



Crestone Peak Resources

Well Name:

HERBERS 11-20H-B167

Project Name:

Sec 20 T1N-R67W

Pad Name:

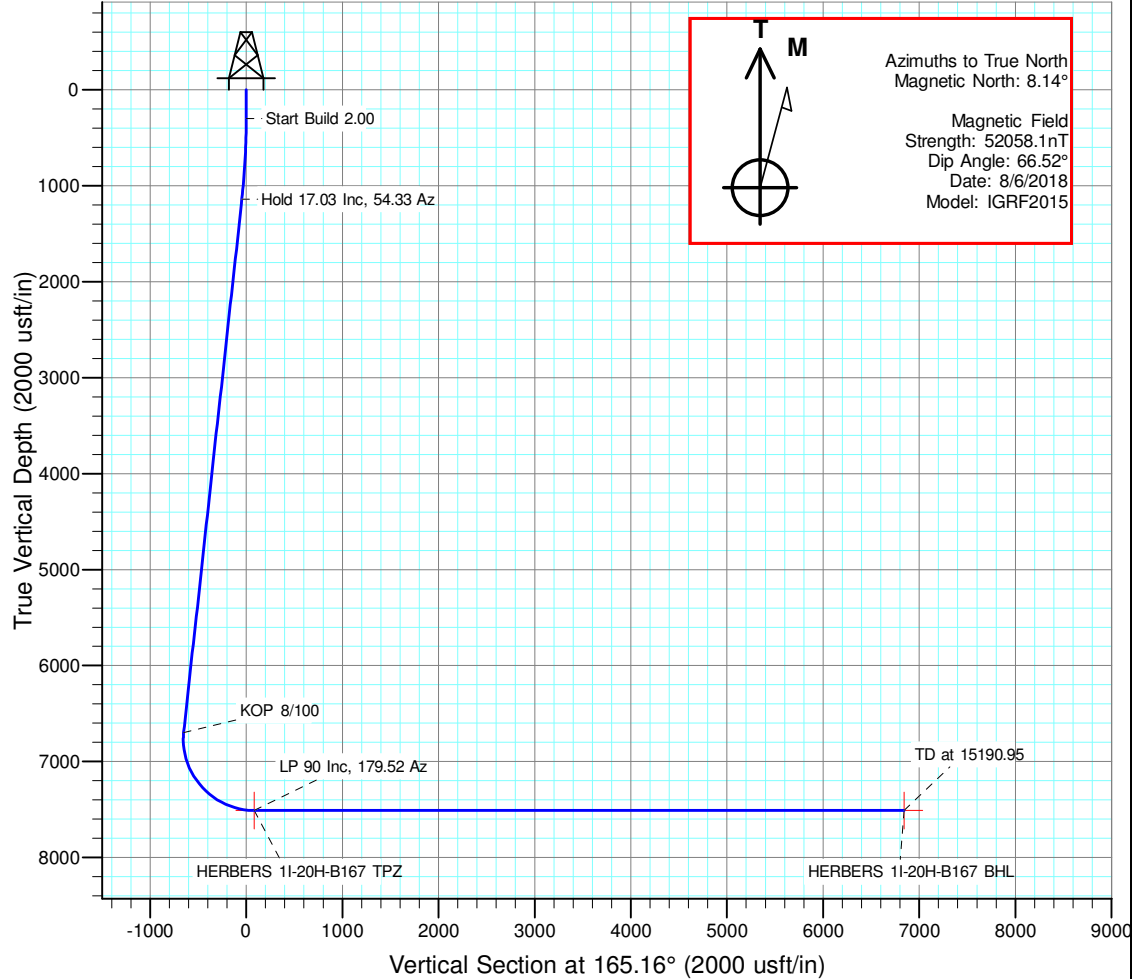
Herbers Pad

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	Start Build 2.00
1151.70	17.03	54.33	1139.21	73.28	102.10	-44.68	125.68	Hold 17.03 Inc, 54.33 Az
6965.52	17.03	54.33	6697.97	1066.28	1485.79	-650.16	1828.80	KOP 8/100
8211.99	90.00	179.52	7510.00	362.09	1695.00	84.13	2626.47	LP 90 Inc, 179.52 Az
15190.95	90.00	179.52	7510.00	-6616.63	1753.19	6844.96	9605.43	TD at 15190.95

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
HERBERS 11-20H-B167 BHL	7510.00	-6616.64	1753.19	1251911.088	3166072.665	40.023359	-104.907001	Point
HERBERS 11-20H-B167 TPZ	7510.00	362.08	1695.00	1258889.267	3165968.303	40.042516	-104.907207	Point

