



CRESTONE PEAK
RESOURCES

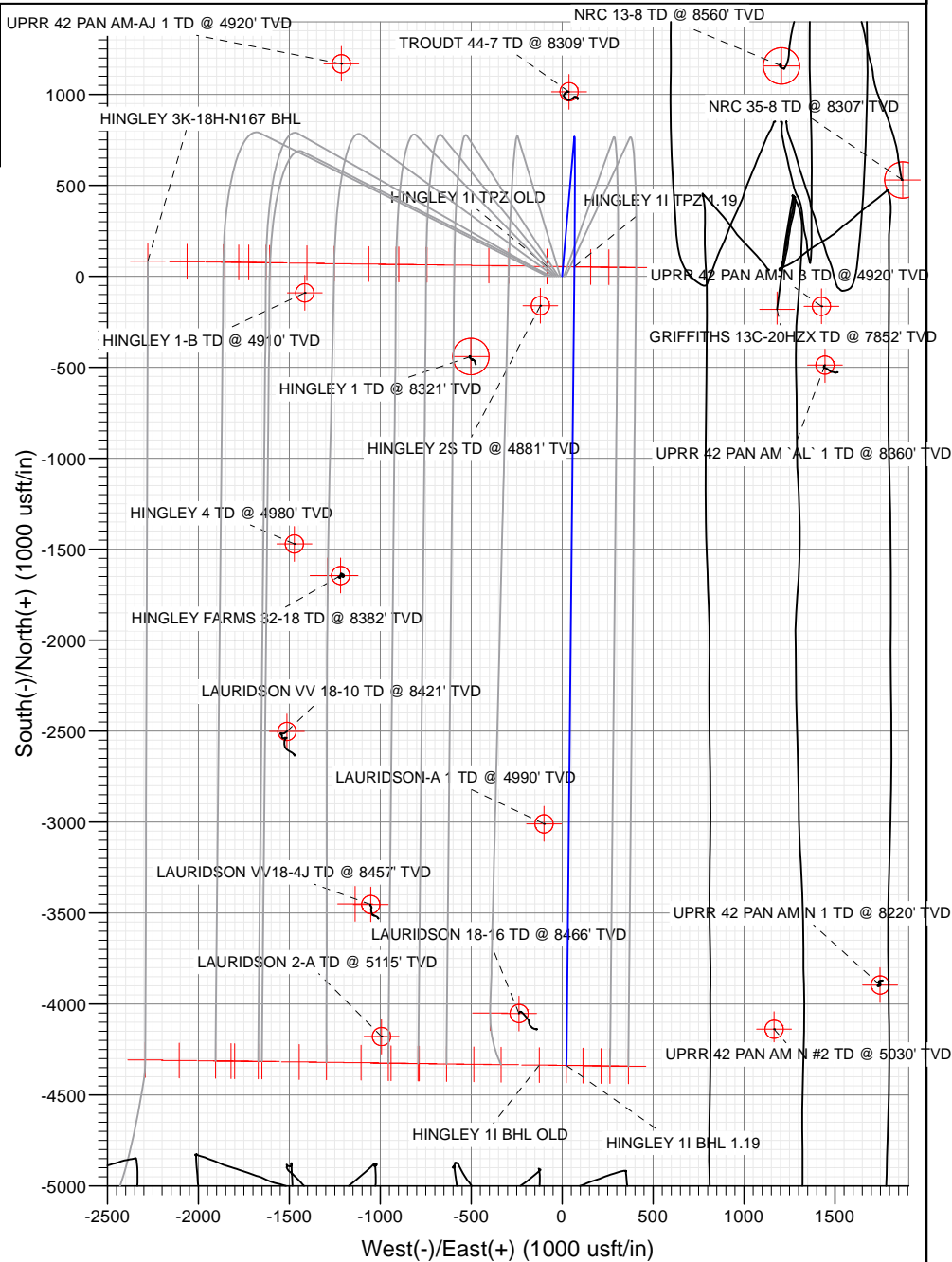
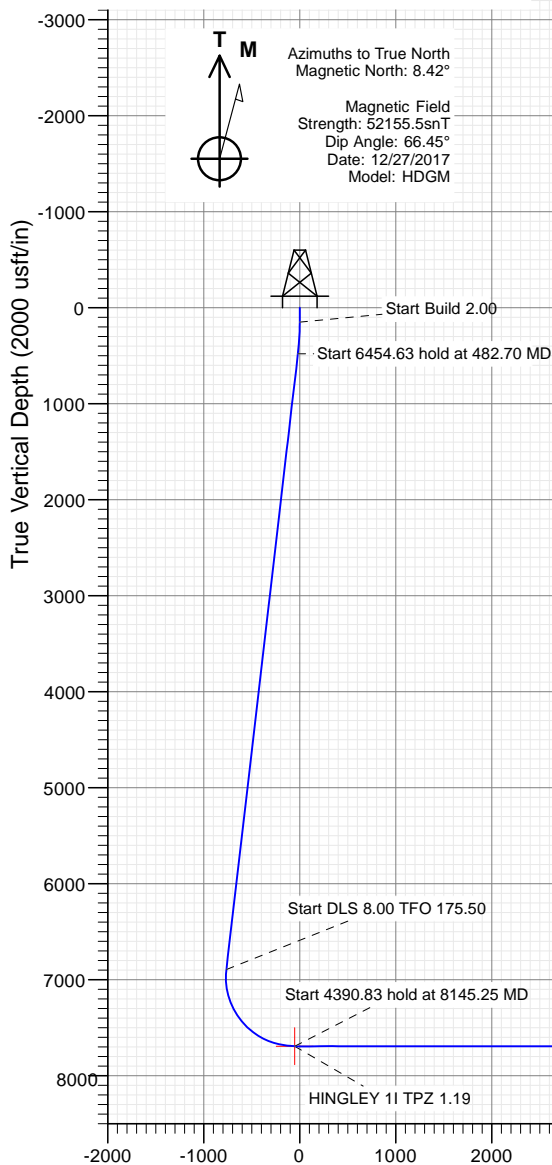
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	482.70	6.65	5.04	481.95	19.22	1.70	2.00	5.04	-19.21	
4	6937.33	6.65	5.04	6893.10	764.25	67.43	0.00	0.00	-763.87	
5	8145.25	90.00	180.57	7692.00	52.81	67.62	8.00	175.50	-52.44	HINGLEY 11 TPZ 1.19
6	12536.08	90.00	180.57	7692.00	-4337.81	23.96	0.00	0.00	4337.87	HINGLEY 11 BHL 1.19

