

Survey Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well COSSLETT 1J-22H-B168
Project:	DJ BASIN	TVD Reference:	23' KB @ 5196.00usft
Site:	S22-T1N-R68W (COSSLETT)	MD Reference:	23' KB @ 5196.00usft
Well:	COSSLETT 1J-22H-B168	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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	S22-T1N-R68W (COSSLETT)				
Site Position:		Northing:	1,258,338.24 usft	Latitude:	40.041391
From:	Lat/Long	Easting:	3,143,327.55 usft	Longitude:	-104.988083
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.33 °

Well	COSSLETT 1J-22H-B168					
Well Position	+N/-S	0.00 usft	Northing:	1,258,338.37 usft	Latitude:	40.041390
	+E/-W	0.00 usft	Easting:	3,143,417.42 usft	Longitude:	-104.987762
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,173.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	11/30/2018	8.35	66.38	52,011.80000000

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	170.13

Survey Program	Date	12/9/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
318.00	2,488.00	Survey #1 (OH)	VESSI_GYROFLEX	VESSI Gyroflex Gyro	
2,594.00	17,665.00	Survey #2 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
318.00	0.35	56.95	318.00	0.53	0.81	-0.38	0.11	0.11	
586.00	0.97	214.19	585.99	-0.90	0.23	0.93	0.49	0.23	
675.00	1.94	92.64	674.97	-1.59	1.31	1.79	2.90	1.09	
764.00	4.05	70.22	763.85	-0.60	5.77	1.58	2.67	2.37	
853.00	6.42	70.58	852.47	2.12	13.42	0.21	2.66	2.66	
942.00	8.97	63.37	940.66	6.88	24.32	-2.61	3.06	2.87	
1,031.00	11.79	57.30	1,028.20	14.91	38.18	-8.14	3.39	3.17	
1,120.00	14.96	53.35	1,114.78	26.68	55.05	-16.85	3.70	3.56	
1,209.00	16.54	51.94	1,200.43	41.35	74.24	-28.01	1.83	1.78	
1,278.00	15.19	49.06	1,266.80	53.33	88.80	-37.32	2.26	-1.96	
1,368.00	16.46	55.69	1,353.40	68.24	108.24	-48.68	2.45	1.41	

