



CRESTONE PEAK
RESOURCES

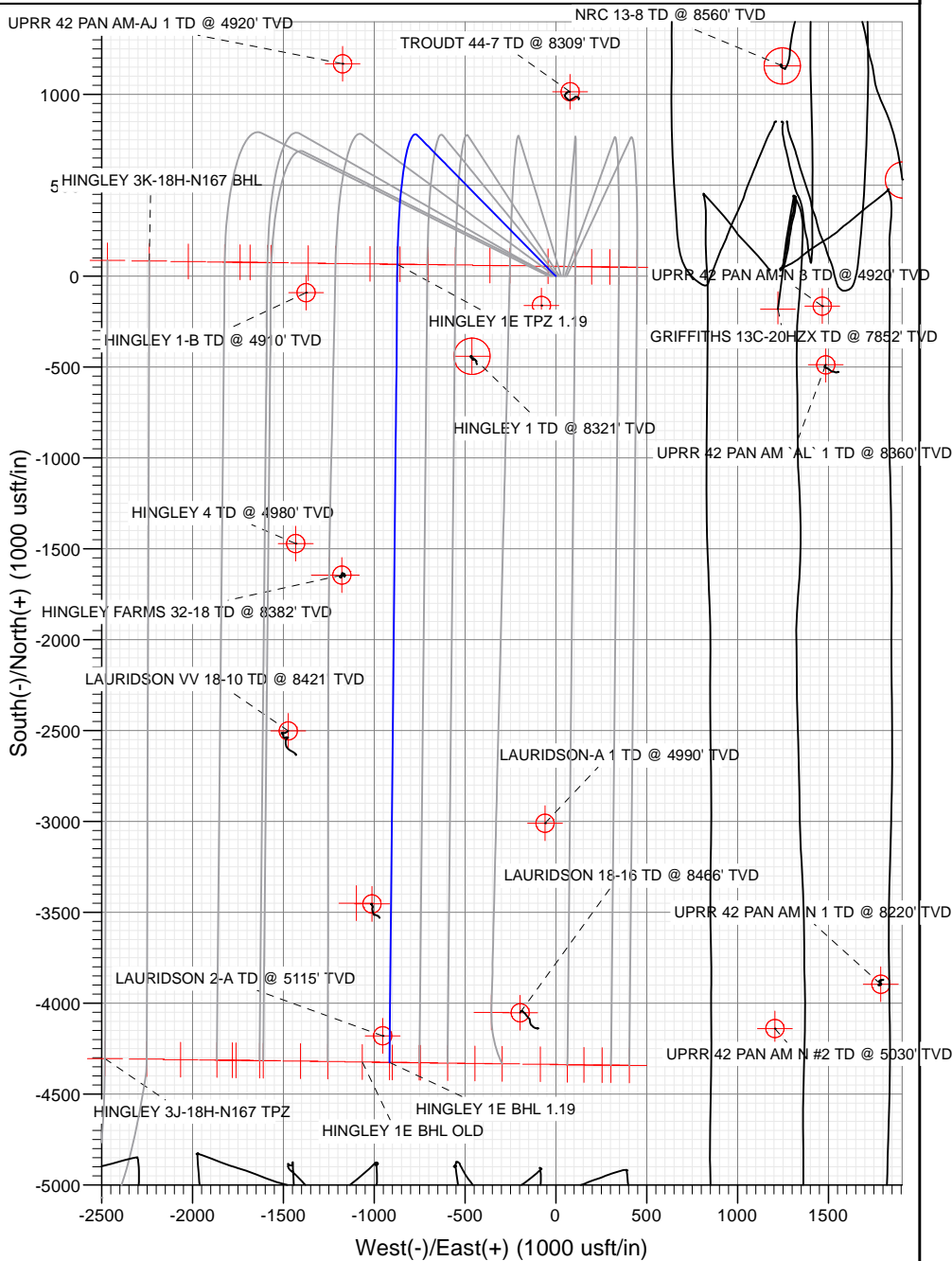
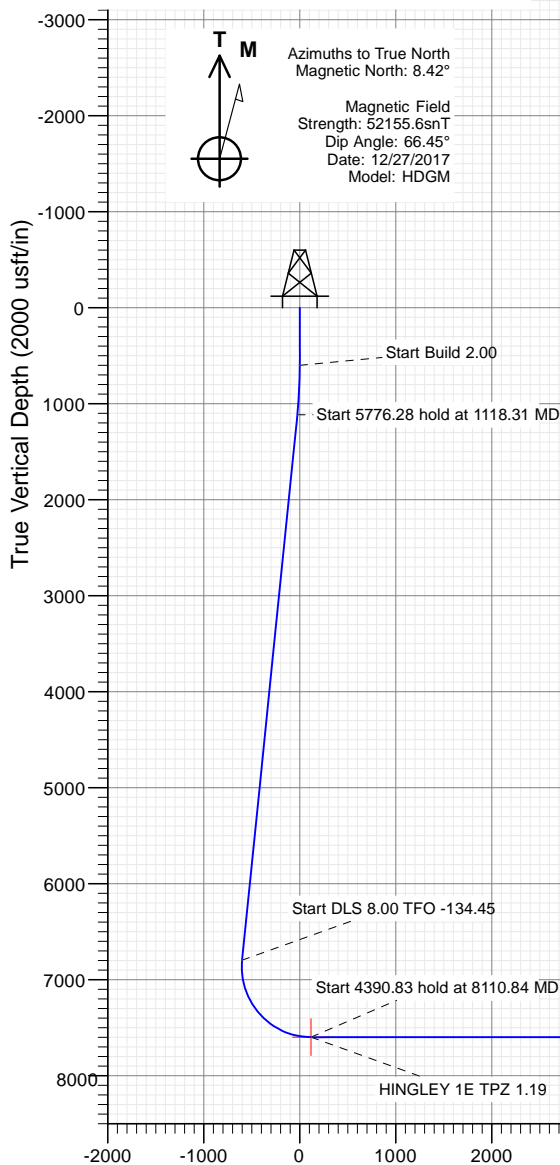
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
3	1118.31	10.37	315.50	1115.49	33.35	-32.78	2.00	315.50	-25.84	
4	6894.59	10.37	315.50	6797.48	774.64	-761.33	0.00	0.00	-600.11	
5	8110.84	90.00	180.57	7598.00	65.32	-872.10	8.00	-134.45	116.77	HINGLEY 1E TPZ 1.19
6	12501.67	90.00	180.57	7598.00	-4325.30	-915.92	0.00	0.00	4421.21	HINGLEY 1E BHL 1.19

