	0.52	-46.39	-828.22	-147.98	840.14	839.20	0.94	893.179		
400.00	399.84	406.84	406.79	0.60	0.75	-46.88	-828.25	-145.54	836.16	834.81	1.34	623.375		
500.00	499.45	506.66	506.58	0.78	0.96	-47.58	-828.16	-143.09	829.73	828.00	1.73	479.747		
600.00	598.70	602.50	602.41	0.96	1.15	-48.44	-828.14	-141.18	821.24	819.14	2.10	391.122		
700.00	697.47	697.81	697.70	1.15	1.34	-49.50	-828.49	-139.58	811.02	808.55	2.48	327.412		
800.00	795.62	791.11	790.99	1.33	1.54	-50.78	-829.27	-137.93	799.29	796.43	2.86	279.420		
900.00	893.41	896.54	896.39	1.52	1.76	-52.19	-829.98	-135.97	786.58	783.31	3.27	240.570		
1,000.00	991.20	995.35	995.19	1.70	1.97	-53.51	-829.99	-134.66	773.68	770.02	3.66	211.392		
1,100.00	1,088.98	1,092.48	1,092.32	1.89	2.17	-54.82	-829.95	-133.77	761.16	757.11	4.05	188.008		
1,200.00	1,186.77	1,191.38	1,191.22	2.07	2.38	-56.17	-829.93	-133.12	749.08	744.64	4.44	168.619		
1,300.00	1,284.55	1,296.72	1,296.54	2.26	2.60	-57.54	-829.30	-134.01	736.85	732.01	4.85	151.964		
1,400.00	1,382.34	1,398.15	1,397.91	2.45	2.81	-58.71	-827.67	-137.20	723.95	718.70	5.25	138.007		
1,500.00	1,480.12	1,502.09	1,501.66	2.63	3.03	-59.75	-825.78	-143.22	711.03	705.38	5.65	125.868		
1,600.00	1,577.91	1,613.63	1,612.75	2.82	3.27	-60.68	-822.31	-152.44	696.89	690.82	6.07	114.785		
1,700.00	1,675.70	1,718.72	1,717.10	3.01	3.51	-61.36	-817.68	-164.02	681.43	674.94	6.49	104.922		
1,800.00	1,773.48	1,820.72	1,818.02	3.19	3.77	-61.82	-812.55	-177.92	665.22	658.29	6.93	95.999		
1,900.00	1,871.27	1,917.40	1,913.36	3.38	4.03	-62.09	-807.77	-193.23	648.96	641.59	7.37	88.036		
2,000.00	1,969.05	2,018.87	2,013.26	3.56	4.32	-62.28	-803.13	-210.31	632.99	625.15	7.84	80.771		
2,100.00	2,066.84	2,116.73	2,109.53	3.68	4.61	-62.46	-797.97	-227.16	616.29	608.06	8.23	74.864		
2,200.00	2,164.62	2,210.01	2,201.32	3.73	4.89	-62.62	-793.80	-243.21	600.39	591.83	8.56	70.151		
2,300.00	2,262.41	2,312.95	2,302.65	3.85	5.20	-62.83	-789.40	-260.81	584.70	575.72	8.97	65.161		
2,400.00	2,360.19	2,409.15	2,397.41	4.03	5.50	-63.07	-785.17	-276.83	568.93	559.51	9.42	60.387		
2,500.00	2,457.98	2,513.25	2,499.71	4.26	5.84	-63.24	-779.96	-295.35	552.45	542.49	9.95	55.496		
2,600.00	2,555.77	2,616.34	2,601.05	4.52	6.19	-63.43	-774.53	-313.48	535.77	525.25	10.52	50.924		
2,700.00	2,653.55	2,713.41	2,696.62	4.82	6.50	-63.79	-768.20	-329.29	518.00	506.90	11.10	46.687		
2,800.00	2,751.34	2,813.79	2,795.53	5.15	6.84	-64.21	-762.18	-345.30	500.81	489.09	11.71	42.758		
2,900.00	2,849.12	2,919.96	2,900.06	5.50	7.21	-64.72	-754.53	-362.21	482.45	470.09	12.37	39.012		
3,000.00	2,946.91	3,021.86	3,000.13	5.87	7.58	-65.15	-745.84	-379.38	462.71	449.67	13.04	35.493		
3,100.00	3,044.69	3,118.08	3,094.64	6.26	7.92	-65.61	-737.66	-395.43	443.04	429.34	13.71	32.323		
3,200.00	3,142.48	3,214.00	3,189.01	6.66	8.25	-66.21	-729.70	-410.69	423.74	409.36	14.38	29.469		
3,300.00	3,240.27	3,315.51	3,288.91	7.07	8.61	-66.93	-721.39	-426.66	404.62	389.55	15.07	26.844		
3,400.00	3,338.05	3,415.27	3,386.95	7.49	8.97	-67.68	-712.28	-442.71	384.58	368.80	15.78	24.376		
3,500.00	3,435.84	3,508.55	3,478.73	7.91	9.30	-68.54	-704.06	-457.12	365.05	348.57	16.48	22.156		
3,600.00	3,533.62	3,601.53	3,570.28	8.35	9.64	-69.37	-697.32	-471.92	347.00	329.81	17.19	20.184		
3,700.00	3,631.41	3,696.75	3,663.95	8.78	9.99	-70.09	-691.65	-488.08	330.08	312.15	17.93	18.410		
3,800.00	3,729.19	3,794.08	3,759.86	9.23	10.34	-70.99	-686.83	-503.91	314.33	295.66	18.67	16.840		
3,900.00	3,826.98	3,893.76	3,857.90	9.67	10.70	-71.83	-681.50	-521.14	298.02	278.61	19.41	15.354		
4,000.00	3,924.77	3,989.17	3,951.95	10.12	11.03	-72.95	-676.63	-536.39	282.39	262.25	20.14	14.022		
4,100.00	4,022.55	4,087.44	4,049.05	10.58	11.37	-74.50	-672.09	-550.78	267.72	246.87	20.85	12.840		
4,200.00	4,120.34	4,188.10	4,148.43	11.03	11.72	-76.15	-667.22	-566.08	252.88	231.32	21.56	11.727		
4,300.00	4,218.12	4,290.90	4,249.45	11.49	12.11	-77.57	-661.33	-584.14	236.60	214.31	22.29	10.613		
4,400.00	4,315.91	4,388.20	4,345.03	11.95	12.47	-79.11	-655.44	-601.38	220.13	197.11	23.02	9.562		
4,500.00	4,413.69	4,485.47	4,440.79	12.41	12.83	-81.20	-649.61	-617.40	204.40	180.69	23.71	8.621		
4,600.00	4,511.48	4,585.54	4,539.42	12.88	13.19	-83.93	-643.43	-633.14	189.16	164.81	24.35	7.768		
4,700.00	4,609.27	4,683.97	4,636.30	13.34	13.55	-87.03	-636.63	-649.19	173.48	148.51	24.97	6.949		
4,800.00	4,707.05	4,779.70	4,730.65	13.81	13.89	-90.66	-630.76	-664.20	159.38	133.84	25.54	6.239		
4,900.00	4,804.84	4,880.86	4,830.14	14.27	14.27	-94.45	-625.45	-681.76	145.76	119.68	26.08	5.590		
5,000.00	4,902.62	4,979.40	4,926.86	14.74	14.66	-98.67	-620.01	-699.77	132.04	105.47	26.57	4.969		
5,100.00	5,000.41	5,077.47	5,023.18	15.21	15.04	-103.78	-614.77	-717.51	119.47	92.49	26.98	4.429		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 13C-19HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISCWSA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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
5,200.00	5,098.19	5,175.54	5,119.55	15.68	15.41	-109.99	-609.81	-734.97	108.47	81.19	27.28	3.976	
5,300.00	5,195.98	5,272.81	5,215.28	16.15	15.77	-117.37	-605.32	-751.59	99.88	72.37	27.50	3.631	
5,400.00	5,293.77	5,370.54	5,311.69	16.63	16.12	-125.83	-601.50	-767.16	94.65	66.95	27.70	3.417	
5,498.73	5,390.31	5,467.05	5,407.05	17.09	16.45	-135.01	-597.76	-781.55	92.80	64.70	28.10	3.302 CC	
5,500.00	5,391.55	5,468.28	5,408.27	17.10	16.45	-135.13	-597.70	-781.72	92.80	64.69	28.11	3.301 ES, SF	
5,600.00	5,489.34	5,565.25	5,504.22	17.57	16.77	-145.55	-592.17	-794.50	95.22	66.46	28.76	3.311	
5,700.00	5,587.12	5,662.22	5,600.34	18.04	17.07	-155.37	-586.09	-805.81	102.33	72.69	29.64	3.453	
5,800.00	5,684.91	5,759.21	5,696.73	18.52	17.35	-162.67	-581.77	-815.64	113.09	82.52	30.57	3.700	
5,900.00	5,782.69	5,856.94	5,794.06	18.99	17.60	-167.85	-578.76	-823.94	126.40	94.96	31.44	4.020	
6,000.00	5,880.48	5,953.19	5,890.00	19.47	17.84	-171.68	-576.13	-831.11	141.35	109.06	32.29	4.378	
6,100.00	5,978.27	6,046.94	5,983.62	19.95	18.04	-174.22	-573.74	-835.56	159.10	126.02	33.08	4.809	
6,200.00	6,076.05	6,144.82	6,081.41	20.42	18.23	-176.14	-571.05	-838.62	178.57	144.80	33.77	5.288	
6,300.00	6,173.84	6,242.52	6,179.04	20.90	18.41	-177.62	-568.44	-841.44	198.36	163.93	34.43	5.761	
6,400.00	6,271.62	6,341.97	6,278.45	21.37	18.59	-178.38	-567.51	-843.64	217.91	182.90	35.02	6.223	
6,500.00	6,369.41	6,440.54	6,376.99	21.85	18.74	-178.33	-569.19	-844.92	236.87	201.33	35.54	6.665	
6,600.00	6,467.19	6,538.86	6,475.30	22.33	18.90	-178.35	-570.62	-846.21	255.94	219.87	36.07	7.096	
6,700.00	6,564.98	6,637.02	6,573.44	22.81	19.06	-178.44	-571.83	-847.80	274.88	238.27	36.61	7.508	
6,800.00	6,662.77	6,731.97	6,668.38	23.28	19.21	-178.56	-572.52	-849.01	294.36	257.18	37.18	7.917	
6,900.00	6,760.55	6,827.58	6,763.98	23.76	19.36	-178.72	-572.43	-849.61	314.81	277.07	37.75	8.340	
7,000.00	6,858.34	6,924.43	6,860.84	24.24	19.52	-178.93	-571.80	-850.00	335.75	297.44	38.31	8.764	
7,100.00	6,956.30	7,022.30	6,958.70	24.71	19.67	160.97	-570.95	-850.27	355.89	317.04	38.85	9.161	
7,200.00	7,054.64	7,120.80	7,057.19	25.09	19.82	119.77	-570.86	-850.25	369.45	330.20	39.25	9.413	
7,300.00	7,151.66	7,217.68	7,154.07	25.39	19.97	98.48	-571.56	-849.67	376.69	337.18	39.51	9.534	
7,400.00	7,245.47	7,322.62	7,258.94	25.60	20.12	92.84	-574.62	-849.20	378.81	339.24	39.57	9.572	
7,500.00	7,334.25	7,434.50	7,368.51	25.74	20.23	97.32	-595.95	-850.15	375.93	336.61	39.32	9.562	
7,520.47	7,351.65	7,451.17	7,384.26	25.76	20.24	98.41	-601.40	-850.49	375.71	336.35	39.36	9.547	
7,600.00	7,416.27	7,483.12	7,413.97	25.83	20.25	99.32	-613.14	-850.58	381.36	341.45	39.90	9.557	
7,700.00	7,489.93	7,511.00	7,439.40	25.85	20.24	98.85	-624.54	-849.80	405.87	365.39	40.48	10.027	
7,800.00	7,553.80	7,526.51	7,453.34	25.83	20.24	95.73	-631.29	-849.08	448.98	408.09	40.89	10.980	
7,900.00	7,606.64	7,536.00	7,461.80	25.77	20.24	90.48	-635.56	-848.53	506.72	465.42	41.30	12.270	
8,000.00	7,647.41	7,536.00	7,461.80	25.67	20.24	82.70	-635.56	-848.53	574.19	532.53	41.67	13.780	
8,100.00	7,675.32	7,520.12	7,447.61	25.56	20.24	72.32	-628.47	-849.40	646.98	605.10	41.88	15.449	
8,200.00	7,689.84	7,506.05	7,434.91	25.46	20.24	62.89	-622.44	-849.99	722.01	679.78	42.23	17.099	
8,300.00	7,692.00	7,493.00	7,423.03	25.38	20.25	57.72	-617.07	-850.39	797.38	754.75	42.63	18.704	
8,400.00	7,692.00	7,473.70	7,405.27	25.41	20.24	56.05	-609.53	-850.66	876.09	833.19	42.90	20.422	
8,500.00	7,692.00	7,450.00	7,383.16	25.67	20.24	54.08	-601.00	-850.46	958.39	915.32	43.07	22.251	
8,600.00	7,692.00	7,450.00	7,383.16	26.21	20.24	54.08	-601.00	-850.46	1,043.08	999.68	43.40	24.037	
8,700.00	7,692.00	7,450.00	7,383.16	26.93	20.24	54.08	-601.00	-850.46	1,130.27	1,086.64	43.63	25.904	
8,800.00	7,692.00	7,429.14	7,363.40	27.75	20.22	52.42	-594.33	-850.05	1,218.79	1,175.08	43.71	27.882	
8,900.00	7,692.00	7,408.00	7,343.07	28.64	20.21	50.78	-588.54	-849.69	1,309.22	1,265.44	43.78	29.905	
9,000.00	7,692.00	7,408.00	7,343.07	29.59	20.21	50.78	-588.54	-849.69	1,400.38	1,356.47	43.91	31.889	
9,100.00	7,692.00	7,408.00	7,343.07	30.59	20.21	50.78	-588.54	-849.69	1,492.67	1,448.65	44.02	33.910	
9,200.00	7,692.00	7,408.00	7,343.07	31.63	20.21	50.78	-588.54	-849.69	1,585.90	1,541.80	44.10	35.960	
9,300.00	7,692.00	7,408.00	7,343.07	32.72	20.21	50.78	-588.54	-849.69	1,679.90	1,635.74	44.17	38.036	
9,400.00	7,692.00	7,408.00	7,343.07	33.84	20.21	50.78	-588.54	-849.69	1,774.57	1,730.35	44.22	40.131	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 14N-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 16-ISWWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	3.00	3.00	0.00	0.00	177.06	-883.30	45.30	884.46					
100.00	100.00	105.61	105.61	0.07	0.20	177.08	-883.18	45.11	884.33	884.06	0.27	3,271.878		
146.46	146.46	149.46	149.46	0.15	0.29	177.09	-883.10	44.94	884.24	883.79	0.44	1,991.315		
200.00	200.00	198.72	198.72	0.25	0.39	177.09	-883.22	44.89	884.37	883.73	0.64	1,382.624		
300.00	299.98	304.04	304.04	0.42	0.61	-59.46	-883.53	45.25	883.80	882.78	1.03	860.686		
400.00	399.84	403.15	403.15	0.60	0.81	-59.84	-883.36	45.92	881.02	879.61	1.41	625.933		
500.00	499.45	497.33	497.33	0.78	1.01	-60.40	-883.57	46.36	876.92	875.13	1.78	491.634		
600.00	598.70	589.38	589.36	0.96	1.21	-61.15	-884.46	46.60	871.92	869.76	2.16	403.601		
700.00	697.47	684.89	684.87	1.15	1.41	-62.14	-886.03	47.04	866.11	863.56	2.55	339.963		
800.00	795.62	787.96	787.92	1.33	1.63	-63.46	-887.66	47.63	858.91	855.97	2.95	291.224		