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
1,457.00	18.47	56.40	1,438.29	83.15	130.40	-59.57	2.27	2.26	
1,546.00	18.97	54.44	1,522.58	99.37	153.91	-71.52	0.90	0.56	
1,635.00	19.10	48.79	1,606.72	117.38	176.64	-85.36	2.07	0.15	
1,725.00	17.83	49.60	1,692.09	136.01	198.21	-100.02	1.44	-1.41	
1,814.00	17.19	53.59	1,776.97	152.65	219.17	-112.82	1.53	-0.72	
1,903.00	17.21	60.05	1,862.00	167.03	241.17	-123.22	2.15	0.02	
1,992.00	16.33	65.73	1,947.22	178.74	263.98	-130.85	2.09	-0.99	
2,081.00	15.88	64.05	2,032.72	189.22	286.34	-137.33	0.73	-0.51	
2,170.00	15.67	60.40	2,118.37	200.48	307.74	-144.76	1.14	-0.24	
2,259.00	16.60	66.61	2,203.87	211.47	329.86	-151.79	2.20	1.04	
2,348.00	15.90	64.74	2,289.32	221.72	352.55	-158.00	0.98	-0.79	
2,438.00	14.58	58.96	2,376.16	232.82	373.41	-165.36	2.23	-1.47	
2,488.00	14.68	55.73	2,424.54	239.63	384.04	-170.25	1.64	0.20	LAST SURVEY - 2488.00' MD
2,594.00	13.93	50.10	2,527.25	255.38	404.93	-182.19	1.49	-0.71	
2,683.00	16.26	54.49	2,613.18	269.49	423.29	-192.94	2.91	2.62	
2,772.00	17.80	57.13	2,698.28	284.11	444.86	-203.65	1.94	1.73	
2,861.00	15.43	54.41	2,783.55	298.39	465.92	-214.11	2.80	-2.66	
2,950.00	15.78	62.40	2,869.28	310.89	486.27	-222.93	2.44	0.39	
3,039.00	15.65	64.07	2,954.96	321.74	507.79	-229.94	0.53	-0.15	
3,128.00	17.05	58.89	3,040.36	333.73	529.76	-237.99	2.27	1.57	
3,218.00	14.99	55.72	3,126.86	347.11	550.68	-247.58	2.49	-2.29	
3,307.00	15.82	56.08	3,212.66	360.36	570.26	-257.28	0.94	0.93	
3,396.00	16.04	64.25	3,298.26	372.47	591.40	-265.59	2.53	0.25	
3,485.00	13.45	63.02	3,384.32	382.51	611.70	-272.00	2.93	-2.91	
3,574.00	14.72	56.95	3,470.65	393.38	630.41	-279.49	2.19	1.43	
3,663.00	16.22	55.02	3,556.42	406.67	650.07	-289.22	1.78	1.69	
3,752.00	16.08	57.13	3,641.91	420.49	670.61	-299.31	0.68	-0.16	
3,841.00	16.66	59.15	3,727.30	433.72	691.91	-308.70	0.91	0.65	
3,962.00	11.56	57.87	3,844.61	449.07	717.09	-319.51	4.22	-4.21	
4,051.00	13.14	57.22	3,931.55	459.29	733.15	-326.82	1.78	1.78	
4,140.00	14.99	54.84	4,017.88	471.40	751.06	-335.68	2.18	2.08	
4,229.00	17.18	53.26	4,103.39	485.89	771.01	-346.54	2.51	2.46	
4,318.00	18.37	56.87	4,188.14	501.42	793.29	-358.02	1.82	1.34	
4,407.00	16.26	60.38	4,273.11	515.24	815.87	-367.77	2.64	-2.37	
4,496.00	16.88	59.68	4,358.41	527.93	837.85	-376.49	0.73	0.70	
4,585.00	17.23	56.60	4,443.50	541.70	860.01	-386.27	1.09	0.39	
4,675.00	14.77	53.00	4,530.01	555.95	880.31	-396.82	2.95	-2.73	
4,764.00	14.02	50.80	4,616.21	569.59	897.72	-407.28	1.04	-0.84	
4,853.00	14.50	61.08	4,702.48	581.79	915.83	-416.20	2.89	0.54	
4,942.00	15.56	67.15	4,788.44	591.82	936.59	-422.52	2.13	1.19	
5,031.00	16.57	66.18	4,873.97	601.58	959.20	-428.26	1.17	1.13	
5,120.00	15.47	64.25	4,959.51	611.86	981.50	-434.56	1.37	-1.24	
5,209.00	14.81	59.33	5,045.42	622.82	1,001.97	-441.85	1.62	-0.74	
5,298.00	13.80	54.58	5,131.67	634.78	1,020.41	-450.47	1.74	-1.13	
5,387.00	14.28	56.34	5,218.01	647.01	1,038.19	-459.48	0.72	0.54	
5,476.00	15.82	52.56	5,303.95	660.47	1,056.96	-469.52	2.05	1.73	
5,565.00	15.17	60.57	5,389.73	673.57	1,076.74	-479.03	2.51	-0.73	
5,654.00	16.31	59.41	5,475.39	685.65	1,097.64	-487.35	1.33	1.28	
5,743.00	14.74	56.49	5,561.14	698.26	1,117.84	-496.32	1.97	-1.76	
5,832.00	13.94	61.06	5,647.37	709.70	1,136.67	-504.36	1.56	-0.90	
5,921.00	15.45	63.24	5,733.46	720.23	1,156.63	-511.31	1.81	1.70	
6,010.00	15.14	55.98	5,819.31	732.07	1,176.85	-519.51	2.18	-0.35	
6,099.00	15.22	52.86	5,905.21	745.63	1,195.80	-529.61	0.92	0.09	