PLAN #2
HINGLEY 1E-18H-A167
23 KB @ 5079.00usht
Ground Level @ 5056.00
North American Datum 1983
Well HINGLEY 1E-18H-A167 - Slot Hingley 1E-18H-A167 SHL True North

Type	Target	No Target (Freehand)	Azimuth	Origin Type	N/S	E/W	From TVD
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
HINGLEY 1E BHL 1.19	7598.00	-4325.30	-915.92	40.045133	-104.929301		
HINGLEY 1E BHL OLD	7598.00	-4323.11	-1065.99	40.045139	-104.929837		
HINGLEY 1E TGT	7598.00	-3450.00	-1097.00	40.047336	-104.929948		
HINGLEY 1E TPZ 1.19	7598.00	65.32	-872.10	40.057186	-104.929145		
HINGLEY 1E TPZ OLD	7598.00	67.51	-1022.13	40.057192	-104.929681		

Project: DJ BASIN
Site: S18-T1N-R67W (HINGLEY)
Well: HINGLEY 1E-18H-A167
Wellbore: OH
Design: PLAN #2



Vertical Section at 191.96° (2000 usft/in)

WELL DETAILS: HINGLEY 1E-18H-A167

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1264132.93	3160664.37	40.057007	-104.926029

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 1E-18H-A167 - Slot Hingley 1E-1
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5079.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5079.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 1E-18H-A167	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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		S18-T1N-R67W (HINGLEY)			
Site Position:		Northing:	1,257,176.93 usft	Latitude:	40.038044
From:	Lat/Long	Easting:	3,153,030.55 usft	Longitude:	-104.953454
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.35 °

