



Crestone Peak Resources

Sec 19 T2N-R68W

Regnier Farms Pad

REGNIER FARMS 1B-19H-B268

Wellbore #1

Design #1 22Mar18 kjs

Anticollision Summary Report

06 April, 2018

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well REGNIER FARMS 1B-19H-B268
Project:	Sec 19 T2N-R68W	TVD Reference:	WELL @ 4989.00usft (Original Well Elev)
Reference Site:	Regnier Farms Pad	MD Reference:	WELL @ 4989.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	REGNIER FARMS 1B-19H-B268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.14 Single User Db
Reference Design:	Design #1 22Mar18 kjs	Offset TVD Reference:	Offset Datum

Reference	Design #1 22Mar18 kjs		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	4/3/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,937.24	Design #1 22Mar18 kjs (Wellbore #1)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Regnier Farms)						
A C N O 2 - KAUFFMAN - No Surveys	16,144.60	4,907.00	2,767.00	2,674.52	29.919	CC
A C N O 2 - KAUFFMAN - No Surveys	16,200.00	4,907.00	2,767.56	2,674.48	29.734	ES
A C N O 2 - KAUFFMAN - No Surveys	16,600.00	4,907.00	2,804.23	2,707.76	29.069	SF
ANDERSON TRUST C UNIT 2 - CPR - Gyro	19,022.63	7,463.95	3,616.01	3,383.34	15.541	CC
ANDERSON TRUST C UNIT 2 - CPR - Gyro	19,100.00	7,462.60	3,616.84	3,382.97	15.465	ES
ANDERSON TRUST C UNIT 2 - CPR - Gyro	19,500.00	7,455.59	3,647.37	3,408.83	15.290	SF
ANSELM 1 - PETERSON - No Surveys	21,483.95	4,970.00	2,692.55	2,546.44	18.427	CC
ANSELM 1 - PETERSON - No Surveys	21,500.00	4,970.00	2,692.60	2,546.30	18.405	ES
ANSELM 1 - PETERSON - No Surveys	21,800.00	4,970.00	2,711.04	2,562.20	18.214	SF
ARMSTEAD GAS UNIT 4-31 - EXTRACTION - Gyro	22,515.49	7,495.74	951.67	657.50	3.235	CC, ES, SF
ARMSTEAD GU 5-31 - NOBLE ENERGY - No Surveys	19,393.19	7,478.00	1,077.14	850.53	4.753	CC
ARMSTEAD GU 5-31 - NOBLE ENERGY - No Surveys	19,400.00	7,478.00	1,077.16	850.40	4.750	ES
ARMSTEAD GU 5-31 - NOBLE ENERGY - No Surveys	19,500.00	7,478.00	1,082.42	854.45	4.748	SF
BALLANTINE 3-30 - KMG - Gyro	13,594.37	7,537.08	1,286.86	1,148.50	9.301	CC
BALLANTINE 3-30 - KMG - Gyro	13,600.00	7,537.03	1,286.87	1,148.40	9.293	ES
BALLANTINE 3-30 - KMG - Gyro	13,700.00	7,536.17	1,291.19	1,150.97	9.208	SF
BECKY 1 - KAUFFMAN - No Surveys	22,937.67	5,010.00	2,891.14	2,749.39	20.397	CC, ES, SF
BROWN C UNIT 2 - CPR - Gyro	22,937.67	7,669.37	3,455.29	3,171.03	12.155	CC, ES, SF
BRYANT 10-30 - KMG - MWD	16,111.54	7,762.81	307.01	123.44	1.672	CC, ES, SF
BRYANT 16-30 - KMG - MWD	17,354.96	7,579.43	1,618.94	1,414.09	7.903	CC, ES
BRYANT 16-30 - KMG - MWD	17,400.00	7,580.45	1,619.57	1,414.20	7.886	SF
BRYANT 20-30 - KMG - MWD	16,705.91	7,588.63	977.35	779.37	4.937	CC, ES, SF
BRYANT 23-30 - KMG - MWD	16,849.19	7,688.09	203.24	2.60	1.013	Level 3, CC, ES, SF
BRYANT 24-30 - KMG - MWD	15,331.94	7,579.30	1,110.34	937.20	6.413	CC, ES
BRYANT 24-30 - KMG - MWD	15,400.00	7,579.21	1,112.43	938.32	6.389	SF
BRYANT 33-29 - KMG - MWD	16,676.48	7,776.69	2,375.16	2,175.61	11.902	CC
BRYANT 33-29 - KMG - MWD	16,700.00	7,776.41	2,375.28	2,175.49	11.889	ES
BRYANT 33-29 - KMG - MWD	16,800.00	7,775.23	2,378.37	2,177.76	11.856	SF
BRYANT 34-30 - KMG - No Surveys	17,637.69	4,906.00	2,575.19	2,485.58	28.737	CC, ES
BRYANT 34-30 - KMG - No Surveys	18,000.00	4,906.00	2,600.56	2,508.64	28.292	SF
BRYANT 36-30 - KMG - No Surveys	18,087.09	7,665.75	400.15	181.25	1.828	CC
BRYANT 36-30 - KMG - No Surveys	18,100.00	7,665.54	400.36	181.00	1.825	ES, SF
BRYANT 8-30 - KMG - MWD	14,654.42	7,779.60	1,488.16	1,319.93	8.846	CC
BRYANT 8-30 - KMG - MWD	14,700.00	7,779.81	1,488.85	1,319.91	8.813	ES
BRYANT 8-30 - KMG - MWD	14,800.00	7,780.27	1,495.26	1,325.23	8.794	SF
BRYANT FEDERAL 37-30 - KMG - MWD	18,006.75	7,481.12	1,054.35	838.94	4.895	CC, ES, SF
BULTHAUP 1-6 - KMG - Gyro	22,937.67	7,571.15	2,115.53	1,855.50	8.136	CC, ES, SF

