



# **Crestone Peak Resources**

**Sec 2 T2N-R67W**

**Echeverria Pad**

**ECHEVERRIA 2K-2H-D267**

**Wellbore #1**

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

## **Standard Planning Report - Geographic**

**14 May, 2018**



# Crestone Peak Resources

Well Name:

ECHEVERRIA 2K-2H-D267

Project Name:

Sec 2 T2N-R67W

Pad Name:

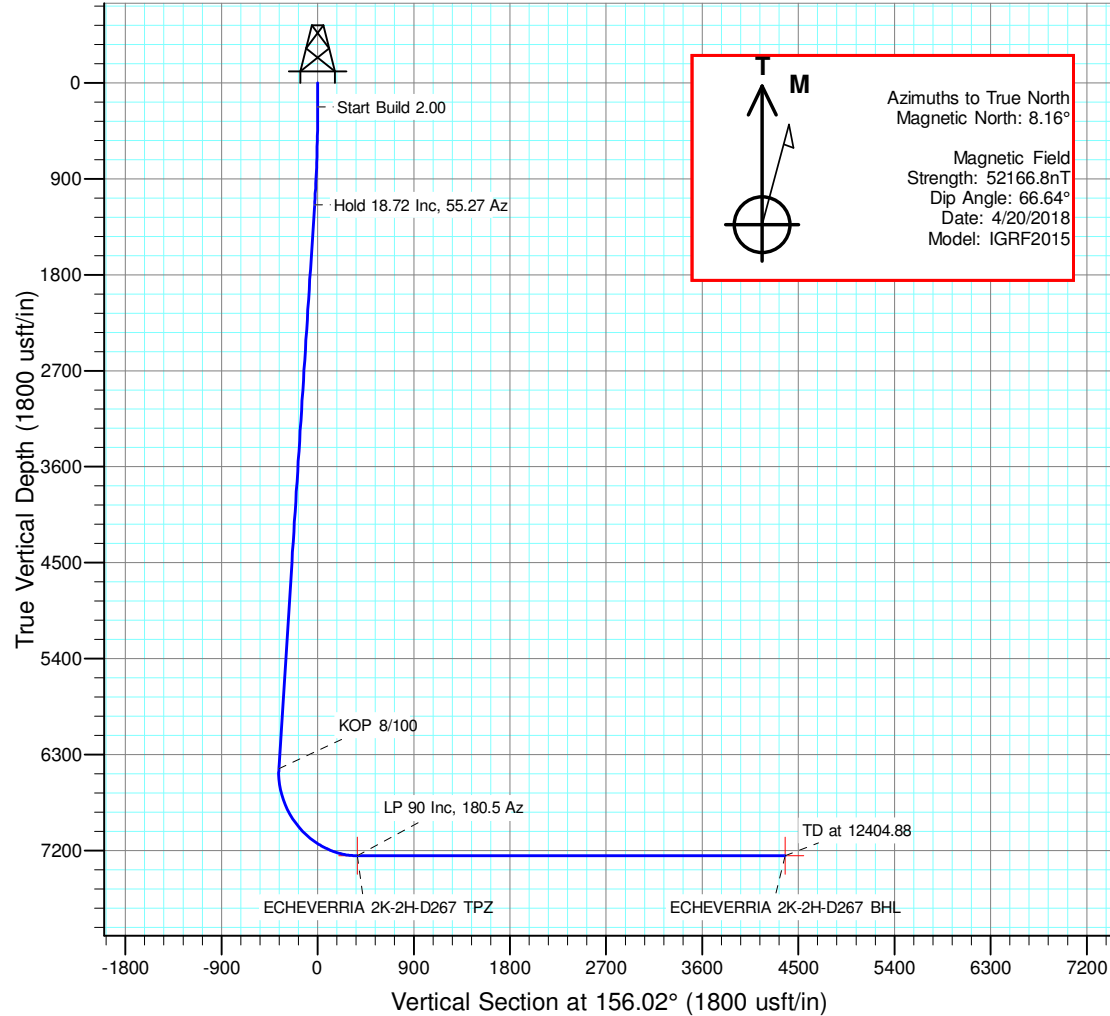
Echeverria Pad

## ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	Start Build 2.00
1161.18	18.72	55.27	1144.60	86.37	124.60	-28.29	151.61	Hold 18.72 Inc, 55.27 Az
6743.98	18.72	55.27	6431.96	1107.30	1597.46	-362.63	1943.70	KOP 8/100
8002.37	90.00	180.50	7250.00	401.53	1817.77	371.76	2755.84	LP 90 Inc, 180.5 Az
12404.88	90.00	180.50	7250.00	-4000.81	1779.25	4378.60	7158.35	TD at 12404.88

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
ECHEVERRIA 2K-2H-D267 BHL	7250.00	-4000.81	1779.25	1302161.62	3179363.27	40.16104699	-104.85824700	Point
ECHEVERRIA 2K-2H-D267 TPZ	7250.00	401.53	1817.77	1306564.13	3179370.25	40.17313199	-104.85810800	Point

