



# **Crestone Peak Resources**

**Sec 2 T2N-R67W**

**Echeverria Pad**

**ECHEVERRIA 2I-2H-D267**

**Wellbore #1**

**Plan: Design #1 23Apr18 kjs**

## **Standard Planning Report - Geographic**

**14 May, 2018**

Well Name:

**ECHEVERRIA 2I-2H-D267**

Project Name:

**Sec 2 T2N-R67W**

Pad Name:

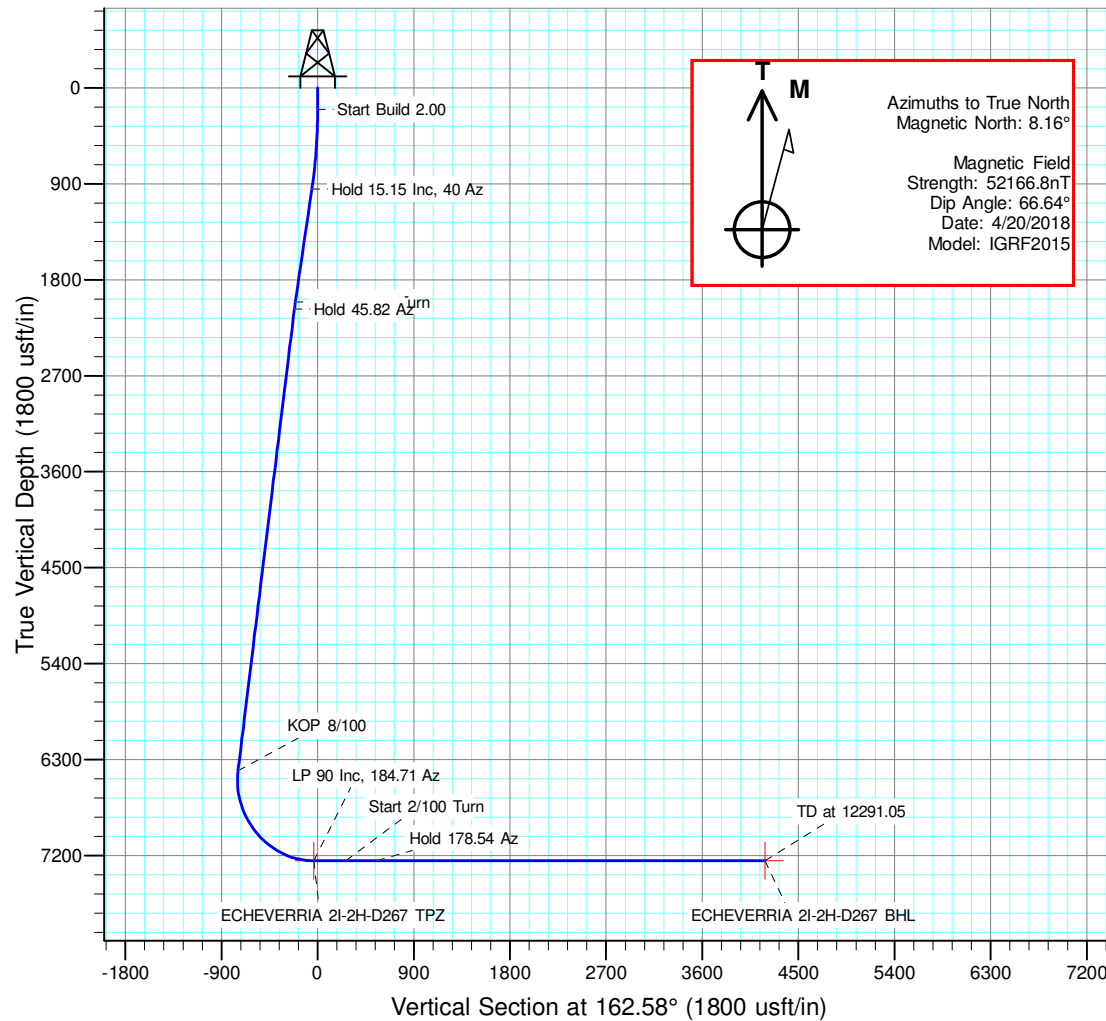
**Echeverria Pad**

**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
957.29	15.15	40.00	948.50	76.23	63.96	-53.58	99.51	Hold 15.15 Inc, 40 Az
2057.29	15.15	40.00	2010.29	296.39	248.70	-208.32	386.91	Start 2/100 Turn
2126.20	15.14	45.28	2076.82	309.62	260.88	-217.29	404.91	Hold 45.82 Az
6610.89	15.15	45.82	6405.72	1126.31	1101.14	-744.90	1576.66	KOP 8/100
7878.10	89.99	184.71	7250.00	414.30	1193.22	-37.99	2351.79	LP 90 Inc, 184.71 Az
8203.10	90.00	184.71	7250.00	90.40	1166.53	263.06	2676.79	Start 2/100 Turn
8511.84	90.00	178.54	7250.00	-218.07	1157.79	554.75	2985.53	Hold 178.54 Az
12291.05	90.00	178.54	7250.00	-3996.05	1254.36	4188.30	6764.75	TD at 12291.05

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
ECHEVERRIA 2I-2H-D267 BHL	7250.00	-3996.12	1254.36	1302162.42	3178818.24	40.16105999	-104.86019700	Point
ECHEVERRIA 2I-2H-D267 TPZ	7250.00	414.23	1193.22	1306572.22	3178725.50	40.17316699	-104.86041500	Point