900.00	893.41	878.58	878.52	1.52	1.82	-64.64	-888.96	48.24	851.13	847.81	3.33	255.958		
1,000.00	991.20	977.21	977.13	1.70	2.03	-65.96	-890.86	49.26	844.32	840.60	3.72	226.915		
1,100.00	1,088.98	1,076.43	1,076.33	1.89	2.24	-67.34	-892.57	50.73	837.85	833.74	4.12	203.581		
1,200.00	1,186.77	1,172.66	1,172.53	2.07	2.45	-68.71	-894.19	52.35	831.88	827.38	4.51	184.643		
1,300.00	1,284.55	1,280.94	1,280.79	2.26	2.68	-70.26	-895.91	54.01	826.36	821.44	4.92	167.969		
1,400.00	1,382.34	1,398.55	1,398.32	2.45	2.92	-72.15	-893.93	57.48	818.48	813.13	5.35	153.003		
1,500.00	1,480.12	1,496.92	1,496.59	2.63	3.12	-73.82	-891.26	60.88	810.54	804.80	5.74	141.166		
1,600.00	1,577.91	1,583.31	1,582.89	2.82	3.31	-75.33	-889.09	64.35	803.70	797.58	6.11	131.451		
1,700.00	1,675.70	1,677.40	1,676.78	3.01	3.51	-77.12	-887.32	70.14	798.88	792.37	6.51	122.753		
1,800.00	1,773.48	1,782.35	1,781.37	3.19	3.75	-79.28	-884.01	78.16	794.37	787.43	6.93	114.586		
1,900.00	1,871.27	1,891.62	1,890.04	3.38	4.01	-81.71	-878.16	87.99	789.51	782.13	7.38	107.024		
2,000.00	1,969.05	1,985.61	1,983.16	3.56	4.25	-84.01	-871.20	98.55	785.09	777.28	7.81	100.582		
2,100.00	2,066.84	2,078.27	2,074.73	3.68	4.51	-86.42	-863.59	110.55	782.25	774.09	8.16	95.848		
2,190.39	2,155.22	2,158.95	2,154.26	3.72	4.74	-88.61	-856.46	122.10	781.25	772.80	8.45	92.428 CC		
2,200.00	2,164.62	2,166.62	2,161.81	3.73	4.77	-88.82	-855.78	123.26	781.27	772.78	8.48	92.107 ES		
2,300.00	2,262.41	2,250.28	2,244.08	3.85	5.02	-91.16	-848.75	136.67	783.23	774.37	8.85	88.453		
2,400.00	2,360.19	2,349.25	2,341.43	4.03	5.32	-93.92	-840.37	152.46	786.98	777.65	9.32	84.411		
2,500.00	2,457.98	2,440.20	2,430.95	4.26	5.60	-96.40	-832.45	166.44	792.02	782.20	9.82	80.693		
2,600.00	2,555.77	2,529.64	2,518.82	4.52	5.90	-98.86	-824.67	181.22	799.57	789.22	10.35	77.243		
2,700.00	2,653.55	2,624.58	2,612.06	4.82	6.21	-101.44	-816.05	196.84	808.63	797.69	10.93	73.952		
2,800.00	2,751.34	2,719.94	2,705.80	5.15	6.53	-103.96	-807.47	212.14	819.20	807.67	11.53	71.041		
2,900.00	2,849.12	2,801.44	2,785.90	5.50	6.81	-106.05	-800.33	225.27	831.63	819.53	12.10	68.738		
3,000.00	2,946.91	2,897.37	2,880.00	5.87	7.15	-108.51	-791.81	241.97	846.52	833.79	12.73	66.482		
3,100.00	3,044.69	2,991.04	2,971.95	6.26	7.48	-110.81	-783.27	257.60	862.29	848.93	13.36	64.554		
3,200.00	3,142.48	3,090.38	3,069.55	6.66	7.83	-113.16	-774.17	273.69	879.11	865.10	14.00	62.779		
3,300.00	3,240.27	3,177.96	3,155.61	7.07	8.14	-115.15	-766.25	287.87	897.32	882.71	14.60	61.448		
3,400.00	3,338.05	3,272.47	3,248.54	7.49	8.48	-117.21	-757.73	302.83	916.52	901.29	15.23	60.196		
3,500.00	3,435.84	3,356.91	3,331.45	7.91	8.79	-119.01	-750.11	316.90	937.58	921.77	15.80	59.324		
3,600.00	3,533.62	3,455.49	3,428.26	8.35	9.16	-121.02	-741.12	333.18	959.62	943.18	16.44	58.380		
3,700.00	3,631.41	3,546.48	3,517.67	8.78	9.49	-122.79	-732.73	347.85	982.35	965.31	17.03	57.676		
3,800.00	3,729.19	3,644.35	3,613.83	9.23	9.85	-124.62	-723.87	363.81	1,006.27	988.62	17.65	57.015		
3,900.00	3,826.98	3,739.56	3,707.50	9.67	10.20	-126.30	-715.17	378.45	1,030.23	1,011.98	18.25	56.452		
4,000.00	3,924.77	3,817.38	3,784.02	10.12	10.49	-127.61	-708.32	390.83	1,055.62	1,036.85	18.77	56.246		
4,100.00	4,022.55	3,909.89	3,874.96	10.58	10.83	-129.06	-701.34	406.29	1,082.75	1,063.40	19.34	55.975		
4,200.00	4,120.34	4,014.88	3,978.34	11.03	11.21	-130.61	-693.61	422.88	1,109.77	1,089.80	19.97	55.579		
4,300.00	4,218.12	4,090.68	4,052.98	11.49	11.48	-131.66	-688.28	434.95	1,137.54	1,117.09	20.46	55.605		
4,400.00	4,315.91	4,200.48	4,161.11	11.95	11.88	-133.11	-680.82	452.52	1,166.02	1,144.92	21.10	55.267		
4,500.00	4,413.69	4,310.32	4,269.57	12.41	12.25	-134.45	-673.69	468.36	1,193.54	1,171.82	21.73	54.933		
4,600.00	4,511.48	4,417.67	4,375.80	12.88	12.60	-135.67	-666.96	482.27	1,220.17	1,197.83	22.34	54.617		
4,700.00	4,609.27	4,525.77	4,482.94	13.34	12.94	-136.82	-660.54	495.13	1,246.25	1,223.30	22.95	54.300		
4,800.00	4,707.05	4,635.41	4,591.78	13.81	13.27	-137.91	-654.43	506.84	1,271.58	1,248.02	23.56	53.969		
4,900.00	4,804.84	4,758.44	4,714.11	14.27	13.62	-139.06	-647.60	518.01	1,295.75	1,271.54	24.21	53.515		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 14N-19HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISCSWA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Total Uncertainty Axis	Separation Factor
5,000.00	4,902.62	4,864.38	4,819.62	14.74	13.90	-139.99	-641.94	525.73	1,318.48	1,293.68		24.80	53.168
5,100.00	5,000.41	4,959.83	4,914.72	15.21	14.14	-140.78	-637.40	532.44	1,341.29	1,315.95		25.35	52.921
5,200.00	5,098.19	5,100.60	5,055.19	15.68	14.46	-141.76	-633.81	540.57	1,363.54	1,337.52		26.02	52.404
5,300.00	5,195.98	5,224.37	5,178.94	16.15	14.69	-142.45	-633.60	543.24	1,382.25	1,355.62		26.62	51.917
5,400.00	5,293.77	5,334.24	5,288.80	16.63	14.87	-143.03	-633.67	544.36	1,400.06	1,372.87		27.19	51.492
5,500.00	5,391.55	5,436.05	5,390.61	17.10	15.04	-143.59	-633.02	544.70	1,417.28	1,389.54		27.74	51.099
5,600.00	5,489.34	5,533.80	5,488.36	17.57	15.20	-144.09	-632.80	545.00	1,434.59	1,406.32		28.27	50.741
5,700.00	5,587.12	5,634.35	5,588.90	18.04	15.35	-144.54	-633.88	545.16	1,451.91	1,423.09		28.82	50.380
5,800.00	5,684.91	5,729.21	5,683.75	18.52	15.50	-144.95	-635.08	545.35	1,469.34	1,439.99		29.35	50.060
5,900.00	5,782.69	5,831.78	5,786.31	18.99	15.66	-145.38	-636.35	545.49	1,486.80	1,456.89		29.90	49.718
6,000.00	5,880.48	5,933.43	5,887.96	19.47	15.82	-145.80	-637.66	545.24	1,503.94	1,473.48		30.46	49.377
6,100.00	5,978.27	6,024.76	5,979.28	19.95	15.96	-146.18	-638.36	545.09	1,521.25	1,490.27		30.99	49.092
6,200.00	6,076.05	6,117.40	6,071.92	20.42	16.12	-146.59	-638.44	545.42	1,539.15	1,507.63		31.52	48.831
6,300.00	6,173.84	6,211.97	6,166.48	20.90	16.28	-147.00	-638.50	545.95	1,557.33	1,525.27		32.06	48.576
6,400.00	6,271.62	6,311.27	6,265.79	21.37	16.45	-147.41	-638.58	546.58	1,575.66	1,543.05		32.61	48.312
6,500.00	6,369.41	6,401.20	6,355.71	21.85	16.60	-147.78	-638.66	547.36	1,594.29	1,561.14		33.15	48.099
6,600.00	6,467.19	6,510.32	6,464.83	22.33	16.79	-148.22	-638.48	548.11	1,612.83	1,579.10		33.73	47.816
6,700.00	6,564.98	6,611.56	6,566.07	22.81	16.97	-148.62	-638.49	548.21	1,630.86	1,596.57		34.29	47.555
6,800.00	6,662.77	6,719.24	6,673.74	23.28	17.15	-149.03	-638.58	548.19	1,648.87	1,614.00		34.87	47.281
6,900.00	6,760.55	6,809.51	6,764.01	23.76	17.30	-149.38	-638.32	547.86	1,666.61	1,631.20		35.41	47.066
7,000.00	6,858.34	6,903.13	6,857.63	24.24	17.46	-149.75	-637.67	547.92	1,684.87	1,648.92		35.95	46.862
7,100.00	6,956.30	7,002.53	6,957.03	24.71	17.64	-170.31	-636.89	548.05	1,703.15	1,666.64		36.51	46.648
7,200.00	7,054.64	7,084.48	7,038.93	25.09	17.78	146.35	-638.77	548.55	1,720.87	1,683.88		36.99	46.528
7,300.00	7,151.66	7,148.63	7,102.45	25.39	17.87	121.21	-647.38	550.23	1,738.83	1,701.45		37.37	46.527 SF
7,400.00	7,245.47	7,188.68	7,141.46	25.60	17.93	108.91	-656.13	552.33	1,758.29	1,720.65		37.65	46.707
7,500.00	7,334.25	7,240.22	7,190.57	25.74	17.99	102.33	-671.23	556.21	1,779.73	1,741.80		37.93	46.918

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 34C-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 16-ISCWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	1.00	1.00	0.00	0.00	-169.66	-830.84	-151.55	844.55					
100.00	100.00	100.09	100.09	0.07	0.19	-169.68	-830.94	-151.24	844.59	844.34	0.26	3,277.690		
200.00	200.00	205.83	205.82	0.25	0.41	-169.75	-830.93	-150.29	844.43	843.77	0.66	1,277.418		
300.00	299.98	308.67	308.65	0.42	0.64	-46.35	-830.36	-149.05	842.46	841.40	1.06	796.898		
400.00	399.84	404.83	404.80	0.60	0.85	-46.77	-829.95	-147.35	838.14	836.69	1.44	581.030		
500.00	499.45	503.29	503.24	0.78	1.06	-47.44	-829.91	-145.29	831.81	829.97	1.84	452.626		
600.00	598.70	602.53	602.46	0.96	1.27	-48.33	-829.90	-143.25	823.27	821.05	2.22	370.155		
700.00	697.47	697.89	697.81	1.15	1.46	-49.38	-829.95	-141.80	812.75	810.16	2.59	313.419		
800.00	795.62	789.92	789.83	1.33	1.64	-50.59	-830.45	-141.01	800.79	797.83	2.96	270.159		
900.00	893.41	895.32	895.23	1.52	1.86	-51.87	-831.18	-140.71	788.19	784.82	3.37	234.091		
1,000.00	991.20	1,006.20	1,006.10	1.70	2.09	-53.30	-830.12	-139.72	774.25	770.47	3.78	204.692		
1,100.00	1,088.98	1,109.48	1,109.35	1.89	2.30	-54.59	-827.74	-140.04	759.46	755.28	4.18	181.660		
1,200.00	1,186.77	1,201.38	1,201.19	2.07	2.49	-55.63	-825.48	-142.17	744.94	740.38	4.55	163.578		
1,300.00	1,284.55	1,293.72	1,293.39	2.26	2.68	-56.51	-824.17	-147.03	731.74	726.81	4.93	148.409		
1,400.00	1,382.34	1,396.69	1,395.98	2.45	2.91	-57.26	-822.86	-155.73	718.88	713.54	5.34	134.587		
1,500.00	1,480.12	1,503.73	1,502.25	2.63	3.15	-57.79	-820.41	-168.24	705.08	699.31	5.77	122.291		
1,600.00	1,577.91	1,598.27	1,595.72	2.82	3.40	-58.02	-818.03	-182.23	691.05	684.85	6.20	111.419		
1,700.00	1,675.70	1,695.31	1,691.20	3.01	3.67	-58.03	-816.21	-199.45	677.61	670.95	6.66	101.757		
1,800.00	1,773.48	1,799.76	1,793.46	3.19	4.02	-57.80	-813.89	-220.57	663.79	656.61	7.18	92.409		
1,900.00	1,871.27	1,900.58	1,891.74	3.38	4.36	-57.40	-811.03	-242.88	649.34	641.64	7.71	84.231		
2,000.00	1,969.05	1,999.04	1,987.69	3.56	4.70	-56.97	-808.21	-264.80	634.92	626.68	8.24	77.079		
2,100.00	2,066.84	2,100.12	2,086.04	3.68	5.09	-56.46	-805.20	-287.92	620.40	611.66	8.74	70.946		
2,200.00	2,164.62	2,201.30	2,184.07	3.73	5.50	-55.76	-801.74	-312.71	605.54	596.34	9.20	65.797		
2,300.00	2,262.41	2,302.41	2,282.04	3.85	5.92	-55.02	-797.87	-337.44	590.36	580.62	9.73	60.643		
2,400.00	2,360.19	2,400.12	2,376.91	4.03	6.32	-54.36	-793.88	-360.49	574.98	564.69	10.29	55.857		
2,500.00	2,457.98	2,494.88	2,469.02	4.26	6.71	-53.73	-790.56	-382.44	560.24	549.36	10.88	51.509		
2,600.00	2,555.77	2,590.94	2,562.43	4.52	7.13	-53.07	-787.80	-404.66	546.19	534.66	11.53	47.386		
2,700.00	2,653.55	2,687.42	2,656.07	4.82	7.56	-52.28	-785.38	-427.82	532.65	520.43	12.22	43.600		
2,800.00	2,751.34	2,785.04	2,750.63	5.15	8.03	-51.36	-783.20	-451.95	519.56	506.59	12.97	40.055		
2,900.00	2,849.12	2,883.22	2,845.63	5.50	8.50	-50.34	-781.17	-476.67	506.82	493.08	13.74	36.879		
3,000.00	2,946.91	2,983.40	2,942.65	5.87	8.96	-49.29	-779.01	-501.52	494.12	479.60	14.52	34.024		
3,100.00	3,044.69	3,083.31	3,039.59	6.26	9.42	-48.28	-776.69	-525.58	481.32	466.02	15.30	31.464		
3,200.00	3,142.48	3,182.95	3,136.39	6.66	9.85	-47.27	-774.27	-549.09	468.48	452.41	16.07	29.159		
3,300.00	3,240.27	3,298.48	3,248.58	7.07	10.38	-45.99	-769.56	-576.21	454.21	437.30	16.91	26.864		
