

Crestone Peak Resources

DJ BASIN

S32-T2N-R68W

FILE 3S-32H-K268

OH

PLAN #3

Anticollision Report

25 July, 2017

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	Offset TVD Reference:	Offset Datum

Reference	PLAN #3		
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 1,707.12usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	7/25/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	18,685.86	PLAN #3 (OH)	MWD+HDGM	OWSG MWD + HDGM

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Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
Anderson 22-32 - KPK WELL - NO SURVEYS	500.00	458.00	1,684.20	1,681.72	679.742	CC, ES
Anderson 22-32 - KPK WELL - NO SURVEYS	900.00	856.70	1,705.95	1,701.19	358.482	SF
Anderson 32-32 - CPR WELL - SURVEYS	9,559.03	7,664.37	1,048.83	985.58	16.582	CC
Anderson 32-32 - CPR WELL - SURVEYS	9,600.00	7,665.06	1,049.63	985.32	16.322	ES
Anderson 32-32 - CPR WELL - SURVEYS	9,800.00	7,668.41	1,076.15	1,007.46	15.667	SF
Anderson 41-32 - CPR - GYRO						Out of range
Anderson 4-2-32 - CPR WELL - SURVEYS	10,191.19	7,706.78	482.63	418.18	7.489	CC
Anderson 4-2-32 - CPR WELL - SURVEYS	10,200.00	7,706.77	482.71	417.92	7.451	ES
Anderson 4-2-32 - CPR WELL - SURVEYS	10,300.00	7,706.68	494.74	426.09	7.207	SF
Anderson 6-4-32 - CPR WELL - SURVEYS	8,967.98	7,702.19	1,654.66	1,589.31	25.321	CC
Anderson 6-4-32 - CPR WELL - SURVEYS	9,000.00	7,702.12	1,654.97	1,589.18	25.156	ES
Anderson 6-4-32 - CPR WELL - SURVEYS	9,300.00	7,701.44	1,687.64	1,618.21	24.306	SF
Anderson Trust 1 - KPK - NO SURVEYS						Out of range
Anderson Trust 1 A - CPR WELL - GYRO						Out of range
Anderson Trust 2-A - CPR WELL - NO SURVEYS						Out of range
Anderson Trust 32-2 - CPR WELL - GYRO	10,950.09	7,414.41	1,050.01	981.00	15.214	CC, ES
Anderson Trust 32-2 - CPR WELL - GYRO	11,100.00	7,415.46	1,060.66	989.63	14.933	SF
Anderson Trust 32-8 - CPR WELL - GYRO						Out of range
Anderson Trust C 1 - CPR WELL - SURVEYS						Out of range
Anderson Trust C Unit 2 - CPR WELL - GYRO	10,478.71	6,828.35	981.09	917.49	15.426	CC
Anderson Trust C Unit 2 - CPR WELL - GYRO	10,500.00	6,828.65	981.32	917.48	15.371	ES
Anderson Trust C Unit 2 - CPR WELL - GYRO	10,600.00	6,830.04	988.56	923.88	15.284	SF
Brown 22-5 - CPR WELL - GYRO						Out of range
Brown 31-5 - CPR WELL - SURVEYS						Out of range
Brown 41-5 - CPR WELL - SURVEYS						Out of range
Brown 5-3 - CPR WELL - GYRO	6,831.19	6,877.00	1,463.95	1,432.75	46.926	CC, ES
Brown 5-3 - CPR WELL - GYRO	7,000.00	7,043.24	1,483.58	1,451.65	46.464	SF
Brown 5-5 - CPR WELL - GYRO						Out of range
Brown C Unit 1 - CPR WELL - GYRO						Out of range
Brown C Unit 2 - CPR WELL - GYRO						Out of range
Bryant 10-30 - KMG WELL - SURVEYS						Out of range
Bryant 16-30 - KMG WELL - SURVEYS						Out of range
Bryant 20-30 - KMG WELL - SURVEYS						Out of range
Bryant 23-30 - KMG WELL - SURVEYS						Out of range
Bryant 24-30 - KMG WELL - SURVEYS						Out of range
Bryant 33-29 - KMG WELL - SURVEYS						Out of range
Bryant 36-30 - KMG WELL - SURVEYS						Out of range
Bryant 8-30 - KMG WELL - SURVEYS						Out of range
Bryant Federal 37-30 - KMG WELL - SURVEYS						Out of range
Bulthaup 1-6 - KMG WELL - GYRO						Out of range
Bulthaup 16-6 - KMG WELL - SURVEYS						Out of range
Bulthaup 17-6 - KMG WELL - SURVEYS						Out of range
Bulthaup 24-6 - KMG WELL - SURVEYS						Out of range
Bulthaup 27-6 - KMG WELL - SURVEYS						Out of range
Bulthaup 39-6 - KMG WELL - SURVEYS						Out of range
Bulthaup 40-6 - KMG WELL - SURVEYS						Out of range
Bulthaup 8-6 - KMG WELL - GYRO						Out of range
Bulthaup 9-6 - KMG WELL - SURVEYS						Out of range
Canino 1-X - HUGHES CW - NO SURVEYS						Out of range
Champlin 86 Amoco F 6 - KPK - NO SURVEYS						Out of range
Champlin 86 N 1 - KMG WELL - GYRO	12,252.17	7,368.42	1,508.73	1,419.99	17.002	CC, ES
Champlin 86 N 1 - KMG WELL - GYRO	12,400.00	7,376.77	1,515.94	1,425.73	16.804	SF
Champlin Amoco 86 F 7 - KPK WELL - SURVEYS						Out of range

