



Crestone Peak Resources

DJ BASIN

Sec.18-T1N-R67W (HINGLEY)

Hingley 3G-18H-N167

Hingley 3G-18H-N167 Wellbore #1

Survey: Survey #1

Standard Survey Report

30 December, 2019



CRESTONE PEAK
RESOURCES

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well Hingley 3G-18H-N167
Project:	DJ BASIN	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Site:	Sec.18-T1N-R67W (HINGLEY)	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Well:	Hingley 3G-18H-N167	North Reference:	True
Wellbore:	Hingley 3G-18H-N167 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Hingley 3G-18H-N167 Wellbore #1	Database:	US_EDM

Project		DJ BASIN	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec.18-T1N-R67W (HINGLEY)				
Site Position:		Northing:	1,264,132.76 usft	Latitude:	40.057007
From:	Lat/Long	Easting:	3,160,624.47 usft	Longitude:	-104.926172
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 °

Well	Hingley 3G-18H-N167					
Well Position	+N/-S	0.0 ft	Northing:	1,259,880.09 usft	Latitude:	40.045388
	+E/-W	0.0 ft	Easting:	3,157,500.06 usft	Longitude:	-104.937430
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	5,110.0 ft

Wellbore						Hingley 3G-18H-N167 Wellbore #1					
Magnetics		Model Name		Sample Date		Declination (°)		Dip Angle (°)		Field Strength (nT)	
		HDGM		12/19/2019		8.18		66.35		51,945	

Design	Hingley 3G-18H-N167 Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	359.52	

Survey Program		Date	12/30/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
112.0	12,450.0	Survey #1 (Hingley 3G-18H-N167 Wellbor	MWD+HDGM	OWSG MWD + HDGM	

Survey										
	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	112.0	0.26	262.79	112.0	0.0	-0.3	0.0	0.23	0.23	0.00
	183.0	0.27	343.42	183.0	0.1	-0.5	0.1	0.48	0.01	113.56
	273.0	0.41	240.03	273.0	0.2	-0.8	0.2	0.60	0.16	-114.88
	385.0	0.53	315.62	385.0	0.3	-1.5	0.3	0.52	0.11	67.49
	453.0	1.02	301.03	453.0	0.9	-2.2	0.9	0.77	0.72	-21.46
	541.0	1.83	225.39	541.0	0.3	-3.9	0.3	2.11	0.92	-85.95
	630.0	3.94	184.79	629.9	-3.8	-5.2	-3.7	3.16	2.37	-45.62
	716.0	5.19	183.15	715.6	-10.6	-5.6	-10.6	1.46	1.45	-1.91
	805.0	6.06	181.46	804.2	-19.3	-6.0	-19.3	0.99	0.98	-1.90