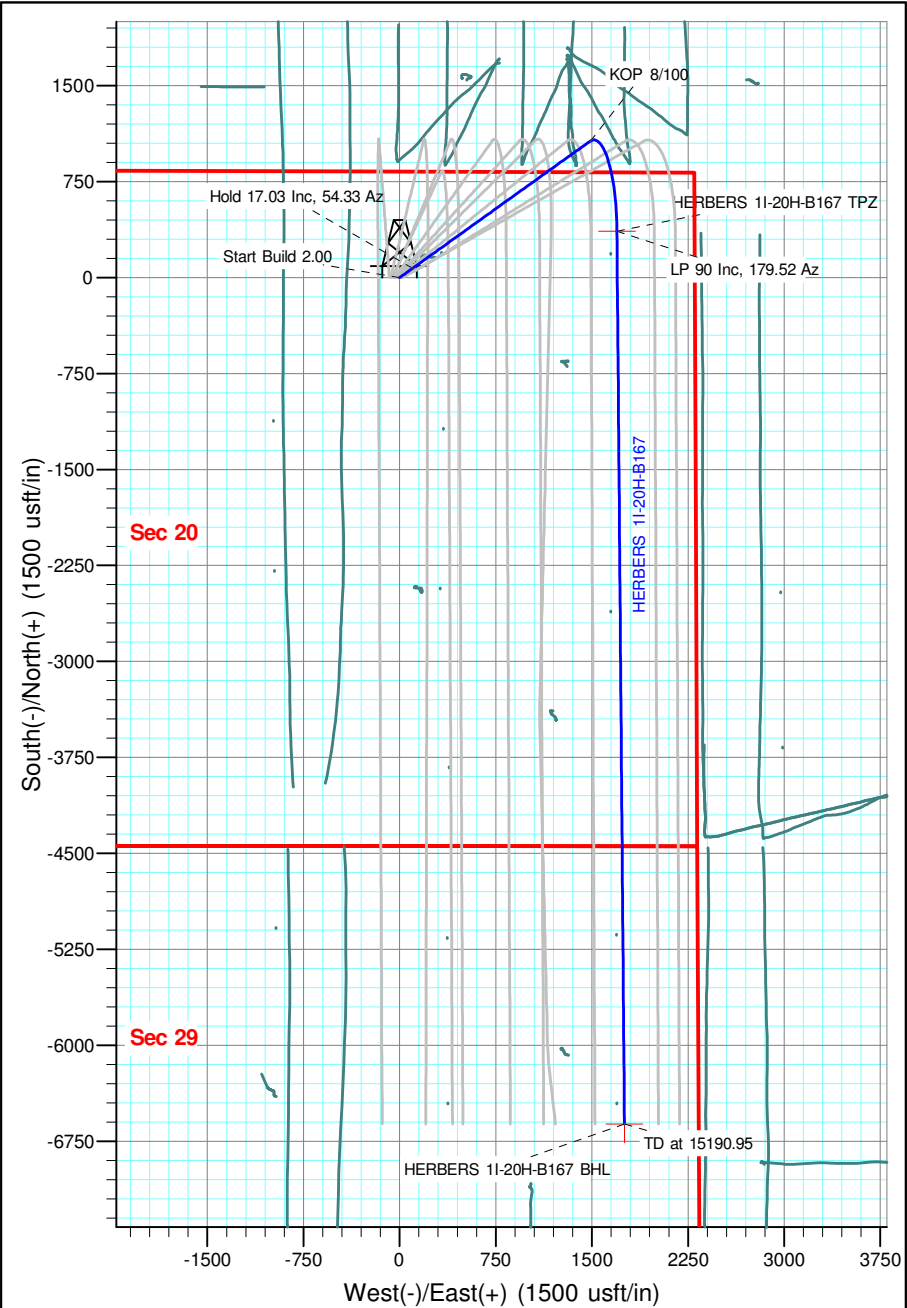


Geodetic Datum:

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

Elevation:

Ground Elevation: 5106.11
KB Elevation: WELL @ 5129.11usft (Original Well Elev)





Crestone Peak Resources

Sec 20 T1N-R67W

Herbers Pad

HERBERS 1I-20H-B167

Wellbore #1

Plan: Design #1 06Aug18 kjs

Standard Planning Report - Geographic

09 August, 2018

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well HERBERS 11-20H-B167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5129.11usft (Original Well Elev)
Project:	Sec 20 T1N-R67W	MD Reference:	WELL @ 5129.11usft (Original Well Elev)
Site:	Herbers Pad	North Reference:	True
Well:	HERBERS 11-20H-B167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Aug18 kjs		