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
Cinque 1 - FOUNDATION WELL - NO SURVEYS						Out of range
Cinque 2 - FOUNDATION WELL - NO SURVEYS						Out of range
Cinque 4 - FOUNDATION WELL - NO SURVEYS						Out of range
FILE 3A-32H-K268 - OH - PLAN #1	200.00	200.00	180.18	179.18	181.454	CC, ES
FILE 3A-32H-K268 - OH - PLAN #1	4,900.00	4,607.17	1,642.77	1,607.75	46.915	SF
FILE 3B-32H-K268 - OH - PLAN #1	300.00	300.00	170.11	168.40	99.482	CC, ES
FILE 3B-32H-K268 - OH - PLAN #1	5,900.00	5,637.46	1,694.69	1,652.07	39.764	SF
FILE 3C-32H-K268 - OH - PLAN #1	0.00	0.00	160.03			
FILE 3C-32H-K268 - OH - PLAN #1	200.00	198.77	160.46	159.74	222.801	ES
FILE 3C-32H-K268 - OH - PLAN #1	7,342.70	7,972.30	1,651.86	1,598.17	30.767	SF
FILE 3C-32H-K268 - OH - SURVEYS	0.00	0.00	160.03			
FILE 3C-32H-K268 - OH - SURVEYS	200.00	198.77	160.46	159.74	222.801	ES
FILE 3C-32H-K268 - OH - SURVEYS	900.00	851.00	222.12	217.46	47.660	SF
FILE 3D-32H-K268 - OH - PLAN #1	0.00	0.00	150.24			
FILE 3D-32H-K268 - OH - PLAN #1	8,500.00	7,321.62	1,423.11	1,367.48	25.580	SF
FILE 3D-32H-K268 - OH - SURVEYS	0.00	0.00	150.24			
FILE 3D-32H-K268 - OH - SURVEYS	900.00	868.00	198.24	193.66	43.303	SF
FILE 3E-32H-K268 - OH - PLAN #1	288.00	288.00	138.87	137.64	113.184	CC
FILE 3E-32H-K268 - OH - PLAN #1	300.00	299.76	138.88	137.59	107.351	ES
FILE 3E-32H-K268 - OH - PLAN #1	7,500.00	8,109.83	946.27	892.59	17.627	SF
FILE 3E-32H-K268 - OH - SURVEYS	288.00	288.00	138.87	137.64	113.184	CC
FILE 3E-32H-K268 - OH - SURVEYS	300.00	299.76	138.88	137.59	107.351	ES
FILE 3E-32H-K268 - OH - SURVEYS	900.00	867.00	181.50	176.87	39.231	SF
FILE 3F-32H-K268 - OH - PLAN #1	302.13	302.36	127.51	126.18	95.663	CC, ES
FILE 3F-32H-K268 - OH - PLAN #1	7,431.21	8,062.39	589.47	535.42	10.904	SF
FILE 3F-32H-K268 - OH - SURVEYS	302.13	302.36	127.51	126.18	95.663	CC, ES
FILE 3F-32H-K268 - OH - SURVEYS	900.00	851.00	196.57	191.95	42.596	SF
FILE 3G-32H-K268 - OH - PLAN #1	0.00	0.00	120.02			
FILE 3G-32H-K268 - OH - PLAN #1	8,063.61	7,665.95	333.11	279.36	6.197	SF
FILE 3G-32H-K268 - OH - SURVEYS	0.00	0.00	120.02			
FILE 3G-32H-K268 - OH - SURVEYS	900.00	873.00	176.96	172.31	38.002	SF
FILE 3H-32H-K268 - OH - PLAN #2	7,699.99	7,634.87	100.88	47.98	1.907	CC, ES, SF
FILE 3H-32H-K268 - OH - SURVEYS	185.76	185.93	110.09	109.46	175.677	CC
FILE 3H-32H-K268 - OH - SURVEYS	300.00	299.18	110.47	109.18	86.069	ES
FILE 3H-32H-K268 - OH - SURVEYS	900.00	873.00	141.60	136.97	30.583	SF
FILE 3Q-32H-K268 - OH - PLAN #3	660.51	661.24	11.28	8.02	3.461	CC
FILE 3Q-32H-K268 - OH - PLAN #3	17,600.00	17,490.00	192.33	-92.13	0.676	Level 1, SF
FILE 3Q-32H-K268 - OH - PLAN #3	17,700.00	17,583.94	195.16	-92.26	0.679	Level 1, ES
FILE 3Q-32H-K268 - OH - SURVEYS	660.51	661.24	11.28	8.02	3.461	CC, ES
FILE 3Q-32H-K268 - OH - SURVEYS	700.00	700.66	11.78	8.29	3.379	SF
FILE 3R-32H-K268 - OH - PLAN #3	405.70	405.86	8.89	6.99	4.692	CC
FILE 3R-32H-K268 - OH - PLAN #3	18,685.86	18,793.16	169.68	-115.49	0.595	Level 1, ES, SF
FILE 3R-32H-K268 - OH - SURVEYS	405.70	405.86	8.89	6.99	4.692	CC, ES, SF
FILE 3T-32H-K268 - OH - PLAN #2	200.00	200.00	9.79	8.80	9.861	CC, ES
FILE 3T-32H-K268 - OH - PLAN #2	13,100.00	13,010.91	186.33	19.63	1.118	Level 2, SF
FILE FED 3I-32H-K268 - OH - PLAN #2	0.00	0.00	100.16			
FILE FED 3I-32H-K268 - OH - PLAN #2	900.00	889.60	149.53	144.94	32.588	SF
FILE FED 3I-32H-K268 - OH - SURVEYS	0.00	0.00	100.16			
FILE FED 3I-32H-K268 - OH - SURVEYS	900.00	871.00	150.69	146.03	32.367	SF
FILE FED 3J-32H-K268 - OH - PLAN #1	0.00	0.00	90.09			
FILE FED 3J-32H-K268 - OH - PLAN #1	400.00	399.35	90.42	88.63	50.382	ES
FILE FED 3J-32H-K268 - OH - PLAN #1	900.00	893.15	125.53	121.01	27.800	SF
FILE FED 3J-32H-K268 - OH - SURVEYS	0.00	0.00	90.09			