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

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well REGNIER FARMS 1B-19H-B268
Project:	Sec 19 T2N-R68W	TVD Reference:	WELL @ 4989.00usft (Original Well Elev)
Reference Site:	Regnier Farms Pad	MD Reference:	WELL @ 4989.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	REGNIER FARMS 1B-19H-B268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.14 Single User Db
Reference Design:	Design #1 22Mar18 kjs	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Regnier Farms)						
BULTHAUP 17-6 - KMG - MWD	22,937.67	7,645.62	1,970.32	1,799.21	11.515	CC, ES, SF
BULTHAUP 21-6 - KMG - MWD	22,937.67	7,643.39	1,772.63	1,694.47	22.678	CC, ES, SF
BULTHAUP 27-6 - KMG - MWD	22,937.67	7,659.71	1,102.93	824.36	3.959	CC, ES, SF
CARLA PETERSON 1 - KAUFFMAN - No Surveys	22,937.67	5,010.00	2,760.25	2,636.15	22.241	CC, ES, SF
CHAMPLIN 86 'N' 1 - KMG - Gyro	17,242.19	7,555.94	3,079.56	2,877.75	15.260	CC
CHAMPLIN 86 'N' 1 - KMG - Gyro	17,300.00	7,551.78	3,080.10	2,877.42	15.197	ES
CHAMPLIN 86 'N' 1 - KMG - Gyro	17,600.00	7,530.37	3,100.17	2,893.93	15.032	SF
CINQUE 1 - FOUNDATION ENERGY - No oSurveys	20,110.10	4,907.00	2,589.04	2,477.79	23.271	CC, ES
CINQUE 1 - FOUNDATION ENERGY - No oSurveys	20,400.00	4,907.00	2,605.22	2,492.16	23.042	SF
CINQUE 2 - FOUNDATION ENERGY - No Surveys	18,760.33	4,911.00	2,582.38	2,482.25	25.789	CC
CINQUE 2 - FOUNDATION ENERGY - No Surveys	18,800.00	4,911.00	2,582.69	2,482.24	25.710	ES
CINQUE 2 - FOUNDATION ENERGY - No Surveys	19,100.00	4,911.00	2,604.63	2,502.39	25.477	SF
CINQUE 3 - FOUNDATION ENERGY - No Surveys	20,158.16	4,905.00	2,758.66	2,625.24	20.677	CC
CINQUE 3 - FOUNDATION ENERGY - No Surveys	20,200.00	4,905.00	2,758.98	2,625.10	20.608	ES
CINQUE 3 - FOUNDATION ENERGY - No Surveys	20,500.00	4,905.00	2,779.76	2,643.34	20.377	SF
CINQUE 4 - FOUNDATION ENERGY - No Surveys	18,731.71	4,975.00	2,696.15	2,574.75	22.209	CC, ES
CINQUE 4 - FOUNDATION ENERGY - No Surveys	19,100.00	4,975.00	2,721.18	2,596.50	21.825	SF
CINQUE 6-31 - FOUNDATION ENERGY - No Surveys	21,418.79	4,973.00	2,525.98	2,405.86	21.028	CC, ES
CINQUE 6-31 - FOUNDATION ENERGY - No Surveys	21,700.00	4,973.00	2,541.59	2,419.75	20.861	SF
CINQUE 7-31 - EXTRACTION - No surveys	19,723.54	7,479.00	813.91	581.50	3.502	CC, ES, SF
CINQUE 8-31 - EXTRACTION - No Surveys	22,672.79	7,492.00	349.58	65.25	1.229	Level 3, CC, ES, SF
CINQUE 9-31 - EXTRACTION - Gyro	21,657.36	7,473.86	1,012.26	733.33	3.629	CC, ES