Well	HINGLEY 1E-18H-A167 - Slot Hingley 1E-18H-A167 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,264,132.93 usft	Latitude:	40.057007
	+E/-W	0.00 usft	Easting:	3,160,664.37 usft	Longitude:	-104.926029
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,056.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	12/27/2017	8.42	66.45	52,155.60000000

Design	PLAN #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	191.96

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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,118.31	10.37	315.50	1,115.49	33.35	-32.78	2.00	2.00	0.00	315.50	
6,894.59	10.37	315.50	6,797.48	774.64	-761.33	0.00	0.00	0.00	0.00	
8,110.84	90.00	180.57	7,598.00	65.32	-872.10	8.00	6.55	-11.09	-134.45	HINGLEY 1E TPZ 1.1
12,501.67	90.00	180.57	7,598.00	-4,325.30	-915.92	0.00	0.00	0.00	0.00	HINGLEY 1E BHL 1.1

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 1E-18H-A167 - Slot Hingley 1E-1
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5079.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5079.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 1E-18H-A167	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
700.00	2.00	315.50	699.98	1.24	-1.22	-0.96	2.00	2.00	
800.00	4.00	315.50	799.84	4.98	-4.89	-3.86	2.00	2.00	
900.00	6.00	315.50	899.45	11.19	-11.00	-8.67	2.00	2.00	
1,000.00	8.00	315.50	998.70	19.88	-19.54	-15.40	2.00	2.00	
1,100.00	10.00	315.50	1,097.47	31.04	-30.51	-24.05	2.00	2.00	
1,118.31	10.37	315.50	1,115.49	33.35	-32.78	-25.84	2.00	2.00	
1,200.00	10.37	315.50	1,195.84	43.83	-43.08	-33.96	0.00	0.00	
1,300.00	10.37	315.50	1,294.21	56.67	-55.69	-43.90	0.00	0.00	
1,400.00	10.37	315.50	1,392.58	69.50	-68.31	-53.84	0.00	0.00	
1,500.00	10.37	315.50	1,490.95	82.33	-80.92	-63.78	0.00	0.00	
1,600.00	10.37	315.50	1,589.31	95.17	-93.53	-73.73	0.00	0.00	
1,700.00	10.37	315.50	1,687.68	108.00	-106.14	-83.67	0.00	0.00	
1,800.00	10.37	315.50	1,786.05	120.83	-118.76	-93.61	0.00	0.00	
1,900.00	10.37	315.50	1,884.42	133.67	-131.37	-103.55	0.00	0.00	
2,000.00	10.37	315.50	1,982.79	146.50	-143.98	-113.49	0.00	0.00	
2,100.00	10.37	315.50	2,081.15	159.33	-156.60	-123.43	0.00	0.00	
2,200.00	10.37	315.50	2,179.52	172.17	-169.21	-133.38	0.00	0.00	
2,300.00	10.37	315.50	2,277.89	185.00	-181.82	-143.32	0.00	0.00	
2,400.00	10.37	315.50	2,376.26	197.83	-194.43	-153.26	0.00	0.00	
2,500.00	10.37	315.50	2,474.62	210.67	-207.05	-163.20	0.00	0.00	
2,600.00	10.37	315.50	2,572.99	223.50	-219.66	-173.14	0.00	0.00	
2,700.00	10.37	315.50	2,671.36	236.33	-232.27	-183.09	0.00	0.00	
2,800.00	10.37	315.50	2,769.73	249.17	-244.89	-193.03	0.00	0.00	
2,900.00	10.37	315.50	2,868.10	262.00	-257.50	-202.97	0.00	0.00	
3,000.00	10.37	315.50	2,966.46	274.83	-270.11	-212.91	0.00	0.00	
3,100.00	10.37	315.50	3,064.83	287.67	-282.72	-222.85	0.00	0.00	
3,200.00	10.37	315.50	3,163.20	300.50	-295.34	-232.80	0.00	0.00	
3,300.00	10.37	315.50	3,261.57	313.33	-307.95	-242.74	0.00	0.00	
3,400.00	10.37	315.50	3,359.93	326.17	-320.56	-252.68	0.00	0.00	
3,500.00	10.37	315.50	3,458.30	339.00	-333.18	-262.62	0.00	0.00	
3,600.00	10.37	315.50	3,556.67	351.83	-345.79	-272.56	0.00	0.00	
3,700.00	10.37	315.50	3,655.04	364.67	-358.40	-282.51	0.00	0.00	
3,800.00	10.37	315.50	3,753.41	377.50	-371.01	-292.45	0.00	0.00	
3,900.00	10.37	315.50	3,851.77	390.33	-383.63	-302.39	0.00	0.00	
4,000.00	10.37	315.50	3,950.14	403.17	-396.24	-312.33	0.00	0.00	
4,100.00	10.37	315.50	4,048.51	416.00	-408.85	-322.27	0.00	0.00	
4,200.00	10.37	315.50	4,146.88	428.83	-421.46	-332.22	0.00	0.00	
4,300.00	10.37	315.50	4,245.25	441.67	-434.08	-342.16	0.00	0.00	
4,400.00	10.37	315.50	4,343.61	454.50	-446.69	-352.10	0.00	0.00	
4,500.00	10.37	315.50	4,441.98	467.33	-459.30	-362.04	0.00	0.00	
4,600.00	10.37	315.50	4,540.35	480.17	-471.92	-371.98	0.00	0.00	
4,700.00	10.37	315.50	4,638.72	493.00	-484.53	-381.93	0.00	0.00	
4,800.00	10.37	315.50	4,737.08	505.83	-497.14	-391.87	0.00	0.00	
4,900.00	10.37	315.50	4,835.45	518.67	-509.75	-401.81	0.00	0.00	
5,000.00	10.37	315.50	4,933.82	531.50	-522.37	-411.75	0.00	0.00	