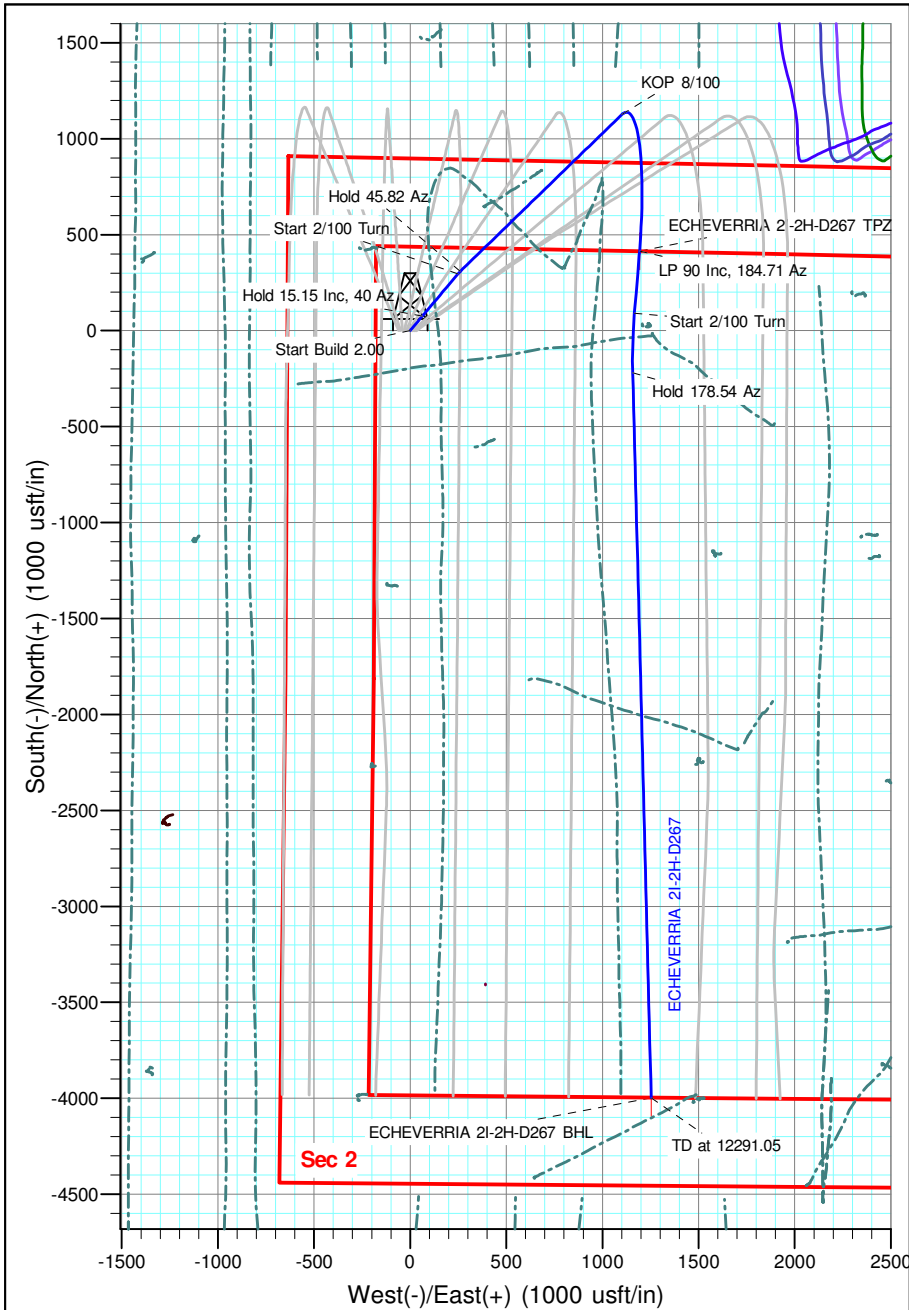


**Geodetic Datum:**

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

**Elevation:**

Ground Elevation: 4881.00  
KB Elevation: WELL @ 4904.00usft (Original Well Elev)



<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Project:</b>	Sec 2 T2N-R67W	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site:</b>	Echeverria Pad	<b>North Reference:</b>	True
<b>Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 23Apr18 kjs		

<b>Project</b>	Sec 2 T2N-R67W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		Echeverria Pad				
Site Position:		Northing:	1,306,149.76 usft	Latitude:	40.17203200	
From:	Lat/Long	Easting:	3,177,475.48 usft	Longitude:	-104.86489900	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41

Well	ECHEVERRIA 2I-2H-D267					
Well Position	+N/-S	0.00 usft	Northing:	1,306,149.45 usft	Latitude:	40.17202996
	+E/-W	0.00 usft	Easting:	3,177,535.28 usft	Longitude:	-104.86468500
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,881.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	4/20/2018	8.16	66.64	52,166.82960299

<b>Design</b>	Design #1 23Apr18 kjs			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	162.58

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/14/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	12,291.05 Design #1 23Apr18 kjs (Wellbore)	MWD	
			OWSG MWD - Standard	

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Project:</b>	Sec 2 T2N-R67W	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site:</b>	Echeverria Pad	<b>North Reference:</b>	True
<b>Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 23Apr18 kjs		

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	
957.29	15.15	40.00	948.50	76.23	63.96	2.00	2.00	0.00	40.00	
2,057.29	15.15	40.00	2,010.29	296.39	248.70	0.00	0.00	0.00	0.00	
2,133.23	15.15	45.82	2,083.59	310.91	262.19	2.00	0.00	7.66	92.80	
6,611.24	15.15	45.82	6,406.06	1,126.37	1,101.20	0.00	0.00	0.00	0.00	
7,878.17	90.00	184.71	7,250.00	414.23	1,193.22	8.00	5.91	10.96	137.89	ECHEVERRIA 2I-2H-D267
8,203.17	90.00	184.71	7,250.00	90.33	1,166.53	0.00	0.00	0.00	0.00	
8,511.91	90.00	178.54	7,250.00	-218.14	1,157.79	2.00	0.00	-2.00	-90.00	
12,291.13	90.00	178.54	7,250.00	-3,996.12	1,254.36	0.00	0.00	0.00	0.00	ECHEVERRIA 2I-2H-D267

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Project:</b>	Sec 2 T2N-R67W	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site:</b>	Echeverria Pad	<b>North Reference:</b>	True
<b>Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 23Apr18 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	1,306,149.45	3,177,535.28	40.17202996	-104.86468500
100.00	0.00	0.00	100.00	0.00	0.00	1,306,149.45	3,177,535.28	40.17202996	-104.86468500
200.00	0.00	0.00	200.00	0.00	0.00	1,306,149.45	3,177,535.28	40.17202996	-104.86468500
<b>Start Build 2.00</b>									
300.00	2.00	40.00	299.98	1.34	1.12	1,306,150.80	3,177,536.40	40.17203363	-104.86468098
400.00	4.00	40.00	399.84	5.35	4.49	1,306,154.83	3,177,539.73	40.17204463	-104.86466895
500.00	6.00	40.00	499.45	12.02	10.09	1,306,161.55	3,177,545.28	40.17206296	-104.86464890
600.00	8.00	40.00	598.70	21.36	17.92	1,306,170.94	3,177,553.05	40.17208859	-104.86462087
700.00	10.00	40.00	697.47	33.34	27.98	1,306,182.99	3,177,563.02	40.17212148	-104.86458489
800.00	12.00	40.00	795.62	47.96	40.24	1,306,197.70	3,177,575.18	40.17216160	-104.86454100
900.00	14.00	40.00	893.06	65.19	54.70	1,306,215.03	3,177,589.51	40.17220891	-104.86448926
957.29	15.15	40.00	948.50	76.23	63.96	1,306,226.14	3,177,598.70	40.17223922	-104.86445610
<b>Hold 15.15 Inc, 40 Az</b>									
1,000.00	15.15	40.00	989.73	84.78	71.14	1,306,234.74	3,177,605.81	40.17226269	-104.86443043
1,100.00	15.15	40.00	1,086.25	104.79	87.93	1,306,254.87	3,177,622.46	40.17231763	-104.86437033
1,200.00	15.15	40.00	1,182.78	124.81	104.73	1,306,275.01	3,177,639.11	40.17237257	-104.86431023
1,300.00	15.15	40.00	1,279.31	144.82	121.52	1,306,295.14	3,177,655.76	40.17242751	-104.86425013
1,400.00	15.15	40.00	1,375.83	164.84	138.31	1,306,315.28	3,177,672.41	40.17248246	-104.86419003
1,500.00	15.15	40.00	1,472.36	184.85	155.11	1,306,335.41	3,177,689.06	40.17253740	-104.86412993
1,600.00	15.15	40.00	1,568.89	204.87	171.90	1,306,355.55	3,177,705.71	40.17259234	-104.86406983
1,700.00	15.15	40.00	1,665.41	224.88	188.70	1,306,375.68	3,177,722.37	40.17264729	-104.86400974
1,800.00	15.15	40.00	1,761.94	244.90	205.49	1,306,395.81	3,177,739.02	40.17270223	-104.86394964
1,900.00	15.15	40.00	1,858.47	264.91	222.29	1,306,415.95	3,177,755.67	40.17275717	-104.86388954
2,000.00	15.15	40.00	1,954.99	284.93	239.08	1,306,436.08	3,177,772.32	40.17281211	-104.86382944
2,057.29	15.15	40.00	2,010.29	296.39	248.70	1,306,447.62	3,177,781.86	40.17284359	-104.86379501
<b>Start 2/100 Turn</b>									
2,100.00	15.13	43.27	2,051.52	304.72	256.11	1,306,456.00	3,177,789.20	40.17286646	-104.86376850
2,126.20	15.14	45.28	2,076.82	309.62	260.88	1,306,460.94	3,177,793.94	40.17287991	-104.86375141
<b>Hold 45.82 Az</b>									
2,133.23	15.15	45.82	2,083.59	310.91	262.19	1,306,462.23	3,177,795.24	40.17288343	-104.86374673
2,200.00	15.15	45.82	2,148.05	323.07	274.70	1,306,474.48	3,177,807.67	40.17291681	-104.86370195
2,300.00	15.15	45.82	2,244.58	341.28	293.44	1,306,492.82	3,177,826.27	40.17296680	-104.86363490
2,400.00	15.15	45.82	2,341.10	359.49	312.18	1,306,511.17	3,177,844.88	40.17301679	-104.86356786
2,500.00	15.15	45.82	2,437.63	377.70	330.91	1,306,529.51	3,177,863.48	40.17306678	-104.86350081
2,600.00	15.15	45.82	2,534.15	395.91	349.65	1,306,547.86	3,177,882.09	40.17311677	-104.86343376
2,700.00	15.15	45.82	2,630.68	414.12	368.39	1,306,566.20	3,177,900.69	40.17316676	-104.86336671
2,800.00	15.15	45.82	2,727.21	432.33	387.12	1,306,584.54	3,177,919.30	40.17321675	-104.86329966
2,900.00	15.15	45.82	2,823.73	450.54	405.86	1,306,602.89	3,177,937.90	40.17326674	-104.86323261
3,000.00	15.15	45.82	2,920.26	468.75	424.59	1,306,621.23	3,177,956.51	40.17331673	-104.86316556
3,100.00	15.15	45.82	3,016.79	486.96	443.33	1,306,639.58	3,177,975.11	40.17336672	-104.86309851
3,200.00	15.15	45.82	3,113.31	505.17	462.07	1,306,657.92	3,177,993.72	40.17341670	-104.86303146
3,300.00	15.15	45.82	3,209.84	523.38	480.80	1,306,676.26	3,178,012.32	40.17346669	-104.86296441
3,400.00	15.15	45.82	3,306.37	541.59	499.54	1,306,694.61	3,178,030.93	40.17351668	-104.86289736
3,500.00	15.15	45.82	3,402.89	559.80	518.28	1,306,712.95	3,178,049.53	40.17356667	-104.86283031
3,600.00	15.15	45.82	3,499.42	578.01	537.01	1,306,731.30	3,178,068.14	40.17361666	-104.86276326
3,700.00	15.15	45.82	3,595.94	596.22	555.75	1,306,749.64	3,178,086.75	40.17366665	-104.86269621
3,800.00	15.15	45.82	3,692.47	614.43	574.48	1,306,767.98	3,178,105.35	40.17371664	-104.86262916
3,900.00	15.15	45.82	3,789.00	632.64	593.22	1,306,786.33	3,178,123.96	40.17376663	-104.86256210
4,000.00	15.15	45.82	3,885.52	650.85	611.96	1,306,804.67	3,178,142.56	40.17381661	-104.86249505
4,100.00	15.15	45.82	3,982.05	669.06	630.69	1,306,823.02	3,178,161.17	40.17386660	-104.86242800
4,200.00	15.15	45.82	4,078.58	687.27	649.43	1,306,841.36	3,178,179.77	40.17391659	-104.86236095
4,300.00	15.15	45.82	4,175.10	705.48	668.17	1,306,859.71	3,178,198.38	40.17396658	-104.86229390
4,400.00	15.15	45.82	4,271.63	723.70	686.90	1,306,878.05	3,178,216.98	40.17401657	-104.86222685
4,500.00	15.15	45.82	4,368.16	741.91	705.64	1,306,896.39	3,178,235.59	40.17406656	-104.86215980