CINQUE 9-31 - EXTRACTION - Gyro	21,700.00	7,473.35	1,013.16	733.92	3.628	SF
FILE FED 3I-32H-K268 - CPR - MWD	14,237.04	15,456.62	2,417.39	2,157.15	9.289	CC
FILE FED 3I-32H-K268 - CPR - MWD	14,300.00	15,422.00	2,417.74	2,156.87	9.268	ES
FILE FED 3I-32H-K268 - CPR - MWD	22,000.00	7,879.60	2,492.32	2,205.61	8.693	SF
FILE FED 3J-32H-K268 - CPR - MWD	12,700.00	16,760.88	2,540.70	2,280.52	9.765	ES
FILE FED 3J-32H-K268 - CPR - MWD	12,979.04	16,459.00	2,540.41	2,280.82	9.786	CC
FILE FED 3J-32H-K268 - CPR - MWD	21,800.00	7,824.00	2,602.08	2,320.42	9.238	SF
FILE FED 3K-32H-K268 - CPR - MWD	12,970.53	16,140.60	2,710.71	2,451.16	10.444	CC
FILE FED 3K-32H-K268 - CPR - MWD	12,992.72	16,127.56	2,710.84	2,451.10	10.437	ES
FILE FED 3K-32H-K268 - CPR - MWD	13,200.00	16,014.06	2,716.60	2,455.10	10.389	SF
FILE FED 3L-32H-K268 - CPR - MWD	10,594.61	18,515.00	3,159.95	2,898.28	12.076	CC
FILE FED 3L-32H-K268 - CPR - MWD	10,600.00	18,515.00	3,159.96	2,898.19	12.072	ES
FILE FED 3L-32H-K268 - CPR - MWD	21,900.00	7,507.85	3,354.21	3,073.58	11.952	SF
FILE FED 3M-32H-K268 - CPR - MWD	14,786.51	14,812.99	3,310.90	3,049.39	12.661	CC
FILE FED 3M-32H-K268 - CPR - MWD	14,800.00	14,804.79	3,310.91	3,049.30	12.656	ES
FILE FED 3M-32H-K268 - CPR - MWD	22,500.00	7,387.00	3,479.05	3,186.60	11.896	SF
FILE FED 3N-32H-K268 - CPR - MWD	14,924.80	14,476.00	3,373.48	3,112.39	12.921	CC
FILE FED 3N-32H-K268 - CPR - MWD	15,000.00	14,440.03	3,373.90	3,112.12	12.888	ES
FILE FED 3N-32H-K268 - CPR - MWD	22,300.00	7,443.00	3,558.24	3,269.90	12.340	SF
GLADYS-SAWDEY 1 - KMG - Gyro	14,178.83	7,572.07	1,752.95	1,604.34	11.796	CC
GLADYS-SAWDEY 1 - KMG - Gyro	14,200.00	7,571.06	1,753.08	1,604.06	11.764	ES
GLADYS-SAWDEY 1 - KMG - Gyro	14,400.00	7,561.83	1,766.82	1,614.74	11.618	SF
HANKINS 1 - KAUFFMAN - No Surveys	12,264.95	4,920.00	3,094.10	3,028.44	47.127	CC
HANKINS 1 - KAUFFMAN - No Surveys	12,300.00	4,920.00	3,094.29	3,028.29	46.883	ES
HANKINS 1 - KAUFFMAN - No Surveys	13,100.00	4,920.00	3,205.66	3,133.42	44.376	SF
HSR-BRYANT 9-30A - KMG - Gyro	16,166.61	7,472.35	1,674.90	1,492.13	9.164	CC
HSR-BRYANT 9-30A - KMG - Gyro	16,200.00	7,471.91	1,675.23	1,492.01	9.143	ES
HSR-BRYANT 9-30A - KMG - Gyro	16,300.00	7,470.61	1,680.20	1,495.99	9.121	SF
JACK HEIN UNIT 1 - HS RESOURCES - No Surveys	21,404.55	5,085.00	3,004.79	2,824.52	16.668	CC, ES
JACK HEIN UNIT 1 - HS RESOURCES - No Surveys	21,700.00	5,085.00	3,019.28	2,836.53	16.521	SF
JOHN LAMAR 1 - KAUFFMAN - No Surveys	13,380.65	4,930.00	3,015.37	2,937.83	38.890	CC