Project	Sec 20 T1N-R67W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Herbers Pad					
Site Position:		Northing:	1,258,515.981 usft	Latitude:	40.041524	
From:	Map	Easting:	3,164,195.736 usft	Longitude:	-104.913547	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	HERBERS 11-20H-B167					
Well Position	+N/-S	0.00 usft	Northing:	1,258,515.981 usft	Latitude:	40.041523
	+E/-W	0.00 usft	Easting:	3,164,275.736 usft	Longitude:	-104.913261
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,106.11 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/6/2018	8.14	66.52	52,058.09503119

Design	Design #1 06Aug18 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	165.16

Plan Survey Tool Program	Date	8/9/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,190.95 Design #1 06Aug18 kjs (Wellbore)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,151.72	17.03	54.33	1,139.22	73.28	102.11	2.00	2.00	0.00	54.33	
6,965.52	17.03	54.33	6,697.97	1,066.28	1,485.79	0.00	0.00	0.00	0.00	
8,212.00	90.00	179.52	7,510.00	362.08	1,695.00	8.00	5.85	10.04	123.99	HERBERS 11-20H-B1
15,190.96	90.00	179.52	7,510.00	-6,616.64	1,753.19	0.00	0.00	0.00	0.00	HERBERS 11-20H-B1

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well HERBERS 1I-20H-B167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5129.11usft (Original Well Elev)
Project:	Sec 20 T1N-R67W	MD Reference:	WELL @ 5129.11usft (Original Well Elev)
Site:	Herbers Pad	North Reference:	True
Well:	HERBERS 1I-20H-B167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Aug18 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	1,258,515.981	3,164,275.736	40.041523	-104.913261
100.00	0.00	0.00	100.00	0.00	0.00	1,258,515.981	3,164,275.736	40.041523	-104.913261
200.00	0.00	0.00	200.00	0.00	0.00	1,258,515.981	3,164,275.736	40.041523	-104.913261
300.00	0.00	0.00	300.00	0.00	0.00	1,258,515.981	3,164,275.736	40.041523	-104.913261
Start Build 2.00									
400.00	2.00	54.33	399.98	1.02	1.42	1,258,517.008	3,164,277.147	40.041526	-104.913256
500.00	4.00	54.33	499.84	4.07	5.67	1,258,520.087	3,164,281.378	40.041534	-104.913241
600.00	6.00	54.33	599.45	9.15	12.75	1,258,525.215	3,164,288.425	40.041548	-104.913216
700.00	8.00	54.33	698.70	16.26	22.65	1,258,532.386	3,164,298.278	40.041567	-104.913180
800.00	10.00	54.33	797.47	25.38	35.36	1,258,541.590	3,164,310.926	40.041592	-104.913135
900.00	12.00	54.33	895.62	36.50	50.86	1,258,552.817	3,164,326.354	40.041623	-104.913080
1,000.00	14.00	54.33	993.06	49.62	69.14	1,258,566.053	3,164,344.542	40.041659	-104.913014
1,100.00	16.00	54.33	1,089.64	64.70	90.16	1,258,581.281	3,164,365.468	40.041700	-104.912939
1,151.70	17.03	54.33	1,139.21	73.28	102.10	1,258,589.930	3,164,377.353	40.041724	-104.912897
Hold 17.03 Inc, 54.33 Az									
1,151.72	17.03	54.33	1,139.22	73.28	102.11	1,258,589.933	3,164,377.356	40.041724	-104.912897
1,200.00	17.03	54.33	1,185.39	81.52	113.60	1,258,598.255	3,164,388.793	40.041747	-104.912856
1,300.00	17.03	54.33	1,281.00	98.60	137.40	1,258,615.492	3,164,412.479	40.041793	-104.912771
1,400.00	17.03	54.33	1,376.62	115.68	161.20	1,258,632.730	3,164,436.165	40.041840	-104.912686
1,500.00	17.03	54.33	1,472.23	132.76	185.00	1,258,649.967	3,164,459.852	40.041887	-104.912601