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Project:</b>	Sec 2 T2N-R67W	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site:</b>	Echeverria Pad	<b>North Reference:</b>	True
<b>Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 23Apr18 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
4,600.00	15.15	45.82	4,464.68	760.12	724.37	1,306,914.74	3,178,254.19	40.17411655	-104.86209275
4,700.00	15.15	45.82	4,561.21	778.33	743.11	1,306,933.08	3,178,272.80	40.17416653	-104.86202570
4,800.00	15.15	45.82	4,657.73	796.54	761.85	1,306,951.43	3,178,291.40	40.17421652	-104.86195864
4,900.00	15.15	45.82	4,754.26	814.75	780.58	1,306,969.77	3,178,310.01	40.17426651	-104.86189159
5,000.00	15.15	45.82	4,850.79	832.96	799.32	1,306,988.11	3,178,328.61	40.17431650	-104.86182454
5,100.00	15.15	45.82	4,947.31	851.17	818.06	1,307,006.46	3,178,347.22	40.17436649	-104.86175749
5,200.00	15.15	45.82	5,043.84	869.38	836.79	1,307,024.80	3,178,365.82	40.17441647	-104.86169044
5,300.00	15.15	45.82	5,140.37	887.59	855.53	1,307,043.15	3,178,384.43	40.17446646	-104.86162338
5,400.00	15.15	45.82	5,236.89	905.80	874.26	1,307,061.49	3,178,403.04	40.17451645	-104.86155633
5,500.00	15.15	45.82	5,333.42	924.01	893.00	1,307,079.84	3,178,421.64	40.17456644	-104.86148928
5,600.00	15.15	45.82	5,429.95	942.22	911.74	1,307,098.18	3,178,440.25	40.17461643	-104.86142223
5,700.00	15.15	45.82	5,526.47	960.43	930.47	1,307,116.52	3,178,458.85	40.17466641	-104.86135517
5,800.00	15.15	45.82	5,623.00	978.64	949.21	1,307,134.87	3,178,477.46	40.17471640	-104.86128812
5,900.00	15.15	45.82	5,719.52	996.85	967.95	1,307,153.21	3,178,496.06	40.17476639	-104.86122107
6,000.00	15.15	45.82	5,816.05	1,015.06	986.68	1,307,171.56	3,178,514.67	40.17481638	-104.86115402
6,100.00	15.15	45.82	5,912.58	1,033.27	1,005.42	1,307,189.90	3,178,533.27	40.17486637	-104.86108696
6,200.00	15.15	45.82	6,009.10	1,051.48	1,024.15	1,307,208.24	3,178,551.88	40.17491635	-104.86101991
6,300.00	15.15	45.82	6,105.63	1,069.69	1,042.89	1,307,226.59	3,178,570.48	40.17496634	-104.86095286
6,400.00	15.15	45.82	6,202.16	1,087.90	1,061.63	1,307,244.93	3,178,589.09	40.17501633	-104.86088580
6,500.00	15.15	45.82	6,298.68	1,106.11	1,080.36	1,307,263.28	3,178,607.69	40.17506632	-104.86081875
6,600.00	15.15	45.82	6,395.21	1,124.32	1,099.10	1,307,281.62	3,178,626.30	40.17511630	-104.86075170
6,610.89	15.15	45.82	6,405.72	1,126.31	1,101.14	1,307,283.62	3,178,628.32	40.17512175	-104.86074439
<b>KOP 8/100</b>									
6,611.24	15.15	45.82	6,406.06	1,126.37	1,101.20	1,307,283.68	3,178,628.39	40.17512192	-104.86074416
6,700.00	10.94	71.71	6,492.58	1,137.11	1,117.54	1,307,294.54	3,178,644.65	40.17515140	-104.86068570
6,800.00	10.76	115.20	6,590.95	1,136.11	1,135.02	1,307,293.67	3,178,662.14	40.17514866	-104.86062314
6,900.00	15.44	144.59	6,688.43	1,121.27	1,151.20	1,307,278.94	3,178,678.42	40.17510791	-104.86056523
7,000.00	22.08	158.69	6,783.11	1,092.86	1,165.77	1,307,250.63	3,178,693.19	40.17502992	-104.86051311
7,100.00	29.39	166.29	6,873.15	1,051.44	1,178.43	1,307,209.31	3,178,706.15	40.17491623	-104.86046779
7,200.00	36.96	171.03	6,956.81	997.82	1,188.95	1,307,155.77	3,178,717.06	40.17476904	-104.86043016
7,300.00	44.66	174.34	7,032.45	933.05	1,197.12	1,307,091.05	3,178,725.69	40.17459122	-104.86040094
7,400.00	52.44	176.85	7,098.60	858.37	1,202.78	1,307,016.42	3,178,731.88	40.17438622	-104.86038070
7,500.00	60.26	178.88	7,153.97	775.26	1,205.82	1,306,933.33	3,178,735.52	40.17415805	-104.86036984
7,600.00	68.11	180.61	7,197.48	685.31	1,206.18	1,306,843.39	3,178,736.52	40.17391114	-104.86036858
7,700.00	75.97	182.16	7,228.29	590.29	1,203.85	1,306,748.35	3,178,734.87	40.17365030	-104.86037692
7,800.00	83.84	183.61	7,245.80	492.04	1,198.88	1,306,650.07	3,178,730.61	40.17338060	-104.86039472
7,878.10	89.99	184.71	7,250.00	414.30	1,193.22	1,306,572.29	3,178,725.51	40.17316719	-104.86041498
<b>LP 90 Inc, 184.71 Az</b>									
7,878.17	90.00	184.71	7,250.00	414.23	1,193.22	1,306,572.22	3,178,725.50	40.17316699	-104.86041500
<b>ECHEVERRIA 2I-2H-D267 TPZ</b>									
7,900.00	90.00	184.71	7,250.00	392.47	1,191.43	1,306,550.45	3,178,723.87	40.17310727	-104.86042142
8,000.00	90.00	184.71	7,250.00	292.81	1,183.21	1,306,450.73	3,178,716.37	40.17283369	-104.86045082
8,100.00	90.00	184.71	7,250.00	193.15	1,175.00	1,306,351.01	3,178,708.87	40.17256010	-104.86048022
8,200.00	90.00	184.71	7,250.00	93.49	1,166.79	1,306,251.30	3,178,701.37	40.17228652	-104.86050963
8,203.10	90.00	184.71	7,250.00	90.40	1,166.53	1,306,248.21	3,178,701.14	40.17227804	-104.86051054
<b>Start 2/100 Turn</b>									
8,203.17	90.00	184.71	7,250.00	90.33	1,166.53	1,306,248.13	3,178,701.13	40.17227784	-104.86051056
8,300.00	90.00	182.77	7,250.00	-6.29	1,160.21	1,306,151.47	3,178,695.51	40.17201261	-104.86053319
8,400.00	90.00	180.77	7,250.00	-106.24	1,157.11	1,306,051.51	3,178,693.13	40.17173825	-104.86054429
8,500.00	90.00	178.77	7,250.00	-206.23	1,157.51	1,305,951.52	3,178,694.24	40.17146375	-104.86054289
8,511.84	90.00	178.54	7,250.00	-218.07	1,157.79	1,305,939.69	3,178,694.60	40.17143127	-104.86054190
<b>Hold 178.54 Az</b>									
8,511.91	90.00	178.54	7,250.00	-218.14	1,157.79	1,305,939.62	3,178,694.60	40.17143107	-104.86054189
8,600.00	90.00	178.54	7,250.00	-306.20	1,160.04	1,305,851.57	3,178,697.49	40.17118932	-104.86053385