Cathedral Energy Services

Planning Report

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Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5079.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5079.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 1E-18H-A167	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
5,100.00	10.37	315.50	5,032.19	544.33	-534.98	-421.69	0.00	0.00	
5,200.00	10.37	315.50	5,130.56	557.17	-547.59	-431.64	0.00	0.00	
5,300.00	10.37	315.50	5,228.92	570.00	-560.21	-441.58	0.00	0.00	
5,400.00	10.37	315.50	5,327.29	582.83	-572.82	-451.52	0.00	0.00	
5,500.00	10.37	315.50	5,425.66	595.67	-585.43	-461.46	0.00	0.00	
5,600.00	10.37	315.50	5,524.03	608.50	-598.04	-471.40	0.00	0.00	
5,700.00	10.37	315.50	5,622.39	621.33	-610.66	-481.35	0.00	0.00	
5,800.00	10.37	315.50	5,720.76	634.17	-623.27	-491.29	0.00	0.00	
5,900.00	10.37	315.50	5,819.13	647.00	-635.88	-501.23	0.00	0.00	
6,000.00	10.37	315.50	5,917.50	659.83	-648.50	-511.17	0.00	0.00	
6,100.00	10.37	315.50	6,015.87	672.67	-661.11	-521.11	0.00	0.00	
6,200.00	10.37	315.50	6,114.23	685.50	-673.72	-531.06	0.00	0.00	
6,300.00	10.37	315.50	6,212.60	698.33	-686.33	-541.00	0.00	0.00	
6,400.00	10.37	315.50	6,310.97	711.17	-698.95	-550.94	0.00	0.00	
6,500.00	10.37	315.50	6,409.34	724.00	-711.56	-560.88	0.00	0.00	
6,600.00	10.37	315.50	6,507.70	736.83	-724.17	-570.82	0.00	0.00	
6,700.00	10.37	315.50	6,606.07	749.67	-736.79	-580.76	0.00	0.00	
6,800.00	10.37	315.50	6,704.44	762.50	-749.40	-590.71	0.00	0.00	
6,894.59	10.37	315.50	6,797.48	774.64	-761.33	-600.11	0.00	0.00	
6,900.00	10.07	313.73	6,802.81	775.31	-762.01	-600.63	8.00	-5.52	
7,000.00	7.47	261.82	6,901.78	780.44	-774.78	-603.00	8.00	-2.60	
7,100.00	11.72	219.20	7,000.47	771.63	-787.65	-591.71	8.00	4.26	
7,200.00	18.61	203.19	7,096.97	749.05	-800.38	-566.99	8.00	6.89	
7,300.00	26.13	195.88	7,189.40	713.15	-812.70	-529.31	8.00	7.52	
7,400.00	33.85	191.70	7,275.95	664.62	-824.40	-479.41	8.00	7.73	
7,500.00	41.67	188.94	7,354.95	604.40	-835.23	-418.26	8.00	7.82	
7,600.00	49.54	186.91	7,424.86	533.68	-844.99	-347.05	8.00	7.87	
7,700.00	57.44	185.32	7,484.31	453.82	-853.49	-267.17	8.00	7.90	
7,800.00	65.35	183.98	7,532.15	366.39	-860.56	-180.16	8.00	7.91	
7,900.00	73.28	182.80	7,567.44	273.07	-866.06	-87.73	8.00	7.92	
8,000.00	81.21	181.72	7,589.51	175.70	-869.89	8.33	8.00	7.93	
8,100.00	89.14	180.68	7,597.92	76.15	-871.98	106.14	8.00	7.93	
8,110.84	90.00	180.57	7,598.00	65.32	-872.10	116.77	8.00	7.93	
8,200.00	90.00	180.57	7,598.00	-23.84	-872.99	204.18	0.00	0.00	
8,300.00	90.00	180.57	7,598.00	-123.84	-873.98	302.21	0.00	0.00	
8,400.00	90.00	180.57	7,598.00	-223.83	-874.98	400.24	0.00	0.00	
8,500.00	90.00	180.57	7,598.00	-323.83	-875.98	498.27	0.00	0.00	
8,600.00	90.00	180.57	7,598.00	-423.82	-876.98	596.31	0.00	0.00	
8,700.00	90.00	180.57	7,598.00	-523.82	-877.98	694.34	0.00	0.00	
8,800.00	90.00	180.57	7,598.00	-623.81	-878.97	792.37	0.00	0.00	