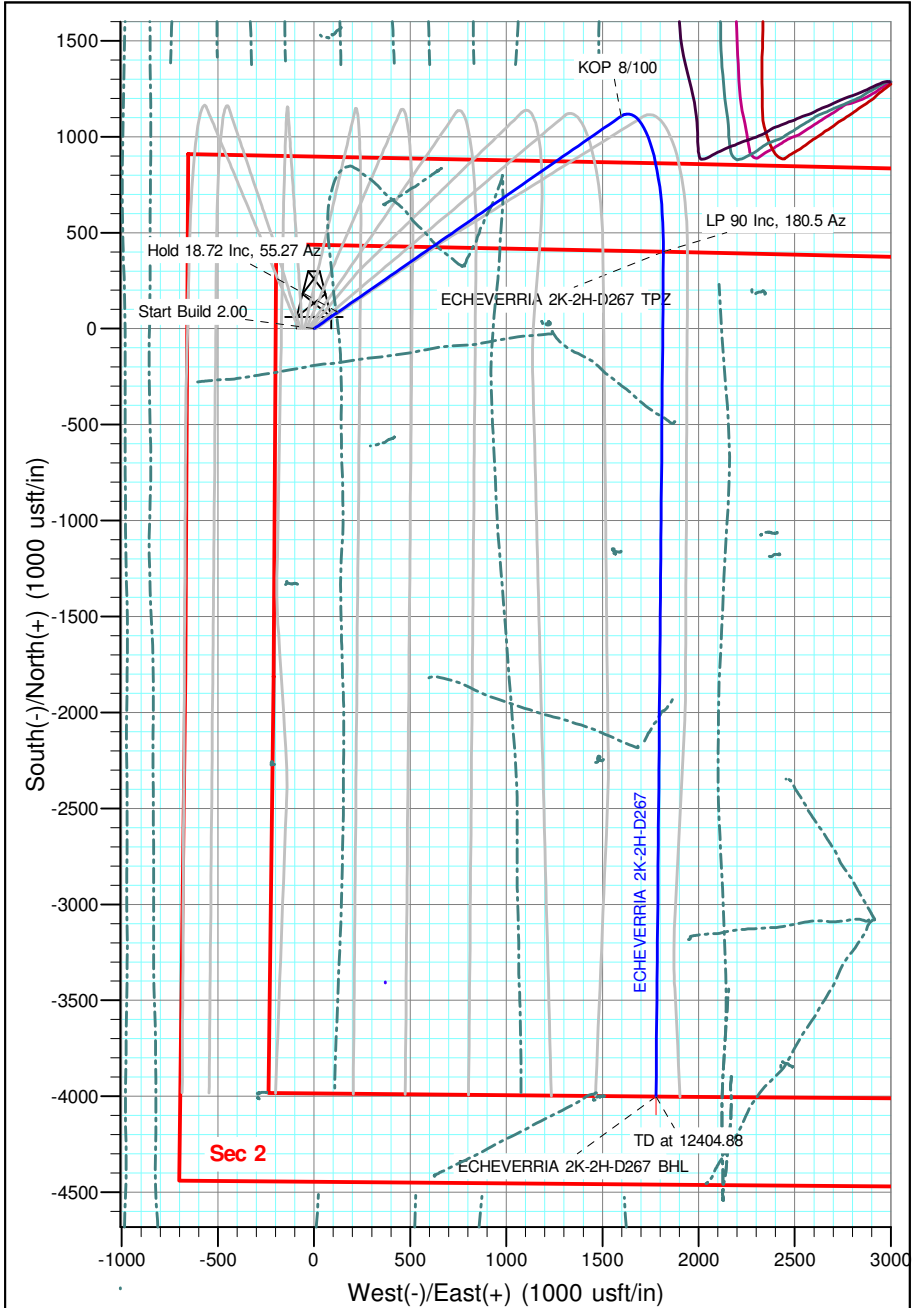


## Geodetic Datum:

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 2K-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 2K-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 2K-2H-D267					
Well Position	+N/-S	0.00 usft	Northing:	1,306,149.58 usft	Latitude:	40.17202991
	+E/-W	0.00 usft	Easting:	3,177,555.40 usft	Longitude:	-104.86461300
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	52,166.83720605

<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	156.02

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/11/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	12,404.88 Design #1 23Apr18 kjs (Wellbore)	MWD	
			OWSG MWD - Standard	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,161.18	18.72	55.27	1,144.60	86.37	124.60	2.00	2.00	0.00	55.27	
6,743.98	18.72	55.27	6,431.96	1,107.30	1,597.46	0.00	0.00	0.00	0.00	
8,002.37	90.00	180.50	7,250.00	401.53	1,817.77	8.00	5.66	9.95	123.78	ECHEVERRIA 2K-2H
12,404.88	90.00	180.50	7,250.00	-4,000.81	1,779.25	0.00	0.00	0.00	0.00	ECHEVERRIA 2K-2H

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2K-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 2K-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	1,306,149.58	3,177,555.40	40.17202991	-104.86461300
100.00	0.00	0.00	100.00	0.00	0.00	1,306,149.58	3,177,555.40	40.17202991	-104.86461300
200.00	0.00	0.00	200.00	0.00	0.00	1,306,149.58	3,177,555.40	40.17202991	-104.86461300
225.00	0.00	0.00	225.00	0.00	0.00	1,306,149.58	3,177,555.40	40.17202991	-104.86461300
<b>Start Build 2.00</b>									
300.00	1.50	55.27	299.99	0.56	0.81	1,306,150.14	3,177,556.21	40.17203145	-104.86461011
400.00	3.50	55.27	399.89	3.04	4.39	1,306,152.65	3,177,559.77	40.17203827	-104.86459728
500.00	5.50	55.27	499.58	7.51	10.84	1,306,157.17	3,177,566.19	40.17205054	-104.86457421
600.00	7.50	55.27	598.93	13.96	20.14	1,306,163.69	3,177,575.45	40.17206824	-104.86454092
700.00	9.50	55.27	697.83	22.38	32.29	1,306,172.19	3,177,587.53	40.17209136	-104.86449745
800.00	11.50	55.27	796.15	32.76	47.27	1,306,182.68	3,177,602.43	40.17211985	-104.86444385
900.00	13.50	55.27	893.77	45.09	65.05	1,306,195.14	3,177,620.13	40.17215370	-104.86438020
1,000.00	15.50	55.27	990.58	59.36	85.63	1,306,209.55	3,177,640.61	40.17219285	-104.86430657
1,100.00	17.50	55.27	1,086.46	75.54	108.97	1,306,225.89	3,177,663.83	40.17223727	-104.86422304
1,161.18	18.72	55.27	1,144.60	86.37	124.60	1,306,236.84	3,177,679.38	40.17226701	-104.86416711
<b>Hold 18.72 Inc, 55.27 Az</b>									
1,200.00	18.72	55.27	1,181.37	93.47	134.84	1,306,244.01	3,177,689.57	40.17228650	-104.86413046
1,300.00	18.72	55.27	1,276.08	111.76	161.23	1,306,262.49	3,177,715.82	40.17233670	-104.86403605
1,400.00	18.72	55.27	1,370.79	130.04	187.61	1,306,280.96	3,177,742.07	40.17238690	-104.86394164
1,500.00	18.72	55.27	1,465.50	148.33	213.99	1,306,299.44	3,177,768.32	40.17243710	-104.86384723
1,600.00	18.72	55.27	1,560.20	166.62	240.37	1,306,317.91	3,177,794.57	40.17248730	-104.86375282
1,700.00	18.72	55.27	1,654.91	184.90	266.75	1,306,336.39	3,177,820.83	40.17253750	-104.86365841
1,800.00	18.72	55.27	1,749.62	203.19	293.14	1,306,354.87	3,177,847.08	40.17258769	-104.86356400
1,900.00	18.72	55.27	1,844.33	221.48	319.52	1,306,373.34	3,177,873.33	40.17263789	-104.86346959
2,000.00	18.72	55.27	1,939.03	239.77	345.90	1,306,391.82	3,177,899.58	40.17268809	-104.86337518
2,100.00	18.72	55.27	2,033.74	258.05	372.28	1,306,410.29	3,177,925.83	40.17273829	-104.86328077
2,200.00	18.72	55.27	2,128.45	276.34	398.66	1,306,428.77	3,177,952.08	40.17278849	-104.86318636
2,300.00	18.72	55.27	2,223.16	294.63	425.05	1,306,447.24	3,177,978.33	40.17283869	-104.86309195
2,400.00	18.72	55.27	2,317.87	312.91	451.43	1,306,465.72	3,178,004.58	40.17288889	-104.86299754
2,500.00	18.72	55.27	2,412.57	331.20	477.81	1,306,484.20	3,178,030.83	40.17293909	-104.86290313
2,600.00	18.72	55.27	2,507.28	349.49	504.19	1,306,502.67	3,178,057.08	40.17298929	-104.86280872
2,700.00	18.72	55.27	2,601.99	367.78	530.57	1,306,521.15	3,178,083.33	40.17303949	-104.86271431
2,800.00	18.72	55.27	2,696.70	386.06	556.96	1,306,539.62	3,178,109.58	40.17308969	-104.86261990
2,900.00	18.72	55.27	2,791.41	404.35	583.34	1,306,558.10	3,178,135.83	40.17313988	-104.86252549
3,000.00	18.72	55.27	2,886.11	422.64	609.72	1,306,576.57	3,178,162.08	40.17319008	-104.86243108
3,100.00	18.72	55.27	2,980.82	440.92	636.10	1,306,595.05	3,178,188.33	40.17324028	-104.86233667
3,200.00	18.72	55.27	3,075.53	459.21	662.48	1,306,613.53	3,178,214.58	40.17329048	-104.86224226
3,300.00	18.72	55.27	3,170.24	477.50	688.87	1,306,632.00	3,178,240.83	40.17334068	-104.86214785
3,400.00	18.72	55.27	3,264.94	495.78	715.25	1,306,650.48	3,178,267.08	40.17339088	-104.86205343
3,500.00	18.72	55.27	3,359.65	514.07	741.63	1,306,668.95	3,178,293.33	40.17344107	-104.86195902
3,600.00	18.72	55.27	3,454.36	532.36	768.01	1,306,687.43	3,178,319.58	40.17349127	-104.86186461
3,700.00	18.72	55.27	3,549.07	550.65	794.39	1,306,705.90	3,178,345.83	40.17354147	-104.86177020
3,800.00	18.72	55.27	3,643.78	568.93	820.78	1,306,724.38	3,178,372.08	40.17359167	-104.86167579
3,900.00	18.72	55.27	3,738.48	587.22	847.16	1,306,742.85	3,178,398.33	40.17364187	-104.86158138
4,000.00	18.72	55.27	3,833.19	605.51	873.54	1,306,761.33	3,178,424.58	40.17369206	-104.86148696
4,100.00	18.72	55.27	3,927.90	623.79	899.92	1,306,779.81	3,178,450.83	40.17374226	-104.86139255
4,200.00	18.72	55.27	4,022.61	642.08	926.30	1,306,798.28	3,178,477.08	40.17379246	-104.86129814
4,300.00	18.72	55.27	4,117.31	660.37	952.69	1,306,816.76	3,178,503.33	40.17384266	-104.86120372
4,400.00	18.72	55.27	4,212.02	678.66	979.07	1,306,835.23	3,178,529.58	40.17389286	-104.86110931
4,500.00	18.72	55.27	4,306.73	696.94	1,005.45	1,306,853.71	3,178,555.83	40.17394305	-104.86101490
4,600.00	18.72	55.27	4,401.44	715.23	1,031.83	1,306,872.18	3,178,582.08	40.17399325	-104.86092049
4,700.00	18.72	55.27	4,496.15	733.52	1,058.21	1,306,890.66	3,178,608.33	40.17404345	-104.86082607
4,800.00	18.72	55.27	4,590.85	751.80	1,084.60	1,306,909.14	3,178,634.58	40.17409364	-104.86073166
4,900.00	18.72	55.27	4,685.56	770.09	1,110.98	1,306,927.61	3,178,660.83	40.17414384	-104.86063725

