



Crestone Peak Resources

Well Name:

MELBON RANCH 4J-17H-M265

Project Name:

Sec 17 T2N-R65W

Pad Name:

Melbon Ranch Pad

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	Start Build 2.00
727.02	9.54	209.82	724.82	-34.38	-19.70	-12.85	39.62	Hold 9.54 Inc, 209.82 Az
6404.10	9.54	209.82	6323.38	-850.74	-487.60	-317.99	980.57	KOP 8/100
7589.60	90.00	89.22	7092.00	-952.20	227.49	403.39	1727.21	LP 90 Inc, 89.22 Az
11996.28	90.00	89.22	7092.00	-892.02	4633.76	4718.84	6133.88	TD at 11996.28

Geodetic Datum:

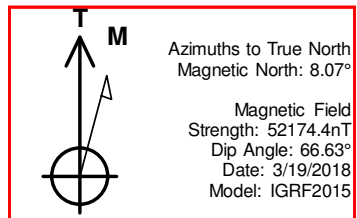
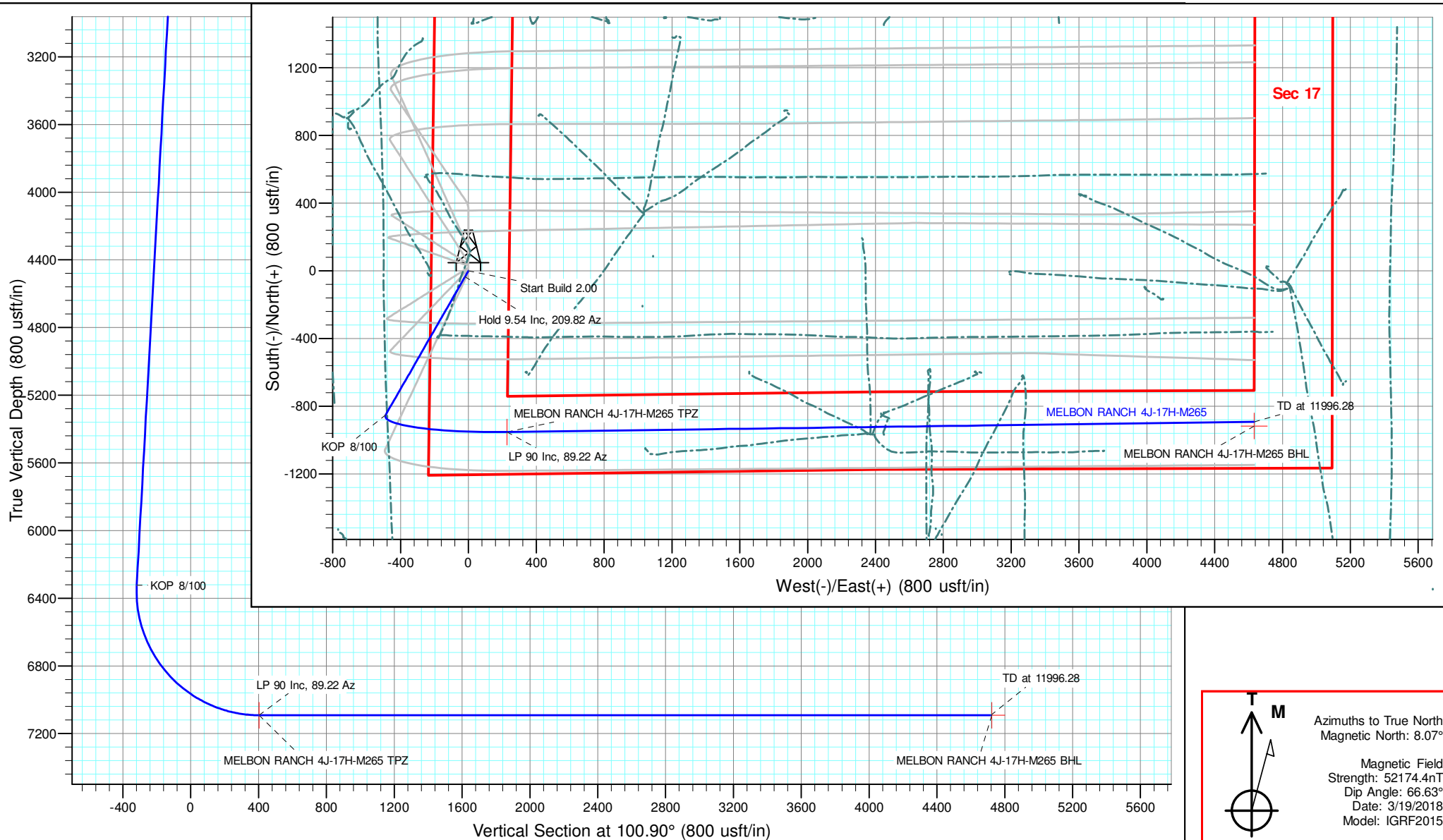
North American Datum 1983
US State Plane 1983, Colorado Northern Zone

Elevation:

Ground Elevation: 4956.00
KB Elevation: WELL @ 4979.00usft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
MELBON RANCH 4J-17H-M265 BHL	7092.00	-917.04	4633.53	1292042.73	3229259.07	40.132210	-104.680066	Point
plan misses target center by 24.90usft at 11995.68usft MD (7092.00 TVD, -892.15 N, 4633.16 E)								
MELBON RANCH 4J-17H-M265 TPZ	7092.00	-952.20	227.49	1291967.66	3224853.53	40.132046	-104.695824	Point





Crestone Peak Resources

Sec 17 T2N-R65W

Melbon Ranch Pad

MELBON RANCH 4J-17H-M265

Wellbore #1

Plan: Design #1 19Mar18 kjs

Standard Planning Report - Geographic

17 May, 2018

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Project:	Sec 17 T2N-R65W	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site:	Melbon Ranch Pad	North Reference:	True
Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 19Mar18 kjs		

Project	Sec 17 T2N-R65W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Melbon Ranch Pad			
Site Position:		Northing:	1,292,987.77 usft	Latitude:	40.134852
From:	Map	Easting:	3,224,617.42 usft	Longitude:	-104.696635
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.52 °

Well	MELBON RANCH 4J-17H-M265					
Well Position	+N/-S	0.00 usft	Northing:	1,292,917.76 usft	Latitude:	40.134660
	+E/-W	0.00 usft	Easting:	3,224,617.42 usft	Longitude:	-104.696638
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,956.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/19/2018	8.07	66.63	52,174.43516408

Design	Design #1 19Mar18 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	100.90

Plan Survey Tool Program	Date	5/17/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,996.28 Design #1 19Mar18 kjs (Wellbore)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
727.02	9.54	209.82	724.82	-34.38	-19.70	2.00	2.00	0.00	209.82	
6,404.10	9.54	209.82	6,323.38	-850.74	-487.60	0.00	0.00	0.00	0.00	
7,589.60	90.00	89.22	7,092.00	-952.20	227.49	8.00	6.79	-10.17	-120.25	MELBON RANCH 4J-
11,996.28	90.00	89.22	7,092.00	-892.02	4,633.76	0.00	0.00	0.00	0.00	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Project:	Sec 17 T2N-R65W	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site:	Melbon Ranch Pad	North Reference:	True
Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 19Mar18 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,292,917.76	3,224,617.42	40.134660	-104.696638
100.00	0.00	0.00	100.00	0.00	0.00	1,292,917.76	3,224,617.42	40.134660	-104.696638
200.00	0.00	0.00	200.00	0.00	0.00	1,292,917.76	3,224,617.42	40.134660	-104.696638
250.00	0.00	0.00	250.00	0.00	0.00	1,292,917.76	3,224,617.42	40.134660	-104.696638
Start Build 2.00									
300.00	1.00	209.82	300.00	-0.38	-0.22	1,292,917.38	3,224,617.21	40.134659	-104.696639
400.00	3.00	209.82	399.93	-3.41	-1.95	1,292,914.33	3,224,615.50	40.134651	-104.696645
500.00	5.00	209.82	499.68	-9.46	-5.42	1,292,908.25	3,224,612.09	40.134634	-104.696657
600.00	7.00	209.82	599.13	-18.53	-10.62	1,292,899.13	3,224,606.97	40.134609	-104.696676
700.00	9.00	209.82	698.15	-30.60	-17.54	1,292,887.00	3,224,600.16	40.134576	-104.696700
727.02	9.54	209.82	724.82	-34.38	-19.70	1,292,883.20	3,224,598.03	40.134566	-104.696708
Hold 9.54 Inc, 209.82 Az									
800.00	9.54	209.82	796.79	-44.87	-25.72	1,292,872.65	3,224,592.11	40.134537	-104.696730
900.00	9.54	209.82	895.41	-59.25	-33.96	1,292,858.20	3,224,584.00	40.134497	-104.696759
1,000.00	9.54	209.82	994.02	-73.63	-42.20	1,292,843.75	3,224,575.89	40.134458	-104.696789
1,100.00	9.54	209.82	1,092.64	-88.01	-50.44	1,292,829.29	3,224,567.78	40.134418	-104.696818
1,200.00	9.54	209.82	1,191.26	-102.39	-58.69	1,292,814.84	3,224,559.67	40.134379	-104.696848
1,300.00	9.54	209.82	1,289.87	-116.77	-66.93	1,292,800.38	3,224,551.56	40.134339	-104.696877
1,400.00	9.54	209.82	1,388.49	-131.15	-75.17	1,292,785.93	3,224,543.44	40.134300	-104.696907
1,500.00	9.54	209.82	1,487.11	-145.53	-83.41	1,292,771.48	3,224,535.33	40.134260	-104.696936
1,600.00	9.54	209.82	1,585.72	-159.91	-91.65	1,292,757.02	3,224,527.22	40.134221	-104.696966
1,700.00	9.54	209.82	1,684.34	-174.29	-99.89	1,292,742.57	3,224,519.11	40.134182	-104.696995
1,800.00	9.54	209.82	1,782.96	-188.67	-108.14	1,292,728.11	3,224,511.00	40.134142	-104.697024
1,900.00	9.54	209.82	1,881.57	-203.05	-116.38	1,292,713.66	3,224,502.89	40.134103	-104.697054
2,000.00	9.54	209.82	1,980.19	-217.43	-124.62	1,292,699.20	3,224,494.78	40.134063	-104.697083
2,100.00	9.54	209.82	2,078.81	-231.81	-132.86	1,292,684.75	3,224,486.67	40.134024	-104.697113
2,200.00	9.54	209.82	2,177.43	-246.19	-141.10	1,292,670.30	3,224,478.55	40.133984	-104.697142
2,300.00	9.54	209.82	2,276.04	-260.57	-149.35	1,292,655.84	3,224,470.44	40.133945	-104.697172
2,400.00	9.54	209.82	2,374.66	-274.95	-157.59	1,292,641.39	3,224,462.33	40.133905	-104.697201
2,500.00	9.54	209.82	2,473.28	-289.33	-165.83	1,292,626.93	3,224,454.22	40.133866	-104.697231
2,600.00	9.54	209.82	2,571.89	-303.71	-174.07	1,292,612.48	3,224,446.11	40.133826	-104.697260
2,700.00	9.54	209.82	2,670.51	-318.09	-182.31	1,292,598.03	3,224,438.00	40.133787	-104.697290
2,800.00	9.54	209.82	2,769.13	-332.47	-190.56	1,292,583.57	3,224,429.89	40.133747	-104.697319
2,900.00	9.54	209.82	2,867.74	-346.85	-198.80	1,292,569.12	3,224,421.78	40.133708	-104.697349
3,000.00	9.54	209.82	2,966.36	-361.23	-207.04	1,292,554.66	3,224,413.66	40.133668	-104.697378
3,100.00	9.54	209.82	3,064.98	-375.61	-215.28	1,292,540.21	3,224,405.55	40.133629	-104.697408
3,200.00	9.54	209.82	3,163.59	-389.99	-223.52	1,292,525.76	3,224,397.44	40.133589	-104.697437
3,300.00	9.54	209.82	3,262.21	-404.37	-231.76	1,292,511.30	3,224,389.33	40.133550	-104.697467
3,400.00	9.54	209.82	3,360.83	-418.75	-240.01	1,292,496.85	3,224,381.22	40.133510	-104.697496
3,500.00	9.54	209.82	3,459.44	-433.13	-248.25	1,292,482.39	3,224,373.11	40.133471	-104.697526
3,600.00	9.54	209.82	3,558.06	-447.51	-256.49	1,292,467.94	3,224,365.00	40.133431	-104.697555
3,700.00	9.54	209.82	3,656.68	-461.89	-264.73	1,292,453.49	3,224,356.89	40.133392	-104.697585
3,800.00	9.54	209.82	3,755.30	-476.27	-272.97	1,292,439.03	3,224,348.77	40.133353	-104.697614
3,900.00	9.54	209.82	3,853.91	-490.65	-281.22	1,292,424.58	3,224,340.66	40.133313	-104.697643
4,000.00	9.54	209.82	3,952.53	-505.03	-289.46	1,292,410.12	3,224,332.55	40.133274	-104.697673
4,100.00	9.54	209.82	4,051.15	-519.41	-297.70	1,292,395.67	3,224,324.44	40.133234	-104.697702
4,200.00	9.54	209.82	4,149.76	-533.79	-305.94	1,292,381.21	3,224,316.33	40.133195	-104.697732
4,300.00	9.54	209.82	4,248.38	-548.17	-314.18	1,292,366.76	3,224,308.22	40.133155	-104.697761
4,400.00	9.54	209.82	4,347.00	-562.55	-322.42	1,292,352.31	3,224,300.11	40.133116	-104.697791
4,500.00	9.54	209.82	4,445.61	-576.93	-330.67	1,292,337.85	3,224,292.00	40.133076	-104.697820
4,600.00	9.54	209.82	4,544.23	-591.31	-338.91	1,292,323.40	3,224,283.88	40.133037	-104.697850
4,700.00	9.54	209.82	4,642.85	-605.69	-347.15	1,292,308.94	3,224,275.77	40.132997	-104.697879
4,800.00	9.54	209.82	4,741.46	-620.07	-355.39	1,292,294.49	3,224,267.66	40.132958	-104.697909
4,900.00	9.54	209.82	4,840.08	-634.45	-363.63	1,292,280.04	3,224,259.55	40.132918	-104.697938