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Design:	Hingley 3G-18H-N167 Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
894.0	7.18	176.20	892.6	-29.6	-5.7	-29.5	1.43	1.26	-5.91
983.0	7.72	176.26	980.8	-41.1	-5.0	-41.0	0.61	0.61	0.07
1,072.0	8.43	176.85	1,068.9	-53.6	-4.2	-53.5	0.80	0.80	0.66
1,162.0	9.18	178.03	1,157.9	-67.3	-3.6	-67.3	0.86	0.83	1.31
1,248.0	8.69	170.01	1,242.8	-80.6	-2.3	-80.6	1.55	-0.57	-9.33
1,337.0	8.93	166.62	1,330.8	-93.9	0.5	-93.9	0.64	0.27	-3.81
1,426.0	7.30	175.77	1,418.9	-106.3	2.5	-106.3	2.33	-1.83	10.28
1,515.0	7.32	181.92	1,507.2	-117.6	2.7	-117.6	0.88	0.02	6.91
1,597.0	8.12	181.19	1,588.4	-128.6	2.5	-128.6	0.98	0.98	-0.89
1,680.0	6.79	173.97	1,670.7	-139.3	2.8	-139.4	1.96	-1.60	-8.70
1,769.0	6.86	168.30	1,759.1	-149.8	4.5	-149.8	0.76	0.08	-6.37
1,858.0	7.59	167.13	1,847.4	-160.7	6.9	-160.8	0.84	0.82	-1.31
1,947.0	8.16	173.01	1,935.5	-172.7	8.9	-172.8	1.11	0.64	6.61
2,032.0	8.30	175.07	2,019.7	-184.8	10.2	-184.9	0.38	0.16	2.42
2,121.0	7.23	179.15	2,107.8	-196.8	10.8	-196.9	1.35	-1.20	4.58
2,211.0	6.86	179.52	2,197.2	-207.8	11.0	-207.9	0.41	-0.41	0.41
2,300.0	7.16	184.10	2,285.5	-218.7	10.6	-218.8	0.71	0.34	5.15
2,390.0	6.95	183.55	2,374.8	-229.7	9.9	-229.8	0.25	-0.23	-0.61
2,480.0	6.43	186.61	2,464.2	-240.2	9.0	-240.2	0.70	-0.58	3.40
2,533.0	6.86	184.80	2,516.9	-246.3	8.4	-246.3	0.90	0.81	-3.42
2,642.0	6.60	194.86	2,625.1	-258.8	6.2	-258.8	1.11	-0.24	9.23
2,731.0	7.30	185.89	2,713.5	-269.4	4.3	-269.4	1.45	0.79	-10.08
2,820.0	8.18	177.63	2,801.6	-281.3	4.0	-281.3	1.59	0.99	-9.28
2,909.0	7.47	175.88	2,889.8	-293.4	4.7	-293.4	0.84	-0.80	-1.97
2,998.0	6.86	172.71	2,978.1	-304.5	5.8	-304.5	0.82	-0.69	-3.56
3,087.0	6.68	171.66	3,066.5	-314.9	7.2	-314.9	0.25	-0.20	-1.18
3,176.0	6.60	168.14	3,154.9	-325.0	9.0	-325.0	0.47	-0.09	-3.96
3,265.0	7.83	172.01	3,243.2	-336.0	10.9	-336.1	1.49	1.38	4.35
3,354.0	7.12	172.18	3,331.4	-347.5	12.5	-347.6	0.80	-0.80	0.19
3,443.0	6.60	170.25	3,419.8	-358.0	14.1	-358.1	0.64	-0.58	-2.17
3,532.0	6.42	175.52	3,508.2	-368.0	15.3	-368.1	0.70	-0.20	5.92
3,646.0	5.19	174.47	3,621.6	-379.5	16.3	-379.6	1.08	-1.08	-0.92
3,735.0	6.33	172.54	3,710.2	-388.3	17.4	-388.5	1.30	1.28	-2.17
3,825.0	8.09	179.57	3,799.5	-399.6	18.1	-399.7	2.18	1.96	7.81
3,914.0	6.77	179.39	3,887.7	-411.1	18.2	-411.2	1.48	-1.48	-0.20
4,003.0	7.74	176.23	3,976.0	-422.3	18.6	-422.5	1.18	1.09	-3.55
4,092.0	6.68	170.43	4,064.3	-433.4	19.9	-433.6	1.44	-1.19	-6.52
4,181.0	7.56	181.68	4,152.6	-444.4	20.6	-444.5	1.85	0.99	12.64
4,270.0	6.86	180.97	4,240.9	-455.5	20.3	-455.7	0.79	-0.79	-0.80
4,359.0	5.63	180.09	4,329.4	-465.2	20.2	-465.4	1.39	-1.38	-0.99
4,448.0	7.74	179.04	4,417.8	-475.6	20.3	-475.7	2.37	2.37	-1.18
4,537.0	6.95	180.45	4,506.1	-486.9	20.3	-487.1	0.91	-0.89	1.58
4,626.0	5.45	180.62	4,594.5	-496.6	20.3	-496.7	1.69	-1.69	0.19
4,715.0	7.12	168.67	4,683.0	-506.2	21.3	-506.3	2.37	1.88	-13.43