PLAN #2
HINGLEY 11-18H-A167
23 KB @ 5081.00usft
Ground Level @ 5080.00
North American Datum 1983
Well HINGLEY 11-18H-A167 - Slot Hingley 11-18H-A167 SHL, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From
TD	No Target (Freehand)	179.68	Slot		0.00	0.00	TVD 0.00
Name		TVD	+N/-S	+E/-W	Latitude	Longitude	
HINGLEY 11 BHL 1.19		7692.00	-4337.81	23.96	40.045098	-104.925801	
HINGLEY 11 BHL OLD		7692.00	-4335.62	-125.83	40.045104	-104.926336	
HINGLEY 11 TPZ 1.19		7692.00	52.81	67.62	40.057151	-104.925645	
HINGLEY 11 TPZ OLD		7692.00	54.63	-82.14	40.057156	-104.926180	

Project: DJ BASIN
Site: S18-T1N-R67W (HINGLEY)
Well: HINGLEY 11-18H-A167
Wellbore: OH
Design: PLAN #2



WELL DETAILS: HINGLEY 11-18H-A167

+N/-S	+E/-W	North	East	5080.00	Latitude	Longitude
0.00	0.00	1264132.93	3160704.37		40.057006	-104.925887

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 1I-18H-A167 - Slot Hingley 1I-18
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5081.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5081.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 1I-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 1I-18H-A167 - Slot Hingley 1I-18H-A167 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,264,132.93 usft	Latitude:	40.057006
	+E/-W	0.00 usft	Easting:	3,160,704.37 usft	Longitude:	-104.925887
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,058.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	12/27/2017	8.42	66.45	52,155.50000000

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	179.68

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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
482.70	6.65	5.04	481.95	19.22	1.70	2.00	2.00	0.00	5.04	
6,937.33	6.65	5.04	6,893.10	764.25	67.43	0.00	0.00	0.00	0.00	
8,145.25	90.00	180.57	7,692.00	52.81	67.62	8.00	6.90	14.53	175.50	HINGLEY 1I TPZ 1.1%
12,536.08	90.00	180.57	7,692.00	-4,337.81	23.96	0.00	0.00	0.00	0.00	HINGLEY 1I BHL 1.1%