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2K-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 2K-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
5,000.00	18.72	55.27	4,780.27	788.38	1,137.36	1,306,946.09	3,178,687.08	40.17419404	-104.86054283
5,100.00	18.72	55.27	4,874.98	806.66	1,163.74	1,306,964.56	3,178,713.33	40.17424424	-104.86044842
5,200.00	18.72	55.27	4,969.69	824.95	1,190.12	1,306,983.04	3,178,739.58	40.17429443	-104.86035400
5,300.00	18.72	55.27	5,064.39	843.24	1,216.51	1,307,001.51	3,178,765.83	40.17434463	-104.86025959
5,400.00	18.72	55.27	5,159.10	861.53	1,242.89	1,307,019.99	3,178,792.08	40.17439483	-104.86016517
5,500.00	18.72	55.27	5,253.81	879.81	1,269.27	1,307,038.46	3,178,818.34	40.17444502	-104.86007076
5,600.00	18.72	55.27	5,348.52	898.10	1,295.65	1,307,056.94	3,178,844.59	40.17449522	-104.85997635
5,700.00	18.72	55.27	5,443.22	916.39	1,322.03	1,307,075.42	3,178,870.84	40.17454542	-104.85988193
5,800.00	18.72	55.27	5,537.93	934.67	1,348.41	1,307,093.89	3,178,897.09	40.17459561	-104.85978752
5,900.00	18.72	55.27	5,632.64	952.96	1,374.80	1,307,112.37	3,178,923.34	40.17464581	-104.85969310
6,000.00	18.72	55.27	5,727.35	971.25	1,401.18	1,307,130.84	3,178,949.59	40.17469600	-104.85959869
6,100.00	18.72	55.27	5,822.06	989.54	1,427.56	1,307,149.32	3,178,975.84	40.17474620	-104.85950427
6,200.00	18.72	55.27	5,916.76	1,007.82	1,453.94	1,307,167.79	3,179,002.09	40.17479640	-104.85940986
6,300.00	18.72	55.27	6,011.47	1,026.11	1,480.32	1,307,186.27	3,179,028.34	40.17484659	-104.85931544
6,400.00	18.72	55.27	6,106.18	1,044.40	1,506.71	1,307,204.75	3,179,054.59	40.17489679	-104.85922102
6,500.00	18.72	55.27	6,200.89	1,062.68	1,533.09	1,307,223.22	3,179,080.84	40.17494698	-104.85912661
6,600.00	18.72	55.27	6,295.60	1,080.97	1,559.47	1,307,241.70	3,179,107.09	40.17499718	-104.85903219
6,700.00	18.72	55.27	6,390.30	1,099.26	1,585.85	1,307,260.17	3,179,133.34	40.17504738	-104.85893778
6,743.98	18.72	55.27	6,431.96	1,107.30	1,597.46	1,307,268.30	3,179,144.88	40.17506945	-104.85889625
<b>KOP 8/100</b>									
6,800.00	16.64	68.38	6,485.35	1,115.38	1,612.31	1,307,276.49	3,179,159.68	40.17509163	-104.85884309
6,900.00	15.58	97.26	6,581.57	1,118.97	1,638.98	1,307,280.26	3,179,186.33	40.17510147	-104.85874764
7,000.00	18.26	123.45	6,677.38	1,108.62	1,665.42	1,307,270.10	3,179,212.83	40.17507306	-104.85865304
7,100.00	23.43	140.79	6,770.89	1,084.54	1,691.10	1,307,246.21	3,179,238.69	40.17500696	-104.85856115
7,200.00	29.82	151.62	6,860.29	1,047.20	1,715.52	1,307,209.05	3,179,263.38	40.17490446	-104.85847374
7,300.00	36.80	158.78	6,943.84	997.33	1,738.22	1,307,159.34	3,179,286.43	40.17476754	-104.85839253
7,400.00	44.08	163.89	7,019.92	935.89	1,758.75	1,307,098.05	3,179,307.40	40.17459889	-104.85831909
7,500.00	51.54	167.80	7,087.05	864.09	1,776.70	1,307,026.38	3,179,325.87	40.17440177	-104.85825485
7,600.00	59.11	170.97	7,143.90	783.31	1,791.74	1,306,945.71	3,179,341.48	40.17418003	-104.85820106
7,700.00	66.74	173.67	7,189.39	695.14	1,803.56	1,306,857.62	3,179,353.94	40.17393797	-104.85815877
7,800.00	74.41	176.07	7,222.63	601.28	1,811.94	1,306,763.83	3,179,362.99	40.17368033	-104.85812881
7,900.00	82.11	178.30	7,242.96	503.57	1,816.72	1,306,666.15	3,179,368.46	40.17341209	-104.85811175
8,000.00	89.82	180.45	7,250.00	403.90	1,817.79	1,306,566.50	3,179,370.25	40.17313850	-104.85810793
8,002.37	90.00	180.50	7,250.00	401.53	1,817.77	1,306,564.13	3,179,370.25	40.17313199	-104.85810800
<b>LP 90 Inc, 180.5 Az - ECHEVERRIA 2K-2H-D267 TPZ</b>									
8,100.00	90.00	180.50	7,250.00	303.91	1,816.92	1,306,466.50	3,179,370.10	40.17286400	-104.85811108
8,200.00	90.00	180.50	7,250.00	203.91	1,816.04	1,306,366.50	3,179,369.94	40.17258950	-104.85811424
8,300.00	90.00	180.50	7,250.00	103.92	1,815.17	1,306,266.50	3,179,369.78	40.17231499	-104.85811740
8,400.00	90.00	180.50	7,250.00	3.92	1,814.29	1,306,166.50	3,179,369.62	40.17204049	-104.85812055
8,500.00	90.00	180.50	7,250.00	-96.08	1,813.42	1,306,066.50	3,179,369.46	40.17176599	-104.85812371
8,600.00	90.00	180.50	7,250.00	-196.07	1,812.54	1,305,966.50	3,179,369.30	40.17149149	-104.85812687
8,700.00	90.00	180.50	7,250.00	-296.07	1,811.67	1,305,866.50	3,179,369.15	40.17121698	-104.85813003
8,800.00	90.00	180.50	7,250.00	-396.06	1,810.79	1,305,766.50	3,179,368.99	40.17094248	-104.85813318
8,900.00	90.00	180.50	7,250.00	-496.06	1,809.92	1,305,666.50	3,179,368.83	40.17066798	-104.85813634
9,000.00	90.00	180.50	7,250.00	-596.06	1,809.04	1,305,566.50	3,179,368.67	40.17039348	-104.85813950
9,100.00	90.00	180.50	7,250.00	-696.05	1,808.17	1,305,466.50	3,179,368.51	40.17011898	-104.85814266
9,200.00	90.00	180.50	7,250.00	-796.05	1,807.29	1,305,366.50	3,179,368.35	40.16984447	-104.85814581
9,300.00	90.00	180.50	7,250.00	-896.05	1,806.42	1,305,266.50	3,179,368.19	40.16956997	-104.85814897
9,400.00	90.00	180.50	7,250.00	-996.04	1,805.54	1,305,166.50	3,179,368.04	40.16929547	-104.85815213
9,500.00	90.00	180.50	7,250.00	-1,096.04	1,804.67	1,305,066.50	3,179,367.88	40.16902097	-104.85815529
9,600.00	90.00	180.50	7,250.00	-1,196.03	1,803.79	1,304,966.50	3,179,367.72	40.16874646	-104.85815844
9,700.00	90.00	180.50	7,250.00	-1,296.03	1,802.92	1,304,866.50	3,179,367.56	40.16847196	-104.85816160
9,800.00	90.00	180.50	7,250.00	-1,396.03	1,802.04	1,304,766.50	3,179,367.40	40.16819746	-104.85816476
9,900.00	90.00	180.50	7,250.00	-1,496.02	1,801.17	1,304,666.50	3,179,367.24	40.16792296	-104.85816792