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Project:	Sec 17 T2N-R65W	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site:	Melbon Ranch Pad	North Reference:	True
Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 19Mar18 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,000.00	9.54	209.82	4,938.70	-648.83	-371.88	1,292,265.58	3,224,251.44	40.132879	-104.697968
5,100.00	9.54	209.82	5,037.31	-663.21	-380.12	1,292,251.13	3,224,243.33	40.132839	-104.697997
5,200.00	9.54	209.82	5,135.93	-677.59	-388.36	1,292,236.67	3,224,235.22	40.132800	-104.698027
5,300.00	9.54	209.82	5,234.55	-691.97	-396.60	1,292,222.22	3,224,227.11	40.132760	-104.698056
5,400.00	9.54	209.82	5,333.17	-706.35	-404.84	1,292,207.77	3,224,218.99	40.132721	-104.698086
5,500.00	9.54	209.82	5,431.78	-720.73	-413.09	1,292,193.31	3,224,210.88	40.132681	-104.698115
5,600.00	9.54	209.82	5,530.40	-735.11	-421.33	1,292,178.86	3,224,202.77	40.132642	-104.698145
5,700.00	9.54	209.82	5,629.02	-749.49	-429.57	1,292,164.40	3,224,194.66	40.132602	-104.698174
5,800.00	9.54	209.82	5,727.63	-763.87	-437.81	1,292,149.95	3,224,186.55	40.132563	-104.698204
5,900.00	9.54	209.82	5,826.25	-778.25	-446.05	1,292,135.50	3,224,178.44	40.132524	-104.698233
6,000.00	9.54	209.82	5,924.87	-792.63	-454.29	1,292,121.04	3,224,170.33	40.132484	-104.698262
6,100.00	9.54	209.82	6,023.48	-807.01	-462.54	1,292,106.59	3,224,162.22	40.132445	-104.698292
6,200.00	9.54	209.82	6,122.10	-821.39	-470.78	1,292,092.13	3,224,154.10	40.132405	-104.698321
6,300.00	9.54	209.82	6,220.72	-835.77	-479.02	1,292,077.68	3,224,145.99	40.132366	-104.698351
6,400.00	9.54	209.82	6,319.33	-850.15	-487.26	1,292,063.22	3,224,137.88	40.132326	-104.698380
6,404.10	9.54	209.82	6,323.38	-850.74	-487.60	1,292,062.63	3,224,137.55	40.132325	-104.698382
KOP 8/100									
6,500.00	8.70	160.16	6,418.20	-864.48	-489.09	1,292,048.88	3,224,136.18	40.132287	-104.698387
6,600.00	13.58	126.03	6,516.39	-878.52	-477.01	1,292,034.95	3,224,148.39	40.132248	-104.698344
6,700.00	20.49	111.99	6,611.99	-892.00	-451.25	1,292,021.70	3,224,174.27	40.132211	-104.698252
6,800.00	27.98	105.02	6,703.13	-904.66	-412.30	1,292,009.40	3,224,213.33	40.132177	-104.698112
6,900.00	35.67	100.85	6,788.04	-916.24	-360.93	1,291,998.28	3,224,264.81	40.132145	-104.697929
7,000.00	43.47	98.00	6,865.07	-926.53	-298.13	1,291,988.56	3,224,327.70	40.132117	-104.697704
7,100.00	51.31	95.87	6,932.73	-935.32	-225.13	1,291,980.43	3,224,400.78	40.132092	-104.697443
7,200.00	59.19	94.17	6,989.69	-942.45	-143.34	1,291,974.05	3,224,482.63	40.132073	-104.697150
7,300.00	67.08	92.73	7,034.84	-947.77	-54.36	1,291,969.53	3,224,571.65	40.132058	-104.696832
7,400.00	74.99	91.44	7,067.31	-951.18	40.07	1,291,966.98	3,224,666.11	40.132049	-104.696494
7,500.00	82.91	90.25	7,086.46	-952.61	138.13	1,291,966.43	3,224,764.17	40.132045	-104.696144
7,589.60	90.00	89.22	7,092.00	-952.20	227.49	1,291,967.66	3,224,853.53	40.132046	-104.695824
LP 90 Inc, 89.22 Az - MELBON RANCH 4J-17H-M265 TPZ									
7,600.00	90.00	89.22	7,092.00	-952.06	237.89	1,291,967.89	3,224,863.93	40.132046	-104.695787
7,700.00	90.00	89.22	7,092.00	-950.69	337.88	1,291,970.16	3,224,963.91	40.132050	-104.695429
7,800.00	90.00	89.22	7,092.00	-949.33	437.87	1,291,972.43	3,225,063.88	40.132054	-104.695072
7,900.00	90.00	89.22	7,092.00	-947.97	537.87	1,291,974.70	3,225,163.85	40.132058	-104.694714
8,000.00	90.00	89.22	7,092.00	-946.60	637.86	1,291,976.97	3,225,263.83	40.132061	-104.694357
8,100.00	90.00	89.22	7,092.00	-945.24	737.85	1,291,979.24	3,225,363.80	40.132065	-104.693999
8,200.00	90.00	89.22	7,092.00	-943.88	837.84	1,291,981.51	3,225,463.78	40.132069	-104.693641
8,300.00	90.00	89.22	7,092.00	-942.52	937.83	1,291,983.78	3,225,563.75	40.132073	-104.693284
8,400.00	90.00	89.22	7,092.00	-941.15	1,037.82	1,291,986.04	3,225,663.73	40.132076	-104.692926
8,500.00	90.00	89.22	7,092.00	-939.79	1,137.81	1,291,988.31	3,225,763.70	40.132080	-104.692568
8,600.00	90.00	89.22	7,092.00	-938.43	1,237.80	1,291,990.58	3,225,863.67	40.132084	-104.692211
8,700.00	90.00	89.22	7,092.00	-937.06	1,337.79	1,291,992.85	3,225,963.65	40.132087	-104.691853
8,800.00	90.00	89.22	7,092.00	-935.70	1,437.78	1,291,995.12	3,226,063.62	40.132091	-104.691496
8,900.00	90.00	89.22	7,092.00	-934.34	1,537.77	1,291,997.39	3,226,163.60	40.132095	-104.691138
9,000.00	90.00	89.22	7,092.00	-932.97	1,637.76	1,291,999.66	3,226,263.57	40.132099	-104.690780
9,100.00	90.00	89.22	7,092.00	-931.61	1,737.75	1,292,001.93	3,226,363.54	40.132102	-104.690423
9,200.00	90.00	89.22	7,092.00	-930.25	1,837.74	1,292,004.19	3,226,463.52	40.132106	-104.690065
9,300.00	90.00	89.22	7,092.00	-928.89	1,937.74	1,292,006.46	3,226,563.49	40.132110	-104.689708
9,400.00	90.00	89.22	7,092.00	-927.52	2,037.73	1,292,008.73	3,226,663.47	40.132114	-104.689350
9,500.00	90.00	89.22	7,092.00	-926.16	2,137.72	1,292,011.00	3,226,763.44	40.132117	-104.688992
9,600.00	90.00	89.22	7,092.00	-924.80	2,237.71	1,292,013.27	3,226,863.42	40.132121	-104.688635
9,700.00	90.00	89.22	7,092.00	-923.43	2,337.70	1,292,015.54	3,226,963.39	40.132125	-104.688277
9,800.00	90.00	89.22	7,092.00	-922.07	2,437.69	1,292,017.81	3,227,063.36	40.132128	-104.687920
9,900.00	90.00	89.22	7,092.00	-920.71	2,537.68	1,292,020.08	3,227,163.34	40.132132	-104.687562

