



Crestone Peak Resources

Sec 17 T2N-R65W

Melbon Ranch Pad

MELBON RANCH 4H-17H-M265

Wellbore #1

Plan: Design #1 19Mar18 kjs

Standard Planning Report - Geographic

17 May, 2018

Well Name:

MELBON RANCH 4H-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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	Start Build 2.00
469.30	5.39	237.92	468.90	-6.72	-10.72	-10.26	12.65	Hold 5.39 Inc, 237.92 Az
6345.85	5.39	237.92	6319.51	-299.71	-478.07	-457.90	564.25	KOP 8/100
7528.15	90.00	89.54	7092.00	-332.22	236.12	256.90	1288.16	LP 90 Inc, 89.54 Az
11925.51	90.00	89.54	7092.00	-297.24	4633.34	4642.87	5685.52	TD at 11926.51

Geodetic Datum:

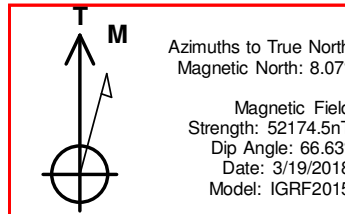
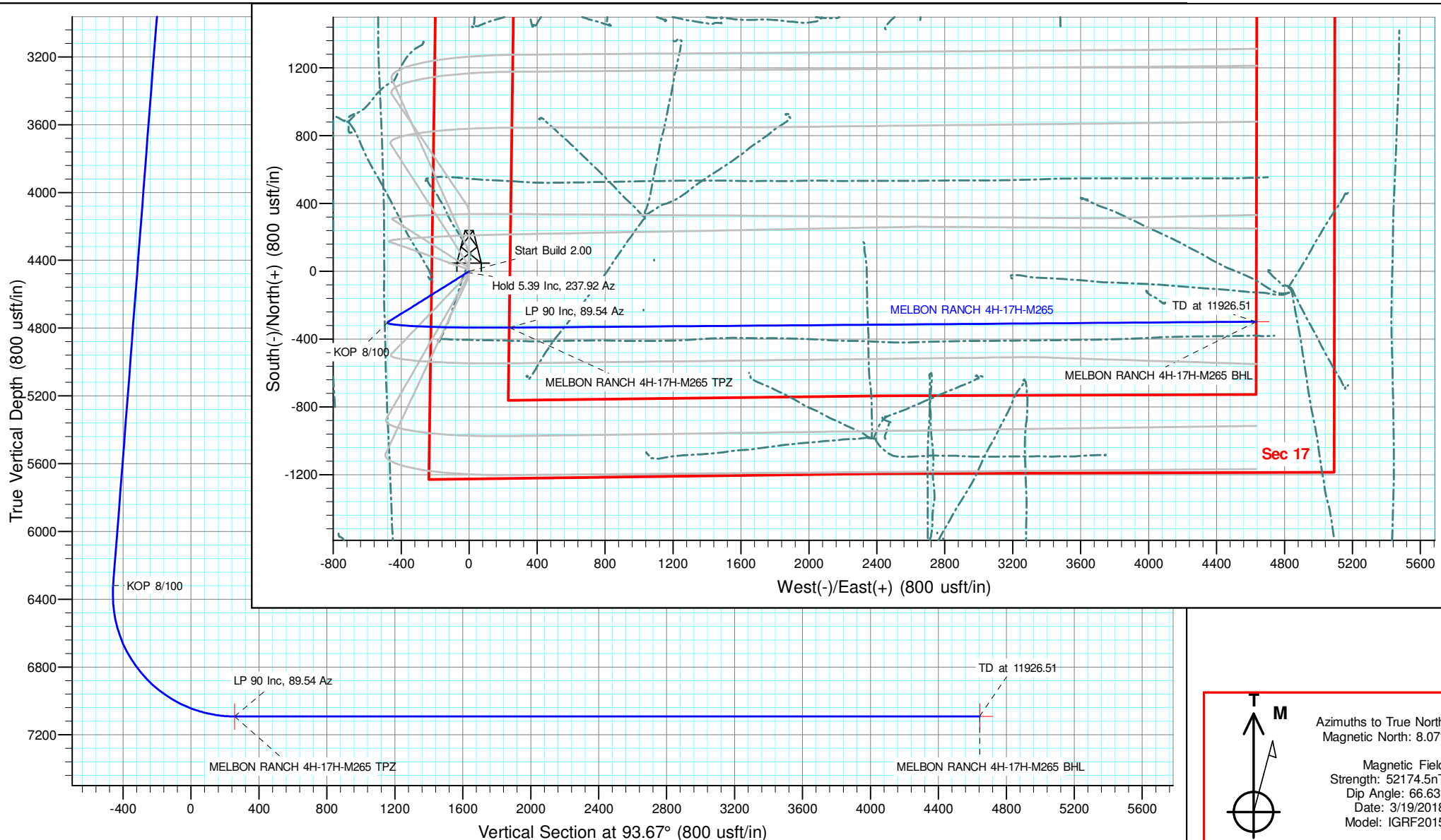
North American Datum 1983
US State Plane 1983, Colorado Northern Zone

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 4H-17H-M265 BHL	7092.00	-297.23	4634.34	1292682.54	3229254.26	40.133898	-104.680062	Point
MELBON RANCH 4H-17H-M265 TPZ	7092.00	-332.22	236.12	1292607.70	3224856.54	40.133803	-104.695792	Point



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4H-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 4H-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 4H-17H-M265					
Well Position	+N/-S	0.00 usft	Northing:	1,292,937.77 usft	Latitude:	40.134715
	+E/-W	0.00 usft	Easting:	3,224,617.42 usft	Longitude:	-104.696637
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	52,174.46386374

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	93.67

Plan Survey Tool Program	Date	5/17/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,926.22 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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
469.30	5.39	237.92	468.90	-6.72	-10.72	2.00	2.00	0.00	237.92	
6,345.85	5.39	237.92	6,319.51	-299.71	-478.07	0.00	0.00	0.00	0.00	
7,528.15	90.00	89.54	7,092.00	-332.22	236.12	8.00	7.16	-12.55	-148.26	MELBON RANCH 4H
11,926.51	90.00	89.54	7,092.00	-297.23	4,634.34	0.00	0.00	0.00	0.00	MELBON RANCH 4H