<b>Database:</b>	EDM 5000.15 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2K-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 2K-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	
10,000.00	90.00	180.50	7,250.00	-1,596.02	1,800.29	1,304,566.50	3,179,367.08	40.16764845	-104.85817107	
10,100.00	90.00	180.50	7,250.00	-1,696.01	1,799.42	1,304,466.50	3,179,366.93	40.16737395	-104.85817423	
10,200.00	90.00	180.50	7,250.00	-1,796.01	1,798.54	1,304,366.50	3,179,366.77	40.16709945	-104.85817739	
10,300.00	90.00	180.50	7,250.00	-1,896.01	1,797.67	1,304,266.50	3,179,366.61	40.16682495	-104.85818055	
10,400.00	90.00	180.50	7,250.00	-1,996.00	1,796.79	1,304,166.50	3,179,366.45	40.16655044	-104.85818370	
10,500.00	90.00	180.50	7,250.00	-2,096.00	1,795.92	1,304,066.50	3,179,366.29	40.16627594	-104.85818686	
10,600.00	90.00	180.50	7,250.00	-2,196.00	1,795.04	1,303,966.50	3,179,366.13	40.16600144	-104.85819002	
10,700.00	90.00	180.50	7,250.00	-2,295.99	1,794.17	1,303,866.50	3,179,365.97	40.16572694	-104.85819318	
10,800.00	90.00	180.50	7,250.00	-2,395.99	1,793.29	1,303,766.50	3,179,365.82	40.16545244	-104.85819633	
10,900.00	90.00	180.50	7,250.00	-2,495.98	1,792.42	1,303,666.50	3,179,365.66	40.16517793	-104.85819949	
11,000.00	90.00	180.50	7,250.00	-2,595.98	1,791.54	1,303,566.50	3,179,365.50	40.16490343	-104.85820265	
11,100.00	90.00	180.50	7,250.00	-2,695.98	1,790.67	1,303,466.50	3,179,365.34	40.16462893	-104.85820580	
11,200.00	90.00	180.50	7,250.00	-2,795.97	1,789.79	1,303,366.50	3,179,365.18	40.16435443	-104.85820896	
11,300.00	90.00	180.50	7,250.00	-2,895.97	1,788.91	1,303,266.50	3,179,365.02	40.16407992	-104.85821212	
11,400.00	90.00	180.50	7,250.00	-2,995.97	1,788.04	1,303,166.50	3,179,364.86	40.16380542	-104.85821527	
11,500.00	90.00	180.50	7,250.00	-3,095.96	1,787.16	1,303,066.50	3,179,364.71	40.16353092	-104.85821843	
11,600.00	90.00	180.50	7,250.00	-3,195.96	1,786.29	1,302,966.50	3,179,364.55	40.16325641	-104.85822159	
11,700.00	90.00	180.50	7,250.00	-3,295.95	1,785.41	1,302,866.50	3,179,364.39	40.16298191	-104.85822475	
11,800.00	90.00	180.50	7,250.00	-3,395.95	1,784.54	1,302,766.50	3,179,364.23	40.16270741	-104.85822790	
11,900.00	90.00	180.50	7,250.00	-3,495.95	1,783.66	1,302,666.50	3,179,364.07	40.16243291	-104.85823106	
12,000.00	90.00	180.50	7,250.00	-3,595.94	1,782.79	1,302,566.50	3,179,363.91	40.16215840	-104.85823422	
12,100.00	90.00	180.50	7,250.00	-3,695.94	1,781.91	1,302,466.50	3,179,363.75	40.16188390	-104.85823737	
12,200.00	90.00	180.50	7,250.00	-3,795.93	1,781.04	1,302,366.50	3,179,363.60	40.16160940	-104.85824053	
12,300.00	90.00	180.50	7,250.00	-3,895.93	1,780.16	1,302,266.50	3,179,363.44	40.16133490	-104.85824369	
12,400.00	90.00	180.50	7,250.00	-3,995.93	1,779.29	1,302,166.50	3,179,363.28	40.16106039	-104.85824684	
12,404.88	90.00	180.50	7,250.00	-4,000.81	1,779.25	1,302,161.62	3,179,363.27	40.16104699	-104.85824700	
TD at 12404.88 - ECHEVERRIA 2K-2H-D267 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										
ECHEVERRIA 2K-2H-D: - plan hits target center - Point	0.00	0.41	7,250.00	-4,000.81	1,779.25	1,302,161.62	3,179,363.27	40.16104699	-104.85824700	
ECHEVERRIA 2K-2H-D: - plan hits target center - Point	0.00	0.41	7,250.00	401.53	1,817.77	1,306,564.13	3,179,370.25	40.17313199	-104.85810800	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
225.00	225.00	0.00	0.00	Start Build 2.00	
1,161.18	1,144.60	86.37	124.60	Hold 18.72 Inc, 55.27 Az	
6,743.98	6,431.96	1,107.30	1,597.46	KOP 8/100	
8,002.37	7,250.00	401.53	1,817.77	LP 90 Inc, 180.5 Az	
12,404.88	7,250.00	-4,000.81	1,779.25	TD at 12404.88	