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

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Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
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Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
FILE FED 3J-32H-K268 - OH - SURVEYS	400.00	399.35	90.42	88.63	50.382	ES
FILE FED 3J-32H-K268 - OH - SURVEYS	800.00	794.07	113.66	109.60	27.994	SF
FILE FED 3K-32H-K268 - OH - PLAN #2	421.36	421.37	77.98	76.08	40.901	CC, ES
FILE FED 3K-32H-K268 - OH - PLAN #2	12,200.00	11,802.17	1,703.68	1,550.42	11.116	SF
FILE FED 3K-32H-K268 - OH - SURVEYS	421.36	421.37	77.98	76.08	40.901	CC, ES
FILE FED 3K-32H-K268 - OH - SURVEYS	900.00	873.00	110.12	105.53	23.983	SF
FILE FED 3L-32H-K268 - OH - PLAN #1	0.00	0.00	70.23			
FILE FED 3L-32H-K268 - OH - PLAN #1	600.00	600.80	72.63	69.72	24.956	ES
FILE FED 3L-32H-K268 - OH - PLAN #1	18,685.86	18,263.56	1,419.69	1,066.91	4.024	SF
FILE FED 3L-32H-K268 - OH - SURVEYS	0.00	0.00	70.23			
FILE FED 3L-32H-K268 - OH - SURVEYS	600.00	600.80	72.63	69.72	24.956	ES
FILE FED 3L-32H-K268 - OH - SURVEYS	900.00	873.00	90.01	85.38	19.458	SF
FILE FED 3M-32H-K268 - OH - PLAN #1	0.00	0.00	60.15			
FILE FED 3M-32H-K268 - OH - PLAN #1	18,685.86	18,825.43	1,239.23	883.44	3.483	SF
FILE FED 3M-32H-K268 - OH - SURVEYS	0.00	0.00	60.15			
FILE FED 3M-32H-K268 - OH - SURVEYS	800.00	796.71	81.77	77.62	19.704	SF
FILE FED 3N-32H-K268 - OH - PLAN #1	558.71	559.25	48.96	46.21	17.807	CC
FILE FED 3N-32H-K268 - OH - PLAN #1	600.00	600.43	49.13	46.14	16.456	ES
FILE FED 3N-32H-K268 - OH - PLAN #1	18,685.86	18,756.26	1,144.42	787.34	3.205	SF
FILE FED 3N-32H-K268 - OH - SURVEYS	558.71	559.25	48.96	46.21	17.807	CC
FILE FED 3N-32H-K268 - OH - SURVEYS	600.00	600.43	49.13	46.14	16.456	ES
FILE FED 3N-32H-K268 - OH - SURVEYS	800.04	799.88	54.48	50.36	13.225	SF
FILE FED 3O-32H-K268 - OH - PLAN #2	0.00	0.00	40.01			
FILE FED 3O-32H-K268 - OH - PLAN #2	600.00	600.42	41.83	38.92	14.388	ES
FILE FED 3O-32H-K268 - OH - PLAN #2	18,500.00	18,373.11	763.09	416.89	2.204	SF
FILE FED 3O-32H-K268 - OH - SURVEYS	0.00	0.00	40.01			
FILE FED 3O-32H-K268 - OH - SURVEYS	600.00	600.42	41.83	38.92	14.388	ES
FILE FED 3O-32H-K268 - OH - SURVEYS	800.00	803.17	50.20	46.18	12.490	SF
FILE FED 3P-32H-K268 - OH - PLAN #1	973.60	973.75	23.19	18.15	4.604	CC, ES
FILE FED 3P-32H-K268 - OH - PLAN #1	18,685.86	18,664.27	626.76	268.91	1.751	SF
FILE FED 3P-32H-K268 - OH - SURVEYS	849.87	850.67	25.66	21.09	5.619	CC, ES, SF
Foster 33-5 - CPR WELL - SURVEYS						Out of range
Foster 43-5 - CPR WELL - SURVEYS						Out of range
Foster 4-5 - CPR WELL - SURVEYS						Out of range
Foster 4-6-5 - CPR WELL - SURVEYS						Out of range
Foster 6-4-5 - CPR - SURVEYS						Out of range
Foster 6-4-5X - CPR WELL - SURVEYS						Out of range
Foster 6-8-5 - CPR WELL - SURVEYS						Out of range
Foster 8-8-5 - CPR WELL - SURVEYS						Out of range
Foster E Unit 1 - CPR - GYRO						Out of range
Gene 11-5 - KERR-MCGEE - GYRO						Out of range
Hankins 1 - KPK WELL - NO SURVEYS						Out of range
Hauck 17-29 - KMG WELL - SURVEYS	15,626.01	7,565.16	1,666.61	1,513.72	10.901	CC, ES
Hauck 17-29 - KMG WELL - SURVEYS	15,800.00	7,564.66	1,675.67	1,519.83	10.752	SF
Hauck 24-29 - KMG WELL - SURVEYS						Out of range
Hauck 7-29 - KMG WELL - SURVEYS	14,810.17	7,417.42	894.68	761.17	6.701	CC, ES
Hauck 7-29 - KMG WELL - SURVEYS	14,900.00	7,416.93	899.18	764.61	6.682	SF
HSR-Bryant 9-30A - KMG WELL - GYRO						Out of range
HSR-Williams 10-20 - KMG WELL - GYRO	18,402.29	7,417.22	1,350.11	1,165.69	7.321	CC, ES
HSR-Williams 10-20 - KMG WELL - GYRO	18,500.00	7,416.78	1,353.64	1,167.41	7.269	SF
HWY52 4A-32H-O268 - OH - FINAL	7,241.57	7,257.39	515.04	466.69	10.653	CC, ES, SF
HWY52 4B-32H-O268 - OH - FINAL	7,363.02	7,320.56	839.98	791.09	17.180	CC, ES, SF
HWY52 4C-32H-O268 - OH - FINAL	7,256.13	7,220.77	960.39	912.14	19.903	CC, ES, SF