8,900.00	90.00	180.57	7,598.00	-723.81	-879.97	890.40	0.00	0.00	
9,000.00	90.00	180.57	7,598.00	-823.80	-880.97	988.44	0.00	0.00	
9,100.00	90.00	180.57	7,598.00	-923.80	-881.97	1,086.47	0.00	0.00	
9,200.00	90.00	180.57	7,598.00	-1,023.79	-882.97	1,184.50	0.00	0.00	
9,300.00	90.00	180.57	7,598.00	-1,123.79	-883.97	1,282.53	0.00	0.00	
9,400.00	90.00	180.57	7,598.00	-1,223.78	-884.96	1,380.57	0.00	0.00	
9,500.00	90.00	180.57	7,598.00	-1,323.78	-885.96	1,478.60	0.00	0.00	
9,600.00	90.00	180.57	7,598.00	-1,423.77	-886.96	1,576.63	0.00	0.00	
9,700.00	90.00	180.57	7,598.00	-1,523.77	-887.96	1,674.66	0.00	0.00	
9,800.00	90.00	180.57	7,598.00	-1,623.76	-888.96	1,772.70	0.00	0.00	
9,900.00	90.00	180.57	7,598.00	-1,723.76	-889.95	1,870.73	0.00	0.00	
10,000.00	90.00	180.57	7,598.00	-1,823.75	-890.95	1,968.76	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 1E-18H-A167 - Slot Hingley 1E-1
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5079.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5079.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 1E-18H-A167	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
10,100.00	90.00	180.57	7,598.00	-1,923.75	-891.95	2,066.79	0.00	0.00	
10,200.00	90.00	180.57	7,598.00	-2,023.74	-892.95	2,164.83	0.00	0.00	
10,300.00	90.00	180.57	7,598.00	-2,123.74	-893.95	2,262.86	0.00	0.00	
10,400.00	90.00	180.57	7,598.00	-2,223.73	-894.95	2,360.89	0.00	0.00	
10,500.00	90.00	180.57	7,598.00	-2,323.73	-895.94	2,458.92	0.00	0.00	
10,600.00	90.00	180.57	7,598.00	-2,423.72	-896.94	2,556.96	0.00	0.00	
10,700.00	90.00	180.57	7,598.00	-2,523.72	-897.94	2,654.99	0.00	0.00	
10,800.00	90.00	180.57	7,598.00	-2,623.71	-898.94	2,753.02	0.00	0.00	
10,900.00	90.00	180.57	7,598.00	-2,723.71	-899.94	2,851.05	0.00	0.00	
11,000.00	90.00	180.57	7,598.00	-2,823.70	-900.94	2,949.09	0.00	0.00	
11,100.00	90.00	180.57	7,598.00	-2,923.70	-901.93	3,047.12	0.00	0.00	
11,200.00	90.00	180.57	7,598.00	-3,023.69	-902.93	3,145.15	0.00	0.00	
11,300.00	90.00	180.57	7,598.00	-3,123.69	-903.93	3,243.18	0.00	0.00	
11,400.00	90.00	180.57	7,598.00	-3,223.68	-904.93	3,341.22	0.00	0.00	
11,500.00	90.00	180.57	7,598.00	-3,323.68	-905.93	3,439.25	0.00	0.00	
11,600.00	90.00	180.57	7,598.00	-3,423.67	-906.92	3,537.28	0.00	0.00	
11,700.00	90.00	180.57	7,598.00	-3,523.67	-907.92	3,635.31	0.00	0.00	
11,800.00	90.00	180.57	7,598.00	-3,623.66	-908.92	3,733.35	0.00	0.00	
11,900.00	90.00	180.57	7,598.00	-3,723.66	-909.92	3,831.38	0.00	0.00	
12,000.00	90.00	180.57	7,598.00	-3,823.65	-910.92	3,929.41	0.00	0.00	
12,100.00	90.00	180.57	7,598.00	-3,923.65	-911.92	4,027.44	0.00	0.00	
12,200.00	90.00	180.57	7,598.00	-4,023.64	-912.91	4,125.48	0.00	0.00	
12,300.00	90.00	180.57	7,598.00	-4,123.64	-913.91	4,223.51	0.00	0.00	
12,400.00	90.00	180.57	7,598.00	-4,223.63	-914.91	4,321.54	0.00	0.00	
12,500.00	90.00	180.57	7,598.00	-4,323.63	-915.91	4,419.57	0.00	0.00	
12,501.67	90.00	180.57	7,598.00	-4,325.30	-915.92	4,421.21	0.00	0.00	