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

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Reference Design:	Design #1 22Mar18 kjs	Offset TVD Reference:	Offset Datum

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Offset Well - Wellbore - Design						
Existing Wells (Regnier Farms)						
JOHN LAMAR 1 - KAUFFMAN - No Surveys	13,400.00	4,930.00	3,015.43	2,937.70	38.792	ES
JOHN LAMAR 1 - KAUFFMAN - No Surveys	14,000.00	4,930.00	3,078.32	2,995.70	37.259	SF
JOHNSON 32-30 - KAUFFMAN - No Surveys	14,940.38	4,895.00	2,630.04	2,559.81	37.445	CC, ES
JOHNSON 32-30 - KAUFFMAN - No Surveys	15,400.00	4,895.00	2,669.90	2,596.67	36.457	SF
JOHNSON 7-30A - KMG - Gyro	14,893.22	7,489.78	280.00	119.50	1.745	CC, ES, SF
KENYON 34-19 - CPR - MWD	12,216.41	7,672.48	306.69	190.20	2.633	CC, ES, SF
KENYON 4-8-19 - CPR - MWD	12,715.47	7,819.55	91.74	-37.34	0.711	Level 2, CC, ES, SF
KENYON 8-4-19 - CPR - MWD	10,201.11	7,946.52	2,165.66	2,071.25	22.939	CC, ES
KENYON 8-4-19 - CPR - MWD	10,500.00	7,948.81	2,186.19	2,089.79	22.679	SF
KENYON 8-6-19 - CPR - MWD	11,480.33	7,559.69	2,192.05	2,088.83	21.236	CC
KENYON 8-6-19 - CPR - MWD	11,500.00	7,559.99	2,192.14	2,088.67	21.187	ES
KENYON 8-6-19 - CPR - MWD	11,800.00	7,564.60	2,215.23	2,108.65	20.784	SF
KENYON 8-8-19 - CPR - MWD	12,697.62	7,642.97	2,197.06	2,069.41	17.212	CC
KENYON 8-8-19 - CPR - MWD	12,700.00	7,642.96	2,197.06	2,069.37	17.206	ES
KENYON 8-8-19 - CPR - MWD	13,100.00	7,641.60	2,235.20	2,102.07	16.789	SF
KOCH 41-6 - KAUFFMAN - No Surveys	22,937.67	5,037.00	3,207.25	3,025.79	17.676	CC, ES, SF
NELSON 1-A - TEXAS TEA - No Surveys	19,801.28	5,011.00	3,872.38	3,684.23	20.581	CC
NELSON 1-A - TEXAS TEA - No Surveys	19,900.00	5,011.00	3,873.64	3,684.23	20.451	ES
NELSON 1-A - TEXAS TEA - No Surveys	20,300.00	5,011.00	3,904.36	3,711.02	20.194	SF
NELSON 2 - TEXAS TEA - No Surveys	21,611.53	4,918.00	3,957.58	3,745.12	18.628	CC
NELSON 2 - TEXAS TEA - No Surveys	21,700.00	4,918.00	3,958.57	3,744.99	18.534	ES
NELSON 2 - TEXAS TEA - No Surveys	22,100.00	4,918.00	3,987.61	3,770.20	18.341	SF
NELSON 5 - TEXAS TEA - No Surveys	22,320.02	5,035.00	3,891.88	3,666.14	17.240	CC
NELSON 5 - TEXAS TEA - No Surveys	22,400.00	5,035.00	3,892.70	3,665.93	17.166	ES
NELSON 5 - TEXAS TEA - No Surveys	22,800.00	5,035.00	3,921.37	3,690.80	17.007	SF
NELSON-E UNIT 1 - CPR - Gyro	22,095.21	7,525.06	3,381.56	3,094.65	11.786	CC
NELSON-E UNIT 1 - CPR - Gyro	22,100.00	7,525.03	3,381.57	3,094.58	11.783	ES
NELSON-E UNIT 1 - CPR - Gyro	22,400.00	7,522.98	3,395.27	3,104.52	11.678	SF
NOAA FEDERAL 11-32 - CPR - Gyro	18,740.76	7,407.10	2,874.93	2,647.43	12.638	CC
NOAA FEDERAL 11-32 - CPR - Gyro	18,800.00	7,406.20	2,875.54	2,647.16	12.591	ES
NOAA FEDERAL 11-32 - CPR - Gyro	19,000.00	7,406.94	2,886.59	2,655.82	12.509	SF
RASMUSSEN 19-11 - CPR - Gyro	10,783.45	7,539.45	943.78	852.81	10.374	CC
RASMUSSEN 19-11 - CPR - Gyro	10,800.00	7,539.00	943.93	852.59	10.335	ES
RASMUSSEN 19-11 - CPR - Gyro	10,900.00	7,536.31	950.94	857.78	10.207	SF
RASMUSSEN 19-14 - CPR - Gyro	12,372.53	7,566.00	931.22	813.83	7.932	CC
RASMUSSEN 19-14 - CPR - Gyro	12,400.00	7,566.21	931.62	813.62	7.895	ES
RASMUSSEN 19-14 - CPR - Gyro	12,500.00	7,566.97	939.90	820.32	7.860	SF
RASMUSSEN 4-6-19 - CPR - MWD	11,361.78	7,760.04	551.63	448.07	5.327	CC, ES
RASMUSSEN 4-6-19 - CPR - MWD	11,400.00	7,759.81	552.95	448.09	5.273	SF
RASMUSSEN FEDERAL 35-29 - KMG - MWD	17,954.32	7,507.80	3,598.49	3,382.82	16.685	CC
RASMUSSEN FEDERAL 35-29 - KMG - MWD	18,000.00	7,508.16	3,598.78	3,382.44	16.634	ES
RASMUSSEN FEDERAL 35-29 - KMG - MWD	18,400.00	7,511.31	3,625.98	3,404.97	16.406	SF
RAY NELSON 0-4-32 - CPR - MWD	20,474.52	7,555.73	2,366.33	2,105.72	9.080	CC
RAY NELSON 0-4-32 - CPR - MWD	20,500.00	7,555.81	2,366.47	2,105.52	9.069	ES
RAY NELSON 0-4-32 - CPR - MWD	20,600.00	7,556.10	2,369.65	2,107.62	9.043	SF
RAY NELSON 12-32 - CPR - Gyro	19,892.76	7,452.70	2,898.18	2,650.28	11.691	CC
RAY NELSON 12-32 - CPR - Gyro	19,900.00	7,452.70	2,898.19	2,650.18	11.685	ES
RAY NELSON 12-32 - CPR - Gyro	20,200.00	7,452.83	2,914.42	2,662.90	11.587	SF
RAY NELSON 13-32 - CPR - MWD	21,195.99	7,672.03	2,813.93	2,535.87	10.120	CC
RAY NELSON 13-32 - CPR - MWD	21,200.00	7,671.97	2,813.93	2,535.80	10.117	ES
RAY NELSON 13-32 - CPR - MWD	21,500.00	7,667.41	2,830.30	2,548.38	10.039	SF
RAY NELSON 14-32 - CPR - MWD	22,808.22	7,575.71	2,840.85	2,539.49	9.427	CC, ES
RAY NELSON 14-32 - CPR - MWD	22,937.67	7,575.44	2,843.79	2,540.88	9.388	SF