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Project:	Sec 17 T2N-R65W	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site:	Melbon Ranch Pad	North Reference:	True
Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 19Mar18 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,000.00	90.00	89.22	7,092.00	-919.35	2,637.67	1,292,022.34	3,227,263.31	40.132136	-104.687204
10,100.00	90.00	89.22	7,092.00	-917.98	2,737.66	1,292,024.61	3,227,363.29	40.132140	-104.686847
10,200.00	90.00	89.22	7,092.00	-916.62	2,837.65	1,292,026.88	3,227,463.26	40.132143	-104.686489
10,300.00	90.00	89.22	7,092.00	-915.26	2,937.64	1,292,029.15	3,227,563.24	40.132147	-104.686132
10,400.00	90.00	89.22	7,092.00	-913.89	3,037.63	1,292,031.42	3,227,663.21	40.132151	-104.685774
10,500.00	90.00	89.22	7,092.00	-912.53	3,137.62	1,292,033.69	3,227,763.18	40.132154	-104.685416
10,600.00	90.00	89.22	7,092.00	-911.17	3,237.61	1,292,035.96	3,227,863.16	40.132158	-104.685059
10,700.00	90.00	89.22	7,092.00	-909.81	3,337.61	1,292,038.23	3,227,963.13	40.132162	-104.684701
10,800.00	90.00	89.22	7,092.00	-908.44	3,437.60	1,292,040.49	3,228,063.11	40.132166	-104.684344
10,900.00	90.00	89.22	7,092.00	-907.08	3,537.59	1,292,042.76	3,228,163.08	40.132169	-104.683986
11,000.00	90.00	89.22	7,092.00	-905.72	3,637.58	1,292,045.03	3,228,263.06	40.132173	-104.683628
11,100.00	90.00	89.22	7,092.00	-904.35	3,737.57	1,292,047.30	3,228,363.03	40.132177	-104.683271
11,200.00	90.00	89.22	7,092.00	-902.99	3,837.56	1,292,049.57	3,228,463.00	40.132180	-104.682913
11,300.00	90.00	89.22	7,092.00	-901.63	3,937.55	1,292,051.84	3,228,562.98	40.132184	-104.682555
11,400.00	90.00	89.22	7,092.00	-900.26	4,037.54	1,292,054.11	3,228,662.95	40.132188	-104.682198
11,500.00	90.00	89.22	7,092.00	-898.90	4,137.53	1,292,056.38	3,228,762.93	40.132191	-104.681840
11,600.00	90.00	89.22	7,092.00	-897.54	4,237.52	1,292,058.64	3,228,862.90	40.132195	-104.681483
11,700.00	90.00	89.22	7,092.00	-896.18	4,337.51	1,292,060.91	3,228,962.88	40.132199	-104.681125
11,800.00	90.00	89.22	7,092.00	-894.81	4,437.50	1,292,063.18	3,229,062.85	40.132202	-104.680767
11,900.00	90.00	89.22	7,092.00	-893.45	4,537.49	1,292,065.45	3,229,162.82	40.132206	-104.680410
11,995.68	90.00	89.22	7,092.00	-892.15	4,633.16	1,292,067.62	3,229,258.48	40.132210	-104.680068
MELBON RANCH 4J-17H-M265 BHL									
11,996.28	90.00	89.22	7,092.00	-892.02	4,633.76	1,292,067.76	3,229,259.07	40.132210	-104.680066
TD at 11996.28									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
MELBON RANCH 4J-17	0.00	0.52	7,092.00	-952.20	227.49	1,291,967.66	3,224,853.53	40.132046	-104.695824
- plan hits target center									
- Point									
MELBON RANCH 4J-17	0.00	0.53	7,092.00	-917.04	4,633.53	1,292,042.73	3,229,259.07	40.132141	-104.680066
- plan misses target center by 24.90usft at 11995.68usft MD (7092.00 TVD, -892.15 N, 4633.16 E)									
- Point									

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Start Build 2.00	
727.02	724.82	-34.38	-19.70	Hold 9.54 Inc, 209.82 Az	
6,404.10	6,323.38	-850.74	-487.60	KOP 8/100	
7,589.60	7,092.00	-952.20	227.49	LP 90 Inc, 89.22 Az	
11,996.28	7,092.00	-892.02	4,633.76	TD at 11996.28	



Crestone Peak Resources

Sec 17 T2N-R65W

Melbon Ranch Pad

MELBON RANCH 4J-17H-M265

Wellbore #1

Design #1 19Mar18 kjs

Anticollision Summary Report

20 June, 2018

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 kjs	Offset TVD Reference:	Offset Datum

Reference	Design #1 19Mar18 kjs		
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 9,999.98 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	6/20/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	11,996.28	Design #1 19Mar18 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
Existing Wells (Melbon Ranch)						
ADAMSON 13N-28HZ - KMG - MWD	11,996.28	6,699.00	2,554.93	2,402.20	16.728	CC, ES, SF
ADAMSON 14N-28HZ - KMG - MWD	11,996.28	6,510.00	2,984.97	2,855.26	23.011	CC, ES, SF
ADAMSON 28N-28HZ - KMG - MWD	11,996.28	6,753.07	3,826.30	3,709.34	32.716	CC, ES, SF
ADAMSON 35C-28HZ - KMG - MWD	11,996.28	6,739.15	2,719.20	2,578.99	19.394	CC, ES, SF
ADAMSON 36N-28HZ - KMG - MWD	11,996.28	6,510.00	3,189.53	3,064.75	25.561	CC, ES, SF
ADAMSON 37C-28HZ - KMG - MWD	11,996.28	6,750.45	3,440.56	3,318.42	28.169	CC, ES, SF
ADAMSON 37C-28HZX - KMG - MWD	11,996.28	6,750.45	3,440.56	3,318.42	28.169	CC, ES, SF
BYDALEK 28C-20HZ - KMG - MWD	9,416.66	12,039.00	828.95	730.67	8.434	CC, ES
BYDALEK 28C-20HZ - KMG - MWD	9,800.00	12,039.00	913.30	803.45	8.314	SF
BYDALEK 28N-20HZ - KMG - MWD	9,400.00	11,830.00	799.54	693.96	7.572	SF
BYDALEK 28N-20HZ - KMG - MWD	9,493.48	11,830.00	794.06	689.36	7.585	CC, ES
BYDALEK 29C-20HZ - KMG - MWD	8,320.56	11,880.00	825.44	759.98	12.609	CC, ES
BYDALEK 29C-20HZ - KMG - MWD	8,900.00	11,880.00	1,008.51	907.74	10.007	SF
BYDALEK 29N-20HZ - KMG - MWD	8,203.81	11,671.00	791.59	726.67	12.194	CC, ES
BYDALEK 29N-20HZ - KMG - MWD	8,700.00	11,671.00	934.25	837.47	9.653	SF
BYDALEK 30C-20HZ - KMG - MWD	7,475.36	11,950.00	784.95	726.30	13.384	CC
BYDALEK 30C-20HZ - KMG - MWD	7,500.00	11,950.00	785.53	725.55	13.095	ES
BYDALEK 30C-20HZ - KMG - MWD	8,000.00	11,950.00	972.71	878.29	10.301	SF
BYDALEK 3N-20HZ - KMG - MWD	8,918.83	11,597.00	959.46	876.17	11.520	CC, ES
BYDALEK 3N-20HZ - KMG - MWD	9,500.00	11,597.00	1,121.75	1,014.18	10.428	SF
BYDALEK 4N-20HZ - KMG - MWD	7,664.50	11,755.00	796.68	739.25	13.873	CC
BYDALEK 4N-20HZ - KMG - MWD	7,700.00	11,755.00	797.47	738.71	13.572	ES
BYDALEK 4N-20HZ - KMG - MWD	8,200.00	11,755.00	959.93	866.42	10.266	SF
CAMPBELL JF 17-13D - GW O&G - MWD	9,851.68	7,296.50	2,366.72	2,254.73	21.134	CC
CAMPBELL JF 17-13D - GW O&G - MWD	9,900.00	7,296.55	2,367.21	2,253.91	20.894	ES
CAMPBELL JF 17-13D - GW O&G - MWD	10,600.00	7,297.14	2,482.20	2,354.05	19.368	SF
CAMPBELL JF 17-41D - GW O&G - MWD	11,996.28	7,203.87	3,696.64	3,526.27	21.698	CC, ES, SF
CAMPBELL JF 17-6D - GW O&G - No Survey	200.00	151.00	4,400.55	4,399.79	5,775.469	CC
CAMPBELL JF 17-6D - GW O&G - No Survey	300.00	251.00	4,400.95	4,399.66	3,414.954	ES
CAMPBELL JF 17-6D - GW O&G - No Survey	11,996.28	730.00	7,277.89	7,203.99	98.474	SF
CAMPBELL JF 17-6D-1 - GW O&G - MWD	10,257.53	7,070.21	3,683.11	3,566.12	31.481	CC
CAMPBELL JF 17-6D-1 - GW O&G - MWD	10,300.00	7,070.22	3,683.36	3,565.36	31.217	ES
CAMPBELL JF 17-6D-1 - GW O&G - MWD	11,600.00	7,070.62	3,920.15	3,778.26	27.628	SF
CAMPBELL JF 17-7D - GW O&G - MWD	11,188.23	6,936.04	3,678.29	3,540.52	26.698	CC
CAMPBELL JF 17-7D - GW O&G - MWD	11,300.00	6,933.87	3,679.99	3,539.55	26.203	ES
CAMPBELL JF 17-7D - GW O&G - MWD	11,996.28	6,920.43	3,765.84	3,611.29	24.367	SF
CAMPBELL JF 17-8D - GW O&G - MWD	11,878.43	7,046.85	3,027.17	2,866.88	18.885	CC