# **Crestone Peak Resources**

**Sec 2 T2N-R67W**

**Echeverria Pad**

**ECHEVERRIA 2K-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 2K-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 2K-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>	5/11/2018		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	12,404.88	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	79.92	79.53	200.914	CC
ECHEVERRIA 2C-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.98	79.93	78.93	79.921	ES
ECHEVERRIA 2C-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,357.86	2,468.23	2,302.10	14.858	SF
ECHEVERRIA 2D-2H-D267 - Wellbore #1 - Design #1 23	116.33	117.33	70.14	69.75	176.821	CC
ECHEVERRIA 2D-2H-D267 - Wellbore #1 - Design #1 23	200.00	200.99	70.14	69.15	70.387	ES
ECHEVERRIA 2D-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,131.63	2,325.75	2,160.28	14.055	SF
ECHEVERRIA 2E-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	60.08	59.09	60.290	CC, ES
ECHEVERRIA 2E-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,137.88	1,978.57	1,814.41	12.052	SF
ECHEVERRIA 2F-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	50.02	49.03	50.195	CC, ES
ECHEVERRIA 2F-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,331.17	1,580.84	1,414.69	9.514	SF
ECHEVERRIA 2G-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	39.96	38.97	40.101	CC, ES
ECHEVERRIA 2G-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,207.16	1,304.72	1,139.23	7.884	SF
ECHEVERRIA 2H-2H-D267 - Wellbore #1 - Design #1 23	200.00	201.00	29.90	28.91	30.006	CC
ECHEVERRIA 2H-2H-D267 - Wellbore #1 - Design #1 23	300.00	301.30	30.45	28.74	17.792	ES
ECHEVERRIA 2H-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,156.43	978.26	814.43	5.971	SF
ECHEVERRIA 2I-2H-D267 - Wellbore #1 - Design #1 23A	307.45	307.91	19.81	18.05	11.248	CC
ECHEVERRIA 2I-2H-D267 - Wellbore #1 - Design #1 23A	400.00	400.83	20.14	17.72	8.310	ES
ECHEVERRIA 2I-2H-D267 - Wellbore #1 - Design #1 23A	12,399.98	12,291.83	545.04	379.28	3.288	SF
ECHEVERRIA 2J-2H-D267 - Wellbore #1 - Design #1 23	200.00	200.00	10.06	9.07	10.131	CC
ECHEVERRIA 2J-2H-D267 - Wellbore #1 - Design #1 23	300.00	300.14	10.54	8.83	6.173	ES
ECHEVERRIA 2J-2H-D267 - Wellbore #1 - Design #1 23	12,404.88	12,247.56	324.85	168.39	2.076	SF
ECHEVERRIA 2L-2H-D267 - Wellbore #1 - Design #1 23	200.00	200.00	10.06	9.07	10.131	CC
ECHEVERRIA 2L-2H-D267 - Wellbore #1 - Design #1 23	4,400.00	4,395.66	40.44	-2.98	0.931	Level 3, SF
ECHEVERRIA 2L-2H-D267 - Wellbore #1 - Design #1 23	4,900.00	4,895.59	47.33	-3.21	0.936	Level 3, ES



## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2K-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 2K-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	12,404.88	17,339.00	1,007.77	910.46	10.356	CC, ES, SF
BBKB 15N-35HZ - KMG - MWD	6,984.05	12,400.00	1,911.38	1,790.15	15.768	CC
BBKB 15N-35HZ - KMG - MWD	7,000.00	12,400.00	1,911.47	1,789.97	15.733	ES
BBKB 15N-35HZ - KMG - MWD	7,200.00	12,400.00	1,928.00	1,804.00	15.548	SF
BBKB 16N-35HZ - KMG - MWD	7,129.13	12,431.00	1,205.00	1,084.87	10.031	CC, ES
BBKB 16N-35HZ - KMG - MWD	7,200.00	12,431.00	1,207.94	1,086.35	9.935	SF
BBKB 16N-A35HZ - KMG - MWD	7,192.82	12,450.00	1,025.22	908.85	8.810	CC
BBKB 16N-A35HZ - KMG - MWD	7,200.00	12,450.00	1,025.26	908.70	8.796	ES
BBKB 16N-A35HZ - KMG - MWD	7,300.00	12,450.00	1,033.58	915.09	8.723	SF
BBKB 25E-3HZ - KMG - MWD	7,098.23	12,763.06	2,136.07	2,013.98	17.497	CC
BBKB 25E-3HZ - KMG - MWD	7,100.00	12,763.06	2,136.07	2,013.96	17.493	ES
BBKB 25E-3HZ - KMG - MWD	7,300.00	12,763.06	2,149.25	2,024.70	17.256	SF
BBKB 36E-35HZ - KMG - MWD	6,862.39	12,687.00	2,476.85	2,354.40	20.226	CC
BBKB 36E-35HZ - KMG - MWD	6,900.00	12,687.00	2,477.24	2,354.23	20.138	ES
BBKB 36E-35HZ - KMG - MWD	7,200.00	12,687.00	2,507.01	2,380.85	19.871	SF
BBKB 36N-35HZ - KMG - MWD	6,960.57	12,677.00	2,268.78	2,145.90	18.464	CC
BBKB 36N-35HZ - KMG - MWD	7,000.00	12,677.00	2,269.26	2,145.78	18.378	ES
BBKB 36N-35HZ - KMG - MWD	7,200.00	12,677.00	2,286.20	2,160.44	18.180	SF
BBKB 37C-35HZ - KMG - MWD	7,222.09	12,762.00	1,453.82	1,334.22	12.156	CC, ES
BBKB 37C-35HZ - KMG - MWD	7,300.00	12,762.00	1,457.00	1,336.10	12.051	SF
BBKB 37N-35HZ - KMG - MWD	7,099.01	12,575.00	1,661.02	1,538.69	13.578	CC
BBKB 37N-35HZ - KMG - MWD	7,100.00	12,575.00	1,661.02	1,538.67	13.576	ES
BBKB 37N-35HZ - KMG - MWD	7,300.00	12,575.00	1,677.88	1,552.87	13.423	SF
BBKB 38C-35HZ - KMG - MWD	7,329.97	12,652.00	919.29	810.20	8.427	CC, ES
BBKB 38C-35HZ - KMG - MWD	7,400.00	12,652.00	923.62	813.01	8.350	SF
BBKB 38N-35HZ - KMG - MWD	7,286.67	12,437.00	523.04	437.40	6.107	CC
BBKB 38N-35HZ - KMG - MWD	7,300.00	12,437.00	523.31	437.15	6.074	ES, SF
BUTTERBALL 40C-34HZ - KMG - MWD	7,100.00	13,253.00	2,628.13	2,486.61	18.570	ES
BUTTERBALL 40C-34HZ - KMG - MWD	7,200.00	13,217.94	2,630.39	2,488.70	18.564	SF
BUTTERBALL 40C-34HZ - KMG - MWD	12,404.88	8,172.00	2,607.25	2,492.29	22.679	CC
BUTTERBALL 40N-34HZ - KMG - MWD	6,820.83	13,109.73	2,706.90	2,564.82	19.052	CC, ES
BUTTERBALL 40N-34HZ - KMG - MWD	7,000.00	13,097.30	2,712.95	2,569.18	18.870	SF
BUTTERBALL 9N-34HZ - KMG - MWD	6,762.83	13,086.58	3,165.78	3,026.18	22.677	CC
BUTTERBALL 9N-34HZ - KMG - MWD	6,800.00	13,090.45	3,166.01	3,025.86	22.591	ES
BUTTERBALL 9N-34HZ - KMG - MWD	7,000.00	13,086.27	3,174.18	3,032.12	22.344	SF
ECHEVERRIA 0-2-2 - CPR - MWD	2,393.56	2,414.61	447.71	421.20	16.888	CC
ECHEVERRIA 0-2-2 - CPR - MWD	2,400.00	2,419.73	447.72	421.12	16.831	ES
ECHEVERRIA 0-2-2 - CPR - MWD	2,500.00	2,499.30	452.72	424.88	16.259	SF
ECHEVERRIA 1 - CPR - No Survey	11,819.74	7,235.00	1,413.04	1,327.00	16.422	CC, ES, SF
ECHEVERRIA 11-2 - CPR - Gyro	838.30	808.70	467.20	461.57	82.894	CC
ECHEVERRIA 11-2 - CPR - Gyro	900.00	869.20	467.36	461.22	76.165	ES
ECHEVERRIA 11-2 - CPR - Gyro	2,700.00	2,574.41	754.05	733.19	36.150	SF
ECHEVERRIA 1-2 - CPR - Gyro	301.95	259.40	702.62	701.02	441.036	CC
ECHEVERRIA 1-2 - CPR - Gyro	800.00	755.45	703.31	698.04	133.607	ES
ECHEVERRIA 1-2 - CPR - Gyro	9,200.00	7,164.43	1,495.81	1,435.19	24.673	SF
ECHEVERRIA 12-2 - CPR - Gyro	210.67	188.00	1,334.02	1,332.99	1,294.033	CC
ECHEVERRIA 12-2 - CPR - Gyro	300.00	278.51	1,334.43	1,332.76	801.891	ES
ECHEVERRIA 12-2 - CPR - Gyro	10,000.00	7,213.60	1,961.91	1,892.64	28.322	SF
ECHEVERRIA 13-2 - CPR - Gyro	10,681.70	7,212.28	1,994.86	1,914.42	24.798	CC
ECHEVERRIA 13-2 - CPR - Gyro	10,700.00	7,212.28	1,994.95	1,914.38	24.762	ES
ECHEVERRIA 13-2 - CPR - Gyro	10,900.00	7,212.29	2,006.77	1,925.08	24.566	SF
ECHEVERRIA 14-2 - CPR - Gyro	12,404.88	7,260.27	2,060.35	1,952.19	19.048	CC, ES, SF
ECHEVERRIA 2-0-2 - CPR - Gyro	3,377.43	3,215.75	310.88	279.83	10.013	CC