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4H-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 4H-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	1,292,937.77	3,224,617.42	40.134715	-104.696637	
100.00	0.00	0.00	100.00	0.00	0.00	1,292,937.77	3,224,617.42	40.134715	-104.696637	
200.00	0.00	0.00	200.00	0.00	0.00	1,292,937.77	3,224,617.42	40.134715	-104.696637	
Start Build 2.00										
300.00	2.00	237.92	299.98	-0.93	-1.48	1,292,936.83	3,224,615.95	40.134712	-104.696642	
400.00	4.00	237.92	399.84	-3.71	-5.91	1,292,934.01	3,224,611.54	40.134705	-104.696658	
469.30	5.39	237.92	468.90	-6.72	-10.72	1,292,930.95	3,224,606.77	40.134696	-104.696675	
Hold 5.39 Inc, 237.92 Az										
500.00	5.39	237.92	499.47	-8.25	-13.16	1,292,929.40	3,224,604.34	40.134692	-104.696684	
600.00	5.39	237.92	599.03	-13.23	-21.11	1,292,924.34	3,224,596.43	40.134679	-104.696713	
700.00	5.39	237.92	698.59	-18.22	-29.06	1,292,919.29	3,224,588.52	40.134665	-104.696741	
800.00	5.39	237.92	798.14	-23.21	-37.02	1,292,914.23	3,224,580.62	40.134651	-104.696769	
900.00	5.39	237.92	897.70	-28.19	-44.97	1,292,909.17	3,224,572.71	40.134638	-104.696798	
1,000.00	5.39	237.92	997.26	-33.18	-52.92	1,292,904.11	3,224,564.80	40.134624	-104.696826	
1,100.00	5.39	237.92	1,096.82	-38.16	-60.87	1,292,899.06	3,224,556.90	40.134610	-104.696855	
1,200.00	5.39	237.92	1,196.38	-43.15	-68.83	1,292,894.00	3,224,548.99	40.134596	-104.696883	
1,300.00	5.39	237.92	1,295.94	-48.14	-76.78	1,292,888.94	3,224,541.08	40.134583	-104.696912	
1,400.00	5.39	237.92	1,395.49	-53.12	-84.73	1,292,883.88	3,224,533.17	40.134569	-104.696940	
1,500.00	5.39	237.92	1,495.05	-58.11	-92.69	1,292,878.82	3,224,525.27	40.134555	-104.696969	
1,600.00	5.39	237.92	1,594.61	-63.09	-100.64	1,292,873.77	3,224,517.36	40.134542	-104.696997	
1,700.00	5.39	237.92	1,694.17	-68.08	-108.59	1,292,868.71	3,224,509.45	40.134528	-104.697025	
1,800.00	5.39	237.92	1,793.73	-73.06	-116.54	1,292,863.65	3,224,501.54	40.134514	-104.697054	
1,900.00	5.39	237.92	1,893.29	-78.05	-124.50	1,292,858.59	3,224,493.64	40.134501	-104.697082	
2,000.00	5.39	237.92	1,992.85	-83.04	-132.45	1,292,853.54	3,224,485.73	40.134487	-104.697111	
2,100.00	5.39	237.92	2,092.40	-88.02	-140.40	1,292,848.48	3,224,477.82	40.134473	-104.697139	
2,200.00	5.39	237.92	2,191.96	-93.01	-148.36	1,292,843.42	3,224,469.91	40.134460	-104.697168	
2,300.00	5.39	237.92	2,291.52	-97.99	-156.31	1,292,838.36	3,224,462.01	40.134446	-104.697196	
2,400.00	5.39	237.92	2,391.08	-102.98	-164.26	1,292,833.31	3,224,454.10	40.134432	-104.697225	
2,500.00	5.39	237.92	2,490.64	-107.96	-172.21	1,292,828.25	3,224,446.19	40.134419	-104.697253	
2,600.00	5.39	237.92	2,590.20	-112.95	-180.17	1,292,823.19	3,224,438.29	40.134405	-104.697281	
2,700.00	5.39	237.92	2,689.76	-117.94	-188.12	1,292,818.13	3,224,430.38	40.134391	-104.697310	
2,800.00	5.39	237.92	2,789.31	-122.92	-196.07	1,292,813.08	3,224,422.47	40.134377	-104.697338	
2,900.00	5.39	237.92	2,888.87	-127.91	-204.03	1,292,808.02	3,224,414.56	40.134364	-104.697367	
3,000.00	5.39	237.92	2,988.43	-132.89	-211.98	1,292,802.96	3,224,406.66	40.134350	-104.697395	
3,100.00	5.39	237.92	3,087.99	-137.88	-219.93	1,292,797.90	3,224,398.75	40.134336	-104.697424	
3,200.00	5.39	237.92	3,187.55	-142.87	-227.88	1,292,792.84	3,224,390.84	40.134323	-104.697452	
3,300.00	5.39	237.92	3,287.11	-147.85	-235.84	1,292,787.79	3,224,382.93	40.134309	-104.697481	
3,400.00	5.39	237.92	3,386.66	-152.84	-243.79	1,292,782.73	3,224,375.03	40.134295	-104.697509	
3,500.00	5.39	237.92	3,486.22	-157.82	-251.74	1,292,777.67	3,224,367.12	40.134282	-104.697537	
3,600.00	5.39	237.92	3,585.78	-162.81	-259.70	1,292,772.61	3,224,359.21	40.134268	-104.697566	
3,700.00	5.39	237.92	3,685.34	-167.79	-267.65	1,292,767.56	3,224,351.31	40.134254	-104.697594	
3,800.00	5.39	237.92	3,784.90	-172.78	-275.60	1,292,762.50	3,224,343.40	40.134241	-104.697623	
3,900.00	5.39	237.92	3,884.46	-177.77	-283.55	1,292,757.44	3,224,335.49	40.134227	-104.697651	
4,000.00	5.39	237.92	3,984.02	-182.75	-291.51	1,292,752.38	3,224,327.58	40.134213	-104.697680	
4,100.00	5.39	237.92	4,083.57	-187.74	-299.46	1,292,747.33	3,224,319.68	40.134200	-104.697708	
4,200.00	5.39	237.92	4,183.13	-192.72	-307.41	1,292,742.27	3,224,311.77	40.134186	-104.697737	
4,300.00	5.39	237.92	4,282.69	-197.71	-315.36	1,292,737.21	3,224,303.86	40.134172	-104.697765	
4,400.00	5.39	237.92	4,382.25	-202.69	-323.32	1,292,732.15	3,224,295.95	40.134158	-104.697793	
4,500.00	5.39	237.92	4,481.81	-207.68	-331.27	1,292,727.10	3,224,288.05	40.134145	-104.697822	
4,600.00	5.39	237.92	4,581.37	-212.67	-339.22	1,292,722.04	3,224,280.14	40.134131	-104.697850	
4,700.00	5.39	237.92	4,680.93	-217.65	-347.18	1,292,716.98	3,224,272.23	40.134117	-104.697879	
4,800.00	5.39	237.92	4,780.48	-222.64	-355.13	1,292,711.92	3,224,264.32	40.134104	-104.697907	
4,900.00	5.39	237.92	4,880.04	-227.62	-363.08	1,292,706.87	3,224,256.42	40.134090	-104.697936	
5,000.00	5.39	237.92	4,979.60	-232.61	-371.03	1,292,701.81	3,224,248.51	40.134076	-104.697964	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4H-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 4H-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	
5,100.00	5.39	237.92	5,079.16	-237.60	-378.99	1,292,696.75	3,224,240.60	40.134063	-104.697993	
5,200.00	5.39	237.92	5,178.72	-242.58	-386.94	1,292,691.69	3,224,232.70	40.134049	-104.698021	
5,300.00	5.39	237.92	5,278.28	-247.57	-394.89	1,292,686.63	3,224,224.79	40.134035	-104.698049	
5,400.00	5.39	237.92	5,377.83	-252.55	-402.85	1,292,681.58	3,224,216.88	40.134022	-104.698078	
5,500.00	5.39	237.92	5,477.39	-257.54	-410.80	1,292,676.52	3,224,208.97	40.134008	-104.698106	
5,600.00	5.39	237.92	5,576.95	-262.52	-418.75	1,292,671.46	3,224,201.07	40.133994	-104.698135	
5,700.00	5.39	237.92	5,676.51	-267.51	-426.70	1,292,666.40	3,224,193.16	40.133981	-104.698163	
5,800.00	5.39	237.92	5,776.07	-272.50	-434.66	1,292,661.35	3,224,185.25	40.133967	-104.698192	
5,900.00	5.39	237.92	5,875.63	-277.48	-442.61	1,292,656.29	3,224,177.34	40.133953	-104.698220	
6,000.00	5.39	237.92	5,975.19	-282.47	-450.56	1,292,651.23	3,224,169.44	40.133939	-104.698249	
6,100.00	5.39	237.92	6,074.74	-287.45	-458.52	1,292,646.17	3,224,161.53	40.133926	-104.698277	
6,200.00	5.39	237.92	6,174.30	-292.44	-466.47	1,292,641.12	3,224,153.62	40.133912	-104.698305	
6,300.00	5.39	237.92	6,273.86	-297.42	-474.42	1,292,636.06	3,224,145.71	40.133898	-104.698334	
6,345.85	5.39	237.92	6,319.51	-299.71	-478.07	1,292,633.74	3,224,142.09	40.133892	-104.698347	
KOP 8/100										
6,400.00	2.84	184.63	6,373.53	-302.40	-480.33	1,292,631.03	3,224,139.85	40.133885	-104.698355	
6,500.00	8.25	109.49	6,473.11	-307.27	-473.76	1,292,626.22	3,224,146.47	40.133871	-104.698331	
6,600.00	15.99	99.48	6,570.82	-311.94	-453.38	1,292,621.73	3,224,166.89	40.133859	-104.698259	
6,700.00	23.91	95.95	6,664.75	-316.32	-419.58	1,292,617.67	3,224,200.72	40.133847	-104.698138	
6,800.00	31.86	94.11	6,753.07	-320.31	-373.03	1,292,614.09	3,224,247.31	40.133836	-104.697971	
6,900.00	39.83	92.94	6,834.06	-323.85	-314.62	1,292,611.08	3,224,305.75	40.133826	-104.697762	
7,000.00	47.81	92.11	6,906.16	-326.87	-245.50	1,292,608.69	3,224,374.89	40.133818	-104.697515	
7,100.00	55.80	91.47	6,967.94	-329.30	-167.02	1,292,606.97	3,224,453.40	40.133811	-104.697234	
7,200.00	63.78	90.94	7,018.22	-331.10	-80.69	1,292,605.96	3,224,539.74	40.133806	-104.696926	
7,300.00	71.77	90.48	7,056.01	-332.23	11.80	1,292,605.66	3,224,632.23	40.133803	-104.696595	
7,400.00	79.76	90.06	7,080.58	-332.67	108.65	1,292,606.09	3,224,729.08	40.133802	-104.696248	
7,500.00	87.75	89.66	7,091.45	-332.42	207.98	1,292,607.25	3,224,828.40	40.133802	-104.695893	
7,528.15	90.00	89.54	7,092.00	-332.22	236.12	1,292,607.70	3,224,856.54	40.133803	-104.695793	
LP 90 Inc, 89.54 Az - MELBON RANCH 4H-17H-M265 TPZ										
7,600.00	90.00	89.54	7,092.00	-331.65	307.97	1,292,608.92	3,224,928.38	40.133804	-104.695536	
7,700.00	90.00	89.54	7,092.00	-330.86	407.97	1,292,610.62	3,225,028.37	40.133807	-104.695178	
7,800.00	90.00	89.54	7,092.00	-330.06	507.96	1,292,612.32	3,225,128.35	40.133809	-104.694820	
7,900.00	90.00	89.54	7,092.00	-329.26	607.96	1,292,614.03	3,225,228.34	40.133811	-104.694463	
8,000.00	90.00	89.54	7,092.00	-328.47	707.96	1,292,615.73	3,225,328.32	40.133813	-104.694105	
8,100.00	90.00	89.54	7,092.00	-327.67	807.95	1,292,617.43	3,225,428.31	40.133815	-104.693747	
8,200.00	90.00	89.54	7,092.00	-326.88	907.95	1,292,619.13	3,225,528.30	40.133818	-104.693390	
8,300.00	90.00	89.54	7,092.00	-326.08	1,007.95	1,292,620.83	3,225,628.28	40.133820	-104.693032	
8,400.00	90.00	89.54	7,092.00	-325.29	1,107.94	1,292,622.53	3,225,728.27	40.133822	-104.692675	
8,500.00	90.00	89.54	7,092.00	-324.49	1,207.94	1,292,624.24	3,225,828.25	40.133824	-104.692317	
8,600.00	90.00	89.54	7,092.00	-323.69	1,307.94	1,292,625.94	3,225,928.24	40.133826	-104.691959	
8,700.00	90.00	89.54	7,092.00	-322.90	1,407.93	1,292,627.64	3,226,028.22	40.133828	-104.691602	
8,800.00	90.00	89.54	7,092.00	-322.10	1,507.93	1,292,629.34	3,226,128.21	40.133831	-104.691244	
8,900.00	90.00	89.54	7,092.00	-321.31	1,607.93	1,292,631.04	3,226,228.19	40.133833	-104.690886	
9,000.00	90.00	89.54	7,092.00	-320.51	1,707.92	1,292,632.74	3,226,328.18	40.133835	-104.690529	
9,100.00	90.00	89.54	7,092.00	-319.72	1,807.92	1,292,634.44	3,226,428.17	40.133837	-104.690171	
9,200.00	90.00	89.54	7,092.00	-318.92	1,907.92	1,292,636.15	3,226,528.15	40.133839	-104.689813	
9,300.00	90.00	89.54	7,092.00	-318.12	2,007.91	1,292,637.85	3,226,628.14	40.133841	-104.689456	
9,400.00	90.00	89.54	7,092.00	-317.33	2,107.91	1,292,639.55	3,226,728.12	40.133844	-104.689098	
9,500.00	90.00	89.54	7,092.00	-316.53	2,207.91	1,292,641.25	3,226,828.11	40.133846	-104.688741	
9,600.00	90.00	89.54	7,092.00	-315.74	2,307.91	1,292,642.95	3,226,928.09	40.133848	-104.688383	
9,700.00	90.00	89.54	7,092.00	-314.94	2,407.90	1,292,644.65	3,227,028.08	40.133850	-104.688025	
9,800.00	90.00	89.54	7,092.00	-314.15	2,507.90	1,292,646.36	3,227,128.06	40.133852	-104.687668	
9,900.00	90.00	89.54	7,092.00	-313.35	2,607.90	1,292,648.06	3,227,228.05	40.133854	-104.687310	
10,000.00	90.00	89.54	7,092.00	-312.56	2,707.89	1,292,649.76	3,227,328.04	40.133856	-104.686952	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well MELBON RANCH 4H-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 4H-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
10,100.00	90.00	89.54	7,092.00	-311.76	2,807.89	1,292,651.46	3,227,428.02	40.133859	-104.686595
10,200.00	90.00	89.54	7,092.00	-310.96	2,907.89	1,292,653.16	3,227,528.01	40.133861	-104.686237
10,300.00	90.00	89.54	7,092.00	-310.17	3,007.88	1,292,654.86	3,227,627.99	40.133863	-104.685879
10,400.00	90.00	89.54	7,092.00	-309.37	3,107.88	1,292,656.56	3,227,727.98	40.133865	-104.685522
10,500.00	90.00	89.54	7,092.00	-308.58	3,207.88	1,292,658.27	3,227,827.96	40.133867	-104.685164
10,600.00	90.00	89.54	7,092.00	-307.78	3,307.87	1,292,659.97	3,227,927.95	40.133869	-104.684806
10,700.00	90.00	89.54	7,092.00	-306.99	3,407.87	1,292,661.67	3,228,027.93	40.133872	-104.684449
10,800.00	90.00	89.54	7,092.00	-306.19	3,507.87	1,292,663.37	3,228,127.92	40.133874	-104.684091
10,900.00	90.00	89.54	7,092.00	-305.39	3,607.86	1,292,665.07	3,228,227.91	40.133876	-104.683734
11,000.00	90.00	89.54	7,092.00	-304.60	3,707.86	1,292,666.77	3,228,327.89	40.133878	-104.683376
11,100.00	90.00	89.54	7,092.00	-303.80	3,807.86	1,292,668.48	3,228,427.88	40.133880	-104.683018
11,200.00	90.00	89.54	7,092.00	-303.01	3,907.85	1,292,670.18	3,228,527.86	40.133882	-104.682661
11,300.00	90.00	89.54	7,092.00	-302.21	4,007.85	1,292,671.88	3,228,627.85	40.133884	-104.682303
11,400.00	90.00	89.54	7,092.00	-301.42	4,107.85	1,292,673.58	3,228,727.83	40.133887	-104.681945
11,500.00	90.00	89.54	7,092.00	-300.62	4,207.85	1,292,675.28	3,228,827.82	40.133889	-104.681588
11,600.00	90.00	89.54	7,092.00	-299.82	4,307.84	1,292,676.98	3,228,927.80	40.133891	-104.681230
11,700.00	90.00	89.54	7,092.00	-299.03	4,407.84	1,292,678.68	3,229,027.79	40.133893	-104.680872
11,800.00	90.00	89.54	7,092.00	-298.23	4,507.84	1,292,680.39	3,229,127.77	40.133895	-104.680515
11,900.00	90.00	89.54	7,092.00	-297.44	4,607.83	1,292,682.09	3,229,227.76	40.133897	-104.680157
11,925.51	90.00	89.54	7,092.00	-297.24	4,633.34	1,292,682.52	3,229,253.27	40.133898	-104.680066
TD at 11926.51									
11,926.51	90.00	89.54	7,092.00	-297.23	4,634.34	1,292,682.54	3,229,254.26	40.133898	-104.680062
MELBON RANCH 4H-17H-M265 BHL									