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

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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 (Melbon Ranch)						
CAMPBELL JF 17-8D - GW O&G - MWD	11,996.28	7,051.34	3,029.34	2,866.44	18.595	ES, SF
CAMPBELL JF 17-9D - GW O&G - MWD	10,507.03	7,109.07	3,033.80	2,911.29	24.763	CC
CAMPBELL JF 17-9D - GW O&G - MWD	10,600.00	7,106.91	3,035.23	2,910.48	24.332	ES
CAMPBELL JF 17-9D - GW O&G - MWD	11,500.00	7,086.62	3,192.08	3,050.80	22.594	SF
COOK 28N-16HZ - KMG - MWD	11,996.28	7,729.65	3,238.64	3,179.34	54.613	CC, ES, SF
CROWDER 1-18 - KMG - No Survey	200.00	183.00	3,732.67	3,731.84	4,529.999	CC
CROWDER 1-18 - KMG - No Survey	300.00	283.00	3,732.97	3,731.61	2,757.247	ES
CROWDER 1-18 - KMG - No Survey	11,000.00	7,075.00	6,485.11	6,398.15	74.577	SF
CROWDER 15C-18HZ - KMG - MWD	6,787.26	11,583.00	1,471.55	1,373.38	14.991	CC
CROWDER 15C-18HZ - KMG - MWD	6,800.00	11,583.00	1,471.71	1,373.17	14.935	ES
CROWDER 15C-18HZ - KMG - MWD	7,000.00	11,583.00	1,515.72	1,412.21	14.642	SF
CROWDER 15N-18HZ - KMG - MWD	6,662.83	11,538.00	2,112.81	2,006.48	19.870	CC, ES
CROWDER 15N-18HZ - KMG - MWD	6,800.00	11,538.00	2,129.95	2,021.40	19.621	SF
CROWDER 16C-19HZ - KMG - MWD	7,013.51	11,427.00	727.85	644.22	8.703	CC, ES
CROWDER 16C-19HZ - KMG - MWD	7,200.00	11,427.00	773.18	676.95	8.034	SF
CROWDER 16N-19HZ - KMG - MWD	6,853.84	11,457.12	914.30	816.16	9.317	CC, ES
CROWDER 16N-19HZ - KMG - MWD	7,000.00	11,479.11	940.13	834.88	8.933	SF
CROWDER 36N-18HZ - KMG - MWD	6,674.80	11,426.00	1,735.14	1,630.11	16.520	CC, ES
CROWDER 36N-18HZ - KMG - MWD	6,800.00	11,426.00	1,750.11	1,642.73	16.297	SF
CROWDER 38N-19HZ - KMG - MWD	7,093.53	11,448.34	385.60	303.67	4.706	CC
CROWDER 38N-19HZ - KMG - MWD	7,100.00	11,449.15	385.68	302.67	4.646	ES
CROWDER 38N-19HZ - KMG - MWD	7,200.00	11,460.88	407.34	309.74	4.174	SF
DECHANT 13-9 - KMG - No Survey	11,996.28	7,025.00	5,539.85	5,393.22	37.780	CC, ES, SF
DECHANT 14-9 - KMG - MWD	11,996.28	7,277.00	6,086.64	5,925.87	37.859	CC, ES, SF
DECHANT 23-9 - KMG - MWD	11,996.28	7,558.11	6,976.02	6,812.35	42.623	CC, ES, SF
DECHANT 31-19 - KMG - Gyro	6,500.00	6,395.52	2,105.11	2,057.04	43.792	CC, ES
DECHANT 31-19 - KMG - Gyro	6,800.00	6,679.62	2,165.36	2,114.98	42.983	SF
DECHANT 32-19 - KMG - Gyro	6,554.11	6,352.49	2,997.80	2,951.57	64.842	CC, ES
DECHANT 32-19 - KMG - Gyro	7,000.00	6,650.10	3,091.07	3,042.11	63.126	SF
DECHANT 35-9 - KMG - MWD	11,996.28	7,183.29	5,366.71	5,207.87	33.786	CC, ES, SF
DECHANT 36-9 - KMG - MWD	11,996.28	7,460.89	5,874.83	5,710.79	35.815	CC, ES, SF
DECHANT 38-8 - KMG - MWD	11,996.28	7,119.81	5,044.37	4,879.37	30.572	CC, ES, SF
DECHANT 41-19 - KMG - Gyro	6,716.99	6,630.49	731.77	684.37	15.436	CC, ES
DECHANT 41-19 - KMG - Gyro	6,800.00	6,704.39	734.83	686.94	15.344	SF
DECHANT 42-19 - KMG - No Survey	6,964.83	6,836.98	2,523.19	2,485.48	66.921	CC, ES
DECHANT 42-19 - KMG - No Survey	8,800.00	7,090.00	3,281.99	3,221.94	54.659	SF
DECHANT 9-19A - KMG - No Survey	7,042.51	6,888.06	3,454.33	3,416.26	90.726	CC, ES
DECHANT 9-19A - KMG - No Survey	9,900.00	7,085.00	4,716.41	4,638.26	60.351	SF
DECHANT X 08-15 - KMG - Gyro	302.99	340.03	5,576.37	5,574.45	2,902.265	CC
DECHANT X 08-15 - KMG - Gyro	10,600.00	7,038.06	5,619.28	5,496.80	45.878	ES
DECHANT X 08-15 - KMG - Gyro	11,996.28	6,999.58	5,818.55	5,665.61	38.045	SF
DECHANT X 08-24D - KMG - MWD	100.00	45.17	5,616.78	5,616.56	10,000.000	CC
DECHANT X 08-24D - KMG - MWD	200.00	139.27	5,616.88	5,616.14	7,567.677	ES
DECHANT X 08-24D - KMG - MWD	11,996.28	7,275.38	6,639.17	6,487.60	43.802	SF
DECHANT X 19-3 - KMG - Gyro	6,500.00	6,407.97	3,074.45	3,026.04	63.511	CC, ES
DECHANT X 19-3 - KMG - Gyro	6,800.00	6,656.46	3,137.49	3,086.99	62.119	SF
DOM RED X 20-02D - KMG - Gyro	8,673.33	7,022.76	1,845.58	1,771.01	24.751	CC
DOM RED X 20-02D - KMG - Gyro	8,700.00	7,022.49	1,845.77	1,770.53	24.531	ES
DOM RED X 20-02D - KMG - Gyro	9,400.00	7,015.51	1,983.47	1,893.06	21.936	SF
DOM RED X 20-3 - NOBLE - Gyro	9,020.50	7,055.40	814.66	731.91	9.844	CC, ES
DOM RED X 20-3 - NOBLE - Gyro	9,200.00	7,057.39	834.20	746.97	9.564	SF
DOM RED X20-2D - KMG - No Survey	8,118.71	7,055.00	1,918.97	1,868.05	37.685	CC
DOM RED X20-2D - KMG - No Survey	8,200.00	7,055.00	1,920.69	1,868.03	36.473	ES