1,600.00	17.03	54.33	1,567.84	149.84	208.80	1,258,667.204	3,164,483.538	40.041934	-104.912516
1,700.00	17.03	54.33	1,663.45	166.92	232.60	1,258,684.441	3,164,507.225	40.041981	-104.912431
1,800.00	17.03	54.33	1,759.07	184.00	256.40	1,258,701.678	3,164,530.911	40.042028	-104.912346
1,900.00	17.03	54.33	1,854.68	201.08	280.20	1,258,718.915	3,164,554.597	40.042075	-104.912261
2,000.00	17.03	54.33	1,950.29	218.16	304.00	1,258,736.152	3,164,578.284	40.042122	-104.912176
2,100.00	17.03	54.33	2,045.91	235.24	327.80	1,258,753.390	3,164,601.970	40.042169	-104.912091
2,200.00	17.03	54.33	2,141.52	252.32	351.60	1,258,770.627	3,164,625.657	40.042215	-104.912006
2,300.00	17.03	54.33	2,237.13	269.40	375.40	1,258,787.864	3,164,649.343	40.042262	-104.911921
2,400.00	17.03	54.33	2,332.75	286.48	399.20	1,258,805.101	3,164,673.029	40.042309	-104.911836
2,500.00	17.03	54.33	2,428.36	303.56	423.00	1,258,822.338	3,164,696.716	40.042356	-104.911751
2,600.00	17.03	54.33	2,523.97	320.64	446.80	1,258,839.575	3,164,720.402	40.042403	-104.911666
2,700.00	17.03	54.33	2,619.58	337.72	470.60	1,258,856.812	3,164,744.089	40.042450	-104.911581
2,800.00	17.03	54.33	2,715.20	354.80	494.40	1,258,874.050	3,164,767.775	40.042497	-104.911495
2,900.00	17.03	54.33	2,810.81	371.88	518.20	1,258,891.287	3,164,791.462	40.042544	-104.911410
3,000.00	17.03	54.33	2,906.42	388.96	542.00	1,258,908.524	3,164,815.148	40.042591	-104.911325
3,100.00	17.03	54.33	3,002.04	406.05	565.80	1,258,925.761	3,164,838.834	40.042637	-104.911240
3,200.00	17.03	54.33	3,097.65	423.13	589.60	1,258,942.998	3,164,862.521	40.042684	-104.911155
3,300.00	17.03	54.33	3,193.26	440.21	613.40	1,258,960.235	3,164,886.207	40.042731	-104.911070
3,400.00	17.03	54.33	3,288.87	457.29	637.20	1,258,977.472	3,164,909.894	40.042778	-104.910985
3,500.00	17.03	54.33	3,384.49	474.37	661.00	1,258,994.710	3,164,933.580	40.042825	-104.910900
3,600.00	17.03	54.33	3,480.10	491.45	684.80	1,259,011.947	3,164,957.266	40.042872	-104.910815
3,700.00	17.03	54.33	3,575.71	508.53	708.60	1,259,029.184	3,164,980.953	40.042919	-104.910730
3,800.00	17.03	54.33	3,671.33	525.61	732.40	1,259,046.421	3,165,004.639	40.042966	-104.910645
3,900.00	17.03	54.33	3,766.94	542.69	756.20	1,259,063.658	3,165,028.326	40.043013	-104.910560
4,000.00	17.03	54.33	3,862.55	559.77	780.00	1,259,080.895	3,165,052.012	40.043059	-104.910475
4,100.00	17.03	54.33	3,958.17	576.85	803.80	1,259,098.133	3,165,075.699	40.043106	-104.910390
4,200.00	17.03	54.33	4,053.78	593.93	827.60	1,259,115.370	3,165,099.385	40.043153	-104.910305
4,300.00	17.03	54.33	4,149.39	611.01	851.40	1,259,132.607	3,165,123.071	40.043200	-104.910220
4,400.00	17.03	54.33	4,245.00	628.09	875.20	1,259,149.844	3,165,146.758	40.043247	-104.910135
4,500.00	17.03	54.33	4,340.62	645.17	899.00	1,259,167.081	3,165,170.444	40.043294	-104.910050
4,600.00	17.03	54.33	4,436.23	662.25	922.80	1,259,184.318	3,165,194.131	40.043341	-104.909965
4,700.00	17.03	54.33	4,531.84	679.33	946.60	1,259,201.555	3,165,217.817	40.043388	-104.909880
4,800.00	17.03	54.33	4,627.46	696.41	970.40	1,259,218.793	3,165,241.503	40.043434	-104.909795
4,900.00	17.03	54.33	4,723.07	713.49	994.20	1,259,236.030	3,165,265.190	40.043481	-104.909710