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Project:</b>	Sec 2 T2N-R67W	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site:</b>	Echeverria Pad	<b>North Reference:</b>	True
<b>Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 23Apr18 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
8,700.00	90.00	178.54	7,250.00	-406.17	1,162.59	1,305,751.62	3,178,700.76	40.17091490	-104.86052472
8,800.00	90.00	178.54	7,250.00	-506.13	1,165.15	1,305,651.68	3,178,704.03	40.17064048	-104.86051560
8,900.00	90.00	178.54	7,250.00	-606.10	1,167.71	1,305,551.73	3,178,707.30	40.17036605	-104.86050647
9,000.00	90.00	178.54	7,250.00	-706.07	1,170.26	1,305,451.78	3,178,710.57	40.17009163	-104.86049734
9,100.00	90.00	178.54	7,250.00	-806.04	1,172.82	1,305,351.84	3,178,713.84	40.16981721	-104.86048822
9,200.00	90.00	178.54	7,250.00	-906.00	1,175.37	1,305,251.89	3,178,717.12	40.16954278	-104.86047909
9,300.00	90.00	178.54	7,250.00	-1,005.97	1,177.93	1,305,151.95	3,178,720.39	40.16926836	-104.86046996
9,400.00	90.00	178.54	7,250.00	-1,105.94	1,180.48	1,305,052.00	3,178,723.66	40.16899394	-104.86046083
9,500.00	90.00	178.54	7,250.00	-1,205.91	1,183.04	1,304,952.05	3,178,726.93	40.16871951	-104.86045171
9,600.00	90.00	178.54	7,250.00	-1,305.87	1,185.59	1,304,852.11	3,178,730.20	40.16844509	-104.86044258
9,700.00	90.00	178.54	7,250.00	-1,405.84	1,188.15	1,304,752.16	3,178,733.47	40.16817066	-104.86043345
9,800.00	90.00	178.54	7,250.00	-1,505.81	1,190.70	1,304,652.21	3,178,736.74	40.16789624	-104.86042433
9,900.00	90.00	178.54	7,250.00	-1,605.78	1,193.26	1,304,552.27	3,178,740.02	40.16762182	-104.86041520
10,000.00	90.00	178.54	7,250.00	-1,705.74	1,195.81	1,304,452.32	3,178,743.29	40.16734739	-104.86040607
10,100.00	90.00	178.54	7,250.00	-1,805.71	1,198.37	1,304,352.37	3,178,746.56	40.16707297	-104.86039695
10,200.00	90.00	178.54	7,250.00	-1,905.68	1,200.92	1,304,252.43	3,178,749.83	40.16679855	-104.86038782
10,300.00	90.00	178.54	7,250.00	-2,005.65	1,203.48	1,304,152.48	3,178,753.10	40.16652412	-104.86037870
10,400.00	90.00	178.54	7,250.00	-2,105.61	1,206.04	1,304,052.53	3,178,756.37	40.16624970	-104.86036957
10,500.00	90.00	178.54	7,250.00	-2,205.58	1,208.59	1,303,952.59	3,178,759.64	40.16597527	-104.86036044
10,600.00	90.00	178.54	7,250.00	-2,305.55	1,211.15	1,303,852.64	3,178,762.92	40.16570085	-104.86035132
10,700.00	90.00	178.54	7,250.00	-2,405.51	1,213.70	1,303,752.69	3,178,766.19	40.16542643	-104.86034219
10,800.00	90.00	178.54	7,250.00	-2,505.48	1,216.26	1,303,652.75	3,178,769.46	40.16515200	-104.86033307
10,900.00	90.00	178.54	7,250.00	-2,605.45	1,218.81	1,303,552.80	3,178,772.73	40.16487758	-104.86032394
11,000.00	90.00	178.54	7,250.00	-2,705.42	1,221.37	1,303,452.86	3,178,776.00	40.16460315	-104.86031481
11,100.00	90.00	178.54	7,250.00	-2,805.38	1,223.92	1,303,352.91	3,178,779.27	40.16432873	-104.86030569
11,200.00	90.00	178.54	7,250.00	-2,905.35	1,226.48	1,303,252.96	3,178,782.54	40.16405431	-104.86029656
11,300.00	90.00	178.54	7,250.00	-3,005.32	1,229.03	1,303,153.02	3,178,785.82	40.16377988	-104.86028744
11,400.00	90.00	178.54	7,250.00	-3,105.29	1,231.59	1,303,053.07	3,178,789.09	40.16350546	-104.86027831
11,500.00	90.00	178.54	7,250.00	-3,205.25	1,234.14	1,302,953.12	3,178,792.36	40.16323103	-104.86026919
11,600.00	90.00	178.54	7,250.00	-3,305.22	1,236.70	1,302,853.18	3,178,795.63	40.16295661	-104.86026006
11,700.00	90.00	178.54	7,250.00	-3,405.19	1,239.25	1,302,753.23	3,178,798.90	40.16268219	-104.86025094
11,800.00	90.00	178.54	7,250.00	-3,505.16	1,241.81	1,302,653.28	3,178,802.17	40.16240776	-104.86024181
11,900.00	90.00	178.54	7,250.00	-3,605.12	1,244.37	1,302,553.34	3,178,805.45	40.16213334	-104.86023269
12,000.00	90.00	178.54	7,250.00	-3,705.09	1,246.92	1,302,453.39	3,178,808.72	40.16185891	-104.86022356
12,100.00	90.00	178.54	7,250.00	-3,805.06	1,249.48	1,302,353.44	3,178,811.99	40.16158449	-104.86021444
12,200.00	90.00	178.54	7,250.00	-3,905.02	1,252.03	1,302,253.50	3,178,815.26	40.16131007	-104.86020531
12,291.05	90.00	178.54	7,250.00	-3,996.05	1,254.36	1,302,162.49	3,178,818.24	40.16106019	-104.86019700
TD at 12291.05									
12,291.13	90.00	178.54	7,250.00	-3,996.12	1,254.36	1,302,162.42	3,178,818.24	40.16105999	-104.86019700
ECHEVERRIA 2I-2H-D267 BHL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
ECHEVERRIA 2I-2H-D2 - plan hits target center - Point	0.00	0.41	7,250.00	-3,996.12	1,254.36	1,302,162.42	3,178,818.24	40.16105999	-104.86019700
ECHEVERRIA 2I-2H-D2 - plan hits target center - Point	0.00	0.41	7,250.00	414.23	1,193.22	1,306,572.22	3,178,725.50	40.17316699	-104.86041500