3,400.00	3,338.05	3,406.44	3,353.07	7.49	10.87	-44.55	-760.84	-601.89	436.24	418.53	17.71	24.635		
3,500.00	3,435.84	3,498.73	3,442.85	7.91	11.28	-43.45	-753.94	-622.15	418.72	400.25	18.47	22.670		
3,600.00	3,533.62	3,597.68	3,539.62	8.35	11.70	-42.52	-747.96	-641.91	402.25	383.01	19.24	20.904		
3,700.00	3,631.41	3,701.35	3,640.81	8.78	12.14	-41.32	-740.36	-663.14	384.82	364.81	20.01	19.235		
3,800.00	3,729.19	3,798.69	3,735.52	9.23	12.59	-39.89	-732.26	-684.07	366.90	346.11	20.79	17.651		
3,900.00	3,826.98	3,895.34	3,829.26	9.67	13.04	-38.11	-724.13	-706.14	349.57	328.02	21.55	16.220		
4,000.00	3,924.77	3,991.11	3,921.94	10.12	13.53	-36.02	-716.25	-728.96	333.13	310.80	22.33	14.918		
4,100.00	4,022.55	4,086.42	4,014.02	10.58	14.00	-33.64	-708.75	-752.42	317.83	294.76	23.07	13.775		
4,200.00	4,120.34	4,181.07	4,105.52	11.03	14.48	-31.13	-702.32	-775.75	304.12	280.34	23.78	12.789		
4,300.00	4,218.12	4,277.10	4,198.46	11.49	14.95	-28.49	-696.91	-799.33	292.04	267.59	24.45	11.943		
4,400.00	4,315.91	4,374.08	4,292.31	11.95	15.43	-25.65	-691.99	-823.22	281.19	256.11	25.08	11.211		
4,500.00	4,413.69	4,469.78	4,384.82	12.41	15.93	-22.59	-687.55	-847.32	271.78	246.11	25.67	10.588		
4,600.00	4,511.48	4,565.11	4,476.63	12.88	16.43	-19.16	-683.47	-872.66	264.39	238.21	26.18	10.097		
4,700.00	4,609.27	4,667.55	4,575.39	13.34	16.95	-15.35	-679.10	-899.53	257.87	231.21	26.66	9.672		
4,800.00	4,707.05	4,768.22	4,672.90	13.81	17.46	-11.68	-674.49	-924.10	250.95	223.84	27.10	9.259		
4,900.00	4,804.84	4,864.69	4,766.07	14.27	17.95	-7.70	-669.31	-948.55	245.31	217.86	27.45	8.936		
5,000.00	4,902.62	4,962.97	4,860.61	14.74	18.45	-3.17	-663.29	-974.74	241.62	213.89	27.73	8.713		
5,100.00	5,000.41	5,063.19	4,957.26	15.21	18.97	1.43	-657.26	-1,000.55	238.81	210.80	28.01	8.527		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 34C-19HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISWWSA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.00	5,098.19	5,161.58	5,052.47	15.68	19.45	5.73	-652.17	-1,024.85	236.98	208.72	28.26	8.385	
5,300.00	5,195.98	5,260.37	5,148.37	16.15	19.92	9.57	-648.98	-1,048.34	236.41	207.84	28.57	8.274	
5,303.63	5,199.53	5,263.97	5,151.87	16.17	19.94	9.70	-648.90	-1,049.18	236.41	207.83	28.59	8.270	
5,400.00	5,293.77	5,358.09	5,243.11	16.63	20.40	13.55	-645.18	-1,071.96	237.10	208.22	28.88	8.210	
5,500.00	5,391.55	5,455.91	5,337.64	17.10	20.88	17.94	-639.64	-1,096.51	239.46	210.28	29.19	8.205	
5,600.00	5,489.34	5,555.13	5,433.63	17.57	21.38	22.11	-634.75	-1,121.11	243.07	213.48	29.58	8.216	
5,700.00	5,587.12	5,657.33	5,532.82	18.04	21.86	25.95	-630.94	-1,145.48	247.11	217.03	30.08	8.215	
5,800.00	5,684.91	5,761.22	5,634.13	18.52	22.33	29.51	-627.86	-1,168.22	250.22	219.56	30.66	8.161	
5,900.00	5,782.69	5,860.24	5,730.92	18.99	22.76	32.84	-624.78	-1,188.90	253.20	221.93	31.27	8.098	
6,000.00	5,880.48	5,960.44	5,828.88	19.47	23.18	36.30	-620.86	-1,209.63	256.88	224.92	31.95	8.039	
6,100.00	5,978.27	6,063.33	5,929.71	19.95	23.60	39.79	-616.74	-1,229.67	260.25	227.51	32.74	7.949	
6,200.00	6,076.05	6,170.12	6,034.78	20.42	23.98	43.32	-612.78	-1,248.30	262.47	228.86	33.61	7.809	
6,300.00	6,173.84	6,278.93	6,142.48	20.90	24.36	46.87	-609.63	-1,263.47	261.92	227.39	34.53	7.585	
6,400.00	6,271.62	6,385.87	6,248.78	21.37	24.63	50.38	-607.47	-1,274.88	258.84	223.35	35.49	7.293	
6,500.00	6,369.41	6,490.80	6,353.38	21.85	24.87	53.97	-606.16	-1,283.07	253.69	217.16	36.53	6.945	
6,600.00	6,467.19	6,593.38	6,455.78	22.33	25.08	57.80	-604.88	-1,289.03	247.69	210.01	37.68	6.573	
6,700.00	6,564.98	6,692.60	6,554.89	22.81	25.26	61.94	-603.15	-1,293.35	241.76	202.76	38.99	6.200	
6,800.00	6,662.77	6,790.71	6,652.89	23.28	25.43	66.52	-600.33	-1,296.89	237.12	196.67	40.46	5.861	
6,900.00	6,760.55	6,887.12	6,749.16	23.76	25.58	71.63	-595.77	-1,299.43	234.50	192.43	42.06	5.575	
6,944.64	6,804.20	6,929.84	6,791.78	23.98	25.65	74.11	-593.04	-1,300.22	234.19	191.31	42.88	5.461	
7,000.00	6,858.34	6,985.94	6,847.74	24.24	25.74	77.45	-589.21	-1,300.99	234.47	190.57	43.90	5.341	
7,100.00	6,956.30	7,092.95	6,954.68	24.71	25.89	83.32	-585.74	-1,302.16	232.60	187.28	45.32	5.132	
7,200.00	7,054.64	7,196.67	7,058.38	25.09	26.02	89.39	-586.85	-1,303.03	219.12	172.90	46.21	4.741	
7,300.00	7,151.66	7,296.69	7,158.35	25.39	26.15	-2.02	-590.07	-1,303.81	193.47	146.82	46.65	4.147	
7,400.00	7,245.47	7,401.06	7,262.39	25.60	26.26	-20.41	-597.90	-1,304.33	154.74	108.77	45.96	3.366	
7,500.00	7,334.25	7,493.67	7,352.14	25.74	26.31	-51.91	-620.13	-1,304.04	101.14	59.08	42.05	2.405	
7,580.03	7,400.51	7,540.74	7,396.08	25.81	26.33	-83.24	-636.98	-1,304.56	76.37	35.91	40.46	1.888 CC, ES	
7,600.00	7,416.27	7,550.64	7,405.24	25.83	26.34	-90.05	-640.73	-1,304.70	78.35	36.77	41.57	1.885 SF	
7,700.00	7,489.93	7,588.25	7,439.70	25.85	26.36	-110.57	-655.77	-1,305.45	133.76	86.39	47.37	2.824	
7,800.00	7,553.80	7,608.51	7,457.98	25.83	26.37	-111.85	-664.50	-1,305.94	221.12	172.38	48.74	4.537	
7,900.00	7,606.64	7,615.21	7,463.96	25.77	26.37	-91.88	-667.51	-1,306.07	317.13	268.04	49.09	6.460	
8,000.00	7,647.41	7,612.22	7,461.30	25.67	26.37	-49.05	-666.16	-1,306.01	415.41	366.08	49.33	8.420	
8,100.00	7,675.32	7,602.18	7,452.29	25.56	26.37	-20.60	-661.71	-1,305.80	513.11	463.50	49.61	10.344	
8,200.00	7,689.84	7,585.88	7,437.55	25.46	26.36	-8.74	-654.78	-1,305.39	608.47	558.57	49.90	12.194	
8,300.00	7,692.00	7,563.03	7,416.66	25.38	26.35	-4.93	-645.54	-1,304.90	700.62	650.45	50.17	13.964	
8,400.00	7,692.00	7,540.02	7,395.42	25.41	26.33	-4.52	-636.71	-1,304.55	792.89	742.49	50.40	15.732	
8,500.00	7,692.00	7,516.99	7,374.00	25.67	26.32	-4.17	-628.24	-1,304.26	885.84	835.27	50.58	17.515	
8,600.00	7,692.00	7,507.00	7,364.67	26.21	26.32	-4.03	-624.68	-1,304.14	979.48	928.68	50.80	19.280	
8,700.00	7,692.00	7,488.87	7,347.60	26.93	26.31	-3.82	-618.56	-1,304.02	1,073.73	1,022.80	50.94	21.080	
8,800.00	7,692.00	7,478.73	7,337.98	27.75	26.31	-3.72	-615.39	-1,304.03	1,168.70	1,117.62	51.08	22.881	
8,900.00	7,692.00	7,464.00	7,323.88	28.64	26.30	-3.59	-611.10	-1,304.12	1,264.25	1,213.08	51.18	24.704	
9,000.00	7,692.00	7,464.00	7,323.88	29.59	26.30	-3.59	-611.10	-1,304.12	1,360.19	1,308.90	51.29	26.518	
9,100.00	7,692.00	7,464.00	7,323.88	30.59	26.30	-3.59	-611.10	-1,304.12	1,456.68	1,405.30	51.38	28.351	
9,200.00	7,692.00	7,464.00	7,323.88	31.63	26.30	-3.59	-611.10	-1,304.12	1,553.61	1,502.16	51.45	30.198	
9,300.00	7,692.00	7,444.12	7,304.67	32.72	26.29	-3.44	-606.00	-1,304.27	1,650.35	1,598.86	51.49	32.050	
9,400.00	7,692.00	7,439.27	7,299.95	33.84	26.28	-3.40	-604.88	-1,304.30	1,747.66	1,696.12	51.54	33.907	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 35C-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 16-ISWWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.00	0.00	5.00	5.00	0.00	0.00	177.16	-912.44	45.30	913.56					
100.00	100.00	108.05	108.05	0.07	0.10	177.15	-912.28	45.41	913.42	913.24	0.17	5,334.396		
200.00	200.00	207.62	207.62	0.25	0.30	177.16	-911.96	45.27	913.09	912.54	0.55	1,664.795		
300.00	299.98	305.32	305.32	0.42	0.50	-59.34	-911.81	44.91	912.03	911.10	0.92	987.765		
400.00	399.84	407.52	407.51	0.60	0.72	-59.71	-911.65	45.31	909.23	907.92	1.32	691.304		
500.00	499.45	507.88	507.87	0.78	0.93	-60.32	-911.26	46.10	904.52	902.81	1.70	530.767		
600.00	598.70	600.15	600.14	0.96	1.12	-61.10	-911.17	46.90	898.50	896.42	2.07	433.130		
700.00	697.47	697.67	697.65	1.15	1.33	-62.17	-911.57	48.26	891.52	889.06	2.46	361.860		
800.00	795.62	796.49	796.46	1.33	1.54	-63.51	-911.89	50.04	883.20	880.34	2.86	308.775		
900.00	893.41	890.57	890.53	1.52	1.73	-64.76	-912.30	51.37	874.53	871.29	3.24	269.686		
1,000.00	991.20	981.95	981.87	1.70	1.93	-66.04	-913.22	53.52	867.02	863.40	3.62	239.398		
1,100.00	1,088.98	1,082.08	1,081.96	1.89	2.14	-67.50	-914.02	56.43	859.93	855.91	4.02	213.828		
1,200.00	1,186.77	1,166.43	1,166.26	2.07	2.32	-68.70	-915.64	58.35	854.32	849.93	4.39	194.752		
1,300.00	1,284.55	1,267.83	1,267.63	2.26	2.53	-70.04	-918.42	59.08	849.69	844.90	4.78	177.671		
1,400.00	1,382.34	1,374.55	1,374.32	2.45	2.76	-71.41	-920.82	58.75	844.78	839.59	5.19	162.745		
1,500.00	1,480.12	1,477.36	1,477.11	2.63	2.97	-72.74	-922.14	58.14	839.30	833.71	5.59	150.060		
1,600.00	1,577.91	1,576.82	1,576.56	2.82	3.18	-74.06	-923.24	57.67	834.15	828.16	5.99	139.315		
1,700.00	1,675.70	1,684.57	1,684.31	3.01	3.41	-75.51	-923.72	57.14	828.82	822.42	6.40	129.481		
1,800.00	1,773.48	1,801.53	1,801.25	3.19	3.66	-77.25	-921.60	57.72	822.22	815.38	6.84	120.286		
1,900.00	1,871.27	1,922.42	1,921.97	3.38	3.92	-79.24	-915.53	59.15	813.50	806.22	7.28	111.775		
2,000.00	1,969.05	2,039.89	2,039.07	3.56	4.17	-81.30	-906.32	60.36	802.92	795.21	7.71	104.115		
2,100.00	2,066.84	2,150.85	2,149.46	3.68	4.42	-83.34	-895.07	60.97	790.87	782.81	8.06	98.159		
2,200.00	2,164.62	2,261.68	2,259.42	3.73	4.68	-85.55	-881.30	61.96	777.83	769.47	8.37	92.970		
2,300.00	2,262.41	2,372.18	2,368.75	3.85	4.96	-87.92	-865.30	62.87	764.01	755.27	8.74	87.399		
2,400.00	2,360.19	2,476.01	2,471.15	4.03	5.24	-90.30	-848.17	63.67	749.55	740.38	9.17	81.739		
2,500.00	2,457.98	2,567.91	2,561.68	4.26	5.49	-92.53	-832.41	64.69	735.97	726.34	9.63	76.460		
2,600.00	2,555.77	2,662.85	2,655.32	4.52	5.74	-94.83	-816.72	65.02	723.75	713.63	10.12	71.502		
2,700.00	2,653.55	2,752.91	2,744.26	4.82	5.98	-97.00	-802.64	64.78	713.13	702.48	10.65	66.959		
2,800.00	2,751.34	2,844.55	2,834.90	5.15	6.23	-99.22	-789.12	64.39	704.33	693.12	11.21	62.826		
2,900.00	2,849.12	2,939.29	2,928.74	5.50	6.49	-101.47	-776.12	63.25	696.99	685.19	11.80	59.059		
3,000.00	2,946.91	3,033.95	3,022.51	5.87	6.76	-103.75	-763.21	62.15	690.94	678.52	12.42	55.632		
3,100.00	3,044.69	3,127.56	3,115.14	6.26	7.03	-106.13	-749.69	62.00	686.33	673.27	13.06	52.542		
3,200.00	3,142.48	3,220.81	3,207.34	6.66	7.31	-108.59	-735.78	62.56	683.36	669.64	13.72	49.814		
3,300.00	3,240.27	3,314.33	3,299.89	7.07	7.58	-111.04	-722.33	62.99	682.04	667.67	14.38	47.446		
3,327.21	3,266.87	3,339.83	3,325.14	7.18	7.65	-111.69	-718.78	63.06	681.96	667.41	14.55	46.855 CC, ES		
3,400.00	3,338.05	3,401.04	3,385.76	7.49	7.83	-113.29	-710.30	63.71	682.72	667.70	15.02	45.442		
3,500.00	3,435.84	3,490.18	3,474.06	7.91	8.09	-115.62	-698.27	65.53	685.96	670.27	15.69	43.708		
3,600.00	3,533.62	3,588.20	3,571.25	8.35	8.37	-118.11	-685.65	67.42	690.81	674.45	16.36	42.219		
3,700.00	3,631.41	3,681.98	3,664.29	8.78	8.64	-120.41	-674.06	68.82	696.82	679.80	17.02	40.932		
3,800.00	3,729.19	3,779.88	3,761.55	9.23	8.91	-122.69	-662.85	69.78	703.99	686.31	17.68	39.829		