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

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well REGNIER FARMS 1B-19H-B268
Project:	Sec 19 T2N-R68W	TVD Reference:	WELL @ 4989.00usft (Original Well Elev)
Reference Site:	Regnier Farms Pad	MD Reference:	WELL @ 4989.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	REGNIER FARMS 1B-19H-B268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.14 Single User Db
Reference Design:	Design #1 22Mar18 kjs	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Regnier Farms)						
RAY NELSON 24-32 - CPR - MWD	22,817.48	7,733.46	4,191.15	3,890.52	13.941	CC
RAY NELSON 24-32 - CPR - MWD	22,900.00	7,731.90	4,191.96	3,889.96	13.881	ES
RAY NELSON 24-32 - CPR - MWD	22,937.67	7,731.19	4,192.87	3,890.37	13.861	SF
RAY NELSON 2-4-32 - CPR - MWD	20,544.13	7,565.12	3,707.06	3,444.84	14.137	CC
RAY NELSON 2-4-32 - CPR - MWD	20,600.00	7,564.20	3,707.48	3,444.31	14.088	ES
RAY NELSON 2-4-32 - CPR - MWD	21,000.00	7,557.59	3,734.97	3,466.60	13.917	SF
REGNIER 4-4-19 - CPR - MWD	10,089.63	7,569.37	267.71	186.32	3.290	CC, ES
REGNIER 4-4-19 - CPR - MWD	10,100.00	7,569.34	267.91	186.37	3.286	SF
REGNIER FARMS 31-19 - CPR - Gyro	8,296.31	7,543.68	69.80	12.85	1.226	Level 3, CC
REGNIER FARMS 31-19 - CPR - Gyro	8,300.00	7,543.68	69.90	12.78	1.224	Level 3, ES, SF
REGNIER FARMS 32-19 - CPR - Gyro	9,340.68	7,514.74	231.96	163.09	3.368	CC, ES, SF
REGNIER FARMS 33-19 - CPR - Gyro	10,658.82	7,526.71	130.95	42.07	1.473	Level 3, CC, ES, SF
REGNIER FARMS 42-19 - CPR - Gyro	9,325.75	7,517.78	1,518.13	1,449.39	22.085	CC, ES
REGNIER FARMS 42-19 - CPR - Gyro	9,600.00	7,518.66	1,542.70	1,471.46	21.653	SF
REGNIER FARMS 43-19 - CPR - MWD	10,812.29	7,753.88	1,648.14	1,553.83	17.476	CC
REGNIER FARMS 43-19 - CPR - MWD	10,900.00	7,753.58	1,650.47	1,552.82	16.902	ES
REGNIER FARMS 43-19 - CPR - MWD	11,600.00	7,751.22	1,826.70	1,701.38	14.577	SF
REGNIER FARMS B 2 - CPR - Gyro	11,765.87	7,542.13	1,141.39	1,034.24	10.652	CC, ES
REGNIER FARMS B 2 - CPR - Gyro	11,800.00	7,542.01	1,141.90	1,034.39	10.621	SF
REGNIER FARMS-B UNIT 1 - CPR - Gyro	8,393.03	7,537.44	1,201.74	1,143.97	20.803	CC
REGNIER FARMS-B UNIT 1 - CPR - Gyro	8,400.00	7,537.50	1,201.76	1,143.95	20.787	ES
REGNIER FARMS-B UNIT 1 - CPR - Gyro	8,500.00	7,538.33	1,206.49	1,148.01	20.630	SF
ROSS 21-19 - CPR - Gyro	8,125.98	7,542.68	1,022.72	967.20	18.420	CC, ES
ROSS 21-19 - CPR - Gyro	8,300.00	7,543.88	1,037.42	980.20	18.131	SF
ROSS 22-19 - CPR - Gyro	9,506.01	7,511.78	1,129.28	1,058.00	15.844	CC, ES
ROSS 22-19 - CPR - Gyro	9,700.00	7,512.08	1,145.82	1,071.35	15.385	SF
ROSS 2-4-19 - CPR - MWD	10,108.37	7,656.42	1,538.33	1,455.46	18.562	CC, ES
ROSS 2-4-19 - CPR - MWD	10,400.00	7,649.81	1,565.72	1,478.67	17.988	SF
ROSS 4-2-19 - CPR - MWD	8,880.75	7,870.00	397.77	330.25	5.891	CC
ROSS 4-2-19 - CPR - MWD	8,900.00	7,869.87	398.23	329.79	5.819	ES
ROSS 4-2-19 - CPR - MWD	9,000.00	7,869.23	415.26	342.25	5.688	SF
SAWDEY 21-30 - KMG - MWD	14,174.88	7,688.86	285.84	135.76	1.905	CC, ES
SAWDEY 21-30 - KMG - MWD	14,200.00	7,688.70	286.94	136.26	1.904	SF
SAWDEY 22-30 - KMG - MWD	15,404.81	7,662.73	1,655.05	1,479.49	9.427	CC, ES
SAWDEY 22-30 - KMG - MWD	15,600.00	7,655.78	1,666.51	1,487.79	9.325	SF
SAWDEY 31-30 - KMG - MWD	14,190.68	7,717.72	2,863.29	2,712.52	18.991	CC
SAWDEY 31-30 - KMG - MWD	14,200.00	7,717.61	2,863.30	2,712.36	18.970	ES
SAWDEY 31-30 - KMG - MWD	14,800.00	7,710.38	2,927.39	2,767.70	18.332	SF
SAWDEY 32-30 - KMG - MWD	15,635.89	7,811.18	2,844.01	2,659.98	15.454	CC
SAWDEY 32-30 - KMG - MWD	15,700.00	7,811.62	2,844.73	2,659.21	15.334	ES
SAWDEY 32-30 - KMG - MWD	16,200.00	7,814.96	2,899.41	2,704.96	14.911	SF
SAWDEY 5-30 - KMG - MWD	14,990.36	7,648.87	2,430.20	2,264.05	14.627	CC
SAWDEY 5-30 - KMG - MWD	15,000.00	7,648.51	2,430.22	2,263.86	14.608	ES
SAWDEY 5-30 - KMG - MWD	15,400.00	7,632.77	2,464.43	2,291.29	14.234	SF
SAWDEY 6-30 - KMG - MWD	14,864.57	7,607.52	885.84	723.79	5.466	CC, ES
SAWDEY 6-30 - KMG - MWD	14,900.00	7,607.40	886.55	723.89	5.450	SF
SAWDEY UNIT 2 - KMG - Gyro	13,839.93	7,536.07	626.08	483.58	4.393	CC, ES, SF
SHAW 12-29A - KMG - Gyro	14,747.02	7,454.00	3,051.69	2,893.70	19.316	CC
SHAW 12-29A - KMG - Gyro	14,800.00	7,453.46	3,052.15	2,893.36	19.221	ES
SHAW 12-29A - KMG - Gyro	15,200.00	7,449.33	3,085.12	2,921.49	18.854	SF
TEGELER 11-30 - KMG - Gyro	16,110.19	7,515.87	944.08	762.20	5.191	CC, ES
TEGELER 11-30 - KMG - Gyro	16,200.00	7,516.01	948.35	765.09	5.175	SF
WILLIAMS 13-20 - KMG - MWD	12,119.28	7,833.19	2,917.12	2,793.20	23.540	CC