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
HWY52 4D-32H-O268 - OH - FINAL	7,301.19	7,126.33	1,436.27	1,387.28	29.319	CC, ES
HWY52 4D-32H-O268 - OH - FINAL	7,400.00	7,165.54	1,438.60	1,389.48	29.287	SF
HWY52 4E-32H-O268 - OH - FINAL	4,706.69	4,583.69	1,598.30	1,568.15	53.014	CC
HWY52 4E-32H-O268 - OH - FINAL	6,100.00	6,014.41	1,603.72	1,562.40	38.818	ES
HWY52 4E-32H-O268 - OH - FINAL	7,100.00	6,823.00	1,622.04	1,574.63	34.212	SF
HWY52 4F-32H-O268 - OH - FINAL						Out of range
HWY52 4G-32H-O268 - OH - FINAL						Out of range
HWY52 4H-32H-O268 - OH - FINAL						Out of range
HWY52 4I-32H-O268 - OH - FINAL						Out of range
HWY52 4J-32H-O268 - OH - FINAL						Out of range
HWY52 4K-32H-O268 - OH - FINAL						Out of range
HWY52 4L-32H-O268 - OH - FINAL	11,028.48	12,060.00	582.69	449.33	4.369	CC, ES, SF
HWY52 4M-32H-O268 - OH - FINAL	9,979.37	10,968.00	685.48	577.73	6.361	CC
HWY52 4M-32H-O268 - OH - FINAL	11,000.00	11,974.21	689.90	553.38	5.054	ES, SF
HWY52 4N-32H-O268 - OH - FINAL	10,978.43	12,035.00	932.00	793.26	6.717	CC
HWY52 4N-32H-O268 - OH - FINAL	11,000.00	12,035.00	932.25	793.23	6.706	ES, SF
HWY52 4O-32H-O268 - OH - PLAN #3	11,029.21	12,203.95	1,251.02	1,102.54	8.426	CC, ES
HWY52 4O-32H-O268 - OH - PLAN #3	11,100.00	12,194.87	1,252.86	1,103.93	8.412	SF
HWY52 4O-32H-O268 - OH - SURVEYS	8,211.84	9,268.00	1,266.25	1,200.89	19.374	CC, ES
HWY52 4O-32H-O268 - OH - SURVEYS	8,300.00	9,268.00	1,269.32	1,203.57	19.307	SF
HWY52 4P-32H-O268 - OH - PLAN #4	11,028.15	12,074.86	1,359.83	1,222.26	9.885	CC, ES
HWY52 4P-32H-O268 - OH - PLAN #4	11,200.00	12,068.46	1,370.10	1,230.66	9.826	SF
HWY52 4P-32H-O268 - OH - SURVEYS						Out of range
HWY52 4Q-32H-O268 - OH - PLAN #4	11,031.88	11,997.18	1,692.00	1,541.59	11.249	CC
HWY52 4Q-32H-O268 - OH - PLAN #4	11,100.00	11,997.18	1,693.37	1,541.54	11.153	ES
HWY52 4Q-32H-O268 - OH - PLAN #4	11,200.00	11,997.18	1,700.33	1,546.81	11.075	SF
HWY52 4Q-32H-O268 - OH - SURVEYS						Out of range
HWY52 4R-32H-O268 - OH - PLAN #3						Out of range
HWY52 4R-32H-O268 - OH - SURVEYS						Out of range
HWY52 4S-32H-O268 - OH - PLAN #4						Out of range
HWY52 4S-32H-O268 - OH - SURVEYS						Out of range
HWY52 4T-32H-O268 - OH - PLAN #3						Out of range
HWY52 4U-32H-O268 - OH - PLAN #5						Out of range
HWY52 4U-32H-O268 - OH - SURVEYS						Out of range
HWY52 4V-32H-O268 - OH - PLAN #2						Out of range
HWY52 4V-32H-O268 - OH - SURVEYS						Out of range
HWY52 4W-32H-O268 - OH - PLAN #3						Out of range
HWY52 4W-32H-O268 - OH - SURVEYS						Out of range
Jack Hein Unit 1 - HS RESOURCES WELL - NO SURVE						Out of range
John Lamar 1 - KPK WELL - NO SURVEYS						Out of range
Johnson 32-30 - KPK WELL - NO SURVEYS						Out of range
Johnson 7-30A - KMG WELL - GYRO						Out of range
Kenneth Koch 1 - KPK WELL - NO SURVEYS						Out of range
Kenyon 34-19 - CPR WELL - SURVEYS						Out of range
Kenyon 4-8-19 - CPR WELL - SURVEYS						Out of range
Kenyon 8-4-19 - CPR WELL - SURVEYS						Out of range
Kenyon 8-6-19 - CPR WELL - SURVEYS						Out of range
Kenyon 8-8-19 - CPR WELL - SURVEYS						Out of range
Koch 41-6 - KPK WELL - NO SURVEYS						Out of range
Koch Kenneth E A-1 - KMG WELL - SURVEY						Out of range
Milton H Nelson H-1 - KMG WELL - GYRO	12,220.89	7,436.77	1,038.67	951.03	11.852	CC, ES
Milton H Nelson H-1 - KMG WELL - GYRO	12,300.00	7,439.97	1,041.67	952.80	11.721	SF
Milton H Nelson I1 - KMG WELL - GYRO	16,158.87	7,396.74	638.98	489.65	4.279	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 FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
Milton H Nelson I1 - KMG WELL - GYRO	16,200.00	7,396.92	640.30	490.43	4.272	SF
Milton H Nelson L1 - KMG WELL - GYRO	18,394.80	7,388.93	945.79	761.82	5.141	CC