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well HERBERS 1I-20H-B167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5129.11usft (Original Well Elev)
Project:	Sec 20 T1N-R67W	MD Reference:	WELL @ 5129.11usft (Original Well Elev)
Site:	Herbers Pad	North Reference:	True
Well:	HERBERS 1I-20H-B167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Aug18 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	17.03	54.33	4,818.68	730.57	1,018.00	1,259,253.267	3,165,288.876	40.043528	-104.909625	
5,100.00	17.03	54.33	4,914.29	747.65	1,041.80	1,259,270.504	3,165,312.563	40.043575	-104.909540	
5,200.00	17.03	54.33	5,009.91	764.73	1,065.60	1,259,287.741	3,165,336.249	40.043622	-104.909455	
5,300.00	17.03	54.33	5,105.52	781.81	1,089.40	1,259,304.978	3,165,359.935	40.043669	-104.909370	
5,400.00	17.03	54.33	5,201.13	798.89	1,113.20	1,259,322.215	3,165,383.622	40.043716	-104.909285	
5,500.00	17.03	54.33	5,296.75	815.97	1,137.00	1,259,339.453	3,165,407.308	40.043763	-104.909200	
5,600.00	17.03	54.33	5,392.36	833.05	1,160.80	1,259,356.690	3,165,430.995	40.043810	-104.909115	
5,700.00	17.03	54.33	5,487.97	850.13	1,184.60	1,259,373.927	3,165,454.681	40.043856	-104.909030	
5,800.00	17.03	54.33	5,583.59	867.21	1,208.40	1,259,391.164	3,165,478.368	40.043903	-104.908945	
5,900.00	17.03	54.33	5,679.20	884.29	1,232.20	1,259,408.401	3,165,502.054	40.043950	-104.908860	
6,000.00	17.03	54.33	5,774.81	901.37	1,256.00	1,259,425.638	3,165,525.740	40.043997	-104.908775	
6,100.00	17.03	54.33	5,870.42	918.45	1,279.80	1,259,442.875	3,165,549.427	40.044044	-104.908690	
6,200.00	17.03	54.33	5,966.04	935.53	1,303.60	1,259,460.113	3,165,573.113	40.044091	-104.908605	
6,300.00	17.03	54.33	6,061.65	952.61	1,327.40	1,259,477.350	3,165,596.800	40.044138	-104.908520	
6,400.00	17.03	54.33	6,157.26	969.69	1,351.20	1,259,494.587	3,165,620.486	40.044185	-104.908435	
6,500.00	17.03	54.33	6,252.88	986.77	1,375.00	1,259,511.824	3,165,644.172	40.044232	-104.908350	
6,600.00	17.03	54.33	6,348.49	1,003.85	1,398.80	1,259,529.061	3,165,667.859	40.044278	-104.908265	
6,700.00	17.03	54.33	6,444.10	1,020.93	1,422.60	1,259,546.298	3,165,691.545	40.044325	-104.908180	
6,800.00	17.03	54.33	6,539.71	1,038.01	1,446.40	1,259,563.535	3,165,715.232	40.044372	-104.908095	
6,900.00	17.03	54.33	6,635.33	1,055.09	1,470.20	1,259,580.773	3,165,738.918	40.044419	-104.908010	
6,965.52	17.03	54.33	6,697.97	1,066.28	1,485.79	1,259,592.066	3,165,754.437	40.044450	-104.907954	
KOP 8/100										
7,000.00	15.66	62.84	6,731.06	1,071.35	1,494.03	1,259,597.190	3,165,762.648	40.044464	-104.907925	
7,100.00	14.10	93.80	6,827.86	1,076.71	1,518.23	1,259,602.712	3,165,786.806	40.044478	-104.907839	
7,200.00	16.66	122.75	6,924.41	1,068.13	1,542.48	1,259,594.297	3,165,811.111	40.044455	-104.907752	
7,300.00	21.96	141.12	7,018.84	1,045.79	1,566.31	1,259,572.108	3,165,835.090	40.044394	-104.907667	
7,400.00	28.49	152.05	7,109.30	1,010.10	1,589.26	1,259,536.578	3,165,858.276	40.044296	-104.907585	
7,500.00	35.59	159.04	7,194.04	961.78	1,610.88	1,259,488.399	3,165,880.218	40.044163	-104.907508	
7,600.00	42.97	163.93	7,271.41	901.76	1,630.76	1,259,428.507	3,165,900.489	40.043998	-104.907437	