3,900.00	3,826.98	3,874.54	3,855.65	9.67	9.17	-124.79	-652.59	70.14	711.96	693.64	18.32	38.866		
4,000.00	3,924.77	3,966.71	3,947.35	10.12	9.42	-126.75	-643.41	70.93	721.67	702.72	18.95	38.082		
4,100.00	4,022.55	4,067.47	4,047.80	10.58	9.67	-128.65	-635.48	70.85	732.06	712.50	19.56	37.422		
4,200.00	4,120.34	4,164.51	4,144.70	11.03	9.88	-130.21	-630.56	69.52	742.76	722.61	20.15	36.858		
4,300.00	4,218.12	4,255.78	4,235.93	11.49	10.07	-131.47	-628.21	68.08	754.41	733.68	20.73	36.394		
4,400.00	4,315.91	4,341.68	4,321.80	11.95	10.24	-132.63	-626.13	67.76	767.67	746.36	21.30	36.036		
4,500.00	4,413.69	4,444.09	4,424.19	12.41	10.45	-133.95	-624.04	67.89	781.87	760.01	21.87	35.759		
4,600.00	4,511.48	4,538.09	4,518.18	12.88	10.64	-135.11	-622.18	67.79	796.23	773.80	22.43	35.501		
4,700.00	4,609.27	4,626.07	4,606.14	13.34	10.81	-136.10	-621.35	68.27	811.71	788.72	22.99	35.314		
4,800.00	4,707.05	4,716.85	4,696.91	13.81	10.97	-136.99	-622.12	69.65	828.68	805.14	23.53	35.214		
4,900.00	4,804.84	4,816.23	4,796.27	14.27	11.15	-137.90	-623.21	71.12	845.86	821.78	24.08	35.133		
5,000.00	4,902.62	4,917.07	4,897.10	14.74	11.33	-138.81	-624.18	72.55	863.18	838.56	24.62	35.062		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 35C-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 16-ISCSWA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,100.00	5,000.41	5,016.31	4,996.33	15.21	11.51	-139.66	-625.06	73.50	880.23	855.07	25.16	34.982		
5,200.00	5,098.19	5,118.14	5,098.15	15.68	11.69	-140.50	-625.95	74.27	897.26	871.55	25.71	34.906		
5,300.00	5,195.98	5,221.88	5,201.89	16.15	11.89	-141.36	-626.36	74.35	913.75	887.50	26.25	34.811		
5,400.00	5,293.77	5,317.79	5,297.80	16.63	12.06	-142.12	-626.72	74.35	930.36	903.56	26.80	34.719		
5,500.00	5,391.55	5,417.76	5,397.77	17.10	12.25	-142.88	-627.14	74.38	947.15	919.81	27.34	34.640		
5,600.00	5,489.34	5,514.77	5,494.78	17.57	12.44	-143.60	-627.39	74.19	963.86	935.97	27.89	34.558		
5,700.00	5,587.12	5,609.77	5,589.78	18.04	12.61	-144.28	-627.75	74.28	981.02	952.58	28.44	34.492		
5,800.00	5,684.91	5,709.67	5,689.68	18.52	12.80	-144.97	-628.14	74.44	998.37	969.38	28.99	34.440		
5,900.00	5,782.69	5,807.41	5,787.42	18.99	12.99	-145.62	-628.59	74.50	1,015.76	986.23	29.54	34.389		
6,000.00	5,880.48	5,907.61	5,887.62	19.47	13.18	-146.26	-629.03	74.34	1,033.06	1,002.97	30.09	34.334		
6,100.00	5,978.27	6,003.67	5,983.67	19.95	13.37	-146.87	-629.15	74.23	1,050.54	1,019.90	30.64	34.289		
6,200.00	6,076.05	6,100.12	6,080.12	20.42	13.55	-147.47	-629.10	74.25	1,068.26	1,037.07	31.19	34.249		
6,300.00	6,173.84	6,201.01	6,181.02	20.90	13.75	-148.09	-628.97	74.26	1,086.08	1,054.33	31.75	34.206		
6,400.00	6,271.62	6,292.87	6,272.87	21.37	13.93	-148.65	-628.53	74.23	1,104.00	1,071.71	32.30	34.180		
6,500.00	6,369.41	6,390.56	6,370.56	21.85	14.13	-149.24	-627.70	74.55	1,122.41	1,089.56	32.85	34.164		
6,600.00	6,467.19	6,488.33	6,468.32	22.33	14.33	-149.85	-626.30	74.73	1,140.83	1,107.42	33.41	34.147		
6,700.00	6,564.98	6,580.61	6,560.58	22.81	14.52	-150.42	-624.61	75.20	1,159.71	1,125.74	33.97	34.137		
6,800.00	6,662.77	6,680.80	6,660.76	23.28	14.73	-151.00	-623.20	75.83	1,178.80	1,144.28	34.52	34.145		
6,900.00	6,760.55	6,785.13	6,765.08	23.76	14.94	-151.53	-622.95	76.15	1,197.57	1,162.48	35.09	34.130		
7,000.00	6,858.34	6,885.67	6,865.62	24.24	15.14	-152.06	-621.74	75.92	1,215.99	1,180.33	35.66	34.103		
7,100.00	6,956.30	6,984.96	6,964.91	24.71	15.34	-172.71	-620.85	75.57	1,234.18	1,197.96	36.22	34.078		
7,200.00	7,054.64	7,085.85	7,065.80	25.09	15.54	144.08	-620.41	75.22	1,250.96	1,214.21	36.75	34.038		
7,300.00	7,151.66	7,190.33	7,170.27	25.39	15.75	119.45	-620.58	74.24	1,265.42	1,228.15	37.28	33.948		
7,400.00	7,245.47	7,285.68	7,265.61	25.60	15.93	108.42	-621.55	73.23	1,278.37	1,240.62	37.75	33.862		
7,500.00	7,334.25	7,360.69	7,340.09	25.74	16.03	103.17	-629.81	73.38	1,291.46	1,253.32	38.14	33.863		
7,600.00	7,416.27	7,415.27	7,393.33	25.83	16.07	100.16	-641.76	73.99	1,306.47	1,267.87	38.60	33.846 SF		
7,700.00	7,489.93	7,462.87	7,438.83	25.85	16.09	98.17	-655.71	74.69	1,325.06	1,286.03	39.02	33.955		
7,800.00	7,553.80	7,487.00	7,461.47	25.83	16.10	95.74	-664.03	74.99	1,348.22	1,308.81	39.41	34.210		
7,900.00	7,606.64	7,497.75	7,471.45	25.77	16.10	92.84	-668.03	75.14	1,376.38	1,336.64	39.73	34.643		
8,000.00	7,647.41	7,498.86	7,472.47	25.67	16.10	89.47	-668.46	75.16	1,409.08	1,369.09	39.99	35.236		
8,100.00	7,675.32	7,487.00	7,461.47	25.56	16.10	85.50	-664.03	74.99	1,445.51	1,405.32	40.19	35.965		
8,200.00	7,689.84	7,487.00	7,461.47	25.46	16.10	82.05	-664.03	74.99	1,484.43	1,444.06	40.38	36.763		
8,300.00	7,692.00	7,468.74	7,444.36	25.38	16.10	79.44	-657.66	74.76	1,525.27	1,484.74	40.52	37.642		
8,400.00	7,692.00	7,446.00	7,422.82	25.41	16.09	78.57	-650.38	74.45	1,570.44	1,529.78	40.66	38.626		
8,500.00	7,692.00	7,446.00	7,422.82	25.67	16.09	78.57	-650.38	74.45	1,620.21	1,579.38	40.83	39.684		
8,600.00	7,692.00	7,427.56	7,405.17	26.21	16.08	77.85	-645.04	74.18	1,674.23	1,633.27	40.97	40.870		
8,700.00	7,692.00	7,417.26	7,395.26	26.93	16.07	77.45	-642.28	74.02	1,732.20	1,691.09	41.11	42.137		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 35N-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft		
Survey Program: 16-ISWWSA MWD														Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
0.00	0.00	2.00	2.00	0.00	0.00	-170.08	-861.44	-150.69	874.52						
100.00	100.00	104.56	104.55	0.07	0.20	-170.10	-861.36	-150.37	874.39	874.12	0.27	3,263.650			
200.00	200.00	205.77	205.77	0.25	0.42	-170.15	-861.12	-149.58	874.02	873.35	0.66	1,315.982			
300.00	299.98	310.58	310.57	0.42	0.64	-46.72	-860.53	-148.74	872.13	871.07	1.07	818.444			
400.00	399.84	410.77	410.75	0.60	0.86	-47.12	-859.72	-147.36	867.54	866.08	1.46	594.529			
500.00	499.45	507.65	507.60	0.78	1.07	-47.78	-859.24	-145.01	860.75	858.90	1.85	466.099			
600.00	598.70	609.57	609.47	0.96	1.30	-48.74	-858.83	-141.91	851.76	849.50	2.25	377.999			
700.00	697.47	706.34	706.19	1.15	1.50	-49.89	-858.31	-138.93	840.55	837.92	2.64	318.729			
800.00	795.62	805.35	805.16	1.33	1.70	-51.29	-857.78	-136.22	827.47	824.45	3.02	273.952			
900.00	893.41	897.16	896.96	1.52	1.88	-52.47	-857.35	-134.61	813.74	810.35	3.39	240.081			
1,000.00	991.20	986.04	985.83	1.70	2.06	-53.57	-857.65	-134.10	801.28	797.53	3.75	213.587			
1,100.00	1,088.98	1,067.92	1,067.70	1.89	2.23	-54.60	-859.25	-133.77	790.77	786.67	4.11	192.630			
1,200.00	1,186.77	1,152.01	1,151.72	2.07	2.40	-55.72	-862.49	-132.99	782.51	778.04	4.47	175.107			
1,300.00	1,284.55	1,245.79	1,245.37	2.26	2.60	-57.02	-867.25	-131.80	775.86	771.01	4.85	159.849			
1,400.00	1,382.34	1,342.54	1,341.98	2.45	2.81	-58.32	-872.48	-131.20	769.98	764.73	5.24	146.865			
1,500.00	1,480.12	1,431.55	1,430.82	2.63	3.00	-59.53	-877.92	-130.73	765.21	759.60	5.62	136.197			
1,600.00	1,577.91	1,527.68	1,526.72	2.82	3.22	-60.83	-884.59	-130.53	761.66	755.66	6.01	126.772			
1,700.00	1,675.70	1,644.49	1,643.30	3.01	3.47	-62.28	-891.61	-132.28	757.47	751.04	6.43	117.812			
1,800.00	1,773.48	1,767.50	1,766.22	3.19	3.73	-63.86	-895.43	-134.10	750.80	743.93	6.87	109.362			
1,900.00	1,871.27	1,893.18	1,891.86	3.38	3.98	-65.46	-895.09	-137.21	741.07	733.77	7.30	101.452			
2,000.00	1,969.05	2,026.83	2,025.23	3.56	4.24	-67.05	-889.58	-143.64	727.66	719.91	7.75	93.893			
2,100.00	2,066.84	2,151.78	2,149.39	3.68	4.50	-68.45	-879.07	-152.72	709.89	701.78	8.11	87.531			
2,200.00	2,164.62	2,269.17	2,265.43	3.73	4.75	-69.58	-866.36	-165.07	689.49	681.08	8.41	81.987			
2,300.00	2,262.41	2,389.15	2,383.20	3.85	5.03	-70.60	-849.89	-180.93	665.88	657.10	8.77	75.887			
2,400.00	2,360.19	2,482.24	2,474.26	4.03	5.27	-71.37	-836.00	-194.40	640.99	631.83	9.16	69.994			
2,500.00	2,457.98	2,575.08	2,565.16	4.26	5.51	-72.19	-822.74	-207.84	616.84	607.25	9.59	64.337			
2,600.00	2,555.77	2,671.68	2,659.80	4.52	5.78	-73.08	-809.49	-221.93	593.34	583.27	10.07	58.922			
2,700.00	2,653.55	2,772.63	2,758.53	4.82	6.09	-74.09	-794.74	-236.99	569.03	558.44	10.59	53.717			
2,800.00	2,751.34	2,863.96	2,847.94	5.15	6.38	-75.09	-781.82	-250.37	545.42	534.28	11.14	48.965			
2,900.00	2,849.12	2,961.53	2,943.67	5.50	6.69	-76.37	-768.19	-263.42	522.56	510.85	11.71	44.625			
3,000.00	2,946.91	3,057.10	3,037.36	5.87	7.01	-77.72	-754.58	-276.52	499.63	487.32	12.30	40.607			
3,100.00	3,044.69	3,146.98	3,125.60	6.26	7.30	-79.10	-742.57	-288.62	477.87	464.95	12.91	37.011			
3,200.00	3,142.48	3,240.74	3,217.88	6.66	7.60	-80.72	-730.85	-300.35	457.59	444.06	13.53	33.826			
3,300.00	3,240.27	3,344.14	3,319.60	7.07	7.95	-82.73	-717.42	-313.15	437.37	423.21	14.15	30.906			
3,400.00	3,338.05	3,444.59	3,418.16	7.49	8.30	-84.86	-703.08	-326.22	416.22	401.43	14.78	28.156			
3,500.00	3,435.84	3,537.46	3,509.33	7.91	8.63	-87.11	-689.73	-337.83	395.81	380.39	15.42	25.664			
3,600.00	3,533.62	3,628.51	3,598.91	8.35	8.94	-89.50	-677.68	-348.76	377.34	361.27	16.07	23.482			
3,700.00	3,631.41	3,722.89	3,691.99	8.78	9.25	-92.27	-666.02	-359.12	360.96	344.25	16.71	21.603			
3,800.00	3,729.19	3,822.01	3,789.75	9.23	9.58	-95.78	-652.48	-368.31	345.55	328.22	17.34	19.933			
3,900.00	3,826.98	3,921.69	3,887.88	9.67	9.92	-99.78	-637.58	-377.45	330.64	312.68	17.96	18.407			
4,000.00	3,924.77	4,016.61	3,981.27	10.12	10.25	-103.85	-623.33	-386.69	316.98	298.37	18.61	17.035			
4,100.00	4,022.55	4,107.51	4,070.91	10.58	10.55	-107.94	-610.80	-395.10	306.31	287.05	19.27	15.899			
4,200.00	4,120.34	4,200.38	4,162.73	11.03	10.85	-112.23	-599.32	-403.05	298.97	278.99	19.98	14.964			
4,300.00	4,218.12	4,291.43	4,252.90	11.49	11.13	-116.59	-588.73	-409.76	295.02	274.31	20.71	14.244			
4,335.13	4,252.47	4,322.24	4,283.49	11.65	11.22	-118.06	-585.54	-411.65	294.71	273.73	20.98	14.050 CC, ES			
4,400.00	4,315.91	4,382.33	4,343.24	11.95	11.39	-120.85	-580.03	-414.84	295.58	274.15	21.43	13.791			
4,500.00	4,413.69	4,476.13	4,436.60	12.41	11.64	-124.97	-572.45	-419.77	298.97	276.85	22.12	13.518			
4,600.00	4,511.48	4,566.22	4,526.47	12.88	11.86	-128.55	-567.20	-423.27	306.01	283.21	22.80	13.424 SF			
4,700.00	4,609.27	4,660.95	4,621.13	13.34	12.05	-131.67	-564.67	-425.83	316.30	292.88	23.42	13.506			
4,800.00	4,707.05	4,759.85	4,719.97	13.81	12.24	-134.18	-565.09	-429.18	327.50	303.50	24.00	13.645			
4,900.00	4,804.84	4,857.23	4,817.28	14.27	12.43	-136.42	-565.88	-432.55	339.29	314.71	24.58	13.804			
5,000.00	4,902.62	4,957.52	4,917.50	14.74	12.62	-138.58	-566.63	-436.11	351.48	326.34	25.14	13.982			