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 4H-17 - plan hits target center - Point	0.00	0.52	7,092.00	-332.22	236.12	1,292,607.70	3,224,856.54	40.133803	-104.695793
MELBON RANCH 4H-17 - plan hits target center - Point	0.00	0.53	7,092.00	-297.23	4,634.34	1,292,682.54	3,229,254.26	40.133898	-104.680062

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.00	0.00	Start Build 2.00	
469.30	468.90	-6.72	-10.72	Hold 5.39 Inc, 237.92 Az	
6,345.85	6,319.51	-299.71	-478.07	KOP 8/100	
7,528.15	7,092.00	-332.22	236.12	LP 90 Inc, 89.54 Az	
11,925.51	7,092.00	-297.24	4,633.34	TD at 11926.51	



Crestone Peak Resources

Sec 17 T2N-R65W

Melbon Ranch Pad

MELBON RANCH 4H-17H-M265

Wellbore #1

Design #1 19Mar18 kjs

Anticollision Summary Report

17 May, 2018

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4H-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 4H-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	5/17/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	11,926.22	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	11,926.51	6,644.18	3,138.67	2,982.66	20.118	CC, ES, SF
ADAMSON 14N-28HZ - KMG - MWD	11,926.51	6,510.00	3,491.95	3,352.96	25.124	CC, ES, SF
ADAMSON 28N-28HZ - KMG - MWD	11,926.51	6,699.00	4,237.35	4,107.58	32.652	CC, ES, SF
ADAMSON 35C-28HZ - KMG - MWD	11,926.51	6,697.00	3,269.50	3,122.80	22.287	CC, ES, SF
ADAMSON 36N-28HZ - KMG - MWD	11,926.51	6,510.00	3,668.13	3,532.73	27.092	CC, ES, SF
ADAMSON 37C-28HZ - KMG - MWD	11,926.51	6,699.00	3,893.19	3,759.76	29.178	CC, ES, SF
ADAMSON 37C-28HZX - KMG - MWD	11,926.51	6,699.00	3,893.19	3,759.76	29.178	CC, ES, SF
BYDALEK 28C-20HZ - KMG - MWD	9,345.78	12,039.00	1,443.59	1,343.35	14.401	CC, ES
BYDALEK 28C-20HZ - KMG - MWD	10,000.00	12,039.00	1,584.92	1,469.44	13.725	SF
BYDALEK 28N-20HZ - KMG - MWD	9,422.60	11,830.00	1,422.95	1,318.58	13.633	CC, ES
BYDALEK 28N-20HZ - KMG - MWD	10,000.00	11,830.00	1,535.64	1,419.31	13.201	SF
BYDALEK 29C-20HZ - KMG - MWD	8,249.70	11,880.00	1,446.59	1,380.01	21.727	CC
BYDALEK 29C-20HZ - KMG - MWD	8,300.00	11,880.00	1,447.46	1,379.75	21.377	ES
BYDALEK 29C-20HZ - KMG - MWD	9,200.00	11,880.00	1,730.81	1,625.08	16.371	SF
BYDALEK 29N-20HZ - KMG - MWD	8,132.93	11,671.00	1,427.78	1,363.14	22.087	CC
BYDALEK 29N-20HZ - KMG - MWD	8,200.00	11,671.00	1,429.36	1,363.10	21.571	ES
BYDALEK 29N-20HZ - KMG - MWD	9,100.00	11,671.00	1,724.47	1,619.49	16.427	SF
BYDALEK 30C-20HZ - KMG - MWD	7,403.62	11,950.00	1,403.57	1,344.85	23.904	CC, ES
BYDALEK 30C-20HZ - KMG - MWD	8,400.00	11,950.00	1,752.47	1,651.26	17.315	SF
BYDALEK 3N-20HZ - KMG - MWD	8,848.88	11,597.00	1,589.72	1,506.32	19.062	CC, ES
BYDALEK 3N-20HZ - KMG - MWD	9,800.00	11,597.00	1,852.52	1,739.29	16.361	SF
BYDALEK 4N-20HZ - KMG - MWD	7,594.04	11,755.00	1,433.19	1,375.71	24.933	CC, ES
BYDALEK 4N-20HZ - KMG - MWD	8,600.00	11,755.00	1,751.37	1,650.70	17.397	SF
CAMPBELL JF 17-13D - GW O&G - MWD	9,762.87	7,298.63	1,739.62	1,628.41	15.642	CC
CAMPBELL JF 17-13D - GW O&G - MWD	9,800.00	7,298.66	1,740.02	1,627.68	15.489	ES
CAMPBELL JF 17-13D - GW O&G - MWD	10,200.00	7,298.96	1,793.70	1,671.69	14.701	SF
CAMPBELL JF 17-41D - GW O&G - MWD	11,926.51	7,211.61	3,087.65	2,918.49	18.252	CC, ES, SF
CAMPBELL JF 17-6D - GW O&G - No Survey	200.00	151.00	4,388.75	4,387.99	5,759.976	CC, ES
CAMPBELL JF 17-6D - GW O&G - No Survey	11,926.51	730.00	7,006.44	6,938.40	102.965	SF
CAMPBELL JF 17-6D-1 - GW O&G - MWD	10,161.25	7,077.44	3,058.35	2,942.20	26.330	CC
CAMPBELL JF 17-6D-1 - GW O&G - MWD	10,200.00	7,077.45	3,058.60	2,941.49	26.118	ES
CAMPBELL JF 17-6D-1 - GW O&G - MWD	11,200.00	7,077.81	3,229.94	3,093.84	23.732	SF
CAMPBELL JF 17-7D - GW O&G - MWD	11,091.55	6,951.79	3,059.09	2,922.08	22.327	CC
CAMPBELL JF 17-7D - GW O&G - MWD	11,200.00	6,949.57	3,061.01	2,921.29	21.909	ES
CAMPBELL JF 17-7D - GW O&G - MWD	11,926.51	6,934.74	3,170.93	3,017.06	20.609	SF
CAMPBELL JF 17-8D - GW O&G - MWD	11,786.47	7,075.21	2,411.82	2,252.06	15.096	CC
CAMPBELL JF 17-8D - GW O&G - MWD	11,800.00	7,075.64	2,411.86	2,251.77	15.066	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 4H-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 4H-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	11,926.51	7,079.71	2,415.88	2,252.97	14.829	SF
CAMPBELL JF 17-9D - GW O&G - MWD	10,414.44	7,108.24	2,410.41	2,288.70	19.805	CC
CAMPBELL JF 17-9D - GW O&G - MWD	10,500.00	7,106.20	2,411.93	2,288.05	19.470	ES
CAMPBELL JF 17-9D - GW O&G - MWD	11,100.00	7,092.21	2,505.95	2,370.41	18.489	SF
COOK 28N-16HZ - KMG - MWD	11,926.51	8,251.67	3,251.63	3,193.78	56.207	CC, ES, SF
CROWDER 1-18 - KMG - No Survey	200.00	183.00	3,713.50	3,712.68	4,506.745	CC
CROWDER 1-18 - KMG - No Survey	300.00	282.98	3,713.98	3,712.63	2,748.946	ES
CROWDER 1-18 - KMG - No Survey	10,300.00	7,075.00	5,604.70	5,526.86	72.001	SF
CROWDER 15C-18HZ - KMG - MWD	6,744.80	11,362.58	1,433.31	1,341.74	15.652	CC, ES
CROWDER 15C-18HZ - KMG - MWD	6,900.00	11,365.35	1,458.21	1,362.54	15.242	SF
CROWDER 15N-18HZ - KMG - MWD	6,615.59	11,410.10	2,103.09	2,005.45	21.538	CC, ES
CROWDER 15N-18HZ - KMG - MWD	6,800.00	11,431.02	2,134.41	2,033.85	21.226	SF
CROWDER 16C-19HZ - KMG - MWD	6,947.54	10,936.68	722.65	646.45	9.484	CC, ES
CROWDER 16C-19HZ - KMG - MWD	7,100.00	10,941.22	754.11	668.29	8.787	SF
CROWDER 16N-19HZ - KMG - MWD	6,792.41	10,770.09	909.31	824.54	10.726	CC
CROWDER 16N-19HZ - KMG - MWD	6,800.00	10,770.14	909.38	824.26	10.682	ES
CROWDER 16N-19HZ - KMG - MWD	6,900.00	10,770.17	923.59	834.27	10.340	SF
CROWDER 36N-18HZ - KMG - MWD	6,633.27	11,172.05	1,705.56	1,609.35	17.727	CC, ES
CROWDER 36N-18HZ - KMG - MWD	6,800.00	11,172.89	1,732.77	1,633.60	17.473	SF