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

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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 (Melbon Ranch)						
DOM RED X20-2D - KMG - No Survey	9,100.00	7,055.00	2,155.31	2,084.89	30.604	SF
EWERTZ 3-18 - KMG - No Survey	200.00	223.00	4,835.74	4,834.84	5,399.780	CC
EWERTZ 3-18 - KMG - No Survey	300.00	323.00	4,835.87	4,834.44	3,393.148	ES
EWERTZ 3-18 - KMG - No Survey	11,200.00	7,115.00	8,399.72	8,326.05	114.008	SF
FOUR WAY 1 - KMG - No Survey	11,996.28	7,009.00	3,991.72	3,860.39	30.394	CC, ES, SF
FOUR WAY 12-16 - KMG - Gyro	11,996.28	6,944.91	3,051.09	2,897.42	19.855	CC, ES, SF
HAYMAKER 29N-9HZ - KMG - MWD	11,996.28	6,537.00	5,341.46	5,184.44	34.016	CC, ES, SF
HAYMAKER 4C-9HZ - KMG - MWD	11,996.28	6,697.00	5,354.39	5,197.36	34.098	CC, ES, SF
HAYMAKER 4N-9HZ - KMG - MWD	11,996.28	6,442.00	5,215.54	5,060.03	33.539	CC, ES, SF
HSR-WARNER 6-18 - KMG - No Survey	200.00	211.00	3,871.01	3,870.14	4,428.075	CC
HSR-WARNER 6-18 - KMG - No Survey	1,200.00	1,202.26	3,873.67	3,867.00	581.201	ES
HSR-WARNER 6-18 - KMG - No Survey	6,700.00	6,622.99	4,055.00	4,014.22	99.435	SF
HUDCO 16-18 - KMG - Gyro	6,002.99	5,908.26	535.71	488.71	11.397	CC
HUDCO 16-18 - KMG - Gyro	6,100.00	6,001.89	536.19	488.38	11.216	ES
HUDCO 16-18 - KMG - Gyro	6,500.00	6,401.95	547.57	496.53	10.729	SF
HUDCO 24-18 - KMG - MWD	238.37	258.22	1,166.15	1,164.87	915.537	CC
HUDCO 24-18 - KMG - MWD	300.00	314.13	1,166.26	1,164.57	691.041	ES
HUDCO 24-18 - KMG - MWD	6,700.00	6,721.02	2,397.25	2,344.95	45.840	SF
HUDCO 39-18 - KMG - MWD	4,315.81	4,488.15	630.08	594.97	17.949	CC, ES
HUDCO 39-18 - KMG - MWD	5,100.00	5,213.94	661.49	620.09	15.978	SF
HUDCO 40-18 - KMG - MWD	300.00	324.00	1,149.46	1,147.73	666.517	CC, ES
HUDCO 40-18 - KMG - MWD	8,400.00	7,132.09	2,659.27	2,593.24	40.276	SF
HUDCO 9-18 - KMG - Gyro	305.29	323.68	1,089.88	1,088.05	596.447	CC
HUDCO 9-18 - KMG - Gyro	400.00	419.09	1,090.38	1,087.90	438.963	ES
HUDCO 9-18 - KMG - Gyro	6,800.00	6,704.79	1,864.10	1,814.49	37.572	SF
LUCERO X 20-04 - KMG - Gyro	7,623.15	7,065.68	812.92	758.20	14.855	CC, ES
LUCERO X 20-04 - KMG - Gyro	7,800.00	7,061.35	831.92	774.46	14.478	SF
MARKHAM 13-8 - KMG - MWD	2,614.45	3,378.00	5,005.68	4,983.55	226.106	CC, ES
MARKHAM 13-8 - KMG - MWD	11,996.28	7,151.48	6,970.61	6,840.16	53.438	SF
MARKHAM 34-8 - KMG - MWD	4,720.38	5,488.25	4,875.85	4,835.68	121.362	CC
MARKHAM 34-8 - KMG - MWD	4,800.00	5,530.00	4,876.17	4,835.54	119.990	ES
MARKHAM 34-8 - KMG - MWD	11,400.00	7,239.77	6,522.25	6,399.94	53.326	SF
MARKHAM 35-8 - KMG - MWD	3,512.91	4,352.23	5,024.71	4,992.88	157.886	CC
MARKHAM 35-8 - KMG - MWD	8,600.00	7,363.19	5,052.37	4,975.75	65.939	ES
MARKHAM 35-8 - KMG - MWD	11,800.00	7,312.41	6,037.29	5,904.61	45.503	SF
MEGUIRE 28C-16HZ - KMG - MWD	11,996.28	10,408.01	2,788.06	2,698.93	31.278	CC, ES, SF
MEGUIRE 29C-16HZ - KMG - MWD	11,996.28	10,621.52	1,628.34	1,537.69	17.962	CC, ES, SF
MEGUIRE 29N-16HZ - KMG - MWD	11,996.28	10,338.16	1,906.29	1,817.13	21.380	CC, ES, SF
MEGUIRE 30N-16HZ - KMG - MWD	11,996.28	10,418.72	814.53	722.91	8.891	CC, ES, SF
MEGUIRE 3N-16HZ - KMG - No Survey	11,996.28	7,022.00	3,854.70	3,746.99	35.787	CC, ES, SF
MEGUIRE 4N-16HZ - KMG - MWD	11,996.28	10,402.01	1,358.84	1,268.85	15.099	CC, ES, SF
MEGUIRE X 21-04 - KMG - Gyro	11,996.28	7,027.30	1,429.62	1,312.96	12.254	CC, ES, SF
MEGUIRE X 21-06 - KMG - No Survey	11,996.28	7,014.00	3,420.26	3,314.90	32.465	CC, ES, SF
MEGUIRE X 21-5JI - KMG - No Survey	11,996.28	7,019.00	2,678.02	2,540.61	19.490	CC, ES, SF
MELBON 12C-8HZ - KMG - MWD	0.00	0.00	1,635.78			
MELBON 12C-8HZ - KMG - MWD	300.00	286.38	1,636.83	1,635.02	900.982	ES
MELBON 12C-8HZ - KMG - MWD	9,000.00	6,824.00	2,734.59	2,660.53	36.923	SF
MELBON 12N-8HZ - KMG - MWD	208.45	203.78	1,626.80	1,625.61	1,368.893	CC
MELBON 12N-8HZ - KMG - MWD	300.00	295.96	1,627.06	1,625.23	889.154	ES
MELBON 12N-8HZ - KMG - MWD	8,800.00	6,653.00	2,834.01	2,764.79	40.946	SF
MELBON 19C-8HZ - KMG - MWD	217.08	208.49	1,814.15	1,812.92	1,471.786	CC
MELBON 19C-8HZ - KMG - MWD	300.00	289.15	1,814.37	1,812.56	1,001.924	ES
MELBON 19C-8HZ - KMG - MWD	9,600.00	6,793.00	2,672.41	2,584.20	30.297	SF

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

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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 (Melbon Ranch)						
MELBON 19N-E8HZ - KMG - MWD	210.64	200.05	1,829.60	1,828.41	1,536.978	CC
MELBON 19N-E8HZ - KMG - MWD	300.00	289.37	1,829.90	1,828.07	1,002.898	ES
MELBON 19N-E8HZ - KMG - MWD	9,800.00	6,665.00	2,638.92	2,545.02	28.105	SF
MELBON 19N-W8HZ - KMG - MWD	300.00	302.14	1,643.64	1,641.77	877.673	CC, ES
MELBON 19N-W8HZ - KMG - MWD	9,300.00	6,696.00	2,706.09	2,625.56	33.605	SF
MELBON 23C-8HZ - KMG - MWD	208.22	195.86	1,846.00	1,844.83	1,590.280	CC
MELBON 23C-8HZ - KMG - MWD	300.00	283.45	1,846.37	1,844.58	1,031.791	ES
MELBON 23C-8HZ - KMG - MWD	10,200.00	6,827.00	2,575.46	2,464.36	23.182	SF
MELBON 23N-8HZ - KMG - MWD	173.65	158.65	1,862.30	1,861.39	2,068.057	CC
MELBON 23N-8HZ - KMG - MWD	300.00	283.38	1,862.83	1,861.05	1,044.077	ES
MELBON 23N-8HZ - KMG - MWD	10,300.00	6,730.00	2,605.74	2,491.79	22.867	SF
MELBON RANCH 1 - V O&G - No Survey	8,465.38	7,058.00	1,028.80	970.69	17.703	CC, ES
MELBON RANCH 1 - V O&G - No Survey	8,700.00	7,058.00	1,055.22	993.82	17.187	SF
MELBON RANCH 13-17 - CPR - MWD	300.00	283.92	1,088.89	1,087.20	647.532	CC, ES
MELBON RANCH 13-17 - CPR - MWD	8,500.00	7,154.78	1,992.53	1,923.24	28.758	SF
MELBON RANCH 14-17 - CPR - MWD	7,710.11	7,202.22	354.02	294.32	5.930	CC, ES
MELBON RANCH 14-17 - CPR - MWD	7,800.00	7,201.94	365.25	303.33	5.898	SF
MELBON RANCH 17-14 - V O&G - No Survey	8,398.44	7,058.00	735.21	678.55	12.977	CC
MELBON RANCH 17-14 - V O&G - No Survey	8,400.00	7,058.00	735.21	678.53	12.972	ES
MELBON RANCH 17-14 - V O&G - No Survey	8,500.00	7,058.00	742.19	684.23	12.805	SF
MELBON RANCH 23-17 - CPR - MWD	100.00	67.28	1,094.63	1,094.38	4,501.216	CC
MELBON RANCH 23-17 - CPR - MWD	200.00	165.98	1,095.28	1,094.38	1,208.012	ES
MELBON RANCH 23-17 - CPR - MWD	9,800.00	7,127.47	1,950.72	1,847.62	18.921	SF
MELBON RANCH 24-17 - CPR - MWD	9,019.19	7,118.92	346.43	260.23	4.019	CC, ES, SF
MELBON RANCH 2-4-17 - CPR - MWD	224.74	201.34	1,096.43	1,095.31	975.138	CC
MELBON RANCH 2-4-17 - CPR - MWD	300.00	264.68	1,096.88	1,095.27	679.117	ES
MELBON RANCH 2-4-17 - CPR - MWD	9,600.00	7,205.27	2,520.58	2,427.81	27.169	SF
MELBON RANCH 2-8-17 - CPR - MWD	8,405.87	7,227.31	111.96	33.21	1.422	Level 3, CC, ES, SF
MELBON RANCH 33-17 - CPR - MWD	10,560.82	7,312.04	898.87	762.15	6.575	CC, ES
MELBON RANCH 33-17 - CPR - MWD	10,600.00	7,312.46	899.72	762.44	6.554	SF
MELBON RANCH 34-17 - CPR - MWD	10,377.96	7,120.49	316.71	197.02	2.646	CC, ES, SF
MELBON RANCH 3A-17H - CPR - MWD	100.00	90.45	90.41	90.04	242.094	CC
MELBON RANCH 3A-17H - CPR - MWD	3,500.00	3,521.17	101.37	74.77	3.811	ES
MELBON RANCH 3A-17H - CPR - MWD	11,996.28	11,812.78	536.93	274.37	2.045	SF
MELBON RANCH 3B-17H - CPR - MWD	300.00	292.59	116.43	114.66	65.693	CC, ES
MELBON RANCH 3B-17H - CPR - MWD	11,996.28	11,862.61	1,465.16	1,200.81	5.543	SF
MELBON RANCH 43-17 43-17 - CPR - Gyro	11,996.28	7,015.25	921.02	761.46	5.772	CC, ES, SF
MELBON RANCH 4-6-17 - CPR - MWD	9,690.93	7,190.53	1,115.26	1,014.34	11.050	CC
MELBON RANCH 4-6-17 - CPR - MWD	9,700.00	7,190.50	1,115.30	1,014.20	11.032	ES
MELBON RANCH 4-6-17 - CPR - MWD	9,800.00	7,190.10	1,120.58	1,017.83	10.905	SF
MELBON RANCH 4-8-17 - CPR - Gyro	9,822.45	7,035.23	80.69	-22.06	0.785	Level 2, CC, ES, SF
MELBON RANCH 6-4-17 - CPR - MWD	11,006.00	7,212.17	1,351.46	1,209.47	9.518	CC, ES
MELBON RANCH 6-4-17 - CPR - MWD	11,100.00	7,214.52	1,354.72	1,211.43	9.454	SF
Melbon Ranch 6-8-17 - CPR - MWD	11,107.94	7,234.43	158.45	12.03	1.082	Level 3, CC, ES, SF
MELBON RANCH 8-4-17 - CPR - MWD	11,996.28	7,049.81	1,476.56	1,323.49	9.646	CC, ES, SF
MELBON RANCH 8-6-17 - CPR - MWD	11,996.28	7,088.50	581.91	489.41	6.291	CC, ES, SF
MELBON RANCH 8-8-17 - CPR - MWD	11,996.28	7,379.95	1,177.79	1,028.14	7.871	CC, ES, SF
MELBON RANCH E UNIT 1 - CPR - Gyro	11,367.19	7,031.31	795.66	652.80	5.569	CC, ES
MELBON RANCH E UNIT 1 - CPR - Gyro	11,400.00	7,031.60	796.34	653.01	5.556	SF
MEQUIRE 21-3P - KMG - No Survey	11,996.28	7,009.00	2,474.75	2,386.66	28.094	CC, ES, SF
MUSE 1 - KMG - Gyro	0.00	0.00	2,909.81			
MUSE 1 - KMG - Gyro	300.00	278.58	2,910.92	2,909.27	1,765.074	ES
MUSE 1 - KMG - Gyro	9,500.00	7,045.39	4,915.06	4,839.30	64.883	SF