7,700.00	50.51	167.62	7,339.90	831.20	1,648.49	1,259,358.069	3,165,918.694	40.043804	-104.907373	
7,800.00	58.15	170.57	7,398.18	751.48	1,663.75	1,259,278.456	3,165,934.479	40.043586	-104.907319	
7,900.00	65.84	173.07	7,445.11	664.16	1,676.23	1,259,191.216	3,165,947.537	40.043346	-104.907274	
8,000.00	73.56	175.29	7,479.78	570.93	1,685.69	1,259,098.050	3,165,957.613	40.043090	-104.907241	
8,100.00	81.31	177.33	7,501.52	473.60	1,691.95	1,259,000.768	3,165,964.512	40.042823	-104.907218	
8,200.00	89.07	179.29	7,509.90	374.08	1,694.88	1,258,901.266	3,165,968.099	40.042550	-104.907208	
8,211.99	90.00	179.52	7,510.00	362.09	1,695.00	1,258,889.275	3,165,968.303	40.042517	-104.907207	
LP 90 Inc, 179.52 Az										
8,212.00	90.00	179.52	7,510.00	362.08	1,695.00	1,258,889.267	3,165,968.303	40.042517	-104.907207	
HERBERS 1I-20H-B167 TPZ										
8,300.00	90.00	179.52	7,510.00	274.08	1,695.73	1,258,801.278	3,165,969.619	40.042275	-104.907205	
8,400.00	90.00	179.52	7,510.00	174.09	1,696.57	1,258,701.290	3,165,971.114	40.042001	-104.907202	
8,500.00	90.00	179.52	7,510.00	74.09	1,697.40	1,258,601.301	3,165,972.609	40.041726	-104.907199	
8,600.00	90.00	179.52	7,510.00	-25.91	1,698.23	1,258,501.312	3,165,974.105	40.041452	-104.907196	
8,700.00	90.00	179.52	7,510.00	-125.90	1,699.07	1,258,401.323	3,165,975.600	40.041177	-104.907193	
8,800.00	90.00	179.52	7,510.00	-225.90	1,699.90	1,258,301.334	3,165,977.096	40.040902	-104.907190	
8,900.00	90.00	179.52	7,510.00	-325.90	1,700.74	1,258,201.346	3,165,978.591	40.040628	-104.907187	
9,000.00	90.00	179.52	7,510.00	-425.89	1,701.57	1,258,101.357	3,165,980.086	40.040353	-104.907184	
9,100.00	90.00	179.52	7,510.00	-525.89	1,702.40	1,258,001.368	3,165,981.582	40.040079	-104.907181	
9,200.00	90.00	179.52	7,510.00	-625.89	1,703.24	1,257,901.379	3,165,983.077	40.039804	-104.907178	
9,300.00	90.00	179.52	7,510.00	-725.88	1,704.07	1,257,801.390	3,165,984.572	40.039530	-104.907175	
9,400.00	90.00	179.52	7,510.00	-825.88	1,704.90	1,257,701.401	3,165,986.068	40.039255	-104.907172	
9,500.00	90.00	179.52	7,510.00	-925.88	1,705.74	1,257,601.413	3,165,987.563	40.038981	-104.907169	
9,600.00	90.00	179.52	7,510.00	-1,025.87	1,706.57	1,257,501.424	3,165,989.059	40.038706	-104.907166	
9,700.00	90.00	179.52	7,510.00	-1,125.87	1,707.41	1,257,401.435	3,165,990.554	40.038432	-104.907163	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well HERBERS 1I-20H-B167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5129.11usft (Original Well Elev)
Project:	Sec 20 T1N-R67W	MD Reference:	WELL @ 5129.11usft (Original Well Elev)
Site:	Herbers Pad	North Reference:	True
Well:	HERBERS 1I-20H-B167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Aug18 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	
9,800.00	90.00	179.52	7,510.00	-1,225.86	1,708.24	1,257,301.446	3,165,992.049	40.038157	-104.907160	
9,900.00	90.00	179.52	7,510.00	-1,325.86	1,709.07	1,257,201.457	3,165,993.545	40.037883	-104.907157	
10,000.00	90.00	179.52	7,510.00	-1,425.86	1,709.91	1,257,101.469	3,165,995.040	40.037608	-104.907155	
10,100.00	90.00	179.52	7,510.00	-1,525.85	1,710.74	1,257,001.480	3,165,996.535	40.037334	-104.907152	