CROWDER 38N-19HZ - KMG - MWD	7,015.66	10,799.10	400.94	328.35	5.524	CC, ES
CROWDER 38N-19HZ - KMG - MWD	7,100.00	10,805.07	414.48	331.50	4.995	SF
DECHANT 13-9 - KMG - No Survey	11,926.51	7,025.00	4,935.71	4,790.51	33.994	CC, ES, SF
DECHANT 14-9 - KMG - MWD	11,926.51	7,277.00	5,527.03	5,370.91	35.403	CC, ES, SF
DECHANT 23-9 - KMG - MWD	11,926.51	7,559.93	6,427.37	6,269.07	40.602	CC, ES, SF
DECHANT 31-19 - KMG - Gyro	6,427.14	6,397.24	2,397.78	2,352.53	52.986	CC, ES
DECHANT 31-19 - KMG - Gyro	6,700.00	6,665.73	2,440.69	2,393.70	51.945	SF
DECHANT 32-19 - KMG - Gyro	6,423.42	6,300.00	3,490.48	3,445.22	77.133	CC, ES
DECHANT 32-19 - KMG - Gyro	6,800.00	6,524.00	3,549.08	3,502.15	75.619	SF
DECHANT 35-9 - KMG - MWD	11,926.51	7,173.55	4,791.87	4,636.68	30.877	CC, ES, SF
DECHANT 36-9 - KMG - MWD	11,926.51	7,466.08	5,356.93	5,200.17	34.175	CC, ES, SF
DECHANT 38-8 - KMG - MWD	11,926.51	7,131.44	4,430.75	4,266.09	26.909	CC, ES, SF
DECHANT 41-19 - KMG - Gyro	6,624.27	6,614.55	1,305.57	1,258.32	27.630	CC, ES
DECHANT 41-19 - KMG - Gyro	6,800.00	6,774.83	1,312.90	1,264.85	27.323	SF
DECHANT 42-19 - KMG - No Survey	6,719.68	6,680.63	3,133.22	3,096.52	85.376	CC, ES
DECHANT 42-19 - KMG - No Survey	9,500.00	7,090.00	4,272.63	4,203.84	62.115	SF
DECHANT 9-19A - KMG - No Survey	6,783.02	6,731.54	4,070.95	4,034.03	110.238	CC
DECHANT 9-19A - KMG - No Survey	6,800.00	6,746.07	4,070.98	4,034.00	110.086	ES
DECHANT 9-19A - KMG - No Survey	10,500.00	7,085.00	5,636.41	5,550.20	65.378	SF
DECHANT X 08-15 - KMG - Gyro	10,373.85	7,040.01	4,994.44	4,876.05	42.185	CC
DECHANT X 08-15 - KMG - Gyro	10,500.00	7,036.12	4,996.03	4,874.46	41.094	ES
DECHANT X 08-15 - KMG - Gyro	11,926.51	7,000.54	5,230.11	5,077.54	34.279	SF
DECHANT X 08-24D - KMG - MWD	100.00	45.17	5,599.88	5,599.66	10,000.000	CC
DECHANT X 08-24D - KMG - MWD	200.00	139.29	5,599.98	5,599.24	7,544.591	ES
DECHANT X 08-24D - KMG - MWD	11,926.51	7,263.49	6,058.34	5,907.27	40.103	SF
DECHANT X 19-3 - KMG - Gyro	6,421.35	6,400.00	3,315.36	3,270.13	73.298	CC, ES
DECHANT X 19-3 - KMG - Gyro	6,700.00	6,628.06	3,364.27	3,317.40	71.782	SF
DOM RED X 20-02D - KMG - Gyro	8,608.50	7,015.40	2,479.26	2,404.99	33.384	CC
DOM RED X 20-02D - KMG - Gyro	8,700.00	7,014.49	2,480.95	2,404.52	32.464	ES
DOM RED X 20-02D - KMG - Gyro	9,700.00	7,004.51	2,708.87	2,612.79	28.194	SF
DOM RED X 20-3 - NOBLE - Gyro	8,949.91	7,069.49	1,446.27	1,363.75	17.527	CC
DOM RED X 20-3 - NOBLE - Gyro	9,000.00	7,070.04	1,447.14	1,363.37	17.276	ES
DOM RED X 20-3 - NOBLE - Gyro	9,300.00	7,073.33	1,488.04	1,398.05	16.536	SF
DOM RED X20-2D - KMG - No Survey	8,054.24	7,055.00	2,555.83	2,505.26	50.541	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 4H-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 4H-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	8,100.00	7,055.00	2,556.24	2,504.76	49.654	ES
DOM RED X20-2D - KMG - No Survey	9,500.00	7,055.00	2,936.41	2,859.25	38.055	SF
EWERTZ 3-18 - KMG - No Survey	6,315.56	6,312.36	4,747.33	4,711.60	132.889	CC, ES
EWERTZ 3-18 - KMG - No Survey	10,400.00	7,115.00	7,457.11	7,392.18	114.842	SF
FOUR WAY 1 - KMG - No Survey	11,926.51	7,009.00	3,483.78	3,361.66	28.526	CC, ES, SF
FOUR WAY 12-16 - KMG - Gyro	11,926.51	6,954.61	2,479.62	2,331.38	16.727	CC, ES, SF
HAYMAKER 29N-9HZ - KMG - MWD	11,926.51	6,537.00	4,765.07	4,611.28	30.983	CC, ES, SF
HAYMAKER 4C-9HZ - KMG - MWD	11,926.51	6,697.00	4,761.79	4,606.95	30.754	CC, ES, SF
HAYMAKER 4N-9HZ - KMG - MWD	11,926.51	6,442.00	4,621.48	4,467.92	30.096	CC, ES, SF
HSR-WARNER 6-18 - KMG - No Survey	6,400.00	6,384.53	3,631.00	3,594.98	100.791	CC, ES
HSR-WARNER 6-18 - KMG - No Survey	6,700.00	6,675.75	3,687.57	3,650.28	98.878	SF
HUDCO 16-18 - KMG - Gyro	6,425.22	6,392.95	566.88	521.59	12.518	CC, ES
HUDCO 16-18 - KMG - Gyro	6,500.00	6,473.39	569.91	524.12	12.446	SF
HUDCO 24-18 - KMG - MWD	665.39	669.83	1,148.18	1,143.88	266.752	CC
HUDCO 24-18 - KMG - MWD	1,000.00	999.11	1,150.22	1,143.45	169.911	ES
HUDCO 24-18 - KMG - MWD	6,600.00	6,682.09	1,858.43	1,808.78	37.430	SF
HUDCO 39-18 - KMG - MWD	4,874.09	5,010.23	245.50	204.16	5.938	CC
HUDCO 39-18 - KMG - MWD	4,900.00	5,034.45	245.60	204.01	5.905	ES
HUDCO 39-18 - KMG - MWD	7,000.00	7,045.05	283.33	231.42	5.459	SF
HUDCO 40-18 - KMG - MWD	500.64	507.00	1,132.34	1,129.23	364.628	CC
HUDCO 40-18 - KMG - MWD	700.00	698.58	1,133.33	1,128.75	247.640	ES
HUDCO 40-18 - KMG - MWD	7,700.00	7,140.27	1,816.74	1,759.18	31.565	SF
HUDCO 9-18 - KMG - Gyro	1,918.44	1,921.81	1,063.62	1,049.97	77.944	CC
HUDCO 9-18 - KMG - Gyro	2,200.00	2,200.00	1,064.35	1,048.63	67.686	ES
HUDCO 9-18 - KMG - Gyro	6,700.00	6,671.63	1,264.74	1,216.39	26.155	SF
LUCERO X 20-04 - KMG - Gyro	7,553.86	7,076.80	1,452.47	1,398.22	26.774	CC, ES
LUCERO X 20-04 - KMG - Gyro	8,100.00	7,061.94	1,552.35	1,490.02	24.906	SF
MARKHAM 13-8 - KMG - MWD	3,456.73	3,754.90	4,757.14	4,730.59	179.165	CC
MARKHAM 13-8 - KMG - MWD	3,500.00	3,777.80	4,757.27	4,730.48	177.574	ES
MARKHAM 13-8 - KMG - MWD	11,300.00	7,149.13	6,104.46	5,983.67	50.536	SF
MARKHAM 34-8 - KMG - MWD	5,750.16	6,077.49	4,418.20	4,372.60	96.888	CC
MARKHAM 34-8 - KMG - MWD	5,800.00	6,110.23	4,418.30	4,372.41	96.296	ES
MARKHAM 34-8 - KMG - MWD	10,700.00	7,233.96	5,649.46	5,536.86	50.174	SF
MARKHAM 35-8 - KMG - MWD	8,389.25	7,344.87	4,416.73	4,343.50	60.314	CC
MARKHAM 35-8 - KMG - MWD	8,500.00	7,343.04	4,418.12	4,342.62	58.517	ES
MARKHAM 35-8 - KMG - MWD	11,200.00	7,298.55	5,235.06	5,111.07	42.224	SF
MEGUIRE 28C-16HZ - KMG - MWD	11,926.51	10,953.58	2,798.93	2,703.88	29.447	CC, ES, SF
MEGUIRE 29C-16HZ - KMG - MWD	11,926.51	11,205.45	1,644.58	1,548.46	17.109	CC, ES, SF
MEGUIRE 29N-16HZ - KMG - MWD	11,926.51	10,985.60	1,902.74	1,806.64	19.800	CC, ES, SF