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
6,188.00	13.02	51.38	5,991.52	758.94	1,212.95	-539.79	2.50	-2.47	
6,277.00	12.51	67.93	6,078.35	768.82	1,229.72	-546.65	4.13	-0.57	
6,366.00	12.14	73.59	6,165.30	775.09	1,247.63	-549.76	1.42	-0.42	
6,456.00	13.15	74.81	6,253.11	780.44	1,266.59	-551.78	1.16	1.12	
6,545.00	15.32	70.90	6,339.38	786.94	1,287.47	-554.61	2.67	2.44	
6,634.00	16.76	58.57	6,424.94	797.49	1,309.54	-561.21	4.15	1.62	
6,723.00	15.04	53.14	6,510.53	811.11	1,329.73	-571.17	2.55	-1.93	
6,812.00	18.16	50.38	6,595.81	826.88	1,349.66	-583.29	3.61	3.51	
6,902.00	19.88	59.38	6,680.92	843.63	1,373.64	-595.68	3.77	1.91	
6,991.00	19.46	56.51	6,764.72	859.51	1,399.02	-606.98	1.18	-0.47	
7,080.00	21.07	83.11	6,848.39	869.64	1,427.33	-612.10	10.42	1.81	
7,169.00	22.55	94.40	6,931.05	870.25	1,460.25	-607.06	4.99	1.66	
7,258.00	21.23	117.11	7,013.78	861.58	1,491.66	-593.13	9.57	-1.48	
7,348.00	21.26	147.32	7,097.92	840.35	1,515.05	-568.22	12.04	0.03	
7,437.00	25.09	168.16	7,179.86	808.24	1,527.66	-534.41	10.10	4.30	
7,526.00	27.86	177.19	7,259.55	768.98	1,532.55	-494.89	5.48	3.11	
7,615.00	31.50	169.95	7,336.89	725.28	1,537.63	-450.98	5.73	4.09	
7,704.00	35.33	170.83	7,411.16	676.96	1,545.79	-401.98	4.34	4.30	
7,793.00	42.47	172.42	7,480.38	621.70	1,553.87	-346.15	8.10	8.02	
7,882.00	51.71	171.18	7,540.91	557.26	1,563.21	-281.06	10.43	10.38	
7,971.00	61.82	168.54	7,589.63	484.11	1,576.39	-206.73	11.63	11.36	
8,010.27	65.90	168.12	7,606.93	449.59	1,583.52	-171.50	10.44	10.39	TPZ - 8010.27' MD (480 FNL, 577 FEL)
8,060.00	71.07	167.63	7,625.16	404.37	1,593.24	-125.29	10.44	10.39	
8,149.00	76.38	170.96	7,650.10	320.46	1,609.07	-39.90	6.96	5.97	
8,238.00	80.54	175.14	7,667.91	233.94	1,619.59	47.14	6.56	4.67	
8,327.00	81.50	176.20	7,681.80	146.28	1,626.23	134.64	1.60	1.08	
8,417.00	83.34	177.00	7,693.67	57.23	1,631.52	223.28	2.23	2.04	
8,506.00	87.45	181.67	7,700.82	-31.43	1,632.54	310.80	6.98	4.62	
8,595.00	88.82	184.29	7,703.72	-120.25	1,627.91	397.52	3.32	1.54	
8,684.00	88.57	183.67	7,705.75	-209.02	1,621.74	483.91	0.75	-0.28	
8,773.00	88.60	183.11	7,707.94	-297.83	1,616.47	570.51	0.63	0.03	
8,862.00	88.30	183.00	7,710.35	-386.67	1,611.73	657.22	0.36	-0.34	
8,951.00	87.33	180.51	7,713.75	-475.56	1,609.01	744.33	3.00	-1.09	
9,040.00	89.72	179.56	7,716.04	-564.52	1,608.96	831.96	2.89	2.69	
9,129.00	89.63	180.11	7,716.54	-653.52	1,609.21	919.69	0.63	-0.10	
9,218.00	89.34	180.84	7,717.34	-742.51	1,608.47	1,007.24	0.88	-0.33	
9,307.00	88.93	179.86	7,718.68	-831.50	1,607.93	1,094.81	1.19	-0.46	
9,396.00	90.24	178.04	7,719.33	-920.48	1,609.56	1,182.75	2.52	1.47	
9,486.00	90.05	178.03	7,719.10	-1,010.42	1,612.65	1,271.90	0.21	-0.21	
9,574.00	90.97	177.42	7,718.32	-1,098.35	1,616.14	1,359.12	1.25	1.05	
9,664.00	90.85	177.12	7,716.89	-1,188.23	1,620.43	1,448.41	0.36	-0.13	
9,753.00	91.24	177.16	7,715.27	-1,277.11	1,624.87	1,536.73	0.44	0.44	
9,842.00	89.82	178.62	7,714.44	-1,366.04	1,628.14	1,624.91	2.29	-1.60	
9,931.00	89.93	178.33	7,714.64	-1,455.01	1,630.51	1,712.96	0.35	0.12	
10,020.00	90.10	181.52	7,714.61	-1,544.00	1,630.63	1,800.66	3.59	0.19	
10,109.00	90.22	181.55	7,714.36	-1,632.96	1,628.24	1,887.90	0.14	0.13	
10,198.00	90.54	181.71	7,713.77	-1,721.93	1,625.71	1,975.11	0.40	0.36	
10,287.00	90.85	181.41	7,712.70	-1,810.89	1,623.29	2,062.34	0.48	0.35	
10,376.00	91.14	180.73	7,711.15	-1,899.86	1,621.63	2,149.71	0.83	0.33	
10,465.00	90.56	179.94	7,709.83	-1,988.84	1,621.11	2,237.29	1.10	-0.65	
10,555.00	90.45	181.10	7,709.04	-2,078.84	1,620.29	2,325.81	1.29	-0.12	
10,644.00	90.80	180.40	7,708.07	-2,167.82	1,619.13	2,413.28	0.88	0.39	
10,733.00	91.87	179.97	7,705.99	-2,256.80	1,618.84	2,500.88	1.30	1.20	