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 11-18H-A167 - Slot Hingley 11-18
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5081.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5081.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 11-18H-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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.00	5.04	200.00	0.43	0.04	-0.43	2.00	2.00	
300.00	3.00	5.04	299.93	3.91	0.35	-3.91	2.00	2.00	
400.00	5.00	5.04	399.68	10.86	0.96	-10.85	2.00	2.00	
482.70	6.65	5.04	481.95	19.22	1.70	-19.21	2.00	2.00	
500.00	6.65	5.04	499.14	21.22	1.87	-21.21	0.00	0.00	
600.00	6.65	5.04	598.46	32.76	2.89	-32.75	0.00	0.00	
700.00	6.65	5.04	697.79	44.30	3.91	-44.28	0.00	0.00	
800.00	6.65	5.04	797.12	55.85	4.93	-55.82	0.00	0.00	
900.00	6.65	5.04	896.44	67.39	5.95	-67.36	0.00	0.00	
1,000.00	6.65	5.04	995.77	78.93	6.96	-78.89	0.00	0.00	
1,100.00	6.65	5.04	1,095.09	90.47	7.98	-90.43	0.00	0.00	
1,200.00	6.65	5.04	1,194.42	102.02	9.00	-101.97	0.00	0.00	
1,300.00	6.65	5.04	1,293.75	113.56	10.02	-113.50	0.00	0.00	
1,400.00	6.65	5.04	1,393.07	125.10	11.04	-125.04	0.00	0.00	
1,500.00	6.65	5.04	1,492.40	136.64	12.06	-136.58	0.00	0.00	
1,600.00	6.65	5.04	1,591.73	148.19	13.07	-148.11	0.00	0.00	
1,700.00	6.65	5.04	1,691.05	159.73	14.09	-159.65	0.00	0.00	
1,800.00	6.65	5.04	1,790.38	171.27	15.11	-171.19	0.00	0.00	
1,900.00	6.65	5.04	1,889.71	182.81	16.13	-182.72	0.00	0.00	
2,000.00	6.65	5.04	1,989.03	194.36	17.15	-194.26	0.00	0.00	
2,100.00	6.65	5.04	2,088.36	205.90	18.17	-205.80	0.00	0.00	
2,200.00	6.65	5.04	2,187.68	217.44	19.18	-217.33	0.00	0.00	
2,300.00	6.65	5.04	2,287.01	228.98	20.20	-228.87	0.00	0.00	
2,400.00	6.65	5.04	2,386.34	240.53	21.22	-240.41	0.00	0.00	
2,500.00	6.65	5.04	2,485.66	252.07	22.24	-251.94	0.00	0.00	
2,600.00	6.65	5.04	2,584.99	263.61	23.26	-263.48	0.00	0.00	
2,700.00	6.65	5.04	2,684.32	275.15	24.28	-275.02	0.00	0.00	
2,800.00	6.65	5.04	2,783.64	286.70	25.29	-286.55	0.00	0.00	
2,900.00	6.65	5.04	2,882.97	298.24	26.31	-298.09	0.00	0.00	
3,000.00	6.65	5.04	2,982.30	309.78	27.33	-309.63	0.00	0.00	
3,100.00	6.65	5.04	3,081.62	321.32	28.35	-321.16	0.00	0.00	
3,200.00	6.65	5.04	3,180.95	332.87	29.37	-332.70	0.00	0.00	
3,300.00	6.65	5.04	3,280.28	344.41	30.39	-344.24	0.00	0.00	
3,400.00	6.65	5.04	3,379.60	355.95	31.40	-355.77	0.00	0.00	
3,500.00	6.65	5.04	3,478.93	367.50	32.42	-367.31	0.00	0.00	
3,600.00	6.65	5.04	3,578.25	379.04	33.44	-378.85	0.00	0.00	