MEGUIRE 30N-16HZ - KMG - MWD	11,926.51	11,017.29	801.85	704.93	8.273	CC, ES, SF
MEGUIRE 3N-16HZ - KMG - No Survey	11,926.51	7,022.00	4,315.91	4,197.47	36.439	CC, ES, SF
MEGUIRE 4N-16HZ - KMG - MWD	11,926.51	10,992.49	1,379.66	1,283.54	14.353	CC, ES, SF
MEGUIRE X 21-04 - KMG - Gyro	11,926.51	7,005.45	1,907.65	1,769.59	13.818	CC, ES, SF
MEGUIRE X 21-06 - KMG - No Survey	11,926.51	7,014.00	3,874.13	3,756.61	32.966	CC, ES, SF
MEGUIRE X 21-5J1 - KMG - No Survey	11,926.51	7,019.00	3,260.15	3,118.68	23.046	CC, ES, SF
MELBON 12C-8HZ - KMG - MWD	0.00	0.00	1,616.64			
MELBON 12C-8HZ - KMG - MWD	200.00	189.39	1,617.09	1,615.97	1,446.562	ES
MELBON 12C-8HZ - KMG - MWD	8,500.00	6,824.00	1,985.40	1,918.39	29.628	SF
MELBON 12N-8HZ - KMG - MWD	205.26	200.47	1,607.56	1,606.40	1,379.165	CC, ES
MELBON 12N-8HZ - KMG - MWD	8,200.00	6,653.00	2,044.29	1,983.29	33.517	SF
MELBON 19C-8HZ - KMG - MWD	209.96	201.52	1,796.84	1,795.66	1,519.189	CC
MELBON 19C-8HZ - KMG - MWD	8,500.00	6,793.00	1,829.86	1,759.56	26.029	ES
MELBON 19C-8HZ - KMG - MWD	9,100.00	6,793.00	1,938.05	1,857.16	23.958	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 4H-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 4H-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	206.80	196.67	1,812.41	1,811.25	1,556.227	CC
MELBON 19N-E8HZ - KMG - MWD	8,800.00	6,683.33	1,854.56	1,777.35	24.020	ES
MELBON 19N-E8HZ - KMG - MWD	9,400.00	6,684.53	1,952.38	1,864.63	22.249	SF
MELBON 19N-W8HZ - KMG - MWD	231.33	236.08	1,624.83	1,623.44	1,164.964	CC, ES
MELBON 19N-W8HZ - KMG - MWD	8,800.00	6,739.00	1,971.13	1,897.61	26.811	SF
MELBON 23C-8HZ - KMG - MWD	204.49	192.07	1,828.96	1,827.83	1,612.450	CC
MELBON 23C-8HZ - KMG - MWD	9,400.00	6,809.71	1,849.90	1,752.54	19.000	ES
MELBON 23C-8HZ - KMG - MWD	9,900.00	6,842.09	1,921.46	1,814.98	18.045	SF
MELBON 23N-8HZ - KMG - MWD	173.86	158.86	1,845.40	1,844.50	2,045.786	CC
MELBON 23N-8HZ - KMG - MWD	9,506.33	6,730.00	1,896.07	1,796.09	18.964	ES
MELBON 23N-8HZ - KMG - MWD	10,000.00	6,753.85	1,958.68	1,849.53	17.945	SF
MELBON RANCH 1 - V O&G - No Survey	8,384.18	7,058.00	393.86	336.40	6.854	CC, ES
MELBON RANCH 1 - V O&G - No Survey	8,400.00	7,058.00	394.18	336.45	6.828	SF
MELBON RANCH 13-17 - CPR - MWD	217.42	196.80	1,083.00	1,081.91	999.778	CC, ES
MELBON RANCH 13-17 - CPR - MWD	8,000.00	7,151.70	1,260.35	1,197.42	20.028	SF
MELBON RANCH 14-17 - CPR - MWD	7,632.74	7,203.00	285.20	226.13	4.828	CC, ES, SF
MELBON RANCH 17-14 - V O&G - No Survey	8,318.91	7,058.00	99.89	43.85	1.782	CC, ES, SF
MELBON RANCH 23-17 - CPR - MWD	100.00	67.24	1,088.20	1,087.96	4,475.613	CC
MELBON RANCH 23-17 - CPR - MWD	200.00	166.05	1,088.86	1,087.95	1,200.590	ES
MELBON RANCH 23-17 - CPR - MWD	9,400.00	7,148.44	1,264.17	1,166.76	12.978	SF
MELBON RANCH 24-17 - CPR - MWD	8,941.79	7,125.52	285.33	199.57	3.327	CC, ES, SF
MELBON RANCH 2-4-17 - CPR - MWD	214.68	193.13	1,089.83	1,088.77	1,028.715	CC, ES
MELBON RANCH 2-4-17 - CPR - MWD	9,100.00	7,204.00	1,781.03	1,695.68	20.867	SF
MELBON RANCH 2-8-17 - CPR - MWD	8,331.01	7,237.48	747.14	668.84	9.542	CC, ES
MELBON RANCH 2-8-17 - CPR - MWD	8,400.00	7,236.68	750.32	670.70	9.424	SF
MELBON RANCH 33-17 - CPR - MWD	10,480.18	7,300.17	275.94	139.75	2.026	CC, ES, SF
MELBON RANCH 34-17 - CPR - MWD	10,300.60	7,114.79	307.35	188.11	2.578	CC, ES, SF
MELBON RANCH 3A-17H - CPR - MWD	100.00	90.58	70.50	70.12	188.549	CC
MELBON RANCH 3A-17H - CPR - MWD	11,926.51	11,786.15	115.97	-77.98	0.598	Level 1, ES, SF
MELBON RANCH 3B-17H - CPR - MWD	224.31	216.83	96.57	95.33	78.144	CC, ES
MELBON RANCH 3B-17H - CPR - MWD	11,926.51	11,882.70	851.69	587.41	3.223	SF
MELBON RANCH 43-17 43-17 - CPR - Gyro	11,926.51	7,012.69	313.20	157.84	2.016	CC, ES, SF
MELBON RANCH 4-6-17 - CPR - MWD	9,609.23	7,188.41	487.27	386.91	4.855	CC, ES, SF
MELBON RANCH 4-8-17 - CPR - Gyro	9,746.96	7,018.96	546.34	444.08	5.343	CC, ES
MELBON RANCH 4-8-17 - CPR - Gyro	9,800.00	7,017.66	548.90	445.42	5.304	SF
MELBON RANCH 6-4-17 - CPR - MWD	10,923.00	7,215.02	730.93	589.41	5.165	CC, ES, SF
Melbon Ranch 6-8-17 - CPR - MWD	11,033.43	7,234.40	778.38	632.25	5.326	CC, ES
Melbon Ranch 6-8-17 - CPR - MWD	11,100.00	7,234.79	781.22	633.45	5.287	SF
MELBON RANCH 8-4-17 - CPR - MWD	11,926.51	7,063.39	931.33	794.55	6.809	CC, ES, SF
MELBON RANCH 8-6-17 - CPR - MWD	11,926.51	7,087.08	654.62	549.02	6.199	CC, ES, SF
MELBON RANCH 8-8-17 - CPR - MWD	11,926.51	7,376.09	1,753.78	1,596.70	11.165	CC, ES, SF
MELBON RANCH E UNIT 1 - CPR - Gyro	11,287.18	7,021.94	177.26	34.87	1.245	Level 3, CC, ES, SF
MEQUIRE 21-3P - KMG - No Survey	11,926.51	7,009.00	2,865.74	2,757.84	26.560	CC, ES, SF
MUSE 1 - KMG - Gyro	0.00	0.00	2,891.66			
MUSE 1 - KMG - Gyro	300.00	278.59	2,892.75	2,891.10	1,757.068	ES
MUSE 1 - KMG - Gyro	8,700.00	7,054.07	3,962.37	3,896.49	60.145	SF
MUSE 2 - KMG - No Survey	6,400.00	6,388.53	1,099.29	1,063.73	30.911	CC, ES
MUSE 2 - KMG - No Survey	6,500.00	6,488.11	1,107.08	1,071.02	30.699	SF
PALMER 11-20 - KMG - No Survey	9,239.30	7,055.00	4,200.09	4,122.42	54.075	CC
PALMER 11-20 - KMG - No Survey	9,300.00	7,055.00	4,200.53	4,121.33	53.037	ES
PALMER 11-20 - KMG - No Survey	11,600.00	7,055.00	4,818.05	4,693.47	38.673	SF
PALMER X 20-05 - KMG - Gyro	7,816.95	7,044.07	2,706.15	2,648.08	46.606	CC
PALMER X 20-05 - KMG - Gyro	7,900.00	7,043.89	2,707.42	2,647.89	45.484	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 4H-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 4H-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)						
PALMER X 20-05 - KMG - Gyro	9,400.00	7,040.63	3,135.17	3,048.70	36.260	SF
PALMER X 20-06 - KMG - Gyro	9,043.94	7,038.47	2,833.77	2,749.07	33.454	CC