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

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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 (Melbon Ranch)						
MUSE 2 - KMG - No Survey	4,672.59	4,630.82	1,355.24	1,326.55	47.241	CC
MUSE 2 - KMG - No Survey	5,000.00	4,953.70	1,356.32	1,325.56	44.093	ES
MUSE 2 - KMG - No Survey	6,500.00	6,433.20	1,393.38	1,353.35	34.813	SF
PALMER 11-20 - KMG - No Survey	9,294.42	7,055.00	3,569.92	3,492.33	46.010	CC
PALMER 11-20 - KMG - No Survey	9,400.00	7,055.00	3,571.48	3,491.12	44.442	ES
PALMER 11-20 - KMG - No Survey	11,200.00	7,055.00	4,046.67	3,929.23	34.458	SF
PALMER X 20-05 - KMG - Gyro	7,880.56	7,046.56	2,067.94	2,009.45	35.355	CC
PALMER X 20-05 - KMG - Gyro	7,900.00	7,046.52	2,068.03	2,009.20	35.153	ES
PALMER X 20-05 - KMG - Gyro	9,000.00	7,044.14	2,351.49	2,271.68	29.463	SF
PALMER X 20-06 - KMG - Gyro	9,106.82	7,039.82	2,202.52	2,117.67	25.958	CC
PALMER X 20-06 - KMG - Gyro	9,200.00	7,040.05	2,204.49	2,117.16	25.243	ES
PALMER X 20-06 - KMG - Gyro	10,000.00	7,041.94	2,376.74	2,272.30	22.758	SF
PALMER X 20-20 - KMG - Gyro	8,546.04	7,075.16	2,773.14	2,701.23	38.563	CC
PALMER X 20-20 - KMG - Gyro	8,600.00	7,075.22	2,773.66	2,700.46	37.887	ES
PALMER X 20-20 - KMG - Gyro	10,000.00	7,076.88	3,131.18	3,028.95	30.629	SF
POTTS X 18-10 - KMG - Gyro	2,290.01	2,276.67	2,291.90	2,274.65	132.876	CC
POTTS X 18-10 - KMG - Gyro	2,600.00	2,572.52	2,293.24	2,273.53	116.395	ES
POTTS X 18-10 - KMG - Gyro	6,600.00	6,510.10	2,471.47	2,420.13	48.139	SF
POTTS X 18-15 - KMG - Gyro	6,437.28	6,338.10	1,729.50	1,679.83	34.820	CC, ES
POTTS X 18-15 - KMG - Gyro	6,600.00	6,498.19	1,747.42	1,696.51	34.322	SF
RUSSIAN FIDDLER 15N-18HZ - KMG - MWD	6,703.09	12,610.00	1,808.56	1,686.66	14.836	CC, ES
RUSSIAN FIDDLER 15N-18HZ - KMG - MWD	6,800.00	12,602.98	1,817.66	1,693.97	14.695	SF
RUSSIAN FIDDLER 36C-18HZ - KMG - MWD	6,685.39	12,852.69	2,377.13	2,252.86	19.128	CC
RUSSIAN FIDDLER 36C-18HZ - KMG - MWD	6,700.00	12,850.16	2,377.32	2,252.84	19.098	ES
RUSSIAN FIDDLER 36C-18HZ - KMG - MWD	6,800.00	12,833.58	2,388.89	2,263.14	18.997	SF
RUSSIAN FIDDLER 36N-18HZ - KMG - MWD	6,644.46	12,128.00	2,665.55	2,553.13	23.711	CC, ES
RUSSIAN FIDDLER 36N-18HZ - KMG - MWD	6,800.00	12,128.00	2,686.60	2,572.44	23.536	SF
RUSSIAN FIDDLER 36N-18HZ - KMG - MWD	6,658.43	12,416.00	2,672.14	2,552.57	22.348	CC, ES
RUSSIAN FIDDLER 36N-18HZ - KMG - MWD	6,800.00	12,416.00	2,689.75	2,568.50	22.184	SF
RUSSIAN FIDDLER 37C-18HZ - KMG - MWD	6,801.55	12,797.51	1,335.95	1,216.89	11.221	CC, ES
RUSSIAN FIDDLER 37C-18HZ - KMG - MWD	6,900.00	12,777.00	1,346.33	1,224.57	11.058	SF
RUSSIAN FIDDLER 37N-18HZ - KMG - MWD	6,736.61	12,580.50	1,516.56	1,395.91	12.570	CC, ES
RUSSIAN FIDDLER 37N-18HZ - KMG - MWD	6,800.00	12,570.70	1,520.65	1,398.61	12.460	SF
SANDLIN-WELD COUNTY 1 - KMG - No Survey	11,532.93	7,029.00	3,723.28	3,587.95	27.514	CC
SANDLIN-WELD COUNTY 1 - KMG - No Survey	11,600.00	7,029.00	3,723.88	3,586.94	27.192	ES
SANDLIN-WELD COUNTY 1 - KMG - No Survey	11,996.28	7,029.00	3,751.88	3,606.17	25.750	SF
SANDLIN-WELD-COUNTY UNIT 2 - KMG - Gyro	149.15	105.15	3,114.22	3,113.70	5,947.357	CC
SANDLIN-WELD-COUNTY UNIT 2 - KMG - Gyro	300.00	249.29	3,114.78	3,113.22	1,988.548	ES
SANDLIN-WELD-COUNTY UNIT 2 - KMG - Gyro	10,700.00	7,029.85	4,172.46	4,060.54	37.279	SF
SARCHET 1 - KMG - No Survey	11,001.29	7,031.00	1,970.90	1,849.58	16.245	CC
SARCHET 1 - KMG - No Survey	11,100.00	7,031.00	1,973.37	1,849.23	15.896	ES
SARCHET 1 - KMG - No Survey	11,500.00	7,031.00	2,033.02	1,900.31	15.319	SF
SARCHET 15N-20HZ - KMG - MWD	10,635.51	7,252.22	66.43	-12.39	0.843	Level 2, CC, ES, SF
SARCHET 16N-20HZ - KMG - No Survey	11,996.28	7,035.00	778.44	633.13	5.357	CC, ES, SF
SARCHET 20-1 - KMG - Gyro	11,735.78	7,027.00	762.07	609.50	4.995	CC, ES
SARCHET 20-1 - KMG - Gyro	11,800.00	7,025.14	764.77	610.30	4.951	SF
SARCHET 20-2 - NOBLE - No Survey	10,457.57	7,034.00	954.53	847.40	8.910	CC
SARCHET 20-2 - NOBLE - No Survey	10,500.00	7,034.00	955.48	847.02	8.810	ES
SARCHET 20-2 - NOBLE - No Survey	10,600.00	7,034.00	965.10	854.22	8.704	SF
SARCHET 36G-20HZ - KMG - Proposed	10,049.68	7,045.00	670.58	573.97	6.941	CC, ES
SARCHET 36G-20HZ - KMG - Proposed	10,100.00	7,045.00	672.47	574.27	6.848	SF
SARCHET 36N-20HZ - KMG - MWD	10,065.66	7,222.10	64.17	1.65	1.026	Level 3, CC, ES, SF
SARCHET 37C-20HZ - KMG - Proposed	10,110.15	7,044.00	604.00	505.84	6.153	CC, ES