3,700.00	6.65	5.04	3,677.58	390.58	34.46	-390.38	0.00	0.00	
3,800.00	6.65	5.04	3,776.91	402.12	35.48	-401.92	0.00	0.00	
3,900.00	6.65	5.04	3,876.23	413.67	36.50	-413.46	0.00	0.00	
4,000.00	6.65	5.04	3,975.56	425.21	37.52	-424.99	0.00	0.00	
4,100.00	6.65	5.04	4,074.89	436.75	38.53	-436.53	0.00	0.00	
4,200.00	6.65	5.04	4,174.21	448.29	39.55	-448.07	0.00	0.00	
4,300.00	6.65	5.04	4,273.54	459.84	40.57	-459.60	0.00	0.00	
4,400.00	6.65	5.04	4,372.87	471.38	41.59	-471.14	0.00	0.00	
4,500.00	6.65	5.04	4,472.19	482.92	42.61	-482.68	0.00	0.00	
4,600.00	6.65	5.04	4,571.52	494.46	43.63	-494.21	0.00	0.00	
4,700.00	6.65	5.04	4,670.84	506.01	44.64	-505.75	0.00	0.00	
4,800.00	6.65	5.04	4,770.17	517.55	45.66	-517.29	0.00	0.00	
4,900.00	6.65	5.04	4,869.50	529.09	46.68	-528.82	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 11-18H-A167 - Slot Hingley 11-18
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5081.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5081.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 11-18H-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
5,000.00	6.65	5.04	4,968.82	540.63	47.70	-540.36	0.00	0.00	
5,100.00	6.65	5.04	5,068.15	552.18	48.72	-551.90	0.00	0.00	
5,200.00	6.65	5.04	5,167.48	563.72	49.74	-563.43	0.00	0.00	
5,300.00	6.65	5.04	5,266.80	575.26	50.75	-574.97	0.00	0.00	
5,400.00	6.65	5.04	5,366.13	586.80	51.77	-586.51	0.00	0.00	
5,500.00	6.65	5.04	5,465.46	598.35	52.79	-598.04	0.00	0.00	
5,600.00	6.65	5.04	5,564.78	609.89	53.81	-609.58	0.00	0.00	
5,700.00	6.65	5.04	5,664.11	621.43	54.83	-621.12	0.00	0.00	
5,800.00	6.65	5.04	5,763.44	632.97	55.85	-632.65	0.00	0.00	
5,900.00	6.65	5.04	5,862.76	644.52	56.86	-644.19	0.00	0.00	
6,000.00	6.65	5.04	5,962.09	656.06	57.88	-655.73	0.00	0.00	
6,100.00	6.65	5.04	6,061.41	667.60	58.90	-667.27	0.00	0.00	
6,200.00	6.65	5.04	6,160.74	679.14	59.92	-678.80	0.00	0.00	
6,300.00	6.65	5.04	6,260.07	690.69	60.94	-690.34	0.00	0.00	
6,400.00	6.65	5.04	6,359.39	702.23	61.96	-701.88	0.00	0.00	
6,500.00	6.65	5.04	6,458.72	713.77	62.97	-713.41	0.00	0.00	
6,600.00	6.65	5.04	6,558.05	725.31	63.99	-724.95	0.00	0.00	
6,700.00	6.65	5.04	6,657.37	736.86	65.01	-736.49	0.00	0.00	
6,800.00	6.65	5.04	6,756.70	748.40	66.03	-748.02	0.00	0.00	
6,900.00	6.65	5.04	6,856.03	759.94	67.05	-759.56	0.00	0.00	
6,937.33	6.65	5.04	6,893.10	764.25	67.43	-763.87	0.00	0.00	
7,000.00	1.70	18.40	6,955.59	768.75	68.04	-768.36	8.00	-7.90	