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Survey										
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4,805.0	8.27	173.59	4,772.2	-518.1	23.1	-518.3	1.47	1.28	5.47	
4,894.0	7.91	175.70	4,860.3	-530.6	24.3	-530.7	0.52	-0.40	2.37	
4,983.0	7.56	175.88	4,948.5	-542.5	25.2	-542.7	0.39	-0.39	0.20	
5,072.0	6.68	177.98	5,036.8	-553.5	25.8	-553.7	1.03	-0.99	2.36	
5,161.0	5.10	179.74	5,125.3	-562.6	26.0	-562.8	1.79	-1.78	1.98	
5,250.0	7.21	173.24	5,213.8	-572.1	26.6	-572.4	2.49	2.37	-7.30	
5,339.0	6.60	171.83	5,302.2	-582.8	28.0	-583.0	0.71	-0.69	-1.58	
5,429.0	8.62	168.32	5,391.4	-594.5	30.1	-594.7	2.30	2.24	-3.90	
5,518.0	8.62	174.12	5,479.4	-607.6	32.2	-607.9	0.98	0.00	6.52	
5,607.0	7.30	172.54	5,567.5	-619.9	33.6	-620.2	1.50	-1.48	-1.78	
5,696.0	5.72	172.89	5,655.9	-629.9	34.9	-630.2	1.78	-1.78	0.39	
5,785.0	7.39	168.32	5,744.3	-639.9	36.6	-640.2	1.96	1.88	-5.13	
5,874.0	7.83	179.92	5,832.6	-651.6	37.7	-651.9	1.79	0.49	13.03	
5,963.0	6.16	180.09	5,920.9	-662.4	37.7	-662.7	1.88	-1.88	0.19	
6,052.0	7.21	173.24	6,009.3	-672.7	38.4	-673.0	1.48	1.18	-7.70	
6,142.0	5.98	172.71	6,098.7	-683.0	39.7	-683.3	1.37	-1.37	-0.59	
6,231.0	7.30	175.00	6,187.1	-693.2	40.7	-693.5	1.51	1.48	2.57	
6,320.0	5.98	173.41	6,275.5	-703.5	41.8	-703.8	1.50	-1.48	-1.79	
6,409.0	7.56	178.86	6,363.9	-713.9	42.4	-714.3	1.91	1.78	6.12	
6,498.0	5.89	177.98	6,452.3	-724.3	42.7	-724.7	1.88	-1.88	-0.99	
6,587.0	7.30	173.06	6,540.7	-734.5	43.5	-734.9	1.71	1.58	-5.53	
6,676.0	8.09	170.07	6,628.9	-746.3	45.3	-746.7	0.99	0.89	-3.36	
6,766.0	6.42	162.34	6,718.2	-757.3	47.9	-757.7	2.15	-1.86	-8.59	
6,855.0	0.97	124.20	6,806.9	-762.5	50.0	-762.9	6.39	-6.12	-42.85	
6,944.0	4.48	349.37	6,895.9	-759.5	50.0	-759.9	5.85	3.94	-151.49	
7,033.0	8.27	346.73	6,984.3	-749.9	47.9	-750.2	4.27	4.26	-2.97	
7,122.0	13.45	341.11	7,071.7	-733.8	43.1	-734.2	5.93	5.82	-6.31	
7,211.0	19.96	341.29	7,156.9	-709.6	34.9	-709.9	7.31	7.31	0.20	
7,301.0	24.89	348.14	7,240.1	-676.5	26.0	-676.7	6.19	5.48	7.61	
7,390.0	32.01	353.06	7,318.3	-634.7	19.3	-634.8	8.42	8.00	5.53	
7,479.0	42.56	353.77	7,389.0	-581.2	13.2	-581.3	11.86	11.85	0.80	
7,568.0	52.14	354.64	7,449.2	-516.2	6.6	-516.2	10.79	10.76	0.98	
7,657.0	60.41	352.54	7,498.6	-442.7	-1.7	-442.7	9.50	9.29	-2.36	
7,746.0	68.24	352.01	7,537.1	-363.3	-12.5	-363.1	8.81	8.80	-0.60	
7,835.0	72.28	353.59	7,567.2	-280.2	-23.0	-280.0	4.84	4.54	1.78	
7,925.0	77.38	353.94	7,590.7	-193.8	-32.4	-193.6	5.68	5.67	0.39	
8,014.0	82.83	354.12	7,606.0	-106.7	-41.5	-106.3	6.13	6.12	0.20	
8,058.6	85.12	353.50	7,610.7	-62.6	-46.3	-62.2	5.33	5.15	-1.39	
Final TPZ - 460'FSL, 1373'FWL, Sec.18										
8,103.0	87.41	352.89	7,613.6	-18.6	-51.5	-18.2	5.33	5.15	-1.38	
8,192.0	89.34	353.24	7,616.1	69.7	-62.3	70.2	2.20	2.17	0.39	
8,281.0	90.75	356.05	7,616.0	158.3	-70.6	158.9	3.53	1.58	3.16	
8,370.0	90.75	359.39	7,614.9	247.2	-74.1	247.8	3.75	0.00	3.75	