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 35N-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft	
Survey Program: 16-ISWWSA MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,100.00	5,000.41	5,053.02	5,012.93	15.21	12.79	-140.38	-568.13	-439.68	364.02	338.31	25.71	14.159		
5,200.00	5,098.19	5,142.87	5,102.74	15.68	12.95	-141.88	-570.21	-441.29	378.85	352.56	26.29	14.410		
5,300.00	5,195.98	5,237.75	5,197.62	16.15	13.11	-143.55	-571.09	-441.53	395.44	368.59	26.85	14.730		
5,400.00	5,293.77	5,333.51	5,293.37	16.63	13.27	-145.14	-571.76	-441.27	412.86	385.46	27.40	15.069		
5,500.00	5,391.55	5,430.90	5,390.76	17.10	13.43	-146.59	-572.68	-440.56	431.02	403.08	27.94	15.425		
5,600.00	5,489.34	5,527.35	5,487.20	17.57	13.59	-147.93	-573.49	-439.85	449.45	420.96	28.49	15.777		
5,700.00	5,587.12	5,626.04	5,585.88	18.04	13.75	-149.22	-574.03	-438.98	468.25	439.23	29.03	16.132		
5,800.00	5,684.91	5,724.60	5,684.44	18.52	13.92	-150.46	-574.22	-438.38	487.04	457.47	29.57	16.473		
5,900.00	5,782.69	5,822.76	5,782.59	18.99	14.09	-151.59	-574.51	-437.90	505.89	475.79	30.11	16.802		
6,000.00	5,880.48	5,920.26	5,880.10	19.47	14.26	-152.64	-574.73	-437.49	524.88	494.22	30.65	17.123		
6,100.00	5,978.27	6,016.34	5,976.17	19.95	14.43	-153.65	-574.51	-436.95	544.21	513.01	31.20	17.443		
6,200.00	6,076.05	6,113.07	6,072.90	20.42	14.60	-154.57	-574.52	-436.10	563.97	532.22	31.75	17.765		
6,300.00	6,173.84	6,212.97	6,172.80	20.90	14.78	-155.48	-574.27	-435.37	583.77	551.48	32.29	18.081		
6,400.00	6,271.62	6,311.03	6,270.85	21.37	14.96	-156.36	-573.68	-434.99	603.42	570.59	32.83	18.378		
6,500.00	6,369.41	6,411.14	6,370.96	21.85	15.15	-157.20	-573.07	-434.82	623.00	589.62	33.38	18.665		
6,600.00	6,467.19	6,508.60	6,468.42	22.33	15.33	-158.01	-572.04	-435.12	642.32	608.39	33.93	18.930		
6,700.00	6,564.98	6,603.80	6,563.60	22.81	15.52	-158.83	-570.23	-435.04	662.32	627.83	34.49	19.202		
6,800.00	6,662.77	6,705.38	6,665.17	23.28	15.72	-159.63	-568.45	-435.19	682.20	647.16	35.04	19.470		
6,900.00	6,760.55	6,815.79	6,775.56	23.76	15.94	-160.42	-567.34	-436.43	701.10	665.54	35.56	19.717		
7,000.00	6,858.34	6,906.25	6,865.98	24.24	16.13	-161.12	-565.42	-438.19	719.58	683.44	36.15	19.908		
7,100.00	6,956.30	7,009.42	7,048.66	24.71	16.51	178.33	-568.00	-447.22	735.13	698.56	36.57	20.105		
7,200.00	7,054.64	7,186.33	7,144.52	25.09	16.69	137.03	-578.11	-457.01	738.97	701.89	37.08	19.932		
7,300.00	7,151.66	7,262.46	7,219.05	25.39	16.77	114.63	-592.80	-461.46	742.01	704.51	37.50	19.788		
7,400.00	7,245.47	7,353.61	7,306.09	25.60	16.83	107.01	-619.55	-464.44	745.53	707.61	37.92	19.661		
7,500.00	7,334.25	7,419.26	7,366.10	25.74	16.84	104.27	-645.98	-466.18	752.25	713.70	38.55	19.514		
7,600.00	7,416.27	7,456.54	7,398.00	25.83	16.84	102.07	-665.21	-466.78	767.07	727.85	39.22	19.558		
7,700.00	7,489.93	7,478.41	7,415.77	25.85	16.83	99.34	-677.96	-467.20	792.03	752.30	39.73	19.935		
7,800.00	7,553.80	7,481.92	7,418.54	25.83	16.83	95.10	-680.10	-467.29	827.09	787.07	40.02	20.669		
7,900.00	7,606.64	7,475.89	7,413.76	25.77	16.83	89.80	-676.44	-467.14	870.64	830.52	40.12	21.703		
8,000.00	7,647.41	7,464.41	7,404.49	25.67	16.84	83.83	-669.68	-466.91	920.48	880.35	40.13	22.940		
8,100.00	7,675.32	7,451.00	7,393.39	25.56	16.84	77.68	-662.15	-466.70	974.40	934.27	40.13	24.281		
8,200.00	7,689.84	7,435.33	7,380.08	25.46	16.84	71.64	-653.88	-466.47	1,030.46	990.30	40.16	25.658		
8,300.00	7,692.00	7,408.00	7,356.10	25.38	16.84	67.48	-640.80	-465.94	1,087.76	1,047.61	40.15	27.090		
8,400.00	7,692.00	7,408.00	7,356.10	25.41	16.84	67.48	-640.80	-465.94	1,149.11	1,108.76	40.35	28.475		
8,500.00	7,692.00	7,391.38	7,341.09	25.67	16.84	66.60	-633.67	-465.53	1,215.23	1,174.80	40.43	30.056		
8,600.00	7,692.00	7,366.00	7,317.68	26.21	16.84	65.25	-623.90	-464.82	1,285.58	1,245.13	40.46	31.777		
8,700.00	7,692.00	7,366.00	7,317.68	26.93	16.84	65.25	-623.90	-464.82	1,358.89	1,318.28	40.61	33.462		
8,800.00	7,692.00	7,355.38	7,307.75	27.75	16.83	64.68	-620.16	-464.49	1,435.32	1,394.63	40.70	35.270		
8,900.00	7,692.00	7,341.36	7,294.56	28.64	16.82	63.94	-615.40	-464.05	1,514.19	1,473.43	40.76	37.151		
9,000.00	7,692.00	7,324.00	7,278.14	29.59	16.82	63.04	-609.81	-463.50	1,595.16	1,554.36	40.80	39.093		
9,100.00	7,692.00	7,324.00	7,278.14	30.59	16.82	63.04	-609.81	-463.50	1,677.97	1,637.07	40.90	41.026		
9,200.00	7,692.00	7,306.64	7,261.61	31.63	16.81	62.14	-604.55	-462.94	1,762.30	1,721.37	40.94	43.049		

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 36C-19HZ - KMG WELL - SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 16-ISWWSA MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	2.00	2.00	0.00	0.00	-179.90	-832.66	-1.49	832.66				
100.00	100.00	103.61	103.61	0.07	0.20	-179.90	-832.58	-1.41	832.58	832.32	0.27	3,121.986	
200.00	200.00	205.64	205.63	0.25	0.42	-179.91	-832.26	-1.25	832.27	831.60	0.67	1,245.545	
300.00	299.98	306.38	306.38	0.42	0.63	-56.45	-831.76	-1.31	830.81	829.76	1.05	788.307	
400.00	399.84	404.21	404.20	0.60	0.83	-56.78	-831.35	-1.59	827.51	826.08	1.42	581.417	
500.00	499.45	500.47	500.47	0.78	1.02	-57.34	-831.26	-1.76	822.66	820.87	1.79	458.960	
600.00	598.70	601.15	601.14	0.96	1.23	-58.19	-831.34	-1.49	816.20	814.02	2.18	374.073	
700.00	697.47	703.89	703.88	1.15	1.45	-59.37	-831.02	-0.75	807.74	805.15	2.58	312.701	
800.00	795.62	799.63	799.62	1.33	1.65	-60.72	-830.55	-0.10	797.62	794.65	2.97	268.548	
900.00	893.41	895.82	895.79	1.52	1.85	-62.12	-830.25	1.36	787.25	783.89	3.36	234.230	
1,000.00	991.20	991.36	991.30	1.70	2.06	-63.62	-830.21	3.95	777.76	774.01	3.75	207.200	
1,100.00	1,088.98	1,098.61	1,098.44	1.89	2.30	-65.47	-829.14	8.63	768.19	764.01	4.18	183.870	
1,200.00	1,186.77	1,202.42	1,202.03	2.07	2.53	-67.47	-826.62	15.00	758.25	753.65	4.60	164.781	
1,300.00	1,284.55	1,301.21	1,300.49	2.26	2.77	-69.51	-823.25	22.16	748.49	743.47	5.02	149.038	
1,400.00	1,382.34	1,402.74	1,401.55	2.45	3.02	-71.78	-819.07	31.03	739.43	733.97	5.46	135.396	
1,500.00	1,480.12	1,496.79	1,494.88	2.63	3.27	-74.12	-813.91	41.43	730.89	724.99	5.90	123.896	
1,600.00	1,577.91	1,580.37	1,577.58	2.82	3.51	-76.37	-809.45	52.58	724.60	718.27	6.32	114.607	
1,700.00	1,675.70	1,662.82	1,659.04	3.01	3.75	-78.68	-806.02	64.92	721.50	714.75	6.75	106.844	
1,749.67	1,724.26	1,704.10	1,699.73	3.10	3.88	-79.87	-804.53	71.69	721.11	714.14	6.97	103.468	CC
1,800.00	1,773.48	1,753.25	1,748.13	3.19	4.03	-81.31	-802.75	80.03	721.29	714.07	7.22	99.960	ES
1,900.00	1,871.27	1,841.03	1,834.58	3.38	4.31	-83.89	-799.37	94.92	722.90	715.23	7.67	94.291	
2,000.00	1,969.05	1,925.88	1,918.17	3.56	4.58	-86.31	-797.61	109.30	727.75	719.65	8.10	89.828	
2,100.00	2,066.84	2,015.15	2,006.09	3.68	4.87	-88.84	-796.01	124.73	734.80	726.34	8.46	86.807	
2,200.00	2,164.62	2,102.27	2,091.92	3.73	5.16	-91.20	-795.48	139.65	744.38	735.60	8.78	84.792	
2,300.00	2,262.41	2,197.42	2,185.46	3.85	5.48	-93.80	-794.54	157.06	755.97	746.80	9.18	82.380	
2,400.00	2,360.19	2,292.61	2,279.09	4.03	5.81	-96.34	-793.09	174.13	768.60	758.97	9.62	79.865	
2,500.00	2,457.98	2,390.63	2,375.39	4.26	6.15	-98.93	-790.74	192.25	782.56	772.44	10.12	77.301	
2,600.00	2,555.77	2,488.47	2,471.71	4.52	6.48	-101.38	-788.43	209.29	797.37	786.73	10.64	74.962	
2,700.00	2,653.55	2,594.82	2,576.45	4.82	6.85	-104.00	-784.45	227.27	812.35	801.13	11.22	72.413	
2,800.00	2,751.34	2,695.06	2,674.99	5.15	7.21	-106.50	-778.62	244.66	827.88	816.07	11.81	70.107	
2,900.00	2,849.12	2,787.39	2,765.89	5.50	7.54	-108.71	-772.86	259.83	843.92	831.55	12.37	68.201	
3,000.00	2,946.91	2,870.23	2,847.43	5.87	7.84	-110.59	-768.59	273.83	862.21	849.30	12.91	66.770	
3,100.00	3,044.69	2,969.18	2,944.63	6.26	8.20	-112.81	-763.08	291.46	882.29	868.77	13.52	65.269	
3,200.00	3,142.48	3,059.01	3,033.05	6.66	8.53	-114.71	-758.13	306.52	902.70	888.62	14.09	64.085	
3,300.00	3,240.27	3,162.50	3,134.96	7.07	8.90	-116.77	-752.87	323.73	924.28	909.58	14.70	62.872	
3,400.00	3,338.05	3,242.92	3,214.28	7.49	9.18	-118.26	-749.52	336.60	946.64	931.42	15.22	62.192	
3,500.00	3,435.84	3,333.09	3,303.05	7.91	9.51	-119.89	-745.62	351.95	970.66	954.87	15.79	61.486	
3,600.00	3,533.62	3,440.03	3,408.40	8.35	9.90	-121.75	-740.27	369.47	994.68	978.27	16.41	60.603	
3,700.00	3,631.41	3,522.46	3,489.59	8.78	10.20	-123.14	-735.92	383.06	1,019.50	1,002.56	16.94	60.177	
3,800.00	3,729.19	3,608.44	3,574.14	9.23	10.52	-124.51	-732.02	398.15	1,046.21	1,028.72	17.48	59.839	
3,900.00	3,826.98	3,729.70	3,693.78	9.67	10.93	-126.28	-726.86	417.21	1,071.96	1,053.81	18.15	59.051	
4,000.00	3,924.77	3,836.60	3,799.51	10.12	11.28	-127.75	-722.09	432.26	1,096.83	1,078.07	18.76	58.475	
4,100.00	4,022.55	3,918.25	3,880.31	10.58	11.55	-128.80	-718.81	443.51	1,122.08	1,102.81	19.27	58.243	
4,200.00	4,120.34	3,997.56	3,958.73	11.03	11.81	-129.74	-716.73	455.19	1,148.99	1,129.22	19.76	58.135	
4,300.00	4,218.12	4,077.76	4,037.91	11.49	12.10	-130.64	-715.30	467.83	1,177.43	1,157.16	20.27	58.090	
4,400.00	4,315.91	4,157.51	4,116.49	11.95	12.38	-131.51	-713.67	481.37	1,207.30	1,186.53	20.77	58.130	
4,500.00	4,413.69	4,246.95	4,204.45	12.41	12.72	-132.47	-711.45	497.39	1,238.30	1,216.98	21.32	58.094	
4,600.00	4,511.48	4,341.30	4,297.22	12.88	13.08	-133.48	-708.41	514.35	1,269.59	1,247.70	21.88	58.012	
4,700.00	4,609.27	4,457.13	4,411.24	13.34	13.50	-134.66	-704.22	534.26	1,300.43	1,277.89	22.54	57.686	
4,800.00	4,707.05	4,569.18	4,521.90	13.81	13.89	-135.72	-700.27	551.43	1,329.83	1,306.65	23.18	57.366	
4,900.00	4,804.84	4,670.69	4,622.23	14.27	14.23	-136.66	-696.02	566.22	1,358.76	1,334.99	23.77	57.162	
5,000.00	4,902.62	4,751.82	4,702.42	14.74	14.51	-137.39	-692.35	578.04	1,387.96	1,363.69	24.28	57.174	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - RALPH 36C-19HZ - KMG WELL - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 16-ISCWSA MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
5,100.00	5,000.41	4,826.50	4,776.10	15.21	14.78	-138.02	-689.61	589.83	1,418.64	1,393.89	24.75	57.309	
5,200.00	5,098.19	4,899.48	4,847.99	15.68	15.05	-138.60	-687.50	602.26	1,450.80	1,425.58	25.22	57.515	
5,300.00	5,195.98	4,970.54	4,917.81	16.15	15.33	-139.14	-685.71	615.36	1,484.52	1,458.84	25.68	57.799	
5,400.00	5,293.77	5,053.33	4,998.92	16.63	15.65	-139.73	-683.89	631.79	1,519.74	1,493.54	26.20	58.006	
5,500.00	5,391.55	5,500.00	5,124.68	17.10	17.31	-140.60	-681.03	653.64	1,552.06	1,524.34	27.72	55.989 SF	
5,600.00	5,489.34	5,290.20	5,232.43	17.57	16.52	-141.31	-678.36	671.04	1,583.79	1,556.22	27.57	57.438	
5,700.00	5,587.12	5,358.72	5,299.89	18.04	16.76	-141.74	-676.45	682.88	1,617.09	1,589.07	28.02	57.710	