PALMER X 20-06 - KMG - Gyro	9,100.00	7,038.61	2,834.33	2,748.22	32.917	ES
PALMER X 20-06 - KMG - Gyro	10,300.00	7,041.46	3,099.67	2,989.43	28.118	SF
PALMER X 20-20 - KMG - Gyro	8,486.41	7,079.81	3,407.55	3,335.76	47.467	CC
PALMER X 20-20 - KMG - Gyro	8,600.00	7,079.95	3,409.44	3,335.04	45.821	ES
PALMER X 20-20 - KMG - Gyro	10,400.00	7,082.39	3,908.10	3,798.78	35.752	SF
POTTS X 18-10 - KMG - Gyro	6,400.00	6,375.07	2,100.98	2,054.37	45.077	CC, ES
POTTS X 18-10 - KMG - Gyro	6,600.00	6,562.29	2,132.51	2,084.69	44.590	SF
POTTS X 18-15 - KMG - Gyro	6,400.00	6,352.03	1,792.11	1,746.90	39.641	CC, ES
POTTS X 18-15 - KMG - Gyro	6,600.00	6,553.66	1,820.63	1,774.08	39.114	SF
RUSSIAN FIDDLER 15N-18HZ - KMG - MWD	6,648.39	12,713.00	1,897.67	1,783.11	16.566	CC, ES
RUSSIAN FIDDLER 15N-18HZ - KMG - MWD	6,800.00	12,713.00	1,919.03	1,801.75	16.362	SF
RUSSIAN FIDDLER 36C-18HZ - KMG - MWD	6,633.56	12,872.00	2,441.12	2,322.67	20.609	CC, ES
RUSSIAN FIDDLER 36C-18HZ - KMG - MWD	6,800.00	12,872.00	2,465.55	2,344.65	20.393	SF
RUSSIAN FIDDLER 36N-18HZ - KMG - MWD	6,580.79	12,128.00	2,856.78	2,754.92	28.045	CC, ES
RUSSIAN FIDDLER 36N-18HZ - KMG - MWD	6,700.00	12,128.00	2,868.39	2,765.42	27.856	SF
RUSSIAN FIDDLER 36N-18HZX - KMG - MWD	6,600.27	12,416.00	2,803.84	2,693.98	25.521	CC, ES
RUSSIAN FIDDLER 36N-18HZX - KMG - MWD	6,700.00	12,416.00	2,812.24	2,701.33	25.356	SF
RUSSIAN FIDDLER 37C-18HZ - KMG - MWD	6,747.57	12,903.00	1,446.51	1,338.85	13.436	CC, ES
RUSSIAN FIDDLER 37C-18HZ - KMG - MWD	6,900.00	12,903.00	1,469.57	1,357.54	13.118	SF
RUSSIAN FIDDLER 37N-18HZ - KMG - MWD	6,682.06	12,711.00	1,618.05	1,506.39	14.490	CC
RUSSIAN FIDDLER 37N-18HZ - KMG - MWD	6,700.00	12,711.00	1,618.36	1,506.27	14.437	ES
RUSSIAN FIDDLER 37N-18HZ - KMG - MWD	6,800.00	12,711.00	1,631.51	1,517.18	14.269	SF
SANDLIN-WELD COUNTY 1 - KMG - No Survey	11,436.39	7,029.00	3,105.69	2,971.22	23.095	CC
SANDLIN-WELD COUNTY 1 - KMG - No Survey	11,500.00	7,029.00	3,106.34	2,970.26	22.827	ES
SANDLIN-WELD COUNTY 1 - KMG - No Survey	11,926.51	7,029.00	3,144.13	2,998.63	21.610	SF
SANDLIN-WELD-COUNTY UNIT 2 - KMG - Gyro	8,693.16	7,040.51	3,076.28	2,999.99	40.327	CC
SANDLIN-WELD-COUNTY UNIT 2 - KMG - Gyro	8,800.00	7,040.02	3,078.13	2,999.42	39.106	ES
SANDLIN-WELD-COUNTY UNIT 2 - KMG - Gyro	10,200.00	7,033.14	3,425.49	3,320.90	32.753	SF
SARCHET 1 - KMG - No Survey	10,937.06	7,031.00	2,591.41	2,470.11	21.363	CC
SARCHET 1 - KMG - No Survey	11,000.00	7,031.00	2,592.18	2,469.19	21.077	ES
SARCHET 1 - KMG - No Survey	11,700.00	7,031.00	2,701.39	2,564.27	19.701	SF
SARCHET 15N-20HZ - KMG - MWD	10,575.75	6,949.49	525.25	416.66	4.837	CC, ES
SARCHET 15N-20HZ - KMG - MWD	10,600.00	6,949.74	525.81	416.85	4.826	SF
SARCHET 16N-20HZ - KMG - No Survey	11,926.51	7,035.00	1,389.12	1,242.23	9.457	CC, ES, SF
SARCHET 20-1 - KMG - Gyro	11,664.47	7,034.38	1,378.38	1,225.94	9.042	CC
SARCHET 20-1 - KMG - Gyro	11,700.00	7,033.42	1,378.84	1,225.42	8.988	ES
SARCHET 20-1 - KMG - Gyro	11,900.00	7,027.85	1,398.34	1,241.04	8.890	SF
SARCHET 20-2 - NOBLE - No Survey	10,387.59	7,034.00	1,578.15	1,471.21	14.758	CC
SARCHET 20-2 - NOBLE - No Survey	10,400.00	7,034.00	1,578.19	1,470.92	14.712	ES
SARCHET 20-2 - NOBLE - No Survey	10,700.00	7,034.00	1,608.77	1,495.06	14.147	SF
SARCHET 36G-20HZ - KMG - Proposed	9,978.10	7,045.00	1,296.51	1,200.17	13.457	CC
SARCHET 36G-20HZ - KMG - Proposed	10,000.00	7,045.00	1,296.70	1,199.76	13.377	ES
SARCHET 36G-20HZ - KMG - Proposed	10,200.00	7,045.00	1,315.36	1,214.09	12.988	SF
SARCHET 36N-20HZ - KMG - MWD	10,006.33	6,878.00	496.41	405.89	5.484	CC, ES
SARCHET 36N-20HZ - KMG - MWD	10,100.00	6,878.00	505.17	412.86	5.473	SF
SARCHET 37C-20HZ - KMG - Proposed	10,038.18	7,044.00	1,229.59	1,131.70	12.561	CC
SARCHET 37C-20HZ - KMG - Proposed	10,100.00	7,044.00	1,231.14	1,131.64	12.374	ES
SARCHET 37C-20HZ - KMG - Proposed	10,300.00	7,044.00	1,257.15	1,153.88	12.173	SF
SARCHET 37N-20HZ - KMG - Proposed	10,071.80	7,044.00	1,264.38	1,165.62	12.803	CC
SARCHET 37N-20HZ - KMG - Proposed	10,100.00	7,044.00	1,264.70	1,165.18	12.708	ES
SARCHET 37N-20HZ - KMG - Proposed	10,300.00	7,044.00	1,284.81	1,181.09	12.387	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 4H-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 4H-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 38C-20HZ - KMG - Proposed	11,926.51	7,026.00	1,400.87	1,254.29	9.557	CC, ES, SF
SARCHET X 20-8 - KMG - Gyro	11,822.83	7,010.13	2,981.28	2,824.78	19.050	CC
SARCHET X 20-8 - KMG - Gyro	11,900.00	7,010.00	2,982.28	2,823.71	18.808	ES
SARCHET X 20-8 - KMG - Gyro	11,926.51	7,009.96	2,983.08	2,823.82	18.731	SF
SEATON 2-18 - KMG - No Survey	200.00	198.00	4,066.33	4,065.48	4,779.213	CC
SEATON 2-18 - KMG - No Survey	700.00	696.59	4,068.26	4,064.69	1,137.004	ES
SEATON 2-18 - KMG - No Survey	10,300.00	7,090.00	6,306.99	6,235.56	88.302	SF
SEATON 7-18 - KMG - No Survey	6,311.74	6,300.56	2,618.71	2,583.02	73.381	CC, ES
SEATON 7-18 - KMG - No Survey	6,700.00	6,679.75	2,666.00	2,628.60	71.275	SF
SEATON 8-18 - KMG - Gyro	0.00	0.00	2,065.41			
SEATON 8-18 - KMG - Gyro	7,000.00	6,899.14	2,402.41	2,352.71	48.333	SF
SUNFLOWER 24N-17HZ - KMG - MWD	10,912.53	12,650.00	1,832.80	1,698.86	13.683	CC
SUNFLOWER 24N-17HZ - KMG - MWD	11,000.00	12,650.00	1,834.89	1,697.73	13.378	ES
SUNFLOWER 24N-17HZ - KMG - MWD	11,700.00	12,650.00	1,994.81	1,827.60	11.930	SF
SUNFLOWER 25G-17HZ - KMG - MWD	9,962.64	12,664.00	1,800.88	1,685.58	15.618	CC
SUNFLOWER 25G-17HZ - KMG - MWD	10,100.00	12,664.00	1,806.11	1,683.95	14.785	ES
SUNFLOWER 25G-17HZ - KMG - MWD	10,800.00	12,664.00	1,986.04	1,830.85	12.798	SF
SUNFLOWER 40C-17HZ - KMG - MWD	11,926.51	12,840.00	1,847.05	1,681.50	11.157	CC, ES, SF