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

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well REGNIER FARMS 1B-19H-B268
Project:	Sec 19 T2N-R68W	TVD Reference:	WELL @ 4989.00usft (Original Well Elev)
Reference Site:	Regnier Farms Pad	MD Reference:	WELL @ 4989.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	REGNIER FARMS 1B-19H-B268	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.14 Single User Db
Reference Design:	Design #1 22Mar18 kjs	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Regnier Farms)						
WILLIAMS 13-20 - KMG - MWD	12,200.00	7,832.03	2,918.24	2,792.79	23.262	ES
WILLIAMS 13-20 - KMG - MWD	12,900.00	7,821.88	3,019.77	2,884.13	22.263	SF
WILLIAMS 18-16 - CPR - Gyro	2,209.47	2,161.76	1,354.69	1,339.18	87.357	CC
WILLIAMS 18-16 - CPR - Gyro	3,300.00	3,239.91	1,355.26	1,331.73	57.590	ES
WILLIAMS 18-16 - CPR - Gyro	6,950.00	6,859.65	1,447.71	1,397.89	29.060	SF
WILLIAMS 24-18 - CPR - Gyro	6,967.34	6,955.35	1,190.10	1,141.02	24.252	CC, ES
WILLIAMS 24-18 - CPR - Gyro	7,200.00	7,173.55	1,206.59	1,156.10	23.899	SF
WILLIAMS 34-18 - CPR - MWD	6,363.23	6,437.84	506.93	458.09	10.379	CC
WILLIAMS 34-18 - CPR - MWD	6,800.00	6,874.56	509.37	457.17	9.757	ES
WILLIAMS 34-18 - CPR - MWD	6,850.00	6,924.23	511.07	458.50	9.721	SF
WILLIAMS 35-20 - KMG - MWD	12,719.28	7,631.73	3,579.51	3,452.82	28.254	CC
WILLIAMS 35-20 - KMG - MWD	12,800.00	7,631.80	3,580.42	3,452.42	27.972	ES
WILLIAMS 35-20 - KMG - MWD	13,600.00	7,632.56	3,694.13	3,555.97	26.739	SF
WILLIAMS 4-29 - KMG - MWD	13,403.37	7,584.56	2,931.17	2,795.31	21.575	CC, ES
WILLIAMS 4-29 - KMG - MWD	14,000.00	7,585.45	2,991.27	2,848.01	20.879	SF
WOOLLEY-BECKY 2E-7H-E168 - CPR - MWD	22,937.67	14,800.00	1,703.22	1,375.27	5.194	CC, ES, SF
WOOLLEY-BECKY 2F-7H-E168 - CPR - MWD	22,937.67	14,555.00	1,406.52	1,127.26	5.037	CC, ES, SF
WOOLLEY-BECKY 2G-7H-E168 - CPR - MWD	22,937.67	15,260.00	1,190.50	954.78	5.051	CC, ES, SF
WOOLLEY-BECKY 2H-7H-E168 - CPR - MWD	22,937.67	15,075.00	1,006.80	867.32	7.219	CC, ES, SF
Regnier Farms Pad						
REGNIER FARMS 1A-19H-B268 - Wellbore #1 - Design	200.00	200.00	10.00	9.01	10.070	CC
REGNIER FARMS 1A-19H-B268 - Wellbore #1 - Design	22,937.67	22,724.47	300.51	-119.55	0.715	Level 2, ES, SF
REGNIER FARMS 1C-19H-B268 - Wellbore #1 - Design	250.00	250.00	10.00	8.65	7.400	CC
REGNIER FARMS 1C-19H-B268 - Wellbore #1 - Design	22,937.67	22,800.38	253.36	-230.49	0.524	Level 1, ES, SF
REGNIER FARMS 1D-19H-B268 - Wellbore #1 - Design	250.00	250.00	20.00	18.65	14.800	CC
REGNIER FARMS 1D-19H-B268 - Wellbore #1 - Design	300.00	300.00	20.35	18.65	11.914	ES
REGNIER FARMS 1D-19H-B268 - Wellbore #1 - Design	22,937.67	22,712.55	545.93	32.49	1.063	Level 3, SF
REGNIER FARMS 1E-19H-B268 - Wellbore #1 - Design	250.00	250.00	30.00	28.65	22.199	CC
REGNIER FARMS 1E-19H-B268 - Wellbore #1 - Design	300.00	300.00	30.35	28.64	17.767	ES
REGNIER FARMS 1E-19H-B268 - Wellbore #1 - Design	20,200.00	20,063.79	660.17	214.42	1.481	Level 3, SF
REGNIER FARMS 1F-19H-B268 - Wellbore #1 - Design	250.00	249.00	40.00	38.65	29.677	CC
REGNIER FARMS 1F-19H-B268 - Wellbore #1 - Design	300.00	299.00	40.35	38.65	23.671	ES
REGNIER FARMS 1F-19H-B268 - Wellbore #1 - Design	22,937.67	22,996.52	1,100.18	549.27	1.997	SF
REGNIER FARMS 1G-19H-B268 - Wellbore #1 - Design	200.00	199.00	50.00	49.01	50.537	CC
REGNIER FARMS 1G-19H-B268 - Wellbore #1 - Design	250.00	248.27	50.35	49.01	37.428	ES
REGNIER FARMS 1G-19H-B268 - Wellbore #1 - Design	22,937.67	22,756.35	1,219.81	675.72	2.242	SF
REGNIER FARMS 1H-19H-B268 - Wellbore #1 - Design	250.00	249.00	60.00	58.65	44.515	CC, ES
REGNIER FARMS 1H-19H-B268 - Wellbore #1 - Design	22,937.67	22,891.17	1,521.08	971.61	2.768	SF
REGNIER FARMS 1I-19H-B268 - Wellbore #1 - Design #	202.95	201.95	70.00	68.99	69.271	CC
REGNIER FARMS 1I-19H-B268 - Wellbore #1 - Design #	250.00	248.45	70.09	68.75	52.105	ES
REGNIER FARMS 1I-19H-B268 - Wellbore #1 - Design #	22,937.67	22,843.98	1,843.22	1,294.69	3.360	SF
REGNIER FARMS 1J-19H-B268 - Wellbore #1 - Design	200.00	199.00	80.00	79.01	80.859	CC
REGNIER FARMS 1J-19H-B268 - Wellbore #1 - Design	250.00	247.97	80.25	78.91	59.729	ES
REGNIER FARMS 1J-19H-B268 - Wellbore #1 - Design	22,937.67	23,097.91	1,960.32	1,409.18	3.557	SF
REGNIER FARMS 1K-19H-B268 - Wellbore #1 - Design	200.00	199.00	90.00	89.01	90.966	CC, ES
REGNIER FARMS 1K-19H-B268 - Wellbore #1 - Design	22,937.67	23,015.64	2,269.15	1,718.91	4.124	SF