Milton H Nelson L1 - KMG WELL - GYRO	18,400.00	7,388.90	945.81	761.81	5.140	ES, SF
Milton Nelson K1 - KMG WELL - GYRO	16,054.90	7,385.98	482.42	337.88	3.338	CC, ES, SF
Nelson 1 - TEXAS TEA - NO SURVEYS	5,090.48	5,024.18	1,461.74	1,432.58	50.130	CC
Nelson 1 - TEXAS TEA - NO SURVEYS	5,500.00	5,429.70	1,462.86	1,431.28	46.319	ES, SF
Nelson 1-A - TEXAS TEA WELL - NO SURVEYS						Out of range
Nelson 2 - TEXAS TEA WELL - NO SURVEYS	500.00	459.00	1,083.05	1,080.57	436.524	CC, ES
Nelson 2 - TEXAS TEA WELL - NO SURVEYS	5,100.00	4,876.00	1,497.68	1,467.67	49.906	SF
Nelson 3 - TEXAS TEA WELL - NO SURVEYS	5,133.60	5,050.00	523.28	492.47	16.987	CC, ES
Nelson 3 - TEXAS TEA WELL - NO SURVEYS	5,200.00	5,050.00	527.47	496.36	16.952	SF
Nelson 4 - TEXAS TEA WELL - NO SURVEYS	500.00	465.00	274.11	271.61	109.785	CC
Nelson 4 - TEXAS TEA WELL - NO SURVEYS	600.00	564.98	274.44	271.37	89.555	ES
Nelson 4 - TEXAS TEA WELL - NO SURVEYS	5,100.00	4,996.00	717.15	687.48	24.168	SF
Nelson 5 - TEXAS TEA WELL - NO SURVEYS	1,084.36	1,047.26	1,307.60	1,301.71	221.860	CC
Nelson 5 - TEXAS TEA WELL - NO SURVEYS	1,500.00	1,458.83	1,308.89	1,300.42	154.546	ES
Nelson 5 - TEXAS TEA WELL - NO SURVEYS	5,300.00	5,035.00	1,445.93	1,413.87	45.100	SF
Nelson D2 - KPK WELL - NO SURVEYS						Out of range
Nelson E Unit 1 - CPR WELL - GYRO	1,168.97	1,123.09	817.61	812.86	172.221	CC
Nelson E Unit 1 - CPR WELL - GYRO	1,300.00	1,252.19	817.86	812.48	152.145	ES
Nelson E Unit 1 - CPR WELL - GYRO	7,400.00	7,232.42	1,205.16	1,168.86	33.202	SF
Nelson E Unit 2 - CPR WELL - GYRO						Out of range
NOAA Federal 11-32 - CPR WELL - GYRO						Out of range
Osarkson 2-8-33 - CPR WELL - SURVEYS						Out of range
Oskarson 13-33 - CPR - GYRO						Out of range
Oskarson 23-33 - CPR WELL - GYRO						Out of range
Oskarson 4 - HRM - NO SURVEYS						Out of range
Oskarson 4-4-33 - CPR WELL - SURVEYS						Out of range
Oskarson 4-6-33 - CPR WELL - SURVEYS						Out of range
Oskarson 4-8-33 - CPR WELL - SURVEYS						Out of range
Oskarson E Unit 1 - CPR WELL - GYRO						Out of range
Paquette 13-5 - KMG WELL - GYRO						Out of range
Paquette 14-5 - KERR-MCGEE - GYRO						Out of range
Rasmussen 10-29 - KMG WELL - SURVEYS	13,505.16	7,643.16	1,074.04	944.51	8.292	CC, ES
Rasmussen 10-29 - KMG WELL - SURVEYS	13,600.00	7,642.58	1,078.22	947.44	8.245	SF
Rasmussen 14-29 - KMG WELL - GYRO	11,564.56	7,411.53	430.86	353.82	5.593	CC, ES
Rasmussen 14-29 - KMG WELL - GYRO	11,600.00	7,409.55	432.31	354.78	5.576	SF
Rasmussen 16-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 19-29 - KMG WELL - SURVEYS	12,909.82	7,562.75	915.66	796.59	7.690	CC, ES
Rasmussen 19-29 - KMG WELL - SURVEYS	13,000.00	7,564.68	920.43	800.26	7.659	SF
Rasmussen 20-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 22-29 - KMG WELL - SURVEYS	14,179.39	8,005.90	774.01	621.34	5.070	CC
Rasmussen 22-29 - KMG WELL - SURVEYS	14,200.00	8,006.45	774.28	620.82	5.045	ES
Rasmussen 22-29 - KMG WELL - SURVEYS	14,300.00	8,010.13	783.34	627.17	5.016	SF
Rasmussen 23-29 - KMG WELL - SURVEYS	12,927.25	7,558.86	290.12	171.77	2.451	CC, ES, SF
Rasmussen 25-29 - KMG WELL - SURVEYS	14,255.94	7,873.43	240.53	90.02	1.598	CC, ES, SF
Rasmussen 36-29 - KMG WELL - SURVEYS	11,557.15	7,538.71	394.15	296.45	4.034	CC, ES
Rasmussen 36-29 - KMG WELL - SURVEYS	11,600.00	7,540.42	396.47	297.83	4.019	SF
Rasmussen 37-29 - KMG WELL - SURVEYS						Out of range
Rasmussen 39-29 - KMG WELL - SURVEYS						Out of range
Rasmussen Fed 35-29 - KMG WELL - SURVEYS	11,552.51	7,524.68	999.78	903.12	10.344	CC, ES
Rasmussen Fed 35-29 - KMG WELL - SURVEYS	11,600.00	7,524.23	1,000.90	903.89	10.317	SF
Ray Nelson 0-4-32 - CPR WELL - SURVEYS						Out of range