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8,459.0	90.04	0.97	7,614.2	336.2	-73.8	336.8	1.95	-0.80	1.78
8,548.0	91.01	2.38	7,613.4	425.2	-71.2	425.8	1.92	1.09	1.58
8,637.0	89.78	3.61	7,612.8	514.0	-66.6	514.6	1.95	-1.38	1.38
8,726.0	89.96	2.91	7,613.0	602.9	-61.5	603.4	0.81	0.20	-0.79
8,816.0	90.04	2.38	7,613.0	692.8	-57.4	693.3	0.60	0.09	-0.59
8,905.0	90.75	3.08	7,612.4	781.7	-53.1	782.1	1.12	0.80	0.79
8,994.0	90.92	3.08	7,611.1	870.6	-48.4	870.9	0.19	0.19	0.00
9,083.0	90.84	2.20	7,609.7	959.5	-44.3	959.8	0.99	-0.09	-0.99
9,172.0	90.66	3.26	7,608.6	1,048.3	-40.0	1,048.6	1.21	-0.20	1.19
9,261.0	90.75	2.56	7,607.5	1,137.2	-35.5	1,137.5	0.79	0.10	-0.79
9,350.0	88.72	2.73	7,607.9	1,226.1	-31.4	1,226.3	2.29	-2.28	0.19
9,439.0	88.72	2.73	7,609.9	1,315.0	-27.2	1,315.2	0.00	0.00	0.00
9,528.0	88.55	2.20	7,612.0	1,403.9	-23.3	1,404.0	0.63	-0.19	-0.60
9,618.0	88.20	1.68	7,614.5	1,493.8	-20.3	1,493.9	0.70	-0.39	-0.58
9,707.0	89.16	1.15	7,616.6	1,582.7	-18.1	1,582.8	1.23	1.08	-0.60
9,796.0	88.37	0.27	7,618.5	1,671.7	-17.0	1,671.8	1.33	-0.89	-0.99
9,885.0	89.43	0.97	7,620.2	1,760.7	-16.0	1,760.8	1.43	1.19	0.79
9,974.0	89.08	1.15	7,621.4	1,849.7	-14.4	1,849.7	0.44	-0.39	0.20
10,063.0	90.40	1.50	7,621.8	1,938.6	-12.3	1,938.7	1.53	1.48	0.39
10,152.0	90.22	1.15	7,621.3	2,027.6	-10.3	2,027.6	0.44	-0.20	-0.39
10,241.0	89.52	0.80	7,621.5	2,116.6	-8.7	2,116.6	0.88	-0.79	-0.39
10,330.0	91.19	1.15	7,621.0	2,205.6	-7.2	2,205.6	1.92	1.88	0.39
10,419.0	90.75	0.45	7,619.5	2,294.6	-6.0	2,294.5	0.93	-0.49	-0.79
10,508.0	90.13	359.74	7,618.8	2,383.6	-5.8	2,383.5	1.06	-0.70	-0.80
10,597.0	91.36	0.45	7,617.6	2,472.6	-5.7	2,472.5	1.60	1.38	0.80
10,686.0	91.01	0.27	7,615.8	2,561.5	-5.1	2,561.5	0.44	-0.39	-0.20
10,776.0	90.75	1.85	7,614.4	2,651.5	-3.5	2,651.4	1.78	-0.29	1.76
10,865.0	90.84	2.20	7,613.2	2,740.4	-0.3	2,740.3	0.41	0.10	0.39
10,954.0	90.75	1.68	7,611.9	2,829.4	2.7	2,829.3	0.59	-0.10	-0.58