5,800.00	5,684.91	5,443.44	5,383.13	18.52	17.09	-142.28	-673.94	698.45	1,651.58	1,623.03	28.55	57.844	
5,900.00	5,782.69	5,532.47	5,470.57	18.99	17.45	-142.81	-671.31	715.01	1,686.44	1,657.33	29.11	57.938	
6,000.00	5,880.48	5,652.21	5,588.29	19.47	17.90	-143.50	-667.74	736.57	1,720.89	1,691.08	29.81	57.731	
6,100.00	5,978.27	5,749.31	5,683.99	19.95	18.26	-144.04	-664.71	752.75	1,754.16	1,723.76	30.40	57.705	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM 1 - 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		
0.00	0.00	0.00	0.00	0.00	0.00	-167.14	-1,542.63	-352.28	1,586.23					
100.00	100.00	0.00	0.00	0.07	0.00	-167.14	-1,542.63	-352.28	1,582.38	1,582.31	0.07	N/A		
111.00	111.00	0.00	0.00	0.09	0.00	-167.14	-1,542.63	-352.28	1,582.34	1,582.25	0.09	N/A		
200.00	200.00	84.51	84.51	0.25	0.07	-167.16	-1,542.87	-351.75	1,582.47	1,582.16	0.31	5,055.902		
300.00	299.98	189.40	189.33	0.42	0.24	-43.75	-1,543.81	-348.48	1,581.39	1,580.73	0.66	2,406.570		
400.00	399.84	299.30	298.99	0.60	0.45	-44.22	-1,545.04	-341.26	1,577.29	1,576.27	1.03	1,532.914		
500.00	499.45	394.78	394.20	0.78	0.62	-44.79	-1,546.05	-334.22	1,570.56	1,569.18	1.38	1,141.178		
600.00	598.70	494.30	493.48	0.96	0.79	-45.48	-1,547.08	-327.36	1,561.57	1,559.84	1.73	901.424		
700.00	697.47	595.03	594.04	1.15	0.97	-46.28	-1,547.78	-321.51	1,550.19	1,548.10	2.09	741.032		
800.00	795.62	677.94	676.84	1.33	1.12	-47.06	-1,548.50	-317.41	1,536.95	1,534.53	2.42	634.791		
900.00	893.41	765.54	764.34	1.52	1.27	-47.73	-1,549.95	-313.57	1,523.51	1,520.76	2.76	552.260		
1,000.00	991.20	852.93	851.67	1.70	1.43	-48.36	-1,551.71	-310.80	1,510.86	1,507.77	3.10	488.160		
1,100.00	1,088.98	947.79	946.48	1.89	1.59	-49.02	-1,554.08	-308.73	1,499.03	1,495.59	3.45	435.066		
1,200.00	1,186.77	1,050.39	1,049.06	2.07	1.77	-49.70	-1,556.18	-307.72	1,487.14	1,483.33	3.81	390.282		
1,300.00	1,284.55	1,154.52	1,153.16	2.26	1.95	-50.34	-1,557.84	-308.35	1,475.19	1,471.01	4.18	353.061		
1,400.00	1,382.34	1,258.06	1,256.69	2.45	2.13	-50.94	-1,558.84	-309.97	1,462.86	1,458.32	4.54	321.873		
1,500.00	1,480.12	1,357.42	1,356.03	2.63	2.30	-51.51	-1,559.59	-311.88	1,450.53	1,445.62	4.90	295.781		
1,600.00	1,577.91	1,459.19	1,457.77	2.82	2.47	-52.10	-1,560.22	-313.98	1,438.22	1,432.96	5.27	273.051		
1,700.00	1,675.70	1,559.48	1,558.04	3.01	2.64	-52.68	-1,560.56	-316.13	1,425.78	1,420.15	5.63	253.349		
1,800.00	1,773.48	1,657.61	1,656.14	3.19	2.81	-53.26	-1,560.86	-318.27	1,413.46	1,407.47	5.98	236.183		
1,900.00	1,871.27	1,756.93	1,755.45	3.38	2.98	-53.87	-1,561.15	-320.23	1,401.26	1,394.92	6.34	220.898		
2,000.00	1,969.05	1,856.68	1,855.17	3.56	3.15	-54.48	-1,561.31	-322.50	1,389.11	1,382.40	6.70	207.236		
2,100.00	2,066.84	1,958.44	1,956.91	3.68	3.33	-55.11	-1,561.32	-324.82	1,376.96	1,369.97	6.99	196.853		
2,200.00	2,164.62	2,059.67	2,058.11	3.73	3.51	-55.76	-1,561.03	-326.93	1,364.67	1,357.44	7.23	188.843		
2,300.00	2,262.41	2,158.83	2,157.25	3.85	3.68	-56.41	-1,560.61	-328.83	1,352.42	1,344.92	7.51	180.141		
2,400.00	2,360.19	2,258.12	2,256.52	4.03	3.85	-57.07	-1,560.12	-330.80	1,340.28	1,332.44	7.84	170.989		
2,500.00	2,457.98	2,356.41	2,354.80	4.26	4.02	-57.76	-1,559.55	-332.30	1,328.23	1,320.02	8.21	161.743		
2,600.00	2,555.77	2,454.11	2,452.49	4.52	4.19	-58.46	-1,559.00	-333.46	1,316.41	1,307.79	8.62	152.646		
2,700.00	2,653.55	2,550.59	2,548.96	4.82	4.36	-59.18	-1,558.49	-334.53	1,304.83	1,295.76	9.07	143.897		
2,800.00	2,751.34	2,647.19	2,645.56	5.15	4.53	-59.93	-1,558.11	-335.15	1,293.62	1,284.08	9.54	135.585		
2,900.00	2,849.12	2,743.72	2,742.09	5.50	4.70	-60.70	-1,557.75	-335.40	1,282.69	1,272.65	10.04	127.770		
3,000.00	2,946.91	2,839.96	2,838.32	5.87	4.86	-61.50	-1,557.54	-335.32	1,272.18	1,261.63	10.56	120.495		
3,100.00	3,044.69	2,941.80	2,940.17	6.26	5.04	-62.36	-1,557.25	-335.26	1,261.88	1,250.78	11.10	113.639		
3,200.00	3,142.48	3,044.40	3,042.77	6.66	5.22	-63.22	-1,556.47	-335.65	1,251.34	1,239.67	11.67	107.255		
3,300.00	3,240.27	3,141.91	3,140.27	7.07	5.39	-64.05	-1,555.65	-336.18	1,240.97	1,228.73	12.23	101.429		
3,400.00	3,338.05	3,240.76	3,239.12	7.49	5.56	-64.89	-1,554.83	-336.75	1,230.87	1,218.06	12.82	96.040		
3,500.00	3,435.84	3,339.00	3,337.35	7.91	5.73	-65.76	-1,553.84	-337.21	1,220.89	1,207.49	13.41	91.062		
3,600.00	3,533.62	3,434.56	3,432.90	8.35	5.90	-66.61	-1,553.04	-337.68	1,211.36	1,197.36	14.00	86.507		
3,700.00	3,631.41	3,533.75	3,532.09	8.78	6.08	-67.50	-1,552.27	-338.25	1,202.17	1,187.55	14.61	82.271		
3,800.00	3,729.19	3,631.54	3,629.87	9.23	6.25	-68.40	-1,551.26	-338.72	1,193.05	1,177.82	15.23	78.353		
3,900.00	3,826.98	3,725.68	3,724.00	9.67	6.41	-69.26	-1,550.76	-339.41	1,184.64	1,168.80	15.84	74.783		
4,000.00	3,924.77	3,831.01	3,829.33	10.12	6.60	-70.25	-1,549.73	-340.08	1,176.14	1,159.66	16.48	71.376		
4,100.00	4,022.55	3,929.11	3,927.43	10.58	6.77	-71.18	-1,548.53	-340.68	1,167.73	1,150.62	17.11	68.249		
4,200.00	4,120.34	4,028.50	4,026.80	11.03	6.95	-72.15	-1,547.21	-341.15	1,159.58	1,141.84	17.75	65.335		
4,300.00	4,218.12	4,128.99	4,127.28	11.49	7.12	-73.17	-1,545.53	-341.34	1,151.53	1,133.14	18.39	62.608		
4,400.00	4,315.91	4,227.41	4,225.68	11.95	7.30	-74.17	-1,543.76	-341.53	1,143.71	1,124.67	19.04	60.076		
4,500.00	4,413.69	4,326.67	4,324.92	12.41	7.47	-75.20	-1,541.89	-341.79	1,136.16	1,116.47	19.69	57.711		
4,600.00	4,511.48	4,425.27	4,423.50	12.88	7.64	-76.22	-1,539.91	-342.25	1,128.79	1,108.45	20.34	55.501		
4,700.00	4,609.27	4,521.26	4,519.47	13.34	7.81	-77.18	-1,538.46	-343.57	1,121.94	1,100.96	20.99	53.458		
4,800.00	4,707.05	4,625.84	4,624.01	13.81	8.00	-78.20	-1,536.92	-345.94	1,115.16	1,093.51	21.65	51.513		
4,900.00	4,804.84	4,731.12	4,729.22	14.27	8.18	-79.19	-1,535.02	-349.37	1,108.03	1,085.72	22.31	49.664		
5,000.00	4,902.62	4,831.35	4,829.37	14.74	8.36	-80.16	-1,532.68	-352.58	1,100.74	1,077.77	22.97	47.925		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM 1 - 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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.00	5,000.41	4,926.29	4,924.25	15.21	8.53	-81.14	-1,530.11	-354.54	1,093.89	1,070.26	23.62	46.306	
5,200.00	5,098.19	5,020.32	5,018.24	15.68	8.69	-82.15	-1,527.62	-356.00	1,087.67	1,063.39	24.28	44.801	
5,300.00	5,195.98	5,111.27	5,109.16	16.15	8.86	-83.13	-1,525.69	-357.34	1,082.32	1,057.39	24.93	43.417	
5,400.00	5,293.77	5,201.26	5,199.14	16.63	9.01	-84.10	-1,524.39	-358.51	1,078.03	1,052.45	25.58	42.148	
5,500.00	5,391.55	5,292.69	5,290.56	17.10	9.18	-85.10	-1,523.60	-359.41	1,074.76	1,048.53	26.23	40.979	
5,600.00	5,489.34	5,387.46	5,385.32	17.57	9.34	-86.13	-1,523.13	-360.09	1,072.33	1,045.45	26.88	39.892	
5,700.00	5,587.12	5,486.73	5,484.59	18.04	9.52	-87.21	-1,522.80	-360.90	1,070.38	1,042.84	27.54	38.866	
5,800.00	5,684.91	5,585.40	5,583.25	18.52	9.69	-88.28	-1,522.43	-361.89	1,068.67	1,040.48	28.20	37.900	
5,900.00	5,782.69	5,682.67	5,680.52	18.99	9.87	-89.36	-1,521.95	-362.68	1,067.36	1,038.51	28.85	36.995	
6,000.00	5,880.48	5,778.75	5,776.59	19.47	10.04	-90.41	-1,521.57	-363.42	1,066.54	1,037.04	29.50	36.152	
6,100.00	5,978.27	5,877.49	5,875.33	19.95	10.21	-91.50	-1,521.28	-364.19	1,066.20	1,036.05	30.15	35.358	
6,147.36	6,024.58	5,923.56	5,921.40	20.17	10.29	-92.01	-1,521.08	-364.52	1,066.14	1,035.68	30.46	35.000	CC
6,200.00	6,076.05	5,973.69	5,971.53	20.42	10.38	-92.57	-1,520.88	-364.82	1,066.23	1,035.43	30.80	34.617	
6,300.00	6,173.84	6,069.86	6,067.70	20.90	10.55	-93.63	-1,520.62	-365.31	1,066.85	1,035.41	31.44	33.929	ES
6,400.00	6,271.62	6,171.68	6,169.52	21.37	10.73	-94.75	-1,520.40	-365.97	1,067.83	1,035.74	32.09	33.272	
6,500.00	6,369.41	6,271.28	6,269.11	21.85	10.91	-95.85	-1,519.83	-366.81	1,068.82	1,036.08	32.74	32.647	
6,600.00	6,467.19	6,369.65	6,367.48	22.33	11.08	-96.93	-1,519.22	-367.65	1,070.15	1,036.78	33.38	32.062	
6,700.00	6,564.98	6,466.76	6,464.57	22.81	11.26	-98.00	-1,518.66	-368.54	1,071.87	1,037.86	34.01	31.515	
6,800.00	6,662.77	6,563.98	6,561.79	23.28	11.43	-99.06	-1,518.16	-369.36	1,074.07	1,039.43	34.64	31.005	
6,900.00	6,760.55	6,658.60	6,656.41	23.76	11.60	-100.09	-1,517.64	-369.97	1,076.78	1,041.51	35.26	30.536	
7,000.00	6,858.34	6,753.33	6,751.14	24.24	11.76	-101.12	-1,517.51	-370.46	1,080.24	1,044.36	35.88	30.108	
7,100.00	6,956.30	6,850.48	6,848.29	24.71	11.93	-121.76	-1,517.41	-370.76	1,085.60	1,049.11	36.49	29.754	
7,200.00	7,054.64	6,948.24	6,946.05	25.09	12.11	-165.18	-1,517.39	-371.10	1,099.83	1,062.82	37.01	29.717	SF
7,300.00	7,151.66	7,042.92	7,040.73	25.39	12.27	169.06	-1,517.71	-371.58	1,123.58	1,086.14	37.44	30.013	
7,400.00	7,245.47	7,132.74	7,130.54	25.60	12.43	156.11	-1,518.45	-372.10	1,156.58	1,118.79	37.78	30.611	
7,500.00	7,334.25	7,217.42	7,215.21	25.74	12.58	148.28	-1,519.64	-372.65	1,198.47	1,160.41	38.06	31.489	
7,600.00	7,416.27	7,296.84	7,294.61	25.83	12.71	142.47	-1,521.11	-373.30	1,248.77	1,210.50	38.27	32.629	
7,700.00	7,489.93	7,363.68	7,361.43	25.85	12.83	137.13	-1,522.55	-373.79	1,307.09	1,268.68	38.41	34.032	
7,800.00	7,553.80	7,421.85	7,419.59	25.83	12.93	131.48	-1,523.89	-373.96	1,372.84	1,334.36	38.48	35.675	
7,900.00	7,606.64	7,471.33	7,469.06	25.77	13.01	124.91	-1,524.87	-373.78	1,445.02	1,406.52	38.50	37.530	
8,000.00	7,647.41	7,508.66	7,506.39	25.67	13.08	116.76	-1,525.48	-373.43	1,522.52	1,484.05	38.47	39.576	
8,100.00	7,675.32	7,532.18	7,529.90	25.56	13.12	106.60	-1,525.84	-373.09	1,604.05	1,565.66	38.39	41.783	
8,200.00	7,689.84	7,543.81	7,541.52	25.46	13.14	94.70	-1,526.01	-372.89	1,688.14	1,649.86	38.28	44.104	
8,300.00	7,692.00	7,544.44	7,542.15	25.38	13.14	87.56	-1,526.02	-372.87	1,773.34	1,735.20	38.14	46.494	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM H 10 - KPK 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							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	-148.14	-1,211.13	-752.68	1,426.02					
100.00	100.00	86.00	86.00	0.07	0.09	-148.14	-1,211.13	-752.68	1,425.96	1,425.80	0.16	9,191.269		
200.00	200.00	186.00	186.00	0.25	0.29	-148.14	-1,211.13	-752.68	1,425.96	1,425.42	0.54	2,642.447		
300.00	299.98	285.98	285.98	0.42	0.52	-24.60	-1,211.13	-752.68	1,424.37	1,423.43	0.94	1,517.899		
400.00	399.84	385.84	385.84	0.60	0.74	-24.72	-1,211.13	-752.68	1,419.61	1,418.27	1.34	1,059.514		
500.00	499.45	485.45	485.45	0.78	0.97	-24.94	-1,211.13	-752.68	1,411.70	1,409.95	1.74	809.506		
600.00	598.70	584.70	584.70	0.96	1.19	-25.24	-1,211.13	-752.68	1,400.64	1,398.50	2.15	651.756		
700.00	697.47	683.47	683.47	1.15	1.41	-25.64	-1,211.13	-752.68	1,386.49	1,383.93	2.55	542.708		