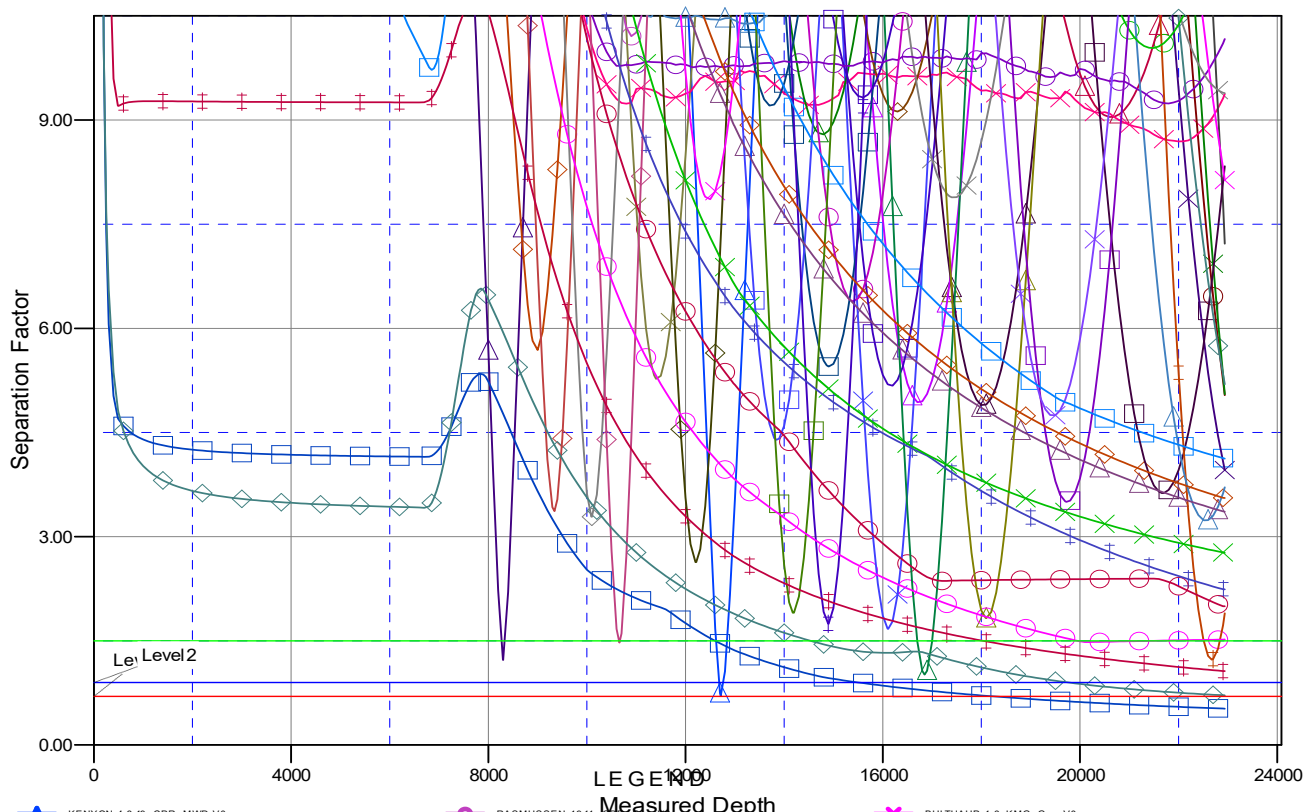
Company: Crestone Peak Resources
Project: Sec 19 T2N-R68W
Reference Site: Regnier Farms Pad
Site Error: 0.00 usft
Reference Well: REGNIER FARMS 1B-19H-B268
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 22Mar18 kjs

Local Co-ordinate Reference: Well REGNIER FARMS 1B-19H-B268
TVD Reference: WELL @ 4989.00usft (Original Well Elev)
MD Reference: WELL @ 4989.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.14 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4989.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: REGNIER FARMS 1B-19H-B268
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.30°