10,200.00	90.00	179.52	7,510.00	-1,625.85	1,711.57	1,256,901.491	3,165,998.031	40.037059	-104.907149	
10,300.00	90.00	179.52	7,510.00	-1,725.85	1,712.41	1,256,801.502	3,165,999.526	40.036785	-104.907146	
10,400.00	90.00	179.52	7,510.00	-1,825.84	1,713.24	1,256,701.513	3,166,001.022	40.036510	-104.907143	
10,500.00	90.00	179.52	7,510.00	-1,925.84	1,714.08	1,256,601.525	3,166,002.517	40.036236	-104.907140	
10,600.00	90.00	179.52	7,510.00	-2,025.84	1,714.91	1,256,501.536	3,166,004.012	40.035961	-104.907137	
10,700.00	90.00	179.52	7,510.00	-2,125.83	1,715.74	1,256,401.547	3,166,005.508	40.035687	-104.907134	
10,800.00	90.00	179.52	7,510.00	-2,225.83	1,716.58	1,256,301.558	3,166,007.003	40.035412	-104.907131	
10,900.00	90.00	179.52	7,510.00	-2,325.83	1,717.41	1,256,201.569	3,166,008.499	40.035138	-104.907128	
11,000.00	90.00	179.52	7,510.00	-2,425.82	1,718.24	1,256,101.580	3,166,009.994	40.034863	-104.907125	
11,100.00	90.00	179.52	7,510.00	-2,525.82	1,719.08	1,256,001.592	3,166,011.489	40.034589	-104.907122	
11,200.00	90.00	179.52	7,510.00	-2,625.82	1,719.91	1,255,901.603	3,166,012.985	40.034314	-104.907119	
11,300.00	90.00	179.52	7,510.00	-2,725.81	1,720.75	1,255,801.614	3,166,014.480	40.034040	-104.907116	
11,400.00	90.00	179.52	7,510.00	-2,825.81	1,721.58	1,255,701.625	3,166,015.975	40.033765	-104.907113	
11,500.00	90.00	179.52	7,510.00	-2,925.81	1,722.41	1,255,601.636	3,166,017.471	40.033491	-104.907110	
11,600.00	90.00	179.52	7,510.00	-3,025.80	1,723.25	1,255,501.648	3,166,018.966	40.033216	-104.907107	
11,700.00	90.00	179.52	7,510.00	-3,125.80	1,724.08	1,255,401.659	3,166,020.462	40.032942	-104.907104	
11,800.00	90.00	179.52	7,510.00	-3,225.80	1,724.91	1,255,301.670	3,166,021.957	40.032667	-104.907101	
11,900.00	90.00	179.52	7,510.00	-3,325.79	1,725.75	1,255,201.681	3,166,023.452	40.032393	-104.907098	
12,000.00	90.00	179.52	7,510.00	-3,425.79	1,726.58	1,255,101.692	3,166,024.948	40.032118	-104.907095	
12,100.00	90.00	179.52	7,510.00	-3,525.78	1,727.42	1,255,001.703	3,166,026.443	40.031844	-104.907092	
12,200.00	90.00	179.52	7,510.00	-3,625.78	1,728.25	1,254,901.715	3,166,027.938	40.031569	-104.907090	
12,300.00	90.00	179.52	7,510.00	-3,725.78	1,729.08	1,254,801.726	3,166,029.434	40.031295	-104.907087	
12,400.00	90.00	179.52	7,510.00	-3,825.77	1,729.92	1,254,701.737	3,166,030.929	40.031020	-104.907084	
12,500.00	90.00	179.52	7,510.00	-3,925.77	1,730.75	1,254,601.748	3,166,032.425	40.030746	-104.907081	
12,600.00	90.00	179.52	7,510.00	-4,025.77	1,731.58	1,254,501.759	3,166,033.920	40.030471	-104.907078	
12,700.00	90.00	179.52	7,510.00	-4,125.76	1,732.42	1,254,401.771	3,166,035.415	40.030197	-104.907075	
12,800.00	90.00	179.52	7,510.00	-4,225.76	1,733.25	1,254,301.782	3,166,036.911	40.029922	-104.907072	
12,900.00	90.00	179.52	7,510.00	-4,325.76	1,734.09	1,254,201.793	3,166,038.406	40.029648	-104.907069	
13,000.00	90.00	179.52	7,510.00	-4,425.75	1,734.92	1,254,101.804	3,166,039.901	40.029373	-104.907066	
13,100.00	90.00	179.52	7,510.00	-4,525.75	1,735.75	1,254,001.815	3,166,041.397	40.029099	-104.907063	
13,200.00	90.00	179.52	7,510.00	-4,625.75	1,736.59	1,253,901.827	3,166,042.892	40.028824	-104.907060	