## Planning Report - Geographic

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Project:</b>	Sec 2 T2N-R67W	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site:</b>	Echeverria Pad	<b>North Reference:</b>	True
<b>Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 23Apr18 kjs		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Start Build 2.00
957.29	948.50	76.23	63.96	Hold 15.15 Inc, 40 Az
2,057.29	2,010.29	296.39	248.70	Start 2/100 Turn
2,126.20	2,076.82	309.62	260.88	Hold 45.82 Az
6,610.89	6,405.72	1,126.31	1,101.14	KOP 8/100
7,878.10	7,250.00	414.30	1,193.22	LP 90 Inc, 184.71 Az
8,203.10	7,250.00	90.40	1,166.53	Start 2/100 Turn
8,511.84	7,250.00	-218.07	1,157.79	Hold 178.54 Az
12,291.05	7,250.00	-3,996.05	1,254.36	TD at 12291.05



# **Crestone Peak Resources**

**Sec 2 T2N-R67W**

**Echeverria Pad**

**ECHEVERRIA 2I-2H-D267**

**Wellbore #1**

**Design #1 23Apr18 kjs**

## **Anticollision Summary Report**

**14 May, 2018**

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Project:</b>	Sec 2 T2N-R67W	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Reference Site:</b>	Echeverria Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Design #1 23Apr18 kjs	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Design #1 23Apr18 kjs		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.00usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 9,999.98 usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b> 5/14/2018			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	12,291.05	Design #1 23Apr18 kjs (Wellbore #1)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Echeverria Pad						
ECHEVERRIA 2C-2H-D267 - Wellbore #1 - Design #1 23	115.99	117.99	59.81	59.41	150.339	CC
ECHEVERRIA 2C-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.98	59.81	58.81	59.802	ES
ECHEVERRIA 2C-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,357.86	1,924.32	1,758.13	11.579	SF
ECHEVERRIA 2D-2H-D267 - Wellbore #1 - Design #1 23	116.33	117.33	50.02	49.63	126.101	CC
ECHEVERRIA 2D-2H-D267 - Wellbore #1 - Design #1 23	200.00	200.99	50.02	49.03	50.197	ES
ECHEVERRIA 2D-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,132.31	1,781.17	1,615.39	10.744	SF
ECHEVERRIA 2E-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	39.96	38.97	40.101	CC, ES
ECHEVERRIA 2E-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,154.53	1,433.82	1,268.92	8.695	SF
ECHEVERRIA 2F-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	29.90	28.91	30.006	CC, ES
ECHEVERRIA 2F-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,331.58	1,039.05	873.15	6.263	SF
ECHEVERRIA 2G-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	19.84	18.85	19.912	CC, ES
ECHEVERRIA 2G-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,207.38	759.71	593.95	4.583	SF
ECHEVERRIA 2H-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	9.79	8.79	9.820	CC, ES
ECHEVERRIA 2H-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,156.65	437.46	275.78	2.706	SF
ECHEVERRIA 2J-2H-D267 - Wellbore #1 - Design #1 23	385.02	384.70	9.01	6.69	3.893	CC
ECHEVERRIA 2J-2H-D267 - Wellbore #1 - Design #1 23	500.00	499.50	9.67	6.52	3.067	ES
ECHEVERRIA 2J-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,257.61	243.52	80.43	1.493	Level 3, SF
ECHEVERRIA 2K-2H-D267 - Wellbore #1 - Design #1 23	307.92	307.45	19.81	18.05	11.248	CC
ECHEVERRIA 2K-2H-D267 - Wellbore #1 - Design #1 23	400.00	399.03	20.14	17.72	8.329	ES
ECHEVERRIA 2K-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,404.88	545.01	379.47	3.292	SF
ECHEVERRIA 2L-2H-D267 - Wellbore #1 - Design #1 23	200.00	200.00	30.18	29.19	30.394	CC
ECHEVERRIA 2L-2H-D267 - Wellbore #1 - Design #1 23	300.00	299.14	30.49	28.78	17.895	ES
ECHEVERRIA 2L-2H-D267 - Wellbore #1 - Design #1 23	12,291.83	12,528.10	683.35	522.22	4.241	SF