800.00	795.62	781.62	781.62	1.33	1.63	-26.14	-1,211.13	-752.68	1,369.26	1,366.30	2.96	462.460		
900.00	893.41	879.41	879.41	1.52	1.85	-26.54	-1,211.13	-752.68	1,350.43	1,347.06	3.36	401.421		
1,000.00	991.20	977.20	977.20	1.70	2.07	-26.94	-1,211.13	-752.68	1,331.65	1,327.89	3.76	353.697		
1,100.00	1,088.98	1,074.98	1,074.98	1.89	2.29	-27.35	-1,211.13	-752.68	1,312.95	1,308.78	4.17	315.084		
1,200.00	1,186.77	1,172.77	1,172.77	2.07	2.51	-27.77	-1,211.13	-752.68	1,294.31	1,289.74	4.57	283.228		
1,300.00	1,284.55	1,270.55	1,270.55	2.26	2.73	-28.21	-1,211.13	-752.68	1,275.74	1,270.76	4.97	256.514		
1,400.00	1,382.34	1,368.34	1,368.34	2.45	2.95	-28.66	-1,211.13	-752.68	1,257.24	1,251.86	5.38	233.801		
1,500.00	1,480.12	1,466.12	1,466.12	2.63	3.17	-29.12	-1,211.13	-752.68	1,238.82	1,233.04	5.78	214.262		
1,600.00	1,577.91	1,563.91	1,563.91	2.82	3.39	-29.59	-1,211.13	-752.68	1,220.49	1,214.30	6.19	197.280		
1,700.00	1,675.70	1,661.70	1,661.70	3.01	3.61	-30.08	-1,211.13	-752.68	1,202.23	1,195.64	6.59	182.389		
1,800.00	1,773.48	1,759.48	1,759.48	3.19	3.83	-30.59	-1,211.13	-752.68	1,184.07	1,177.07	7.00	169.230		
1,900.00	1,871.27	1,857.27	1,857.27	3.38	4.05	-31.11	-1,211.13	-752.68	1,166.00	1,158.60	7.40	157.520		
2,000.00	1,969.05	1,955.05	1,955.05	3.56	4.27	-31.64	-1,211.13	-752.68	1,148.02	1,140.22	7.81	147.035		
2,100.00	2,066.84	2,052.84	2,052.84	3.68	4.49	-32.20	-1,211.13	-752.68	1,130.15	1,121.99	8.16	138.493		
2,200.00	2,164.62	2,150.62	2,150.62	3.73	4.71	-32.77	-1,211.13	-752.68	1,112.38	1,103.96	8.43	131.988		
2,300.00	2,262.41	2,248.41	2,248.41	3.85	4.93	-33.36	-1,211.13	-752.68	1,094.73	1,085.99	8.74	125.259		
2,400.00	2,360.19	2,346.19	2,346.19	4.03	5.15	-33.97	-1,211.13	-752.68	1,077.19	1,068.10	9.09	118.458		
2,500.00	2,457.98	2,443.98	2,443.98	4.26	5.37	-34.59	-1,211.13	-752.68	1,059.78	1,050.29	9.49	111.725		
2,600.00	2,555.77	2,541.77	2,541.77	4.52	5.59	-35.24	-1,211.13	-752.68	1,042.49	1,032.58	9.91	105.171		
2,700.00	2,653.55	2,639.55	2,639.55	4.82	5.81	-35.91	-1,211.13	-752.68	1,025.35	1,014.98	10.37	98.879		
2,800.00	2,751.34	2,737.34	2,737.34	5.15	6.03	-36.60	-1,211.13	-752.68	1,008.34	997.48	10.85	92.901		
2,900.00	2,849.12	2,835.12	2,835.12	5.50	6.25	-37.32	-1,211.13	-752.68	991.48	980.12	11.36	87.266		
3,000.00	2,946.91	2,932.91	2,932.91	5.87	6.47	-38.06	-1,211.13	-752.68	974.78	962.89	11.89	81.985		
3,100.00	3,044.69	3,030.69	3,030.69	6.26	6.69	-38.82	-1,211.13	-752.68	958.25	945.82	12.44	77.055		
3,200.00	3,142.48	3,128.48	3,128.48	6.66	6.91	-39.61	-1,211.13	-752.68	941.89	928.90	13.00	72.465		
3,300.00	3,240.27	3,226.27	3,226.27	7.07	7.13	-40.43	-1,211.13	-752.68	925.72	912.15	13.57	68.197		
3,400.00	3,338.05	3,324.05	3,324.05	7.49	7.35	-41.28	-1,211.13	-752.68	909.74	895.58	14.16	64.232		
3,500.00	3,435.84	3,421.84	3,421.84	7.91	7.57	-42.15	-1,211.13	-752.68	893.97	879.20	14.76	60.550		
3,600.00	3,533.62	3,519.62	3,519.62	8.35	7.79	-43.06	-1,211.13	-752.68	878.40	863.03	15.38	57.130		
3,700.00	3,631.41	3,617.41	3,617.41	8.78	8.01	-44.00	-1,211.13	-752.68	863.07	847.07	16.00	53.951		
3,800.00	3,729.19	3,715.19	3,715.19	9.23	8.23	-44.97	-1,211.13	-752.68	847.98	831.35	16.63	50.996		
3,900.00	3,826.98	3,812.98	3,812.98	9.67	8.45	-45.98	-1,211.13	-752.68	833.14	815.87	17.27	48.247		
4,000.00	3,924.77	3,910.77	3,910.77	10.12	8.67	-47.02	-1,211.13	-752.68	818.56	800.64	17.92	45.687		
4,100.00	4,022.55	4,008.55	4,008.55	10.58	8.89	-48.09	-1,211.13	-752.68	804.27	785.69	18.57	43.301		
4,200.00	4,120.34	4,106.34	4,106.34	11.03	9.11	-49.21	-1,211.13	-752.68	790.27	771.03	19.24	41.077		
4,300.00	4,218.12	4,204.12	4,204.12	11.49	9.33	-50.36	-1,211.13	-752.68	776.58	756.67	19.91	39.001		
4,400.00	4,315.91	4,301.91	4,301.91	11.95	9.55	-51.56	-1,211.13	-752.68	763.22	742.63	20.59	37.063		
4,500.00	4,413.69	4,400.31	4,399.69	12.41	9.77	-52.79	-1,211.13	-752.68	750.20	728.92	21.28	35.251		
4,600.00	4,511.48	4,502.52	4,497.48	12.88	10.00	-54.07	-1,211.13	-752.68	737.55	715.57	21.99	33.545		
4,700.00	4,609.27	4,604.73	4,595.27	13.34	10.23	-55.39	-1,211.13	-752.68	725.29	702.59	22.70	31.951		
4,800.00	4,707.05	4,706.95	4,693.05	13.81	10.46	-56.75	-1,211.13	-752.68	713.43	690.01	23.42	30.463		
4,900.00	4,804.84	4,790.84	4,790.84	14.27	10.64	-58.15	-1,211.13	-752.68	701.99	677.88	24.10	29.123		
5,000.00	4,902.62	4,879.00	4,879.00	14.74	10.84	-59.46	-1,211.13	-752.68	691.06	666.20	24.86	27.802		
5,064.98	4,966.16	4,879.00	4,879.00	15.05	10.84	-59.46	-1,211.13	-752.68	688.00	662.57	25.43	27.055 CC, ES		

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM H 10 - KPK 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						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
5,100.00	5,000.41	4,879.00	4,879.00	15.21	10.84	-59.46	-1,211.13	-752.68	688.89	663.22	25.66	26.843 SF	
5,200.00	5,098.19	4,879.00	4,879.00	15.68	10.84	-59.46	-1,211.13	-752.68	701.12	675.08	26.04	26.928	
5,300.00	5,195.98	4,879.00	4,879.00	16.15	10.84	-59.46	-1,211.13	-752.68	727.03	701.03	26.01	27.956	
5,400.00	5,293.77	4,879.00	4,879.00	16.63	10.84	-59.46	-1,211.13	-752.68	765.23	739.57	25.66	29.817	
5,500.00	5,391.55	4,879.00	4,879.00	17.10	10.84	-59.46	-1,211.13	-752.68	813.99	788.87	25.12	32.400	
5,600.00	5,489.34	4,879.00	4,879.00	17.57	10.84	-59.46	-1,211.13	-752.68	871.54	847.06	24.49	35.591	
5,700.00	5,587.12	4,879.00	4,879.00	18.04	10.84	-59.46	-1,211.13	-752.68	936.27	912.43	23.83	39.284	
5,800.00	5,684.91	4,879.00	4,879.00	18.52	10.84	-59.46	-1,211.13	-752.68	1,006.78	983.57	23.21	43.377	
5,900.00	5,782.69	4,879.00	4,879.00	18.99	10.84	-59.46	-1,211.13	-752.68	1,081.94	1,059.30	22.64	47.782	
6,000.00	5,880.48	4,879.00	4,879.00	19.47	10.84	-59.46	-1,211.13	-752.68	1,160.86	1,138.72	22.15	52.417	
6,100.00	5,978.27	4,879.00	4,879.00	19.95	10.84	-59.46	-1,211.13	-752.68	1,242.82	1,221.10	21.72	57.213	
6,200.00	6,076.05	4,879.00	4,879.00	20.42	10.84	-59.46	-1,211.13	-752.68	1,327.26	1,305.89	21.37	62.113	
6,300.00	6,173.84	4,879.00	4,879.00	20.90	10.84	-59.46	-1,211.13	-752.68	1,413.73	1,392.65	21.08	67.068	
6,400.00	6,271.62	4,879.00	4,879.00	21.37	10.84	-59.46	-1,211.13	-752.68	1,501.87	1,481.03	20.85	72.037	
6,500.00	6,369.41	4,879.00	4,879.00	21.85	10.84	-59.46	-1,211.13	-752.68	1,591.42	1,570.75	20.67	76.989	
6,600.00	6,467.19	4,879.00	4,879.00	22.33	10.84	-59.46	-1,211.13	-752.68	1,682.15	1,661.61	20.54	81.897	
6,700.00	6,564.98	4,879.00	4,879.00	22.81	10.84	-59.46	-1,211.13	-752.68	1,773.88	1,753.43	20.45	86.742	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM H 2 - KPK 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
0.00	0.00	0.00	0.00	0.00	0.00	162.29	-1,422.42	454.10	1,493.86				
100.00	100.00	54.00	54.00	0.07	0.06	162.29	-1,422.42	454.10	1,493.15	1,493.02	0.13	N/A	
200.00	200.00	154.00	154.00	0.25	0.23	162.29	-1,422.42	454.10	1,493.15	1,492.67	0.48	3,111.807	
300.00	299.98	253.98	253.98	0.42	0.46	-74.19	-1,422.42	454.10	1,492.67	1,491.79	0.88	1,698.017	
400.00	399.84	353.84	353.84	0.60	0.68	-74.41	-1,422.42	454.10	1,491.25	1,489.98	1.28	1,166.889	
500.00	499.45	453.45	453.45	0.78	0.91	-74.78	-1,422.42	454.10	1,488.93	1,487.25	1.68	886.676	
600.00	598.70	552.70	552.70	0.96	1.13	-75.29	-1,422.42	454.10	1,485.76	1,483.68	2.08	713.506	
700.00	697.47	651.47	651.47	1.15	1.35	-75.95	-1,422.42	454.10	1,481.83	1,479.34	2.49	595.763	
800.00	795.62	749.62	749.62	1.33	1.57	-76.74	-1,422.42	454.10	1,477.25	1,474.35	2.89	510.313	
900.00	893.41	847.41	847.41	1.52	1.79	-77.52	-1,422.42	454.10	1,472.48	1,469.18	3.30	445.922	
1,000.00	991.20	945.20	945.20	1.70	2.01	-78.30	-1,422.42	454.10	1,468.01	1,464.30	3.71	395.763	
1,100.00	1,088.98	1,042.98	1,042.98	1.89	2.23	-79.09	-1,422.42	454.10	1,463.81	1,459.70	4.12	355.621	
1,200.00	1,186.77	1,140.77	1,140.77	2.07	2.45	-79.87	-1,422.42	454.10	1,459.91	1,455.39	4.52	322.780	
1,300.00	1,284.55	1,238.55	1,238.55	2.26	2.67	-80.67	-1,422.42	454.10	1,456.30	1,451.37	4.93	295.428	
1,400.00	1,382.34	1,336.34	1,336.34	2.45	2.89	-81.46	-1,422.42	454.10	1,452.97	1,447.64	5.34	272.305	
1,500.00	1,480.12	1,434.12	1,434.12	2.63	3.11	-82.26	-1,422.42	454.10	1,449.95	1,444.20	5.74	252.511	
1,600.00	1,577.91	1,531.91	1,531.91	2.82	3.33	-83.07	-1,422.42	454.10	1,447.22	1,441.07	6.15	235.385	
1,700.00	1,675.70	1,629.70	1,629.70	3.01	3.55	-83.87	-1,422.42	454.10	1,444.78	1,438.23	6.55	220.430	
1,800.00	1,773.48	1,727.48	1,727.48	3.19	3.77	-84.68	-1,422.42	454.10	1,442.65	1,435.69	6.96	207.266	
1,900.00	1,871.27	1,825.27	1,825.27	3.38	3.99	-85.49	-1,422.42	454.10	1,440.82	1,433.45	7.37	195.595	
2,000.00	1,969.05	1,923.05	1,923.05	3.56	4.21	-86.30	-1,422.42	454.10	1,439.29	1,431.51	7.77	185.184	
2,100.00	2,066.84	2,020.84	2,020.84	3.68	4.43	-87.12	-1,422.42	454.10	1,438.06	1,429.97	8.09	177.713	
2,200.00	2,164.62	2,118.62	2,118.62	3.73	4.65	-87.93	-1,422.42	454.10	1,437.13	1,428.76	8.38	171.592	
2,300.00	2,262.41	2,216.41	2,216.41	3.85	4.87	-88.75	-1,422.42	454.10	1,436.52	1,427.80	8.72	164.760	
2,400.00	2,360.19	2,314.19	2,314.19	4.03	5.09	-89.57	-1,422.42	454.10	1,436.20	1,427.08	9.12	157.525	
2,453.28	2,412.29	2,366.29	2,366.29	4.15	5.21	-90.00	-1,422.42	454.10	1,436.16	1,426.80	9.35	153.530 CC	
2,500.00	2,457.98	2,411.98	2,411.98	4.26	5.31	-90.38	-1,422.42	454.10	1,436.19	1,426.63	9.56	150.172	
2,600.00	2,555.77	2,509.77	2,509.77	4.52	5.53	-91.20	-1,422.42	454.10	1,436.49	1,426.43	10.05	142.924 ES	
2,700.00	2,653.55	2,607.55	2,607.55	4.82	5.75	-92.01	-1,422.42	454.10	1,437.08	1,426.51	10.57	135.939	
2,800.00	2,751.34	2,705.34	2,705.34	5.15	5.97	-92.83	-1,422.42	454.10	1,437.99	1,426.87	11.12	129.313	
2,900.00	2,849.12	2,803.12	2,803.12	5.50	6.19	-93.64	-1,422.42	454.10	1,439.20	1,427.51	11.69	123.097	
3,000.00	2,946.91	2,900.91	2,900.91	5.87	6.41	-94.45	-1,422.42	454.10	1,440.71	1,428.43	12.28	117.310	
3,100.00	3,044.69	3,001.31	2,998.69	6.26	6.63	-95.27	-1,422.42	454.10	1,442.52	1,429.63	12.89	111.895	
3,200.00	3,142.48	3,103.52	3,096.48	6.66	6.86	-96.07	-1,422.42	454.10	1,444.63	1,431.12	13.52	106.864	
3,300.00	3,240.27	3,205.73	3,194.27	7.07	7.09	-96.88	-1,422.42	454.10	1,447.05	1,432.89	14.15	102.230	
3,400.00	3,338.05	3,307.95	3,292.05	7.49	7.32	-97.68	-1,422.42	454.10	1,449.76	1,434.96	14.80	97.961	
3,500.00	3,435.84	3,389.84	3,389.84	7.91	7.51	-98.48	-1,422.42	454.10	1,452.77	1,437.36	15.40	94.307	
3,600.00	3,533.62	3,487.62	3,487.62	8.35	7.73	-99.28	-1,422.42	454.10	1,456.07	1,440.02	16.05	90.716	
3,700.00	3,631.41	3,585.41	3,585.41	8.78	7.95	-100.07	-1,422.42	454.10	1,459.66	1,442.96	16.70	87.399	