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

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
Ray Nelson 12-32 - CPR WELL - GYRO	9,614.66	7,352.89	1,698.53	1,646.81	32.836	CC, ES
Ray Nelson 12-32 - CPR WELL - GYRO	9,700.00	7,352.70	1,700.68	1,648.10	32.350	SF
Ray Nelson 13-32 - CPR WELL - SURVEYS	1,816.82	1,820.77	983.87	967.58	60.395	CC
Ray Nelson 13-32 - CPR WELL - SURVEYS	1,900.00	1,898.56	984.33	967.07	57.039	ES
Ray Nelson 13-32 - CPR WELL - SURVEYS	4,500.00	4,322.39	1,429.91	1,387.02	33.341	SF
Ray Nelson 14-32 - CPR WELL - SURVEYS	214.66	201.69	1,039.40	1,038.14	825.871	CC
Ray Nelson 14-32 - CPR WELL - SURVEYS	300.00	278.06	1,039.76	1,037.86	547.777	ES
Ray Nelson 14-32 - CPR WELL - SURVEYS	5,500.00	5,305.24	1,694.08	1,649.19	37.733	SF
Ray Nelson 23-32 - CPR WELL - GYRO	8,135.92	7,340.92	248.67	212.68	6.908	CC, ES, SF
Ray Nelson 24-32 - CPR WELL - SURVEYS	6,800.00	6,822.15	637.45	570.69	9.549	CC, ES, SF
Ray Nelson 2-4-32 - CPR WELL - SURVEYS	8,957.98	7,547.11	889.84	836.70	16.746	CC, ES
Ray Nelson 2-4-32 - CPR WELL - SURVEYS	9,100.00	7,549.42	901.10	845.66	16.254	SF
Ray Nelson 33-32 - CPR WELL - SURVEYS	8,328.57	7,642.51	1,155.29	1,097.87	20.118	CC, ES
Ray Nelson 33-32 - CPR WELL - SURVEYS	8,400.00	7,643.23	1,157.50	1,099.92	20.103	SF
Ray Nelson 34-32 - CPR WELL - SURVEYS	6,966.44	6,977.05	1,198.08	1,158.41	30.201	CC, ES
Ray Nelson 34-32 - CPR WELL - SURVEYS	7,100.00	7,103.64	1,204.00	1,163.89	30.015	SF
Ray Nelson 44-32 - CPR WELL - SURVEYS						Out of range
Ray Nelson 4-4-32 - CPR WELL - SURVEYS	8,775.14	7,491.22	295.09	223.15	4.102	CC, ES
Ray Nelson 4-4-32 - CPR WELL - SURVEYS	8,800.00	7,491.47	296.13	223.47	4.075	SF
Ray Nelson 4-6-32 - CPR WELL - SURVEYS	7,400.00	7,304.12	341.70	277.07	5.287	SF
Ray Nelson 4-6-32 - CPR WELL - SURVEYS	7,481.18	7,356.13	335.58	272.30	5.303	CC, ES
Ray Nelson 8-8-32 - CPR WELL - SURVEYS						Out of range
Regnier Farms 32-19 - CPR WELL - GYRO						Out of range
Regnier Farms 33-19 - CPR WELL - GYRO						Out of range
Regnier Farms 42-19 - CPR WELL - GYRO						Out of range
Regnier Farms 43-19 - CPR WELL - SURVEYS						Out of range
Regnier Farms B 2 - CPR WELL - GYRO						Out of range
Regnier Farms B Unit 1 - CPR WELL - GYRO						Out of range
Sawdey Unit 2 - KMG WELL - GYRO						Out of range
Schriner 11-5 - KMG WELL - GYRO						Out of range
Schriner 12-5 - KMG WELL - GYRO						Out of range
SEC Four 12-4 - KMG WELL - SURVEYS						Out of range
SEC Four 13-4 - KMG WELL - SURVEYS						Out of range
SEC Four 14-4 - KMG WELL - SURVEYS						Out of range
SEC Four 21-4 - KMG WELL - SURVEYS						Out of range
SEC Four 22-4 - KMG WELL - SURVEYS						Out of range
SEC Four 31-4 - KMG WELL - SURVEYS						Out of range
SEC Four 32-4 - KMG WELL - SURVEYS						Out of range