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Project:</b>	Sec 2 T2N-R67W	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Reference Site:</b>	Echeverria Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Design #1 23Apr18 kjs	<b>Offset TVD Reference:</b>	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 (Echeverria)						
BARCLAY 28C-11HZ - KMG - MWD	12,291.83	17,339.00	1,289.73	1,119.76	7.588	CC, ES, SF
BBKB 15N-35HZ - KMG - MWD	7,080.61	12,400.00	1,392.00	1,272.22	11.621	CC
BBKB 15N-35HZ - KMG - MWD	7,100.00	12,400.00	1,392.18	1,272.12	11.596	ES
BBKB 15N-35HZ - KMG - MWD	7,200.00	12,400.00	1,398.90	1,277.86	11.557	SF
BBKB 16N-35HZ - KMG - MWD	7,152.74	12,431.00	716.90	609.37	6.667	CC, ES
BBKB 16N-35HZ - KMG - MWD	7,200.00	12,431.00	719.20	610.87	6.639	SF
BBKB 16N-A35HZ - KMG - MWD	7,187.74	12,450.00	592.93	504.67	6.718	CC
BBKB 16N-A35HZ - KMG - MWD	7,200.00	12,450.00	593.13	504.61	6.701	ES, SF
BBKB 25E-3HZ - KMG - MWD	7,203.32	12,763.06	1,606.99	1,486.96	13.388	CC, ES
BBKB 25E-3HZ - KMG - MWD	7,300.00	12,763.06	1,611.16	1,490.25	13.325	SF
BBKB 36E-35HZ - KMG - MWD	7,019.32	12,687.00	1,958.00	1,835.19	15.943	CC, ES
BBKB 36E-35HZ - KMG - MWD	7,200.00	12,687.00	1,968.05	1,843.57	15.811	SF
BBKB 36N-35HZ - KMG - MWD	7,085.73	12,677.00	1,746.74	1,624.64	14.305	CC
BBKB 36N-35HZ - KMG - MWD	7,100.00	12,677.00	1,746.82	1,624.53	14.284	ES
BBKB 36N-35HZ - KMG - MWD	7,200.00	12,677.00	1,751.75	1,628.53	14.216	SF
BBKB 37C-35HZ - KMG - MWD	7,244.59	12,762.00	962.72	854.78	8.919	CC, ES
BBKB 37C-35HZ - KMG - MWD	7,300.00	12,762.00	965.31	856.77	8.893	SF
BBKB 37N-35HZ - KMG - MWD	7,164.01	12,575.00	1,143.92	1,025.83	9.688	CC, ES
BBKB 37N-35HZ - KMG - MWD	7,200.00	12,575.00	1,144.73	1,026.16	9.654	SF
BBKB 38C-35HZ - KMG - MWD	7,293.23	12,652.00	594.88	530.95	9.306	CC, ES
BBKB 38C-35HZ - KMG - MWD	7,300.00	12,652.00	594.95	530.96	9.298	SF
BBKB 38N-35HZ - KMG - MWD	7,224.11	12,437.00	546.33	463.73	6.615	CC, ES, SF
BUTTERBALL 40C-34HZ - KMG - MWD	7,300.00	13,115.09	2,067.73	1,929.15	14.920	SF
BUTTERBALL 40C-34HZ - KMG - MWD	8,400.00	12,074.26	2,003.53	1,881.29	16.391	ES
BUTTERBALL 40C-34HZ - KMG - MWD	8,471.17	11,973.05	2,002.90	1,882.10	16.580	CC
BUTTERBALL 40N-34HZ - KMG - MWD	7,100.00	13,032.10	2,179.35	2,037.56	15.369	SF
BUTTERBALL 40N-34HZ - KMG - MWD	8,400.00	11,840.00	2,118.09	1,996.66	17.443	ES
BUTTERBALL 40N-34HZ - KMG - MWD	8,433.33	11,811.91	2,117.85	1,996.71	17.484	CC
BUTTERBALL 9N-34HZ - KMG - MWD	7,100.00	13,036.68	2,640.16	2,499.75	18.804	SF
BUTTERBALL 9N-34HZ - KMG - MWD	8,300.00	12,045.90	2,597.12	2,473.36	20.984	ES
BUTTERBALL 9N-34HZ - KMG - MWD	8,364.92	11,982.22	2,596.45	2,473.51	21.119	CC
ECHEVERRIA 0-2-2 - CPR - MWD	2,535.53	2,607.91	552.80	525.41	20.185	CC, ES
ECHEVERRIA 0-2-2 - CPR - MWD	2,800.00	2,837.92	570.95	540.60	18.812	SF
ECHEVERRIA 1 - CPR - No Survey	11,676.49	7,235.00	847.43	761.29	9.838	CC, ES
ECHEVERRIA 1 - CPR - No Survey	11,700.00	7,235.00	847.75	761.56	9.835	SF
ECHEVERRIA 11-2 - CPR - Gyro	1,331.70	1,284.29	417.99	408.08	42.177	CC
ECHEVERRIA 11-2 - CPR - Gyro	1,400.00	1,350.34	418.38	407.86	39.790	ES
ECHEVERRIA 11-2 - CPR - Gyro	8,100.00	7,200.28	1,453.72	1,398.07	26.122	SF
ECHEVERRIA 1-2 - CPR - Gyro	228.59	188.10	714.88	713.79	660.026	CC
ECHEVERRIA 1-2 - CPR - Gyro	300.00	257.51	715.17	713.59	452.470	ES
ECHEVERRIA 1-2 - CPR - Gyro	8,900.00	7,183.27	824.20	765.00	13.922	SF
ECHEVERRIA 12-2 - CPR - Gyro	9,593.70	7,217.51	1,309.67	1,242.54	19.511	CC
ECHEVERRIA 12-2 - CPR - Gyro	9,600.00	7,217.51	1,309.68	1,242.51	19.497	ES
ECHEVERRIA 12-2 - CPR - Gyro	9,700.00	7,217.58	1,313.97	1,246.10	19.359	SF
ECHEVERRIA 13-2 - CPR - Gyro	10,519.16	7,217.45	1,389.89	1,309.93	17.381	CC, ES
ECHEVERRIA 13-2 - CPR - Gyro	10,700.00	7,217.41	1,401.61	1,320.45	17.270	SF
ECHEVERRIA 14-2 - CPR - Gyro	12,271.85	7,253.62	1,515.32	1,407.11	14.004	CC
ECHEVERRIA 14-2 - CPR - Gyro	12,291.83	7,253.59	1,515.45	1,407.07	13.982	ES, SF
ECHEVERRIA 2-0-2 - CPR - Gyro	4,394.92	4,239.00	96.27	57.68	2.495	CC
ECHEVERRIA 2-0-2 - CPR - Gyro	4,400.00	4,243.97	96.27	57.65	2.493	ES, SF
ECHEVERRIA 21-2 - CPR - Gyro	8,251.42	7,201.61	39.84	-15.72	0.717	Level 2, CC, ES, SF
ECHEVERRIA 22-2 - CPR - Gyro	9,477.23	7,200.22	404.51	338.91	6.167	CC, ES
ECHEVERRIA 22-2 - CPR - Gyro	9,500.00	7,200.35	405.15	338.97	6.122	SF