7,100.00	6.40	175.92	7,055.42	764.59	68.91	-764.20	8.00	4.70	
7,200.00	14.39	178.54	7,153.70	746.58	69.62	-746.19	8.00	7.99	
7,300.00	22.39	179.30	7,248.51	715.07	70.17	-714.67	8.00	8.00	
7,400.00	30.38	179.68	7,338.02	670.67	70.55	-670.27	8.00	8.00	
7,500.00	38.38	179.91	7,420.48	614.24	70.73	-613.84	8.00	8.00	
7,600.00	46.38	180.07	7,494.29	546.89	70.74	-546.49	8.00	8.00	
7,700.00	54.38	180.20	7,558.01	469.92	70.55	-469.52	8.00	8.00	
7,800.00	62.38	180.30	7,610.39	384.83	70.18	-384.44	8.00	8.00	
7,900.00	70.38	180.38	7,650.42	293.28	69.63	-292.89	8.00	8.00	
8,000.00	78.38	180.46	7,677.32	197.06	68.92	-196.67	8.00	8.00	
8,100.00	86.38	180.54	7,690.57	98.02	68.06	-97.65	8.00	8.00	
8,145.25	90.00	180.57	7,692.00	52.81	67.62	-52.44	8.00	8.00	
8,200.00	90.00	180.57	7,692.00	-1.94	67.08	2.31	0.00	0.00	
8,300.00	90.00	180.57	7,692.00	-101.94	66.08	102.30	0.00	0.00	
8,400.00	90.00	180.57	7,692.00	-201.93	65.09	202.29	0.00	0.00	
8,500.00	90.00	180.57	7,692.00	-301.93	64.09	302.28	0.00	0.00	
8,600.00	90.00	180.57	7,692.00	-401.92	63.10	402.26	0.00	0.00	
8,700.00	90.00	180.57	7,692.00	-501.92	62.10	502.25	0.00	0.00	
8,800.00	90.00	180.57	7,692.00	-601.91	61.11	602.24	0.00	0.00	
8,900.00	90.00	180.57	7,692.00	-701.91	60.12	702.23	0.00	0.00	
9,000.00	90.00	180.57	7,692.00	-801.90	59.12	802.22	0.00	0.00	
9,100.00	90.00	180.57	7,692.00	-901.90	58.13	902.20	0.00	0.00	
9,200.00	90.00	180.57	7,692.00	-1,001.89	57.13	1,002.19	0.00	0.00	
9,300.00	90.00	180.57	7,692.00	-1,101.89	56.14	1,102.18	0.00	0.00	
9,400.00	90.00	180.57	7,692.00	-1,201.88	55.14	1,202.17	0.00	0.00	
9,500.00	90.00	180.57	7,692.00	-1,301.88	54.15	1,302.16	0.00	0.00	
9,600.00	90.00	180.57	7,692.00	-1,401.87	53.15	1,402.14	0.00	0.00	
9,700.00	90.00	180.57	7,692.00	-1,501.87	52.16	1,502.13	0.00	0.00	
9,800.00	90.00	180.57	7,692.00	-1,601.86	51.17	1,602.12	0.00	0.00	
9,900.00	90.00	180.57	7,692.00	-1,701.86	50.17	1,702.11	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HINGLEY 1I-18H-A167 - Slot Hingley 1I-18
Company:	Crestone Peak Resources	TVD Reference:	23' KB @ 5081.00usft
Project:	DJ BASIN	MD Reference:	23' KB @ 5081.00usft
Site:	S18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	HINGLEY 1I-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
10,000.00	90.00	180.57	7,692.00	-1,801.85	49.18	1,802.10	0.00	0.00	
10,100.00	90.00	180.57	7,692.00	-1,901.85	48.18	1,902.08	0.00	0.00	
10,200.00	90.00	180.57	7,692.00	-2,001.84	47.19	2,002.07	0.00	0.00	