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
HINGLEY 1E BHL OLD - plan misses target center by 150.08usft at 12500.98usft MD (7598.00 TVD, -4324.61 N, -915.92 E) - Point	0.00	0.00	7,598.00	-4,323.11	-1,065.99	1,259,803.01	3,159,626.39	40.045139	-104.929837
HINGLEY 1E TGT - plan misses target center by 189.80usft at 11628.23usft MD (7598.00 TVD, -3451.89 N, -907.21 E) - Point	0.00	0.00	7,598.00	-3,450.00	-1,097.00	1,260,675.90	3,159,589.72	40.047536	-104.929948
HINGLEY 1E TPZ OLD - plan misses target center by 150.05usft at 8110.29usft MD (7598.00 TVD, 65.86 N, -872.09 E) - Point	0.00	0.00	7,598.00	67.51	-1,022.13	1,264,193.82	3,159,641.82	40.057192	-104.929681
HINGLEY 1E BHL 1.19 - plan hits target center - Point	0.00	0.00	7,598.00	-4,325.30	-915.92	1,259,801.79	3,159,776.46	40.045133	-104.929301
HINGLEY 1E TPZ 1.19 - plan hits target center - Point	0.00	0.00	7,598.00	65.32	-872.10	1,264,192.60	3,159,791.87	40.057186	-104.929145