13,300.00	90.00	179.52	7,510.00	-4,725.74	1,737.42	1,253,801.838	3,166,044.388	40.028550	-104.907057	
13,400.00	90.00	179.52	7,510.00	-4,825.74	1,738.25	1,253,701.849	3,166,045.883	40.028275	-104.907054	
13,500.00	90.00	179.52	7,510.00	-4,925.74	1,739.09	1,253,601.860	3,166,047.378	40.028001	-104.907051	
13,600.00	90.00	179.52	7,510.00	-5,025.73	1,739.92	1,253,501.871	3,166,048.874	40.027726	-104.907048	
13,700.00	90.00	179.52	7,510.00	-5,125.73	1,740.76	1,253,401.882	3,166,050.369	40.027452	-104.907045	
13,800.00	90.00	179.52	7,510.00	-5,225.73	1,741.59	1,253,301.894	3,166,051.864	40.027177	-104.907042	
13,900.00	90.00	179.52	7,510.00	-5,325.72	1,742.42	1,253,201.905	3,166,053.360	40.026903	-104.907039	
14,000.00	90.00	179.52	7,510.00	-5,425.72	1,743.26	1,253,101.916	3,166,054.855	40.026628	-104.907036	
14,100.00	90.00	179.52	7,510.00	-5,525.72	1,744.09	1,253,001.927	3,166,056.351	40.026354	-104.907033	
14,200.00	90.00	179.52	7,510.00	-5,625.71	1,744.92	1,252,901.938	3,166,057.846	40.026079	-104.907030	
14,300.00	90.00	179.52	7,510.00	-5,725.71	1,745.76	1,252,801.950	3,166,059.341	40.025805	-104.907028	
14,400.00	90.00	179.52	7,510.00	-5,825.71	1,746.59	1,252,701.961	3,166,060.837	40.025530	-104.907025	
14,500.00	90.00	179.52	7,510.00	-5,925.70	1,747.43	1,252,601.971	3,166,062.332	40.025256	-104.907022	
14,600.00	90.00	179.52	7,510.00	-6,025.70	1,748.26	1,252,501.982	3,166,063.828	40.024981	-104.907019	
14,700.00	90.00	179.52	7,510.00	-6,125.69	1,749.09	1,252,401.993	3,166,065.323	40.024706	-104.907016	
14,800.00	90.00	179.52	7,510.00	-6,225.69	1,749.93	1,252,302.005	3,166,066.818	40.024432	-104.907013	
14,900.00	90.00	179.52	7,510.00	-6,325.69	1,750.76	1,252,202.016	3,166,068.314	40.024157	-104.907010	
15,000.00	90.00	179.52	7,510.00	-6,425.68	1,751.59	1,252,102.027	3,166,069.809	40.023883	-104.907007	
15,100.00	90.00	179.52	7,510.00	-6,525.68	1,752.43	1,252,002.038	3,166,071.304	40.023608	-104.907004	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well HERBERS 1I-20H-B167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5129.11usft (Original Well Elev)
Project:	Sec 20 T1N-R67W	MD Reference:	WELL @ 5129.11usft (Original Well Elev)
Site:	Herbers Pad	North Reference:	True
Well:	HERBERS 1I-20H-B167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Aug18 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	
15,190.95	90.00	179.52	7,510.00	-6,616.63	1,753.19	1,251,911.094	3,166,072.665	40.023359	-104.907001	
TD at 15190.95										
15,190.96	90.00	179.52	7,510.00	-6,616.64	1,753.19	1,251,911.088	3,166,072.665	40.023359	-104.907001	
HERBERS 1I-20H-B167 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										
HERBERS 1I-20H-B167	0.00	0.00	7,510.00	362.08	1,695.00	1,258,889.267	3,165,968.303	40.042517	-104.907207	
- plan hits target center										
- Point										
HERBERS 1I-20H-B167	0.00	0.00	7,510.00	-6,616.64	1,753.19	1,251,911.088	3,166,072.665	40.023359	-104.907001	
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,151.70	1,139.21	73.28	102.10	Hold 17.03 Inc, 54.33 Az	
6,965.52	6,697.97	1,066.28	1,485.79	KOP 8/100	
8,211.99	7,510.00	362.09	1,695.00	LP 90 Inc, 179.52 Az	
15,190.95	7,510.00	-6,616.63	1,753.19	TD at 15190.95	