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10,822.00	91.89	180.31	7,703.07	-2,345.75	1,618.62	2,588.48	0.38	0.02	
10,911.00	89.27	181.55	7,702.17	-2,434.72	1,617.18	2,675.89	3.26	-2.94	
11,000.00	88.47	182.11	7,703.93	-2,523.66	1,614.33	2,763.02	1.10	-0.90	
11,089.00	87.90	181.72	7,706.74	-2,612.56	1,611.36	2,850.10	0.78	-0.64	
11,178.00	87.56	181.66	7,710.27	-2,701.45	1,608.74	2,937.23	0.39	-0.38	
11,267.00	88.58	179.58	7,713.27	-2,790.39	1,607.78	3,024.69	2.60	1.15	
11,357.00	88.92	179.59	7,715.23	-2,880.37	1,608.43	3,113.44	0.38	0.38	
11,446.00	89.20	179.77	7,716.69	-2,969.36	1,608.93	3,201.20	0.37	0.31	
11,535.00	89.32	179.64	7,717.84	-3,058.35	1,609.38	3,288.95	0.20	0.13	
11,624.00	89.56	179.57	7,718.71	-3,147.34	1,610.00	3,376.73	0.28	0.27	
11,713.00	90.03	179.98	7,719.03	-3,236.34	1,610.35	3,464.47	0.70	0.53	
11,802.00	90.25	180.54	7,718.81	-3,325.34	1,609.94	3,552.09	0.68	0.25	
11,891.00	90.53	179.77	7,718.21	-3,414.33	1,609.70	3,639.72	0.92	0.31	
11,980.00	90.91	180.04	7,717.09	-3,503.33	1,609.85	3,727.42	0.52	0.43	
12,069.00	91.04	180.18	7,715.57	-3,592.31	1,609.68	3,815.06	0.21	0.15	
12,158.00	91.05	179.53	7,713.95	-3,681.30	1,609.90	3,902.77	0.73	0.01	
12,247.00	91.08	179.48	7,712.30	-3,770.28	1,610.67	3,990.57	0.07	0.03	
12,337.00	91.62	179.67	7,710.18	-3,860.25	1,611.34	4,079.32	0.64	0.60	
12,426.00	91.07	180.93	7,708.09	-3,949.22	1,610.87	4,166.90	1.54	-0.62	
12,515.00	90.45	181.45	7,706.91	-4,038.20	1,609.03	4,254.24	0.91	-0.70	
12,604.00	88.96	181.07	7,707.36	-4,127.17	1,607.07	4,341.56	1.73	-1.67	
12,693.00	89.47	180.16	7,708.58	-4,216.16	1,606.11	4,429.06	1.17	0.57	
12,782.00	89.60	180.69	7,709.31	-4,305.15	1,605.45	4,516.63	0.61	0.15	
12,871.00	89.63	178.71	7,709.90	-4,394.14	1,605.92	4,604.38	2.22	0.03	
12,960.00	89.69	177.77	7,710.43	-4,483.10	1,608.65	4,692.49	1.06	0.07	
13,049.00	90.11	179.07	7,710.59	-4,572.06	1,611.11	4,780.56	1.54	0.47	
13,139.00	89.93	179.98	7,710.56	-4,662.06	1,611.85	4,869.35	1.03	-0.20	
13,228.00	90.23	179.27	7,710.43	-4,751.06	1,612.44	4,957.13	0.87	0.34	
13,317.00	88.38	180.85	7,711.51	-4,840.04	1,612.34	5,044.78	2.73	-2.08	
13,406.00	88.10	180.84	7,714.24	-4,928.99	1,611.03	5,132.19	0.31	-0.31	
13,495.00	88.23	180.60	7,717.09	-5,017.94	1,609.91	5,219.63	0.31	0.15	
13,584.00	88.60	180.45	7,719.56	-5,106.90	1,609.10	5,307.13	0.45	0.42	
13,673.00	88.54	179.55	7,721.78	-5,195.87	1,609.10	5,394.79	1.01	-0.07	
13,762.00	88.52	178.88	7,724.06	-5,284.83	1,610.32	5,482.64	0.75	-0.02	
13,851.00	88.93	178.71	7,726.04	-5,373.79	1,612.19	5,570.60	0.50	0.46	
13,940.00	89.28	178.42	7,727.43	-5,462.75	1,614.42	5,658.63	0.51	0.39	
14,029.00	89.54	180.63	7,728.35	-5,551.74	1,615.15	5,746.43	2.50	0.29	
14,119.00	89.33	178.13	7,729.23	-5,641.72	1,616.13	5,835.25	2.79	-0.23	
14,208.00	89.56	179.09	7,730.10	-5,730.69	1,618.29	5,923.27	1.11	0.26	
14,297.00	89.70	179.93	7,730.67	-5,819.68	1,619.05	6,011.07	0.96	0.16	
14,386.00	90.10	181.93	7,730.83	-5,908.67	1,617.60	6,098.49	2.29	0.45	
14,475.00	90.06	182.08	7,730.70	-5,997.61	1,614.49	6,185.59	0.17	-0.04	
14,564.00	90.07	181.29	7,730.60	-6,086.57	1,611.87	6,272.78	0.89	0.01	
14,653.00	89.99	180.44	7,730.56	-6,175.56	1,610.53	6,360.23	0.96	-0.09	
14,742.00	90.22	180.18	7,730.39	-6,264.56	1,610.05	6,447.82	0.39	0.26	
14,832.00	90.08	179.88	7,730.16	-6,354.56	1,610.00	6,536.48	0.37	-0.16	
14,921.00	90.46	179.25	7,729.74	-6,443.56	1,610.68	6,624.28	0.83	0.43	
15,010.00	90.17	178.51	7,729.25	-6,532.54	1,612.42	6,712.24	0.89	-0.33	
15,163.00	90.52	180.39	7,728.33	-6,685.52	1,613.88	6,863.21	1.25	0.23	
15,252.00	88.80	179.37	7,728.85	-6,774.51	1,614.07	6,950.92	2.25	-1.93	
15,341.00	88.77	178.10	7,730.74	-6,863.47	1,616.04	7,038.90	1.43	-0.03	
15,430.00	88.82	178.62	7,732.61	-6,952.41	1,618.58	7,126.96	0.59	0.06	
15,519.00	88.92	178.66	7,734.37	-7,041.37	1,620.69	7,214.96	0.12	0.11	