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 2K-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 2K-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 2-0-2 - CPR - Gyro	3,400.00	3,236.97	310.95	279.69	9.948	ES
ECHEVERRIA 2-0-2 - CPR - Gyro	3,700.00	3,523.73	323.08	289.40	9.592	SF
ECHEVERRIA 21-2 - CPR - Gyro	8,369.88	7,194.70	631.89	575.56	11.217	CC, ES
ECHEVERRIA 21-2 - CPR - Gyro	8,400.00	7,194.39	632.61	576.07	11.189	SF
ECHEVERRIA 22-2 - CPR - Gyro	9,578.81	7,196.66	237.27	171.55	3.611	CC, ES, SF
ECHEVERRIA 23-2 - CPR - Gyro	10,666.38	7,196.32	324.17	244.04	4.046	CC, ES, SF
ECHEVERRIA 24-2 - CPR - Gyro	12,404.88	7,215.35	337.24	228.20	3.093	CC, ES, SF
ECHEVERRIA 2-8-2 - CPR - MWD	12,404.88	7,334.49	1,226.46	1,116.20	11.123	CC, ES, SF
ECHEVERRIA 2A-2H - CPR - MWD	2,990.81	2,854.43	60.57	34.62	2.334	CC
ECHEVERRIA 2A-2H - CPR - MWD	3,000.00	2,863.06	60.66	34.49	2.318	ES, SF
ECHEVERRIA 2B-2H - CPR - MWD	3,964.88	3,782.08	47.76	11.50	1.317	Level 3, CC, ES, SF
ECHEVERRIA 4-2-2 - CPR - MWD	8,882.90	7,298.44	68.35	7.23	1.118	Level 3, CC
ECHEVERRIA 4-2-2 - CPR - MWD	8,900.00	7,298.15	70.46	7.02	1.111	Level 3, ES, SF
ECHEVERRIA 4-4-2 - CPR - MWD	10,322.60	7,220.03	77.26	2.30	1.031	Level 3, CC, ES, SF
ECHEVERRIA C-2-320-W - CPR - MWD	10,200.00	7,350.84	1,202.02	1,127.14	16.052	SF
ECHEVERRIA C-2-320-W - CPR - MWD	10,234.76	7,351.02	1,201.52	1,126.67	16.052	CC, ES
ENDERSON 3-11 - KMG - Gyro	12,404.88	7,228.23	961.79	875.47	11.142	CC, ES, SF
GORDON RED V 10-1 - KMG - Gyro	12,404.88	7,341.87	3,158.60	3,047.72	28.486	CC, ES, SF
HSR-ENDERSON 4-11A - KMG - Gyro	12,404.88	7,276.81	2,175.17	2,065.10	19.762	CC, ES, SF
HSR-WITTEMEYER 7-2A - KMG - Gyro	9,596.36	7,197.17	548.53	482.53	8.310	CC
HSR-WITTEMEYER 7-2A - KMG - Gyro	9,600.00	7,197.11	548.55	482.43	8.296	ES
HSR-WITTEMEYER 7-2A - KMG - Gyro	9,700.00	7,195.43	558.24	489.02	8.066	SF
KIYOTA 4A-35H-O367 - CPR - MWD	7,300.00	7,012.80	259.68	203.29	4.605	ES, SF
KIYOTA 4A-35H-O367 - CPR - MWD	7,321.47	7,019.78	258.80	203.29	4.662	CC
KIYOTA 4B-35H-O367 - CPR - MWD	7,400.00	7,059.57	404.18	347.79	7.167	SF
KIYOTA 4B-35H-O367 - CPR - MWD	7,429.71	7,065.57	402.97	347.24	7.230	CC, ES
KIYOTA 4C-35H-O367 - CPR - MWD	7,300.00	7,029.38	507.17	451.99	9.191	SF
KIYOTA 4C-35H-O367 - CPR - MWD	7,352.23	7,037.00	503.87	449.21	9.218	CC, ES
KIYOTA 4D-35H-O367 - CPR - MWD	7,400.00	7,080.00	594.55	539.31	10.763	SF
KIYOTA 4D-35H-O367 - CPR - MWD	7,431.31	7,080.00	593.50	538.49	10.790	CC, ES
MATSUSHIMA 35-13L - KMG - Gyro	3,632.79	3,438.59	1,202.38	1,169.75	36.850	CC
MATSUSHIMA 35-13L - KMG - Gyro	3,700.00	3,500.00	1,202.69	1,169.41	36.136	ES
MATSUSHIMA 35-13L - KMG - Gyro	6,100.00	5,755.03	1,450.06	1,396.81	27.233	SF
PANCOST 10-2 - KMG - MWD	10,741.32	7,323.68	667.00	582.56	7.899	CC, ES
PANCOST 10-2 - KMG - MWD	10,900.00	7,324.65	685.61	595.35	7.596	SF
PANCOST 23-2 - KMG - MWD	11,586.47	7,338.18	156.73	61.25	1.642	CC
PANCOST 23-2 - KMG - MWD	11,600.00	7,338.21	157.31	60.33	1.622	ES, SF
PANCOST 36-2 - KMG - MWD	12,404.88	7,477.32	523.94	446.90	6.801	CC, ES, SF
PENNINGTON 28N-2HZ - KMG - MWD	12,390.96	7,534.54	346.69	237.10	3.164	CC
PENNINGTON 28N-2HZ - KMG - MWD	12,404.88	7,522.61	346.73	236.85	3.155	ES, SF
PENNINGTON 28N-2HZX - KMG - MWD	8,169.70	11,763.00	292.21	178.04	2.559	CC, ES, SF
RICHARDSON V 3-16 - KMG - Gyro	12,273.72	7,196.44	3,142.55	3,037.30	29.858	CC
RICHARDSON V 3-16 - KMG - Gyro	12,300.00	7,196.19	3,142.66	3,037.15	29.784	ES
RICHARDSON V 3-16 - KMG - Gyro	12,404.88	7,195.17	3,145.29	3,038.76	29.526	SF
RICHARDSON V 3-1JI - KMG - Gyro	300.00	320.18	1,411.07	1,409.26	779.113	CC, ES
RICHARDSON V 3-1JI - KMG - Gyro	8,800.00	7,255.82	3,312.88	3,254.37	56.618	SF
RICHARDSON V 3-2 - KMG - No Survey	200.00	208.00	2,754.61	2,753.74	3,170.659	CC, ES
RICHARDSON V 3-2 - KMG - No Survey	11,100.00	7,258.00	5,340.60	5,279.54	87.458	SF
RICHARDSON V 3-8 - KMG - Gyro	0.00	0.00	1,546.06			
RICHARDSON V 3-8 - KMG - Gyro	208.62	213.06	1,546.38	1,545.28	1,409.763	ES
RICHARDSON V 3-8 - KMG - Gyro	10,300.00	7,283.34	3,039.49	2,968.38	42.747	SF
RICHARDSON V 3-9 - KMG - Gyro	158.62	163.62	2,868.30	2,867.58	3,938.948	CC
RICHARDSON V 3-9 - KMG - Gyro	200.00	200.00	2,868.35	2,867.34	2,855.647	ES

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 2K-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 2K-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