SUNFLOWER 40N-17HZ - KMG - MWD	11,926.51	12,495.00	2,008.47	1,838.23	11.798	CC, ES, SF
SUNFLOWER 7C-17HZ - KMG - MWD	100.00	0.00	7,876.73	7,876.59	10,000.000	CC, ES
SUNFLOWER 7C-17HZ - KMG - MWD	11,926.51	1,800.00	9,087.98	8,972.91	78.972	SF
SUNFLOWER 7N-17HZ - KMG - MWD	10,788.33	12,615.00	1,755.35	1,626.63	13.637	CC
SUNFLOWER 7N-17HZ - KMG - MWD	10,900.00	12,615.00	1,758.90	1,626.19	13.254	ES
SUNFLOWER 7N-17HZ - KMG - MWD	11,600.00	12,615.00	1,933.93	1,770.12	11.806	SF
SUNFLOWER 8N-17HZ - KMG - MWD	11,297.40	12,665.00	1,830.60	1,686.18	12.676	CC
SUNFLOWER 8N-17HZ - KMG - MWD	11,400.00	12,665.00	1,833.47	1,686.10	12.441	ES
SUNFLOWER 8N-17HZ - KMG - MWD	11,926.51	12,665.00	1,935.68	1,767.63	11.518	SF
THOMASON 1 - PETERSON - No Survey	11,926.51	7,013.00	2,050.38	2,011.22	52.364	CC, ES, SF
THOMASON 14-16 - KMG - MWD	11,926.51	7,246.15	2,653.56	2,586.94	39.829	CC, ES, SF
THOMASON 16-5 - KMG - Gyro	11,926.51	6,981.27	2,962.86	2,813.07	19.780	CC, ES, SF
THOMASON 21-16 - KMG - MWD	11,926.51	7,112.41	4,200.12	4,072.34	32.869	CC, ES, SF
THOMASON 23-16 - KMG - MWD	11,926.51	7,148.63	3,078.09	3,019.73	52.746	CC, ES, SF
THOMASON 25-16 - KMG - No Survey	11,926.51	945.00	6,633.53	6,588.70	147.979	CC, ES, SF
THOMASON 25-16R - KMG - MWD	11,926.51	7,178.12	3,547.24	3,447.22	35.463	CC, ES, SF
THOMASON 34N-9HZ - KMG - MWD	11,926.51	11,537.00	4,628.05	4,372.65	18.121	CC, ES, SF
THOMASON 36-16 - KMG - MWD	11,926.51	7,334.19	3,163.25	3,082.37	39.111	CC, ES, SF
THOMASON 6-16 - KMG - MWD	11,926.51	7,151.76	3,417.10	3,297.09	28.472	CC, ES, SF
THOMASON X 16-11 - KMG - No Survey	11,926.51	7,006.00	2,665.55	2,591.89	36.186	CC, ES, SF
THOMASON X 16-12 - KMG - Gyro	11,926.51	6,958.47	1,489.89	1,371.41	12.575	CC, ES, SF
THOMASON X 16-4 - KMG - No Survey	11,926.51	7,009.00	3,869.73	3,727.46	27.199	CC, ES, SF
THOMASON X16-13 - KMG - Gyro	11,926.51	7,015.54	1,089.53	1,033.64	19.495	CC, ES, SF
THOMSEN 1C-18HZ - KMG - MWD	6,671.88	14,563.00	4,009.29	3,932.77	52.399	CC
THOMSEN 1C-18HZ - KMG - MWD	6,700.00	14,563.00	4,009.58	3,932.71	52.155	ES
THOMSEN 1C-18HZ - KMG - MWD	9,500.00	14,563.00	5,463.97	5,322.90	38.733	SF
THOMSEN 1N-18HZ - KMG - Proposed	6,565.55	13,958.15	4,436.01	4,353.85	53.990	CC, ES
THOMSEN 1N-18HZ - KMG - Proposed	9,600.00	13,958.15	6,062.09	5,921.75	43.195	SF
THOMSEN 2N-18HZ - KMG - MWD	6,694.03	13,966.00	3,565.29	3,500.31	54.873	CC
THOMSEN 2N-18HZ - KMG - MWD	6,700.00	13,966.00	3,565.30	3,500.25	54.810	ES
THOMSEN 2N-18HZ - KMG - MWD	9,500.00	13,966.00	4,905.79	4,768.35	35.693	SF
THOMSEN 36C-18HZ - KMG - MWD	6,606.57	14,237.84	2,794.63	2,645.80	18.777	CC, ES
THOMSEN 36C-18HZ - KMG - MWD	6,700.00	14,243.68	2,802.26	2,652.01	18.650	SF
THOMSEN 36N-18HZ - KMG - MWD	6,600.66	14,210.16	2,413.47	2,262.51	15.988	CC, ES
THOMSEN 36N-18HZ - KMG - MWD	6,700.00	14,212.37	2,422.37	2,269.88	15.885	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 4H-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 4H-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 3N-18HZ - KMG - MWD	6,776.87	14,148.00	3,837.54	3,786.34	74.954	CC
THOMSEN 3N-18HZ - KMG - MWD	6,800.00	14,148.00	3,837.65	3,786.20	74.599	ES
THOMSEN 3N-18HZ - KMG - MWD	10,400.00	14,148.00	5,422.76	5,275.14	36.735	SF
THOMSEN 4N-18HZ - KMG - MWD	7,097.39	14,792.00	3,240.26	3,187.42	61.322	CC
THOMSEN 4N-18HZ - KMG - MWD	7,100.00	14,792.00	3,240.26	3,187.42	61.319	ES
THOMSEN 4N-18HZ - KMG - MWD	10,200.00	14,792.00	4,506.59	4,360.32	30.811	SF
UPRR 38 PAN AM X 1 - KMG - Gyro	6,481.51	6,432.08	2,095.46	2,049.48	45.568	CC, ES
UPRR 38 PAN AM X 1 - KMG - Gyro	6,800.00	6,721.44	2,128.40	2,080.74	44.658	SF
WALTERS 21-18 - KMG - MWD	0.00	0.00	3,095.72			
WALTERS 21-18 - KMG - MWD	6,700.00	6,767.16	3,806.07	3,752.48	71.020	SF
WALTERS 25-18 - KMG - MWD	6,400.00	6,576.04	2,809.36	2,750.15	47.450	CC, ES
WALTERS 25-18 - KMG - MWD	6,600.00	6,777.31	2,837.55	2,777.26	47.068	SF
WALTERS 28-18 - KMG - MWD	0.00	0.00	3,104.14			
WALTERS 28-18 - KMG - MWD	100.00	87.20	3,104.33	3,104.06	10,000.000	ES
WALTERS 28-18 - KMG - MWD	10,400.00	7,358.60	7,151.27	7,064.15	82.087	SF
WARNER 12-18 - KMG - MWD	0.00	17.11	3,403.54			
WARNER 12-18 - KMG - MWD	6,600.00	7,103.99	4,451.60	4,392.50	75.319	SF
WARNER 14-18 - KMG - No Survey	6,409.11	6,415.63	2,878.42	2,843.64	82.766	CC, ES
WARNER 14-18 - KMG - No Survey	6,700.00	6,697.75	2,935.97	2,899.82	81.203	SF
WARNER 18-18 - KMG - MWD	500.73	361.74	3,405.11	3,402.51	1,308.848	CC, ES
WARNER 18-18 - KMG - MWD	6,800.00	7,095.76	4,776.46	4,725.12	93.039	SF
WARNER 22-18 - KMG - MWD	642.70	502.00	3,400.28	3,396.63	931.530	CC
WARNER 22-18 - KMG - MWD	700.00	530.37	3,400.50	3,396.53	856.416	ES
WARNER 22-18 - KMG - MWD	6,700.00	6,684.24	4,077.70	4,026.12	79.054	SF
WARNER 23-18 - KMG - MWD	6,400.00	6,493.33	2,453.61	2,400.88	46.533	CC, ES
WARNER 23-18 - KMG - MWD	6,600.00	6,676.96	2,483.45	2,429.62	46.136	SF
WARNER 31-18 - KMG - MWD	575.36	433.59	3,403.47	3,400.32	1,078.489	CC
WARNER 31-18 - KMG - MWD	600.00	447.66	3,403.53	3,400.23	1,031.746	ES
WARNER 31-18 - KMG - MWD	6,900.00	4,860.35	5,640.65	5,595.73	125.575	SF
WARNER 32-18 - KMG - MWD	0.00	19.09	3,404.27			
WARNER 32-18 - KMG - MWD	600.00	446.09	3,404.94	3,401.64	1,032.147	ES
WARNER 32-18 - KMG - MWD	6,700.00	5,777.91	4,998.30	4,945.48	94.624	SF
WARNER 33-18 - KMG - MWD	906.39	643.34	3,189.96	3,184.86	624.811	CC, ES
WARNER 33-18 - KMG - MWD	6,800.00	7,344.35	4,985.38	4,926.98	85.370	SF
WARNER 35-18 - KMG - MWD	998.33	734.05	3,197.00	3,191.16	547.777	CC
WARNER 35-18 - KMG - MWD	1,000.00	735.01	3,197.00	3,191.15	546.845	ES
WARNER 35-18 - KMG - MWD	6,700.00	6,751.24	3,643.23	3,594.72	75.111	SF