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

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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 (Melbon Ranch)						
SARCHET 37C-20HZ - KMG - Proposed	10,200.00	7,044.00	610.65	510.03	6.069	SF
SARCHET 37N-20HZ - KMG - Proposed	10,143.57	7,044.00	638.99	539.96	6.453	CC, ES
SARCHET 37N-20HZ - KMG - Proposed	10,200.00	7,044.00	641.47	540.71	6.366	SF
SARCHET 38C-20HZ - KMG - Proposed	11,996.28	7,026.00	792.29	647.94	5.489	CC, ES, SF
SARCHET X 20-8 - KMG - Gyro	11,884.82	7,010.52	2,365.79	2,209.36	15.124	CC
SARCHET X 20-8 - KMG - Gyro	11,996.28	7,010.35	2,368.53	2,208.95	14.842	ES, SF
SEATON 2-18 - KMG - No Survey	200.00	198.00	4,083.74	4,082.89	4,799.676	CC
SEATON 2-18 - KMG - No Survey	300.00	298.00	4,083.97	4,082.59	2,958.092	ES
SEATON 2-18 - KMG - No Survey	11,000.00	7,090.00	7,182.34	7,102.24	89.663	SF
SEATON 7-18 - KMG - No Survey	200.00	215.00	2,721.08	2,720.20	3,088.191	CC
SEATON 7-18 - KMG - No Survey	300.00	315.00	2,721.18	2,719.77	1,928.967	ES
SEATON 7-18 - KMG - No Survey	6,700.00	6,626.99	3,152.09	3,112.34	79.299	SF
SEATON 8-18 - KMG - Gyro	0.00	0.00	2,083.35			
SEATON 8-18 - KMG - Gyro	8,800.00	7,100.50	3,762.12	3,694.82	55.904	SF
SUNFLOWER 24N-17HZ - KMG - MWD	11,001.84	12,650.00	2,452.54	2,317.65	18.182	CC
SUNFLOWER 24N-17HZ - KMG - MWD	11,100.00	12,650.00	2,454.50	2,316.41	17.775	ES
SUNFLOWER 24N-17HZ - KMG - MWD	11,996.28	12,650.00	2,646.36	2,475.12	15.454	SF
SUNFLOWER 25G-17HZ - KMG - MWD	10,051.76	12,664.00	2,425.41	2,308.96	20.827	CC
SUNFLOWER 25G-17HZ - KMG - MWD	10,200.00	12,664.00	2,429.94	2,307.25	19.805	ES
SUNFLOWER 25G-17HZ - KMG - MWD	11,300.00	12,664.00	2,727.77	2,562.75	16.530	SF
SUNFLOWER 40C-17HZ - KMG - MWD	11,996.28	12,840.00	2,457.16	2,291.03	14.790	CC, ES, SF
SUNFLOWER 40N-17HZ - KMG - MWD	11,996.28	12,495.00	2,620.48	2,450.76	15.440	CC, ES, SF
SUNFLOWER 7C-17HZ - KMG - MWD	100.00	0.00	7,894.39	7,894.25	10,000.000	CC
SUNFLOWER 7C-17HZ - KMG - MWD	300.00	195.69	7,895.43	7,894.06	5,774.217	ES
SUNFLOWER 7C-17HZ - KMG - MWD	11,996.28	1,800.00	9,591.89	9,475.23	82.223	SF
SUNFLOWER 7N-17HZ - KMG - MWD	10,877.19	12,615.00	2,375.73	2,246.14	18.332	CC
SUNFLOWER 7N-17HZ - KMG - MWD	11,000.00	12,615.00	2,378.90	2,245.43	17.824	ES
SUNFLOWER 7N-17HZ - KMG - MWD	11,996.28	12,615.00	2,626.00	2,455.40	15.393	SF
SUNFLOWER 8N-17HZ - KMG - MWD	11,386.71	12,665.00	2,448.99	2,303.88	16.877	CC
SUNFLOWER 8N-17HZ - KMG - MWD	11,500.00	12,665.00	2,451.61	2,303.49	16.552	ES
SUNFLOWER 8N-17HZ - KMG - MWD	11,996.28	12,665.00	2,523.59	2,358.62	15.297	SF
THOMASON 1 - PETERSON - No Survey	11,996.28	7,013.00	2,155.49	2,088.19	32.029	CC, ES, SF
THOMASON 14-16 - KMG - MWD	11,996.28	7,231.07	2,625.95	2,558.68	29.939	CC, ES, SF
THOMASON 16-5 - KMG - Gyro	11,996.28	6,976.41	3,538.76	3,384.47	22.936	CC, ES, SF
THOMASON 21-16 - KMG - MWD	11,996.28	7,081.69	4,646.95	4,509.08	33.706	CC, ES, SF
THOMASON 23-16 - KMG - MWD	11,996.28	7,154.69	3,206.22	3,124.32	39.146	CC, ES, SF
THOMASON 25-16 - KMG - No Survey	11,996.28	945.00	6,751.99	6,699.92	129.668	CC, ES, SF
THOMASON 25-16R - KMG - MWD	11,996.28	7,168.12	3,898.82	3,781.55	33.246	CC, ES, SF
THOMASON 34N-9HZ - KMG - MWD	11,996.28	11,537.00	5,230.54	4,972.93	20.304	CC, ES, SF
THOMASON 36-16 - KMG - MWD	11,996.28	7,340.59	3,061.66	2,991.24	43.475	CC, ES, SF
THOMASON 6-16 - KMG - MWD	11,996.28	7,139.41	3,846.79	3,713.34	28.827	CC, ES, SF
THOMASON X 16-11 - KMG - No Survey	11,996.28	7,006.00	2,970.11	2,872.15	30.318	CC, ES, SF
THOMASON X 16-12 - KMG - Gyro	11,996.28	6,955.10	1,959.28	1,818.94	13.961	CC, ES, SF
THOMASON X 16-4 - KMG - No Survey	11,996.28	7,009.00	4,461.82	4,316.92	30.794	CC, ES, SF
THOMASON X16-13 - KMG - Gyro	11,996.28	7,010.78	1,172.79	1,084.30	13.254	CC, ES, SF
THOMSEN 1C-18HZ - KMG - MWD	6,589.16	14,563.00	4,559.93	4,486.55	62.142	CC
THOMSEN 1C-18HZ - KMG - MWD	6,600.00	14,563.00	4,559.97	4,486.50	62.068	ES
THOMSEN 1C-18HZ - KMG - MWD	10,200.00	14,563.00	6,346.36	6,196.62	42.384	SF
THOMSEN 1N-18HZ - KMG - Proposed	6,500.00	13,958.15	4,969.72	4,889.83	62.205	CC, ES
THOMSEN 1N-18HZ - KMG - Proposed	10,300.00	13,958.15	6,944.42	6,795.67	46.683	SF
THOMSEN 2N-18HZ - KMG - MWD	6,579.39	13,966.00	4,135.07	4,072.93	66.544	CC
THOMSEN 2N-18HZ - KMG - MWD	6,600.00	13,966.00	4,135.18	4,072.90	66.397	ES
THOMSEN 2N-18HZ - KMG - MWD	10,300.00	13,966.00	5,860.51	5,712.34	39.554	SF

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

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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 (Melbon Ranch)						
THOMSEN 36C-18HZ - KMG - MWD	6,659.89	14,670.55	2,804.58	2,644.92	17.565	CC, ES
THOMSEN 36C-18HZ - KMG - MWD	6,800.00	14,682.11	2,821.56	2,659.64	17.425	SF
THOMSEN 36N-18HZ - KMG - MWD	6,657.60	14,693.00	2,393.96	2,231.30	14.718	CC, ES
THOMSEN 36N-18HZ - KMG - MWD	6,800.00	14,693.00	2,412.17	2,247.29	14.630	SF
THOMSEN 3N-18HZ - KMG - MWD	6,549.48	14,148.00	4,428.51	4,378.55	88.627	CC, ES
THOMSEN 3N-18HZ - KMG - MWD	11,100.00	14,148.00	6,302.79	6,146.00	40.198	SF
THOMSEN 4N-18HZ - KMG - MWD	6,876.45	14,792.00	3,861.66	3,807.32	71.071	CC, ES
THOMSEN 4N-18HZ - KMG - MWD	10,900.00	14,792.00	5,387.07	5,231.30	34.584	SF
UPRR 38 PAN AM X 1 - KMG - Gyro	6,607.10	6,487.75	1,572.70	1,526.00	33.673	CC, ES
UPRR 38 PAN AM X 1 - KMG - Gyro	6,900.00	6,752.85	1,610.67	1,561.96	33.070	SF
WALTERS 21-18 - KMG - MWD	0.00	0.00	3,112.49			
WALTERS 21-18 - KMG - MWD	6,700.00	6,715.00	4,275.02	4,218.40	75.500	SF
WALTERS 25-18 - KMG - MWD	1,877.75	2,133.46	3,072.65	3,053.40	159.600	CC
WALTERS 25-18 - KMG - MWD	3,200.00	3,453.34	3,084.82	3,050.67	90.348	ES
WALTERS 25-18 - KMG - MWD	6,600.00	6,726.43	3,226.10	3,162.71	50.888	SF
WALTERS 28-18 - KMG - MWD	0.00	0.00	3,120.93			
WALTERS 28-18 - KMG - MWD	100.00	87.14	3,121.11	3,120.84	10,000.000	ES
WALTERS 28-18 - KMG - MWD	11,200.00	7,358.60	8,103.00	8,006.55	84.008	SF
WARNER 12-18 - KMG - MWD	0.00	17.10	3,412.54			
WARNER 12-18 - KMG - MWD	6,700.00	7,137.04	4,625.56	4,559.32	69.833	SF
WARNER 14-18 - KMG - No Survey	6,458.79	6,410.44	2,825.81	2,786.73	72.301	CC, ES
WARNER 14-18 - KMG - No Survey	6,700.00	6,644.99	2,865.41	2,824.98	70.874	SF
WARNER 18-18 - KMG - MWD	141.65	160.67	3,415.00	3,414.38	5,520.373	CC
WARNER 18-18 - KMG - MWD	200.00	212.00	3,415.14	3,414.14	3,395.113	ES
WARNER 18-18 - KMG - MWD	6,800.00	6,988.49	5,150.18	5,095.66	94.474	SF
WARNER 22-18 - KMG - MWD	0.00	19.95	3,413.78			
WARNER 22-18 - KMG - MWD	200.00	212.00	3,413.92	3,412.90	3,358.288	ES
WARNER 22-18 - KMG - MWD	6,700.00	6,617.52	4,344.40	4,288.23	77.333	SF
WARNER 23-18 - KMG - MWD	6,414.94	6,451.52	2,591.11	2,534.28	45.594	CC, ES
WARNER 23-18 - KMG - MWD	6,600.00	6,628.35	2,612.54	2,554.53	45.038	SF
WARNER 31-18 - KMG - MWD	100.00	119.00	3,414.25	3,413.93	10,000.000	CC
WARNER 31-18 - KMG - MWD	200.00	201.16	3,414.50	3,413.52	3,491.724	ES
WARNER 31-18 - KMG - MWD	6,500.00	4,152.85	5,611.25	5,567.47	128.175	SF
WARNER 32-18 - KMG - MWD	0.00	19.09	3,413.36			
WARNER 32-18 - KMG - MWD	100.00	114.52	3,413.45	3,413.14	10,000.000	ES
WARNER 32-18 - KMG - MWD	6,700.00	5,769.15	5,194.03	5,135.38	88.560	SF
WARNER 33-18 - KMG - MWD	1,110.68	753.52	3,181.10	3,174.67	494.215	CC
WARNER 33-18 - KMG - MWD	1,200.00	797.96	3,181.59	3,174.62	456.093	ES
WARNER 33-18 - KMG - MWD	6,900.00	7,395.54	5,090.64	5,029.95	83.881	SF
WARNER 35-18 - KMG - MWD	1,230.25	859.00	3,183.15	3,175.75	430.212	CC
WARNER 35-18 - KMG - MWD	1,400.00	990.11	3,183.94	3,175.31	369.109	ES
WARNER 35-18 - KMG - MWD	6,800.00	6,796.25	3,552.32	3,499.31	67.010	SF