SEC Four 33-4 - KMG WELL - SURVEYS						Out of range
SEC Four 3-4 - KMG WELL - SURVEYS						Out of range
SEC Four 35-4 - KMG WELL - SURVEYS						Out of range
SEC Four 4-4 - KMG WELL - SURVEYS						Out of range
SEC Four 5-4 - KMG WELL - SURVEYS						Out of range
SEC Four 6-4 - KMG WELL - SURVEYS						Out of range
Shaw 11-29A - KMG WELL - SURVEYS	13,585.56	7,429.06	275.66	161.44	2.413	CC, ES, SF
Shaw 12-29A - KMG - GYRO	14,747.74	7,378.97	1,546.90	1,419.48	12.141	CC, ES
Shaw 12-29A - KMG - GYRO	14,900.00	7,382.29	1,554.37	1,425.40	12.053	SF
Shaw 15-20 - KPK - SURVEYS						Out of range
Shaw 16-20 - KPK - SURVEYS						Out of range
Tallgrass 1-8 - KMG - SURVEYS						Out of range
Tallgrass 2-8 - KMG - SURVEYS						Out of range
Tallgrass 3-8 - KMG - SURVEYS						Out of range
Tallgrass 4-8 - KMG - 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 FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	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)		
S32-T2N-R68W						
Tallgrass 5-8 - KMG - SURVEYS						Out of range
Tallgrass 6-8 - KMG WELL - SURVEYS						Out of range
Williams 10-20 - KMG WELL - SURVEYS	18,685.86	7,480.45	899.44	703.85	4.599	CC, ES, SF
Williams 11-20 - KMG WELL - SURVEYS	18,685.86	7,763.50	235.60	90.58	1.625	CC, ES, SF
Williams 13-20 - KMG WELL - SURVEYS	17,500.00	7,710.93	1,703.18	1,512.88	8.950	CC, ES
Williams 13-20 - KMG WELL - SURVEYS	17,600.00	7,712.31	1,706.43	1,514.45	8.889	SF
Williams 14-20 - KMG WELL - SURVEYS	17,479.14	7,610.27	366.67	179.33	1.957	CC, ES, SF
Williams 16-20 - KMG WELL - SURVEYS						Out of range
Williams 18-29 - KMG WELL - SURVEYS	15,536.62	7,440.78	826.95	681.91	5.702	CC, ES, SF
Williams 23-20 - KMG WELL - SURVEYS	18,012.16	7,541.13	311.70	125.43	1.673	CC, ES, SF
Williams 24-20 - KMG WELL - SURVEYS						Out of range
Williams 24-20X - KMG WELL - SURVEYS						Out of range
Williams 25-20 - KMG WELL - SURVEYS	18,685.86	7,604.16	911.55	794.87	7.812	CC, ES, SF
Williams 35-20 - KMG WELL - SURVEYS	16,825.72	7,513.41	1,032.13	862.42	6.082	CC, ES
Williams 35-20 - KMG WELL - SURVEYS	16,900.00	7,513.35	1,034.80	864.05	6.061	SF
Williams 36-20 - KMG WELL - SURVEYS	16,842.85	7,514.54	412.84	242.67	2.426	CC, ES, SF
Williams 39-20 - KMG WELL - SURVEYS						Out of range
Williams 4-29 - KMG WELL - SURVEYS	16,091.91	7,648.44	1,674.38	1,519.19	10.789	CC
Williams 4-29 - KMG WELL - SURVEYS	16,100.00	7,648.44	1,674.40	1,519.10	10.782	ES
Williams 4-29 - KMG WELL - SURVEYS	16,200.00	7,648.50	1,677.86	1,521.37	10.722	SF
Williams 7-20 - KMG WELL - SURVEYS						Out of range
Williams 8-20 - KMG WELL - SURVEYS						Out of range
Williams 9-20 - KMG WELL - SURVEYS						Out of range
Woolley 41-7 - CPR WELL - GYRO						Out of range
Woolley 42-7 KPK - KPK WELL - SURVEYS						Out of range