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well MELBON RANCH 4H-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 4H-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	49.99	48.99	50.342	CC, ES
MELBON RANCH 4C-17H-M265 - Wellbore #1 - Design	11,926.51	12,069.37	1,611.32	1,342.37	5.991	SF
MELBON RANCH 4D-17H-M265 - Wellbore #1 - Design	200.00	200.00	40.00	39.01	40.283	CC, ES
MELBON RANCH 4D-17H-M265 - Wellbore #1 - Design	11,926.51	12,203.07	1,525.48	1,258.72	5.719	SF
MELBON RANCH 4E-17H-M265 - Wellbore #1 - Plan #2	200.00	200.00	29.99	29.00	30.204	CC, ES
MELBON RANCH 4E-17H-M265 - Wellbore #1 - Plan #2	11,926.51	11,937.70	1,179.60	910.34	4.381	SF
MELBON RANCH 4F-17H-M265 - Wellbore #1 - Plan #2	200.00	200.00	19.99	19.00	20.133	CC, ES
MELBON RANCH 4F-17H-M265 - Wellbore #1 - Plan #2	11,926.51	12,103.76	667.01	411.77	2.613	SF
MELBON RANCH 4G-17H-M265 - Wellbore #1 - Plan #2	200.00	200.00	9.99	9.00	10.062	CC, ES
MELBON RANCH 4G-17H-M265 - Wellbore #1 - Plan #2	11,926.51	11,920.13	549.86	280.25	2.040	SF
MELBON RANCH 4I-17H-M265 - Wellbore #1 - Design #	366.21	366.04	8.84	6.68	4.093	CC
MELBON RANCH 4I-17H-M265 - Wellbore #1 - Design #	400.00	399.78	8.98	6.58	3.746	ES
MELBON RANCH 4I-17H-M265 - Wellbore #1 - Design #	11,926.51	12,131.39	332.88	124.77	1.600	SF
MELBON RANCH 4J-17H-M265 - Wellbore #1 - Design #	315.69	315.30	19.47	17.67	10.820	CC
MELBON RANCH 4J-17H-M265 - Wellbore #1 - Design #	400.00	399.11	20.05	17.67	8.420	ES
MELBON RANCH 4J-17H-M265 - Wellbore #1 - Design #	11,926.51	11,996.28	614.80	344.80	2.277	SF
MELBON RANCH 4K-17H-M265 - Wellbore #1 - Design	200.00	200.00	30.01	29.02	30.225	CC
MELBON RANCH 4K-17H-M265 - Wellbore #1 - Design	300.00	299.05	30.65	28.97	18.192	ES
MELBON RANCH 4K-17H-M265 - Wellbore #1 - Design	11,926.51	12,108.94	873.26	604.36	3.248	SF