3,800.00	3,729.19	3,683.19	3,683.19	9.23	8.17	-100.86	-1,422.42	454.10	1,463.55	1,446.20	17.35	84.331	
3,900.00	3,826.98	3,780.98	3,780.98	9.67	8.39	-101.65	-1,422.42	454.10	1,467.72	1,449.71	18.01	81.490	
4,000.00	3,924.77	3,878.77	3,878.77	10.12	8.61	-102.43	-1,422.42	454.10	1,472.18	1,453.51	18.67	78.856	
4,100.00	4,022.55	3,976.55	3,976.55	10.58	8.83	-103.21	-1,422.42	454.10	1,476.93	1,457.60	19.33	76.410	
4,200.00	4,120.34	4,074.34	4,074.34	11.03	9.05	-103.98	-1,422.42	454.10	1,481.95	1,461.96	19.99	74.136	
4,300.00	4,218.12	4,172.12	4,172.12	11.49	9.27	-104.74	-1,422.42	454.10	1,487.25	1,466.60	20.65	72.018	
4,400.00	4,315.91	4,269.91	4,269.91	11.95	9.48	-105.50	-1,422.42	454.10	1,492.82	1,471.51	21.31	70.043	
4,500.00	4,413.69	4,367.69	4,367.69	12.41	9.70	-106.26	-1,422.42	454.10	1,498.67	1,476.70	21.97	68.200	
4,600.00	4,511.48	4,465.48	4,465.48	12.88	9.92	-107.01	-1,422.42	454.10	1,504.78	1,482.15	22.64	66.477	
4,700.00	4,609.27	4,563.27	4,563.27	13.34	10.14	-107.75	-1,422.42	454.10	1,511.16	1,487.87	23.30	64.865	
4,800.00	4,707.05	4,661.05	4,661.05	13.81	10.36	-108.49	-1,422.42	454.10	1,517.81	1,493.85	23.96	63.354	
4,900.00	4,804.84	4,758.84	4,758.84	14.27	10.58	-109.22	-1,422.42	454.10	1,524.71	1,500.09	24.62	61.936	
5,000.00	4,902.62	4,856.62	4,856.62	14.74	10.80	-109.95	-1,422.42	454.10	1,531.86	1,506.58	25.28	60.605	

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 HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM H 2 - KPK 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						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
5,100.00	5,000.41	4,954.41	4,954.41	15.21	11.02	-110.66	-1,422.42	454.10	1,539.27	1,513.33	25.93	59.353	
5,200.00	5,098.19	4,994.00	4,994.00	15.68	11.11	-110.95	-1,422.42	454.10	1,548.01	1,521.47	26.55	58.306	
5,300.00	5,195.98	4,994.00	4,994.00	16.15	11.11	-110.95	-1,422.42	454.10	1,562.62	1,535.56	27.06	57.744	
5,400.00	5,293.77	4,994.00	4,994.00	16.63	11.11	-110.95	-1,422.42	454.10	1,583.42	1,555.95	27.48	57.626 SF	
5,500.00	5,391.55	4,994.00	4,994.00	17.10	11.11	-110.95	-1,422.42	454.10	1,610.18	1,582.37	27.80	57.913	
5,600.00	5,489.34	4,994.00	4,994.00	17.57	11.11	-110.95	-1,422.42	454.10	1,642.59	1,614.55	28.04	58.572	
5,700.00	5,587.12	4,994.00	4,994.00	18.04	11.11	-110.95	-1,422.42	454.10	1,680.34	1,652.13	28.21	59.569	
5,800.00	5,684.91	4,994.00	4,994.00	18.52	11.11	-110.95	-1,422.42	454.10	1,723.08	1,694.77	28.31	60.873	
5,900.00	5,782.69	4,994.00	4,994.00	18.99	11.11	-110.95	-1,422.42	454.10	1,770.43	1,742.08	28.35	62.454	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR 43 PAN AM O 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						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
11,100.00	7,692.00	7,680.00	7,680.00	56.27	17.14	-90.00	3,586.53	-2,826.84	1,744.57	1,679.97	64.60	27.006	
11,200.00	7,692.00	7,680.00	7,680.00	57.71	17.14	-90.00	3,586.53	-2,826.84	1,701.97	1,634.78	67.19	25.332	
11,300.00	7,692.00	7,680.00	7,680.00	59.15	17.14	-90.00	3,586.53	-2,826.84	1,664.29	1,594.46	69.83	23.833	
11,400.00	7,692.00	7,680.00	7,680.00	60.59	17.14	-90.00	3,586.53	-2,826.84	1,631.88	1,559.39	72.49	22.511	
11,500.00	7,692.00	7,680.00	7,680.00	62.05	17.14	-90.00	3,586.53	-2,826.84	1,605.06	1,529.93	75.13	21.363	
11,600.00	7,692.00	7,680.00	7,680.00	63.51	17.14	-90.00	3,586.53	-2,826.84	1,584.11	1,506.40	77.70	20.386	
11,700.00	7,692.00	7,680.00	7,680.00	64.97	17.14	-90.00	3,586.53	-2,826.84	1,569.26	1,489.10	80.16	19.577	
11,800.00	7,692.00	7,680.00	7,680.00	66.44	17.14	-90.00	3,586.53	-2,826.84	1,560.69	1,478.23	82.45	18.928	
11,884.13	7,692.00	7,680.00	7,680.00	67.68	17.14	-90.00	3,586.53	-2,826.84	1,558.42	1,474.19	84.23	18.502 CC	
11,900.00	7,692.00	7,680.00	7,680.00	67.92	17.14	-90.00	3,586.53	-2,826.84	1,558.50	1,473.95	84.55	18.434 ES	
12,000.00	7,692.00	7,680.00	7,680.00	69.40	17.14	-90.00	3,586.53	-2,826.84	1,562.72	1,476.31	86.41	18.085	
12,100.00	7,692.00	7,680.00	7,680.00	70.88	17.14	-90.00	3,586.53	-2,826.84	1,573.30	1,485.28	88.02	17.875	
12,200.00	7,692.00	7,680.00	7,680.00	72.37	17.14	-90.00	3,586.53	-2,826.84	1,590.11	1,500.75	89.36	17.794 SF	
12,300.00	7,692.00	7,680.00	7,680.00	73.86	17.14	-90.00	3,586.53	-2,826.84	1,612.95	1,522.51	90.44	17.835	
12,400.00	7,692.00	7,680.00	7,680.00	75.35	17.14	-90.00	3,586.53	-2,826.84	1,641.58	1,550.33	91.25	17.989	
12,500.00	7,692.00	7,680.00	7,680.00	76.85	17.14	-90.00	3,586.53	-2,826.84	1,675.70	1,583.87	91.83	18.249	
12,600.00	7,692.00	7,680.00	7,680.00	78.35	17.14	-90.00	3,586.53	-2,826.84	1,714.97	1,622.80	92.18	18.605	
12,647.07	7,692.00	7,680.00	7,680.00	79.06	17.14	-90.00	3,586.53	-2,826.84	1,735.15	1,642.88	92.27	18.804	

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors 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 S18-T1N-R67W (HINGLEY) - UPRR43PANAM-I 16 - KPK 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	
2,500.00	2,457.98	2,408.98	2,408.98	4.26	5.29	45.89	125.84	-2,079.73	1,767.69	1,758.23	9.46	186.802		
2,600.00	2,555.77	2,506.77	2,506.77	4.52	5.51	46.37	125.84	-2,079.73	1,753.02	1,743.11	9.91	176.873		
2,700.00	2,653.55	2,604.55	2,604.55	4.82	5.73	46.87	125.84	-2,079.73	1,738.48	1,728.09	10.39	167.296		
2,800.00	2,751.34	2,702.34	2,702.34	5.15	5.95	47.37	125.84	-2,079.73	1,724.07	1,713.17	10.90	158.175		
2,900.00	2,849.12	2,800.12	2,800.12	5.50	6.17	47.88	125.84	-2,079.73	1,709.79	1,698.36	11.43	149.570		
3,000.00	2,946.91	2,902.09	2,897.91	5.87	6.40	48.40	125.84	-2,079.73	1,695.65	1,683.66	11.99	141.393		
3,100.00	3,044.69	3,004.31	2,995.69	6.26	6.63	48.92	125.84	-2,079.73	1,681.65	1,669.08	12.57	133.769		
3,200.00	3,142.48	3,106.52	3,093.48	6.66	6.86	49.46	125.84	-2,079.73	1,667.80	1,654.64	13.16	126.685		
3,300.00	3,240.27	3,208.73	3,191.27	7.07	7.09	50.00	125.84	-2,079.73	1,654.10	1,640.33	13.77	120.111		
3,400.00	3,338.05	3,289.05	3,289.05	7.49	7.27	50.55	125.84	-2,079.73	1,640.55	1,626.21	14.34	114.406		
3,500.00	3,435.84	3,386.84	3,386.84	7.91	7.49	51.12	125.84	-2,079.73	1,627.15	1,612.20	14.96	108.788		
3,600.00	3,533.62	3,484.62	3,484.62	8.35	7.71	51.69	125.84	-2,079.73	1,613.92	1,598.34	15.58	103.568		
3,700.00	3,631.41	3,582.41	3,582.41	8.78	7.93	52.27	125.84	-2,079.73	1,600.85	1,584.63	16.22	98.714		
3,800.00	3,729.19	3,680.19	3,680.19	9.23	8.15	52.86	125.84	-2,079.73	1,587.95	1,571.09	16.86	94.196		
3,900.00	3,826.98	3,777.98	3,777.98	9.67	8.37	53.45	125.84	-2,079.73	1,575.22	1,557.71	17.51	89.986		
4,000.00	3,924.77	3,875.77	3,875.77	10.12	8.59	54.06	125.84	-2,079.73	1,562.67	1,544.51	18.16	86.058		
4,100.00	4,022.55	3,973.55	3,973.55	10.58	8.81	54.68	125.84	-2,079.73	1,550.29	1,531.48	18.82	82.389		
4,200.00	4,120.34	4,071.34	4,071.34	11.03	9.03	55.30	125.84	-2,079.73	1,538.11	1,518.63	19.48	78.958		
4,300.00	4,218.12	4,169.12	4,169.12	11.49	9.25	55.94	125.84	-2,079.73	1,526.11	1,505.96	20.15	75.744		
4,400.00	4,315.91	4,266.91	4,266.91	11.95	9.47	56.59	125.84	-2,079.73	1,514.31	1,493.49	20.82	72.731		
4,500.00	4,413.69	4,364.69	4,364.69	12.41	9.69	57.24	125.84	-2,079.73	1,502.70	1,481.21	21.50	69.902		
4,600.00	4,511.48	4,462.48	4,462.48	12.88	9.91	57.91	125.84	-2,079.73	1,491.30	1,469.12	22.18	67.244		
4,700.00	4,609.27	4,560.27	4,560.27	13.34	10.13	58.58	125.84	-2,079.73	1,480.11	1,457.25	22.86	64.742		
4,800.00	4,707.05	4,658.05	4,658.05	13.81	10.35	59.27	125.84	-2,079.73	1,469.13	1,445.58	23.55	62.386		
4,900.00	4,804.84	4,755.84	4,755.84	14.27	10.57	59.96	125.84	-2,079.73	1,458.37	1,434.13	24.24	60.164		
5,000.00	4,902.62	4,853.62	4,853.62	14.74	10.79	60.67	125.84	-2,079.73	1,447.83	1,422.89	24.93	58.066		
5,100.00	5,000.41	4,922.00	4,922.00	15.21	10.94	61.17	125.84	-2,079.73	1,437.82	1,412.18	25.64	56.074		
5,200.00	5,098.19	4,922.00	4,922.00	15.68	10.94	61.17	125.84	-2,079.73	1,433.09	1,406.78	26.31	54.464		
5,217.82	5,115.62	4,922.00	4,922.00	15.77	10.94	61.17	125.84	-2,079.73	1,432.98	1,406.56	26.42	54.234 CC, ES		
5,300.00	5,195.98	4,922.00	4,922.00	16.15	10.94	61.17	125.84	-2,079.73	1,435.34	1,408.45	26.88	53.393		
5,400.00	5,293.77	4,922.00	4,922.00	16.63	10.94	61.17	125.84	-2,079.73	1,444.51	1,417.17	27.35	52.826		
5,500.00	5,391.55	4,922.00	4,922.00	17.10	10.94	61.17	125.84	-2,079.73	1,460.50	1,432.80	27.70	52.728 SF		
5,600.00	5,489.34	4,922.00	4,922.00	17.57	10.94	61.17	125.84	-2,079.73	1,483.07	1,455.12	27.95	53.067		
5,700.00	5,587.12	4,922.00	4,922.00	18.04	10.94	61.17	125.84	-2,079.73	1,511.93	1,483.83	28.10	53.809		
5,800.00	5,684.91	4,922.00	4,922.00	18.52	10.94	61.17	125.84	-2,079.73	1,546.73	1,518.56	28.16	54.920		
5,900.00	5,782.69	4,922.00	4,922.00	18.99	10.94	61.17	125.84	-2,079.73	1,587.07	1,558.92	28.15	56.371		
6,000.00	5,880.48	4,922.00	4,922.00	19.47	10.94	61.17	125.84	-2,079.73	1,632.55	1,604.47	28.09	58.129		
6,100.00	5,978.27	4,922.00	4,922.00	19.95	10.94	61.17	125.84	-2,079.73	1,682.76	1,654.79	27.97	60.165		
6,200.00	6,076.05	4,922.00	4,922.00	20.42	10.94	61.17	125.84	-2,079.73	1,737.27	1,709.45	27.82	62.451		

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

Cathedral Energy Services

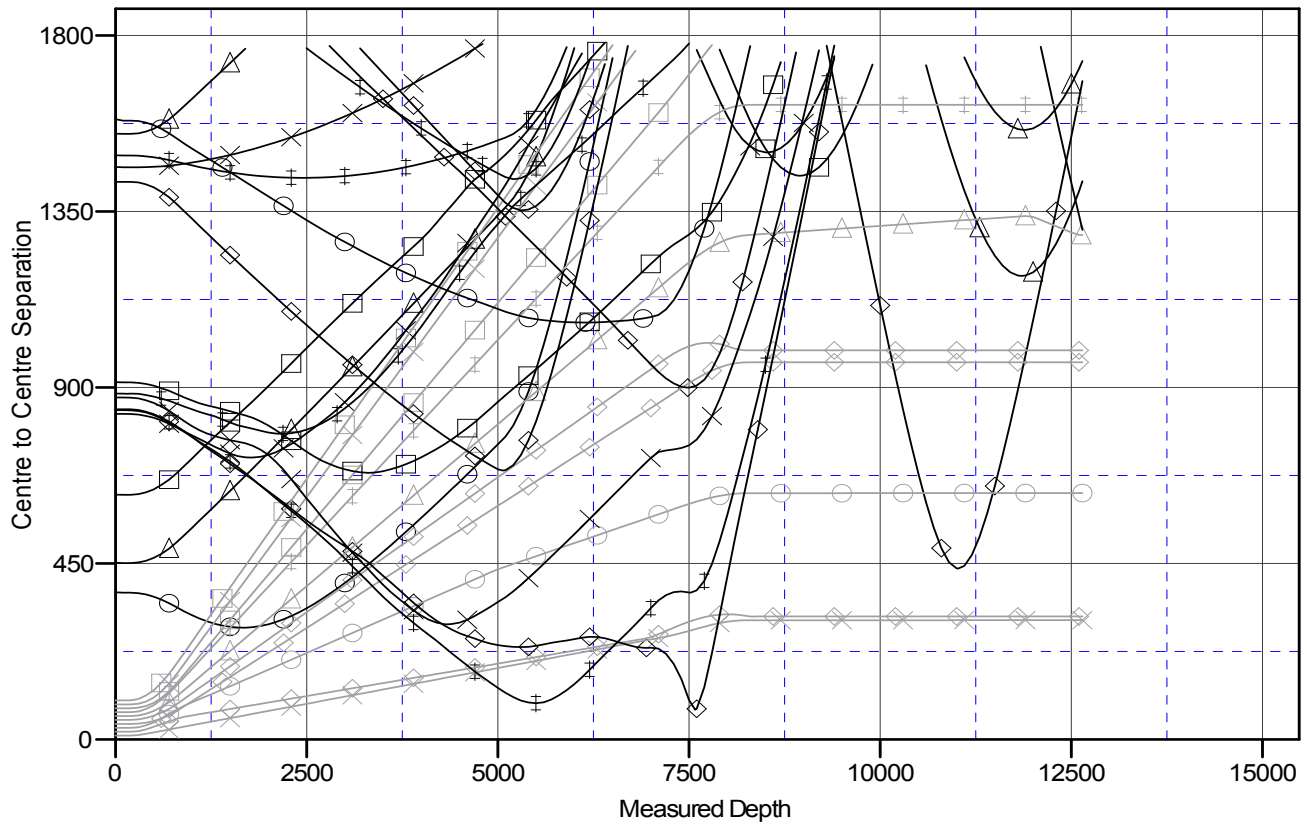
Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well HINGLEY 3A-18H-N167 - Slot Hingley 3A
Project:	DJ BASIN	TVD Reference:	23' KB @ 5132.00usft
Reference Site:	S18-T1N-R67W (HINGLEY)	MD Reference:	23' KB @ 5132.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	HINGLEY 3A-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 23' KB @ 5132.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: HINGLEY 3A-18H-N167 - Slot Hingley 3A-18H-N167
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.36°

Ladder Plot



LEGEND

MG WELL, GYRO V0	HINGLEY 3D-18H-N167, OH, PLAN#1 V0	RALPH14N-19HZ, KMG WELL, SURVEY
,KPK WELL, SURVEYS V0	HINGLEY 3E-18H-N167, OH, PLAN#1 V0	RALPH34C-19HZ, KMG WELL, SURVEY
WELL, NO SURVEYS V0	HINGLEY 3F-18H-N167, OH, PLAN#1 V0	RALPH35C-19HZ, KMG WELL, SURVEY
SWATERWELL, NO SURVEYS V0	HINGLEY 3G-18H-N167, OH, PLAN#1 V0	RALPH35N-19HZ, KMG WELL, SURVEY
RLIGHT WELL, NO SURVEYS V0	HINGLEY 3H-18H-N167, OH, PLAN#1 V0	RALPH36C-19HZ, KMG WELL, SURVEY
SWATERWELL, NO SURVEYS V0	HINGLEY 3I-18H-N167, OH, PLAN#1 V0	UPRR43 PANAM1, KMG WELL, GYRO
MELL, GYRO V0	HINGLEY 3J-18H-N167 BHL, OH, PLAN#1 V0	UPRR43 PANAMH10, KPK WELL, NO
DC WELL, GYRO V0	HINGLEY 3K-18H-N167, OH, PLAN#1 V0	UPRR43 PANAMH2, KPK WELL, NO
WELL, GYRO V0	LAURIDSON41-24, STARLIGHT RES WELL, NO SURVEYS V0	UPRR43 PANAMO1, KMG WELL, NO
-N167, OH, PLAN#1 V0	LINKUS41-24, PDC WELL, PDC WELL V0	UPRR43 PANAMH16, KPK WELL, NO S