10,300.00	90.00	180.57	7,692.00	-2,101.84	46.19	2,102.06	0.00	0.00	
10,400.00	90.00	180.57	7,692.00	-2,201.83	45.20	2,202.05	0.00	0.00	
10,500.00	90.00	180.57	7,692.00	-2,301.83	44.20	2,302.04	0.00	0.00	
10,600.00	90.00	180.57	7,692.00	-2,401.82	43.21	2,402.02	0.00	0.00	
10,700.00	90.00	180.57	7,692.00	-2,501.82	42.22	2,502.01	0.00	0.00	
10,800.00	90.00	180.57	7,692.00	-2,601.81	41.22	2,602.00	0.00	0.00	
10,900.00	90.00	180.57	7,692.00	-2,701.81	40.23	2,701.99	0.00	0.00	
11,000.00	90.00	180.57	7,692.00	-2,801.80	39.23	2,801.98	0.00	0.00	
11,100.00	90.00	180.57	7,692.00	-2,901.80	38.24	2,901.96	0.00	0.00	
11,200.00	90.00	180.57	7,692.00	-3,001.79	37.24	3,001.95	0.00	0.00	
11,300.00	90.00	180.57	7,692.00	-3,101.79	36.25	3,101.94	0.00	0.00	
11,400.00	90.00	180.57	7,692.00	-3,201.78	35.26	3,201.93	0.00	0.00	
11,500.00	90.00	180.57	7,692.00	-3,301.78	34.26	3,301.92	0.00	0.00	
11,600.00	90.00	180.57	7,692.00	-3,401.77	33.27	3,401.90	0.00	0.00	
11,700.00	90.00	180.57	7,692.00	-3,501.77	32.27	3,501.89	0.00	0.00	
11,800.00	90.00	180.57	7,692.00	-3,601.76	31.28	3,601.88	0.00	0.00	
11,900.00	90.00	180.57	7,692.00	-3,701.76	30.28	3,701.87	0.00	0.00	
12,000.00	90.00	180.57	7,692.00	-3,801.75	29.29	3,801.86	0.00	0.00	
12,100.00	90.00	180.57	7,692.00	-3,901.75	28.29	3,901.84	0.00	0.00	
12,200.00	90.00	180.57	7,692.00	-4,001.74	27.30	4,001.83	0.00	0.00	
12,300.00	90.00	180.57	7,692.00	-4,101.74	26.31	4,101.82	0.00	0.00	
12,400.00	90.00	180.57	7,692.00	-4,201.73	25.31	4,201.81	0.00	0.00	
12,500.00	90.00	180.57	7,692.00	-4,301.73	24.32	4,301.80	0.00	0.00	
12,536.08	90.00	180.57	7,692.00	-4,337.81	23.96	4,337.87	0.00	0.00	

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									
HINGLEY 1I TPZ OLD	0.00	0.00	7,692.00	54.63	-82.14	1,264,187.03	3,160,621.88	40.057156	-104.926180
- plan misses target center by 149.77usft at 8144.87usft MD (7692.00 TVD, 53.18 N, 67.62 E)									
- Point									
HINGLEY 1I BHL OLD	0.00	0.00	7,692.00	-4,335.62	-125.83	1,259,796.59	3,160,606.62	40.045104	-104.926336
- plan misses target center by 149.80usft at 12535.38usft MD (7692.00 TVD, -4337.11 N, 23.96 E)									
- Point									
HINGLEY 1I BHL 1.19	0.00	0.00	7,692.00	-4,337.81	23.96	1,259,795.37	3,160,756.41	40.045098	-104.925801
- plan hits target center									
- Point									
HINGLEY 1I TPZ 1.19	0.00	0.00	7,692.00	52.81	67.62	1,264,186.18	3,160,771.65	40.057151	-104.925645
- plan hits target center									
- Point									