Anticollision Summary Report

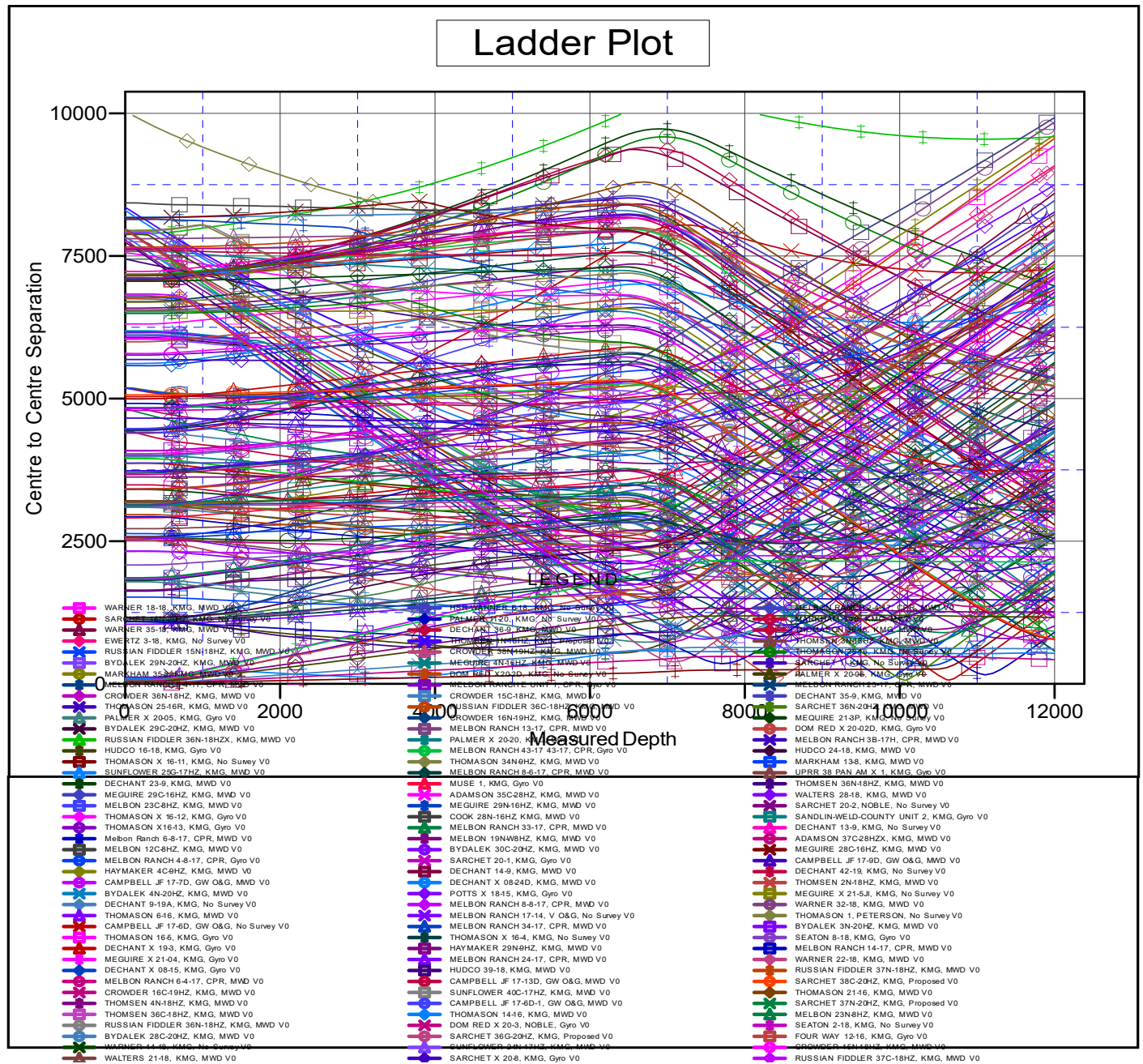
Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 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						
Melbon Ranch Pad						
MELBON RANCH 4C-17H-M265 - Wellbore #1 - Design	200.00	200.00	70.00	69.01	70.496	CC, ES
MELBON RANCH 4C-17H-M265 - Wellbore #1 - Design	11,996.28	12,063.77	2,225.57	1,956.37	8.267	SF
MELBON RANCH 4D-17H-M265 - Wellbore #1 - Design	200.00	200.00	60.01	59.02	60.438	CC
MELBON RANCH 4D-17H-M265 - Wellbore #1 - Design	200.01	200.01	60.01	59.02	60.432	ES
MELBON RANCH 4D-17H-M265 - Wellbore #1 - Design	11,996.28	12,197.45	2,135.67	1,867.35	7.959	SF
MELBON RANCH 4E-17H-M265 - Wellbore #1 - Plan #2	200.00	200.00	50.00	49.01	50.358	CC
MELBON RANCH 4E-17H-M265 - Wellbore #1 - Plan #2	300.00	300.00	50.39	48.68	29.595	ES
MELBON RANCH 4E-17H-M265 - Wellbore #1 - Plan #2	11,996.28	11,930.07	1,794.35	1,525.14	6.665	SF
MELBON RANCH 4F-17H-M265 - Wellbore #1 - Plan #2	200.00	200.00	40.00	39.01	40.288	CC
MELBON RANCH 4F-17H-M265 - Wellbore #1 - Plan #2	300.00	300.00	40.39	38.68	23.721	ES
MELBON RANCH 4F-17H-M265 - Wellbore #1 - Plan #2	11,996.28	12,090.47	1,263.64	998.33	4.763	SF
MELBON RANCH 4G-17H-M265 - Wellbore #1 - Plan #2	200.00	200.00	30.00	29.01	30.217	CC
MELBON RANCH 4G-17H-M265 - Wellbore #1 - Plan #2	300.00	300.00	30.39	28.68	17.848	ES
MELBON RANCH 4G-17H-M265 - Wellbore #1 - Plan #2	11,996.28	11,920.13	1,164.66	894.85	4.317	SF
MELBON RANCH 4H-17H-M265 - Wellbore #1 - Design	315.30	315.69	19.47	17.67	10.820	CC, ES
MELBON RANCH 4H-17H-M265 - Wellbore #1 - Design	11,996.28	11,920.85	614.78	345.00	2.279	SF
MELBON RANCH 4I-17H-M265 - Wellbore #1 - Design #	200.00	200.00	9.87	8.87	9.936	CC
MELBON RANCH 4I-17H-M265 - Wellbore #1 - Design #	300.00	300.00	10.25	8.55	6.020	ES
MELBON RANCH 4I-17H-M265 - Wellbore #1 - Design #	11,996.28	12,138.81	426.07	189.28	1.799	SF
MELBON RANCH 4K-17H-M265 - Wellbore #1 - Plan #3	200.00	200.00	10.00	9.01	10.075	CC, ES
MELBON RANCH 4K-17H-M265 - Wellbore #1 - Plan #3	10,500.00	10,603.95	258.69	76.63	1.421	Level 3, SF

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4J-17H-M265
Project:	Sec 17 T2N-R65W	TVD Reference:	WELL @ 4979.00usft (Original Well Elev)
Reference Site:	Melbon Ranch Pad	MD Reference:	WELL @ 4979.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	MELBON RANCH 4J-17H-M265	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Design #1 19Mar18 kjs	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4979.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: MELBON RANCH 4J-17H-M265
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.52°



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

Anticollision Summary Report

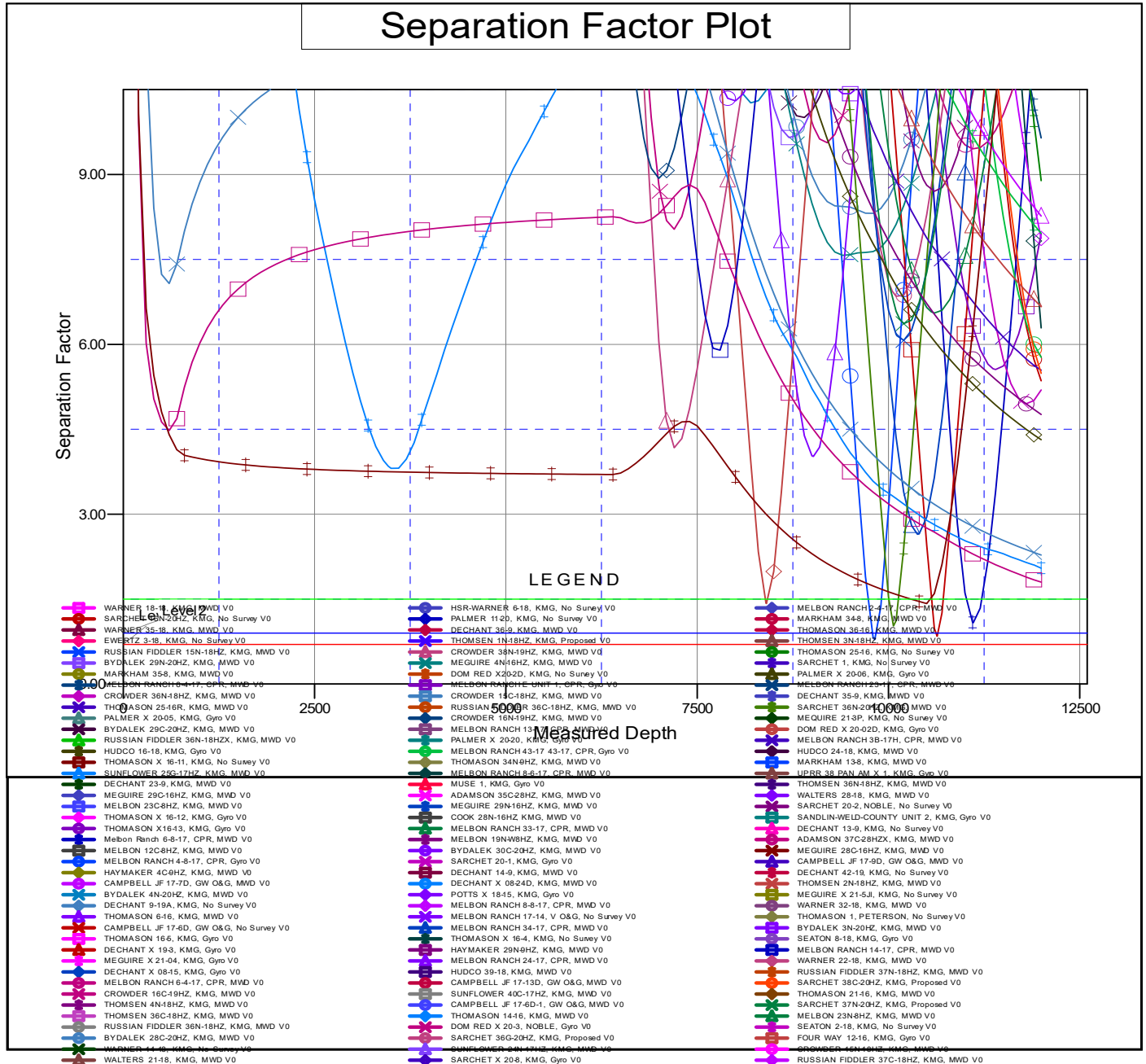
Company: Crestone Peak Resources
Project: Sec 17 T2N-R65W
Reference Site: Melbon Ranch Pad
Site Error: 0.00 usft
Reference Well: MELBON RANCH 4J-17H-M265
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 19Mar18 kjs

Local Co-ordinate Reference: Well MELBON RANCH 4J-17H-M265
TVD Reference: WELL @ 4979.00usft (Original Well Elev)
MD Reference: WELL @ 4979.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4979.00usft (Original Well E
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: MELBON RANCH 4J-17H-M265
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.52°

Separation Factor Plot



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