11,043.0	90.40	1.15	7,611.0	2,918.3	4.9	2,918.2	0.71	-0.39	-0.60
11,132.0	89.87	1.32	7,610.8	3,007.3	6.8	3,007.2	0.63	-0.60	0.19
11,221.0	88.99	0.62	7,611.7	3,096.3	8.3	3,096.1	1.26	-0.99	-0.79
11,310.0	88.29	0.09	7,613.8	3,185.3	8.9	3,185.1	0.99	-0.79	-0.60
11,399.0	88.81	0.97	7,616.1	3,274.2	9.7	3,274.0	1.15	0.58	0.99
11,489.0	88.81	0.62	7,617.9	3,364.2	10.9	3,364.0	0.39	0.00	-0.39
11,578.0	88.72	0.09	7,619.9	3,453.2	11.5	3,453.0	0.60	-0.10	-0.60
11,667.0	88.64	359.39	7,621.9	3,542.2	11.1	3,542.0	0.79	-0.09	-0.79
11,756.0	89.25	357.98	7,623.5	3,631.1	9.0	3,630.9	1.73	0.69	-1.58
11,845.0	89.25	357.98	7,624.7	3,720.1	5.9	3,719.9	0.00	0.00	0.00
11,934.0	89.34	357.63	7,625.8	3,809.0	2.5	3,808.8	0.41	0.10	-0.39
12,023.0	89.60	356.93	7,626.6	3,897.9	-1.7	3,897.8	0.84	0.29	-0.79
12,112.0	89.43	356.40	7,627.4	3,986.7	-6.9	3,986.7	0.63	-0.19	-0.60
12,202.0	89.25	355.70	7,628.4	4,076.5	-13.1	4,076.5	0.80	-0.20	-0.78
12,291.0	90.13	355.00	7,628.9	4,165.2	-20.3	4,165.2	1.26	0.99	-0.79

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well Hingley 3G-18H-N167
Project:	DJ BASIN	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Site:	Sec.18-T1N-R67W (HINGLEY)	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Well:	Hingley 3G-18H-N167	North Reference:	True
Wellbore:	Hingley 3G-18H-N167 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Hingley 3G-18H-N167 Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,385.0	90.84	354.29	7,628.1	4,258.8	-29.1	4,258.9	1.07	0.76	-0.76
Last Survey - 12,385' MD									
12,450.0	90.84	354.29	7,627.1	4,323.5	-35.6	4,323.6	0.00	0.00	0.00
PTB - 465'FNL, 1371'FWL, Sec.18									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
8,058.6	7,610.7	-62.6	-46.3	Final TPZ - 460'FSL, 1373'FWL, Sec.18	
12,385.0	7,628.1	4,258.8	-29.1	Last Survey - 12,385' MD	
12,450.0	7,627.1	4,323.5	-35.6	PTB - 465'FNL, 1371'FWL, Sec.18	

Checked By: _____ Approved By: _____ Date: _____