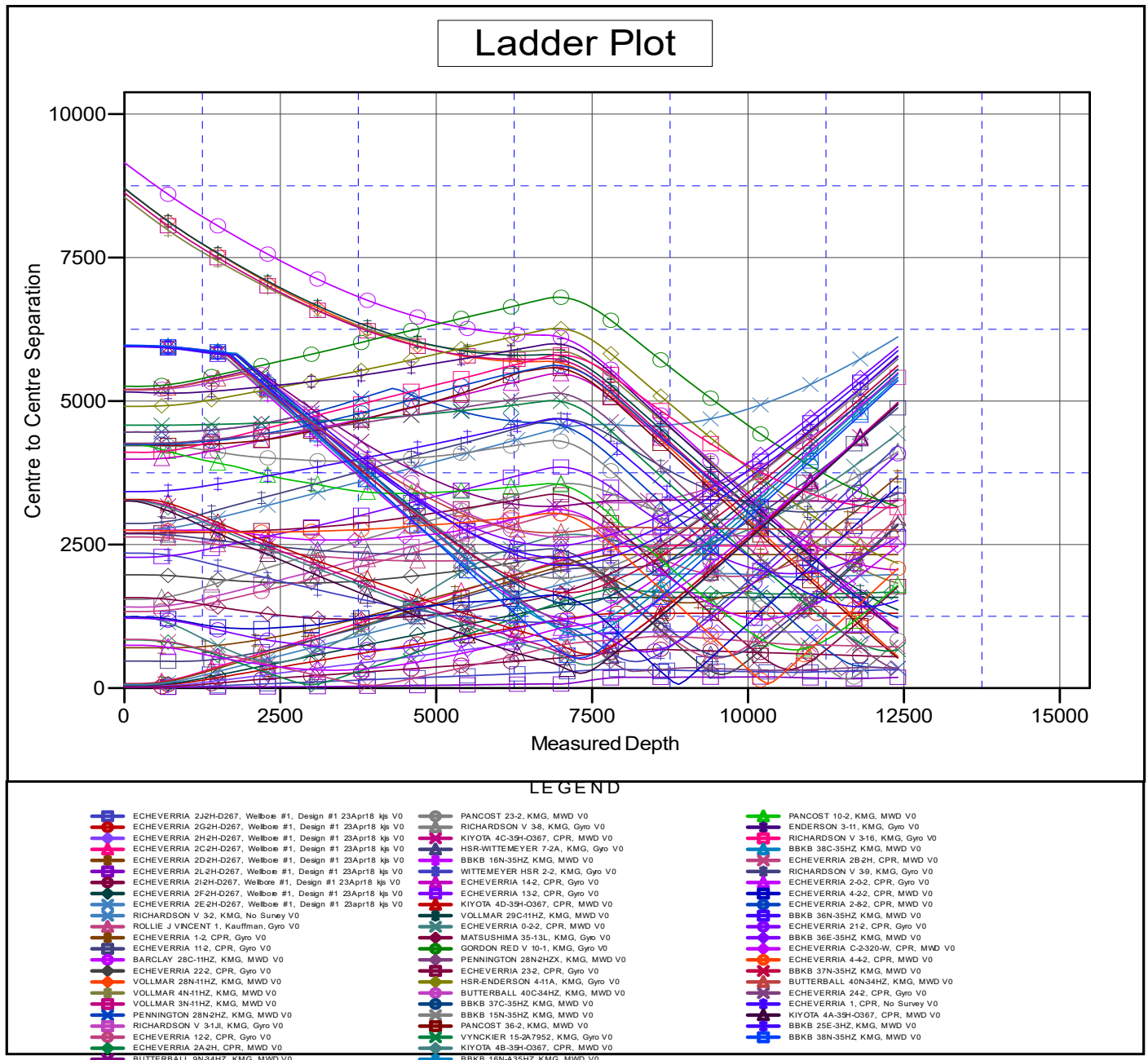
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Echeverria)						
RICHARDSON V 3-9 - KMG - Gyro	11,600.00	7,346.13	3,134.44	3,043.91	34.623	SF
ROLLIE J VINCENT 1 - Kauffman - Gyro	9,474.60	7,203.45	519.46	455.12	8.074	CC
ROLLIE J VINCENT 1 - Kauffman - Gyro	9,500.00	7,203.34	520.08	454.98	7.990	ES
ROLLIE J VINCENT 1 - Kauffman - Gyro	9,600.00	7,202.88	534.38	466.29	7.848	SF
VOLLMAR 28N-11HZ - KMG - MWD	12,404.88	12,881.00	550.17	454.86	5.772	CC, ES, SF
VOLLMAR 29C-11HZ - KMG - MWD	12,404.88	13,082.00	1,364.45	1,169.23	6.989	CC, ES, SF
VOLLMAR 3N-11HZ - KMG - MWD	12,404.88	12,934.00	1,045.05	858.34	5.597	CC, ES, SF
VOLLMAR 4N-11HZ - KMG - MWD	12,404.88	13,131.00	1,828.28	1,625.98	9.038	CC, ES, SF
VYNCKIER 15-2A7952 - KMG - Gyro	12,236.63	7,206.89	646.95	542.08	6.169	CC, ES
VYNCKIER 15-2A7952 - KMG - Gyro	12,300.00	7,207.97	650.04	542.58	6.049	SF
WITTEMEYER HSR 2-2 - KMG - Gyro	8,100.00	7,191.68	470.94	413.18	8.154	SF
WITTEMEYER HSR 2-2 - KMG - Gyro	8,199.25	7,189.71	460.37	404.28	8.208	CC, ES

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2K-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 2K-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 2K-2H-D267  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.41°



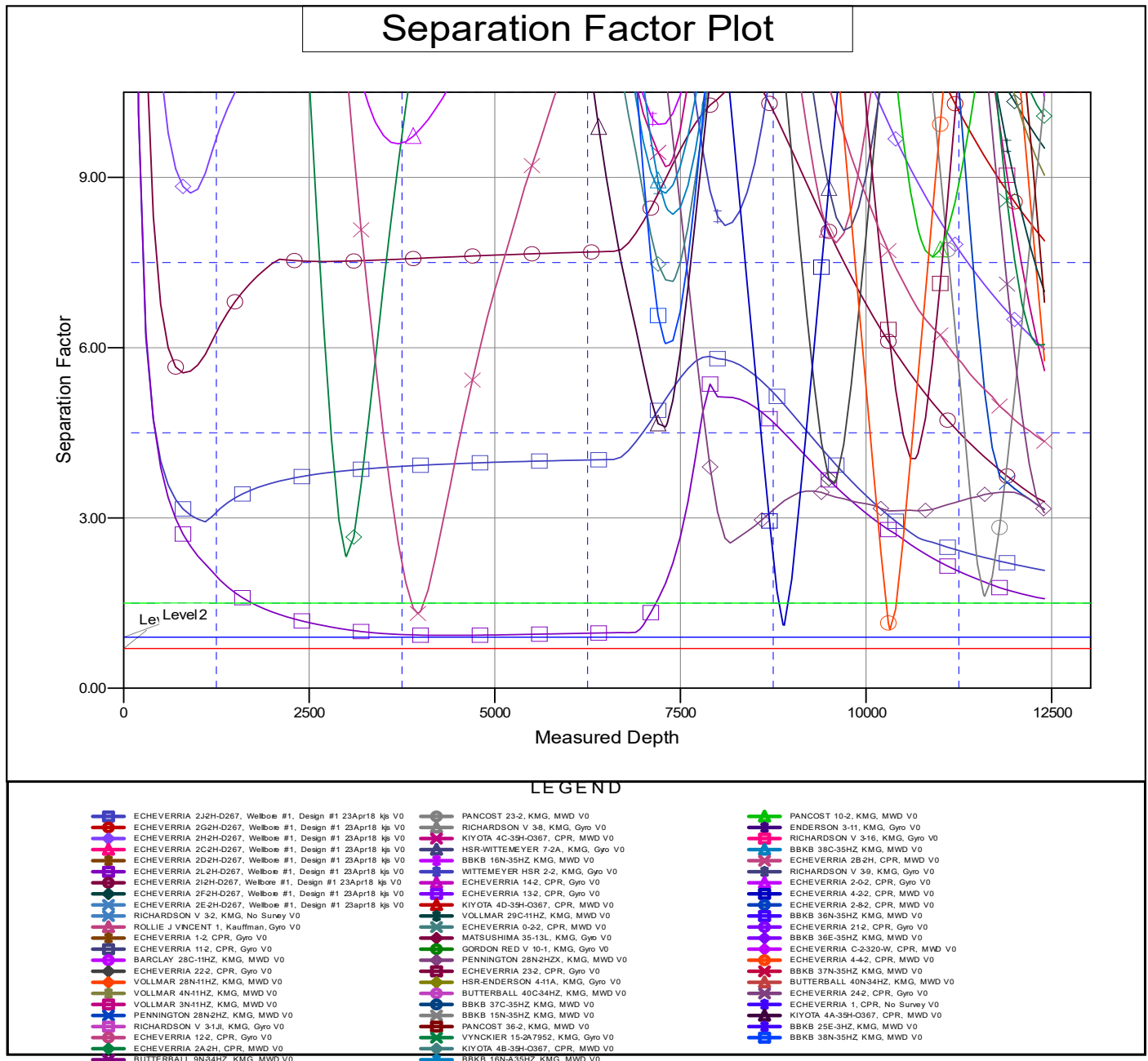
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well ECHEVERRIA 2K-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 2K-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 2K-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