Separation Factor Plot



LEGEND

KENYON 4-8-19, CPR, MWD V0	RASMUSSEN 1941, CPR, Gyro V0	BULTHAUP 1-6, KMG, Gyro V0
REGNIER FARMS 43-19, CPR, MWD V0	JOHN LAMAR 1, KAUFFMAN, No Surveys V0	NELSON 1-A, TEXAS TEA, No Surveys V0
WOOLLEY-BECKY 2F-7H-E168, CPR, MWD V0	BRYANT 23-30, KMG, MWD V0	REGNIER FARMS 33-19, CPR, Gyro V0
CINQUE 1, FOUNDATION ENERGY, No Surveys V0	WILLIAMS 34-18, CPR, MWD V0	RASMUSSEN 1944, CPR, Gyro V0
BRYANT 33-29, KMG, MWD V0	CARL A PETERSON 1, KAUFFMAN, No Surveys V0	JACK HEIN UNIT 1, HS RESOURCES, No Surveys V0
BULTHAUP 27-6, KMG, MWD V0	WOOLLEY-BECKY 2H-7H-E168, CPR, MWD V0	WOOLLEY-BECKY 2E-7H-E168, CPR, MWD V0
REGNIER FARMS 31-19, CPR, Gyro V0	SAWDEY UNIT 2, KMG, Gyro V0	RAY NELSON 1432, CPR, MWD V0
ROSS 4-2-19, CPR, MWD V0	CHAMPLIN 86 N° 1, KMG, Gyro V0	BRYANT 24-30, KMG, MWD V0
REGNIER FARMS B 2, CPR, Gyro V0	WILLIAMS 35-20, KMG, MWD V0	SAWDEY 5-30, KMG, MWD V0
BRYANT 10-30, KMG, MWD V0	FILE FED 3L-32H-K268, CPR, MWD V0	KENYON 8-4-19, CPR, Gyro V0
RAY NELSON 24-32, CPR, MWD V0	SHAW 12-29A, KMG, Gyro V0	GLADYS-SAWDEY 1, KMG, Gyro V0
BROWN C UNIT 2, CPR, Gyro V0	HANKINS 1, KAUFFMAN, No Surveys V0	SAWDEY 21-30, KMG, MWD V0
BRYANT 20-30, KMG, MWD V0	ROSS 21-19, CPR, Gyro V0	SAWDEY 31-30, KMG, MWD V0
SAWDEY 6-30, KMG, MWD V0	REGNIER 4-4-19, CPR, MWD V0	FILE FED 3N-32H-K268, CPR, MWD V0
RASMUSSEN 46-19, CPR, MWD V0	CINQUE 2, FOUNDATION ENERGY, No Surveys V0	WILLIAMS 13-20, KMG, MWD V0
RAY NELSON 04-32, CPR, MWD V0	KENYON 8-4-19, CPR, MWD V0	WILLIAMS 18-16, CPR, Gyro V0
SAWDEY 32-30, KMG, MWD V0	FILE FED 3K-32H-K268, CPR, MWD V0	FILE FED 3M-32H-K268, CPR, MWD V0
REGNIER FARMS-8 UNIT 1, CPR, Gyro V0	BRYANT 16-30, KMG, MWD V0	RAY NELSON 1232, CPR, Gyro V0
BULTHAUP 17-6, KMG, MWD V0	NOAA FEDERAL 11-32, CPR, Gyro V0	RASMUSSEN FEDERAL 35-29, KMG, MWD V0
REGNIER FARMS 42-19, CPR, Gyro V0	WOOLLEY-BECKY 2G-7H-E168, CPR, MWD V0	ARMSTEAD GAS UNIT 4-31, EXTRACTION, Gyro V0
REGNIER FARMS 32-19, CPR, Gyro V0	NELSON 5, TEXAS TEA, No Surveys V0	JOHNSON 7-30A, KMG, Gyro V0
FILE FED 3K-32H-K268, CPR, MWD V0	CINQUE 9-31, EXTRACTION, Gyro V0	RAY NELSON 1332, CPR, MWD V0
NELSON 2, TEXAS TEA, No Surveys V0	CINQUE 6-31, FOUNDATION ENERGY, No Surveys V0	NELSON UNIT 1, CPR, Gyro V0
CINQUE 4, FOUNDATION ENERGY, No Surveys V0	ANDERSON TRUST C UNIT 2, CPR, Gyro V0	CINQUE 7-31, EXTRACTION, No Surveys V0
CINQUE 3, FOUNDATION ENERGY, No Surveys V0	A C N O 2, KAUFFMAN, No Surveys V0	ARMSTEAD GU 5-31, NOBLE ENERGY, No Surveys V0
BRYANT 8-30, KMG, MWD V0	BRYANT 36-30, KMG, No Surveys V0	REGNIER FARMS 1G-19H-B268, Wellbore #1, Design #1 22Mar18 kjs V0
RAY NELSON 24-32, CPR, MWD V0	CINQUE 8-31, EXTRACTION, No Surveys V0	REGNIER FARMS 1C-19H-B268, Wellbore #1, Design #1 22Mar18 kjs V0
WILLIAMS 4-29, KMG, MWD V0	SAWDEY 22-30, KMG, MWD V0	REGNIER FARMS 1E-19H-B268, Wellbore #1, Design #1 22Mar18 kjs V0
BALLANTINE 3-30, KMG, Gyro V0	ANSELM 1, PETERSON, No Surveys V0	REGNIER FARMS 1H-19H-B268, Wellbore #1, Design #1 22Mar18 kjs V0