Survey Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well COSSLETT 1J-22H-B168
Project:	DJ BASIN	TVD Reference:	23' KB @ 5196.00usft
Site:	S22-T1N-R68W (COSSLETT)	MD Reference:	23' KB @ 5196.00usft
Well:	COSSLETT 1J-22H-B168	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
15,608.00	88.79	178.44	7,736.15	-7,130.33	1,622.95	7,302.99	0.29	-0.15	
15,697.00	88.82	179.13	7,738.00	-7,219.29	1,624.83	7,390.95	0.78	0.03	
15,786.00	88.82	179.95	7,739.84	-7,308.26	1,625.55	7,478.74	0.92	0.00	
15,875.00	88.92	181.22	7,741.59	-7,397.24	1,624.64	7,566.24	1.43	0.11	
15,964.00	88.90	182.72	7,743.28	-7,486.17	1,621.58	7,653.33	1.69	-0.02	
16,053.00	89.45	181.81	7,744.57	-7,575.09	1,618.06	7,740.33	1.19	0.62	
16,143.00	89.79	181.17	7,745.16	-7,665.05	1,615.72	7,828.56	0.81	0.38	
16,232.00	89.66	180.15	7,745.59	-7,754.05	1,614.70	7,916.06	1.16	-0.15	
16,321.00	89.88	180.27	7,745.95	-7,843.05	1,614.37	8,003.69	0.28	0.25	
16,410.00	89.80	180.68	7,746.20	-7,932.04	1,613.63	8,091.24	0.47	-0.09	
16,499.00	89.86	180.45	7,746.46	-8,021.04	1,612.76	8,178.77	0.27	0.07	
16,588.00	89.98	180.53	7,746.58	-8,110.03	1,611.99	8,266.32	0.16	0.13	
16,677.00	89.80	180.25	7,746.76	-8,199.03	1,611.39	8,353.89	0.37	-0.20	
16,767.00	89.83	180.18	7,747.05	-8,289.03	1,611.05	8,442.50	0.08	0.03	
16,856.00	89.83	180.53	7,747.31	-8,378.03	1,610.50	8,530.09	0.39	0.00	
16,945.00	89.96	180.56	7,747.47	-8,467.02	1,609.65	8,617.62	0.15	0.15	
17,034.00	90.23	180.57	7,747.33	-8,556.02	1,608.77	8,705.15	0.30	0.30	
17,123.00	90.46	180.53	7,746.79	-8,645.01	1,607.92	8,792.68	0.26	0.26	
17,212.00	90.87	180.58	7,745.76	-8,734.00	1,607.06	8,880.20	0.46	0.46	
17,301.00	91.06	180.17	7,744.26	-8,822.99	1,606.48	8,967.77	0.51	0.21	
17,390.00	90.13	181.32	7,743.33	-8,911.97	1,605.32	9,055.24	1.66	-1.04	
17,479.00	89.92	180.66	7,743.29	-9,000.96	1,603.78	9,142.65	0.78	-0.24	
17,568.00	89.80	181.15	7,743.51	-9,089.95	1,602.38	9,230.08	0.57	-0.13	
17,617.00	89.91	181.14	7,743.64	-9,138.94	1,601.40	9,278.18	0.23	0.22	LAST SURVEY - 17617.00' MD
17,665.00	89.91	181.14	7,743.71	-9,186.93	1,600.44	9,325.29	0.00	0.00	PTB - 17665.00' MD (466 FSL, 528 FEL)