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

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Project:</b>	Sec 2 T2N-R67W	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Reference Site:</b>	Echeverria Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Design #1 23Apr18 kjs	<b>Offset TVD Reference:</b>	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 (Echeverria)						
ECHEVERRIA 23-2 - CPR - Gyro	10,561.21	7,205.10	280.30	199.77	3.481	CC, ES
ECHEVERRIA 23-2 - CPR - Gyro	10,600.00	7,205.29	282.97	200.97	3.451	SF
ECHEVERRIA 24-2 - CPR - Gyro	12,291.83	7,215.39	210.91	105.43	2.000	CC, ES, SF
ECHEVERRIA 2-8-2 - CPR - MWD	12,291.83	7,332.69	739.40	635.95	7.148	CC, ES, SF
ECHEVERRIA 2A-2H - CPR - MWD	3,612.80	3,508.72	32.87	3.00	1.100	Level 3, CC, ES, SF
ECHEVERRIA 2B-2H - CPR - MWD	7,771.41	7,302.54	207.16	151.18	3.701	CC
ECHEVERRIA 2B-2H - CPR - MWD	12,291.83	11,879.00	221.78	86.11	1.635	ES, SF
ECHEVERRIA 4-2-2 - CPR - MWD	8,792.22	7,296.53	733.82	673.13	12.091	CC
ECHEVERRIA 4-2-2 - CPR - MWD	8,800.00	7,296.40	733.86	673.05	12.068	ES
ECHEVERRIA 4-2-2 - CPR - MWD	8,900.00	7,294.74	741.69	679.24	11.877	SF
ECHEVERRIA 4-4-2 - CPR - MWD	10,231.34	7,216.01	693.33	618.03	9.207	CC, ES
ECHEVERRIA 4-4-2 - CPR - MWD	10,300.00	7,215.95	696.72	619.77	9.054	SF
ECHEVERRIA C-2-320-W - CPR - MWD	10,099.73	7,358.45	581.71	506.93	7.779	CC, ES, SF
ENDERSON 3-11 - KMG - Gyro	12,291.83	7,230.97	892.07	832.31	14.930	CC, ES, SF
GORDON RED V 10-1 - KMG - Gyro	12,291.83	7,327.05	2,653.08	2,544.93	24.531	CC, ES, SF
HSR-ENDERSON 4-11A - KMG - Gyro	12,291.83	7,270.51	1,690.37	1,584.91	16.029	CC, ES, SF
HSR-WITTEMEYER 7-2A - KMG - Gyro	9,521.73	7,195.61	1,189.25	1,123.05	17.965	CC, ES
HSR-WITTEMEYER 7-2A - KMG - Gyro	9,800.00	7,191.05	1,221.37	1,150.58	17.254	SF
KIYOTA 4A-35H-O367 - CPR - MWD	7,100.00	6,987.34	838.09	780.23	14.484	SF
KIYOTA 4A-35H-O367 - CPR - MWD	7,233.92	7,050.00	826.21	770.11	14.727	CC, ES
KIYOTA 4B-35H-O367 - CPR - MWD	7,200.00	7,064.17	991.52	934.19	17.298	SF
KIYOTA 4B-35H-O367 - CPR - MWD	7,300.00	7,085.00	983.41	927.03	17.443	ES
KIYOTA 4B-35H-O367 - CPR - MWD	7,313.22	7,085.00	983.29	927.04	17.480	CC
KIYOTA 4C-35H-O367 - CPR - MWD	7,200.00	7,085.00	1,068.45	1,013.00	19.270	SF
KIYOTA 4C-35H-O367 - CPR - MWD	7,233.67	7,085.00	1,067.69	1,012.43	19.322	CC, ES
KIYOTA 4D-35H-O367 - CPR - MWD	7,200.00	7,127.00	1,174.84	1,118.95	21.022	SF
KIYOTA 4D-35H-O367 - CPR - MWD	7,297.07	7,127.00	1,168.94	1,113.51	21.090	CC, ES
MATSUSHIMA 35-13L - KMG - Gyro	5,058.34	4,871.99	978.95	935.53	22.547	CC
MATSUSHIMA 35-13L - KMG - Gyro	5,200.00	5,009.25	979.59	934.91	21.925	ES
MATSUSHIMA 35-13L - KMG - Gyro	6,600.00	6,333.64	1,086.86	1,031.08	19.487	SF
PANCOST 10-2 - KMG - MWD	10,670.09	7,329.32	1,268.35	1,182.89	14.840	CC
PANCOST 10-2 - KMG - MWD	10,700.00	7,329.49	1,268.71	1,182.51	14.718	ES
PANCOST 10-2 - KMG - MWD	11,000.00	7,331.11	1,310.56	1,218.43	14.225	SF
PANCOST 23-2 - KMG - MWD	11,497.20	7,340.35	729.42	633.06	7.570	CC
PANCOST 23-2 - KMG - MWD	11,500.00	7,340.35	729.42	632.99	7.564	ES
PANCOST 23-2 - KMG - MWD	11,600.00	7,340.55	736.62	637.76	7.451	SF
PANCOST 36-2 - KMG - MWD	12,291.83	7,484.00	928.13	821.47	8.702	CC, ES, SF
PENNINGTON 28N-2HZ - KMG - MWD	12,291.83	7,512.43	889.52	779.79	8.107	CC, ES, SF
PENNINGTON 28N-2HZX - KMG - MWD	12,291.83	7,512.26	889.46	779.74	8.106	CC, ES, SF
RICHARDSON V 3-16 - KMG - Gyro	12,070.79	7,206.32	2,591.56	2,487.02	24.790	CC
RICHARDSON V 3-16 - KMG - Gyro	12,100.00	7,205.98	2,591.73	2,486.83	24.708	ES
RICHARDSON V 3-16 - KMG - Gyro	12,291.83	7,203.80	2,600.97	2,494.00	24.313	SF
RICHARDSON V 3-1JI - KMG - Gyro	265.96	286.48	1,391.81	1,390.24	884.396	CC
RICHARDSON V 3-1JI - KMG - Gyro	300.00	319.98	1,391.90	1,390.08	768.462	ES
RICHARDSON V 3-1JI - KMG - Gyro	8,400.00	7,257.37	2,593.18	2,536.68	45.897	SF
RICHARDSON V 3-2 - KMG - No Survey	200.00	208.00	2,734.51	2,733.64	3,147.519	CC, ES
RICHARDSON V 3-2 - KMG - No Survey	10,400.00	7,258.00	4,519.55	4,462.31	78.963	SF
RICHARDSON V 3-8 - KMG - Gyro	0.00	0.00	1,531.58			
RICHARDSON V 3-8 - KMG - Gyro	206.84	211.48	1,531.91	1,530.82	1,411.699	ES
RICHARDSON V 3-8 - KMG - Gyro	9,900.00	7,275.85	2,363.12	2,294.21	34.291	SF
RICHARDSON V 3-9 - KMG - Gyro	10,758.90	7,335.20	2,472.20	2,387.97	29.349	CC
RICHARDSON V 3-9 - KMG - Gyro	10,800.00	7,334.82	2,472.54	2,387.85	29.193	ES
RICHARDSON V 3-9 - KMG - Gyro	11,300.00	7,330.13	2,530.72	2,441.46	28.352	SF

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

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Project:</b>	Sec 2 T2N-R67W	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Reference Site:</b>	Echeverria Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Design #1 23Apr18 kjs	<b>Offset TVD Reference:</b>	Offset Datum