Cathedral Energy Services

Anticollision Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well FILE 3S-32H-K268
Project:	DJ BASIN	TVD Reference:	23' KB @ 4993.00usft
Reference Site:	S32-T2N-R68W	MD Reference:	23' KB @ 4993.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	FILE 3S-32H-K268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #3	Offset TVD Reference:	Offset Datum

Offset Design S32-T2N-R68W - Anderson 22-32 - 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	7.19	1,670.94	210.93	1,684.72				
100.00	100.00	58.00	58.00	0.14	0.06	7.19	1,670.94	210.93	1,684.20	1,684.00	0.20	8,563.338	
200.00	200.00	158.00	158.00	0.50	0.23	7.19	1,670.94	210.93	1,684.20	1,683.47	0.73	2,313.487	
300.00	300.00	258.00	258.00	0.85	0.46	7.19	1,670.94	210.93	1,684.20	1,682.89	1.31	1,284.443	
400.00	400.00	358.00	358.00	1.21	0.68	7.19	1,670.94	210.93	1,684.20	1,682.31	1.89	889.010	
500.00	500.00	458.00	458.00	1.57	0.91	7.19	1,670.94	210.93	1,684.20	1,681.72	2.48	679.742 CC, ES	
600.00	599.98	557.98	557.98	1.92	1.13	-141.00	1,670.94	210.93	1,685.56	1,682.51	3.05	553.378	
700.00	699.84	657.84	657.84	2.25	1.35	-141.06	1,670.94	210.93	1,689.63	1,686.02	3.61	468.266	
800.00	799.45	757.45	757.45	2.60	1.58	-141.16	1,670.94	210.93	1,696.42	1,692.24	4.18	405.888	
900.00	898.70	856.70	856.70	2.96	1.80	-141.30	1,670.94	210.93	1,705.95	1,701.19	4.76	358.482 SF	