Survey Report

Company: Crestone Peak Resources	Local Co-ordinate Reference: Well COSSLETT 1J-22H-B168
Project: DJ BASIN	TVD Reference: 23' KB @ 5196.00usft
Site: S22-T1N-R68W (COSSLETT)	MD Reference: 23' KB @ 5196.00usft
Well: COSSLETT 1J-22H-B168	North Reference: True
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
COSSLETT 1J 5925' TC - actual wellpath misses target center by 8.60usft at 14402.60usft MD (7730.80 TVD, -5925.26 N, 1617.04 E) - Point	0.00	0.00	7,726.00	-5,925.00	1,609.91	1,252,422.76	3,145,061.53	40.025125	-104.982013
COSSLETT 1J 2925' TC - actual wellpath misses target center by 13.21usft at 11401.59usft MD (7716.02 TVD, -2924.95 N, 1608.71 E) - Point	0.00	0.00	7,709.00	-2,925.00	1,619.91	1,255,422.77	3,145,054.20	40.033360	-104.981977
COSSLETT 1J TPZ - actual wellpath misses target center by 98.68usft at 8054.89usft MD (7623.48 TVD, 409.09 N, 1592.21 E) - Point	0.00	0.00	7,709.00	449.59	1,620.21	1,258,797.31	3,145,035.01	40.042624	-104.981975
COSSLETT 1J PBHL - actual wellpath misses target center by 26.97usft at 17665.00usft MD (7743.71 TVD, -9186.93 N, 1600.44 E) - Point	0.00	0.00	7,770.00	-9,192.77	1,599.02	1,249,154.99	3,145,069.52	40.016154	-104.982053

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
2,488.00	2,424.54	239.63	384.04	LAST SURVEY - 2488.00' MD	
8,010.27	7,606.93	449.59	1,583.52	TPZ - 8010.27' MD (480 FNL, 577 FEL)	
17,617.00	7,743.64	-9,138.94	1,601.40	LAST SURVEY - 17617.00' MD	
17,665.00	7,743.71	-9,186.93	1,600.44	PTB - 17665.00' MD (466 FSL, 528 FEL)	

Checked By: _____ Approved By: _____ Date: _____