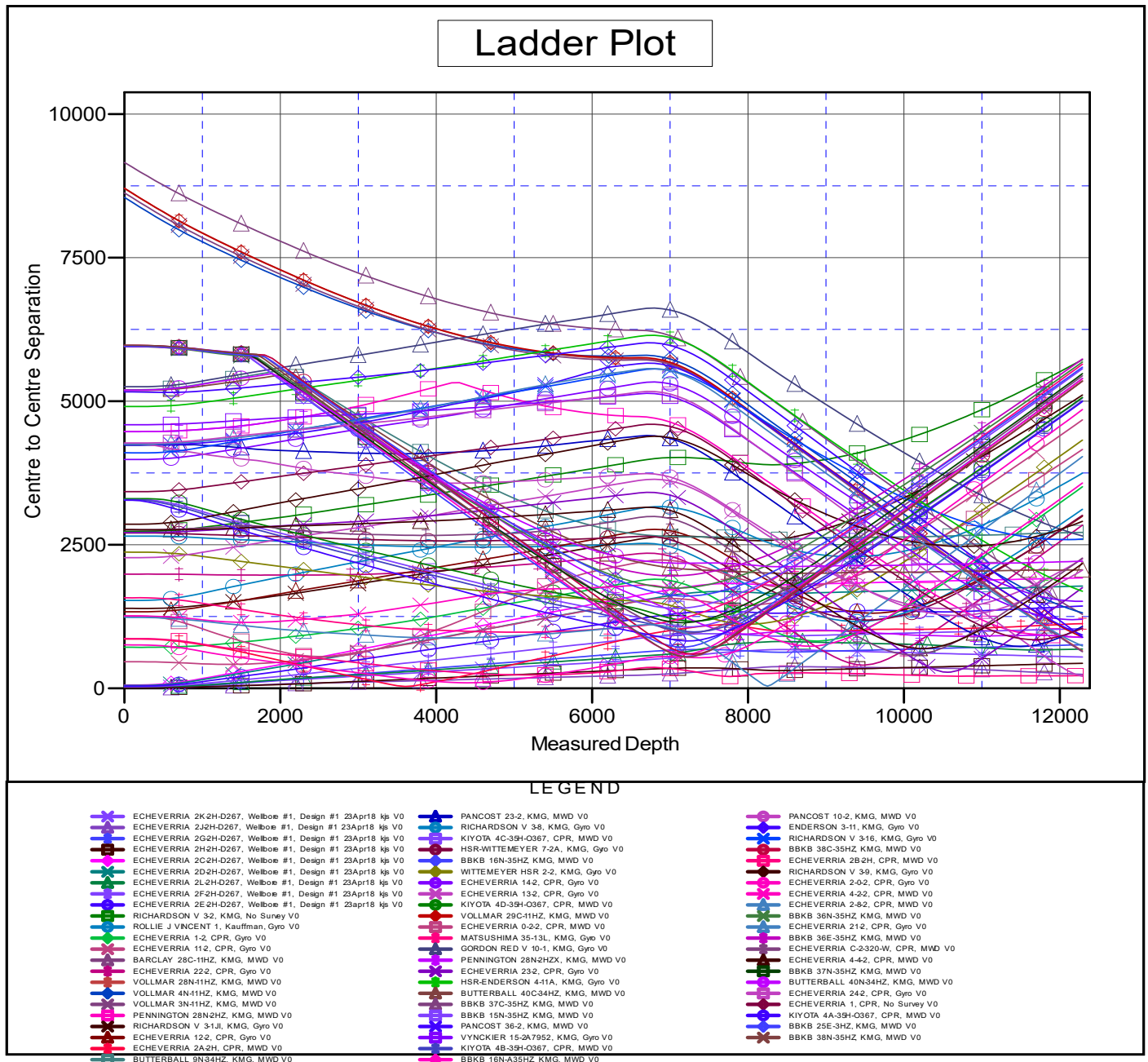
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Echeverria)						
ROLLIE J VINCENT 1 - Kauffman - Gyro	9,399.03	7,198.55	1,164.36	1,099.96	18.082	CC
ROLLIE J VINCENT 1 - Kauffman - Gyro	9,400.00	7,198.54	1,164.36	1,099.95	18.077	ES
ROLLIE J VINCENT 1 - Kauffman - Gyro	9,700.00	7,196.56	1,202.62	1,133.47	17.390	SF
VOLLMAR 28N-11HZ - KMG - MWD	12,291.83	12,881.00	651.61	528.18	5.279	CC, ES, SF
VOLLMAR 29C-11HZ - KMG - MWD	12,291.83	13,082.00	894.28	718.44	5.086	CC, ES, SF
VOLLMAR 3N-11HZ - KMG - MWD	12,291.83	12,934.00	637.77	499.82	4.623	CC, ES, SF
VOLLMAR 4N-11HZ - KMG - MWD	12,291.83	13,131.00	1,315.43	1,118.32	6.674	CC, ES, SF
VYNCKIER 15-2A7952 - KMG - Gyro	12,163.81	7,207.56	1,197.05	1,090.82	11.269	CC
VYNCKIER 15-2A7952 - KMG - Gyro	12,200.00	7,208.17	1,197.60	1,090.46	11.179	ES
VYNCKIER 15-2A7952 - KMG - Gyro	12,291.83	7,209.72	1,203.87	1,094.69	11.027	SF
WITTEMEYER HSR 2-2 - KMG - Gyro	7,800.00	7,190.67	1,135.67	1,079.05	20.057	SF
WITTEMEYER HSR 2-2 - KMG - Gyro	8,000.00	7,190.83	1,117.11	1,061.80	20.194	ES
WITTEMEYER HSR 2-2 - KMG - Gyro	8,000.44	7,190.83	1,117.11	1,061.80	20.195	CC

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Project:</b>	Sec 2 T2N-R67W	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Reference Site:</b>	Echeverria Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Design #1 23Apr18 kjs	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4904.00usft (Original Well E  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.50000000

Coordinates are relative to: ECHEVERRIA 2I-2H-D267  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.41°



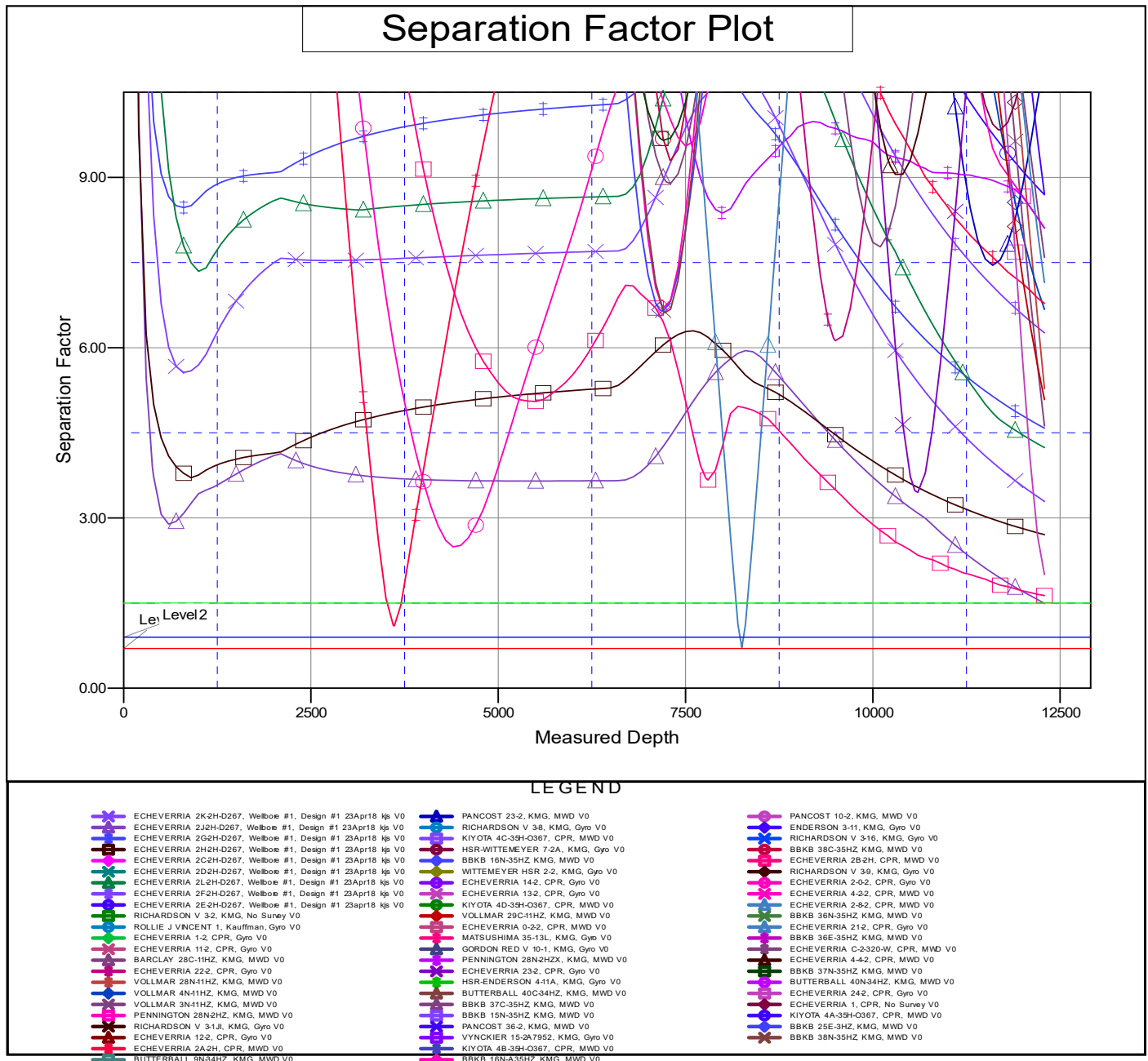
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2I-2H-D267
<b>Project:</b>	Sec 2 T2N-R67W	<b>TVD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Reference Site:</b>	Echeverria Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Original Well Elev)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ECHEVERRIA 2I-2H-D267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Design #1 23Apr18 kjs	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4904.00usft (Original Well E  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.50000000

Coordinates are relative to: ECHEVERRIA 2I-2H-D267  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.41°



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