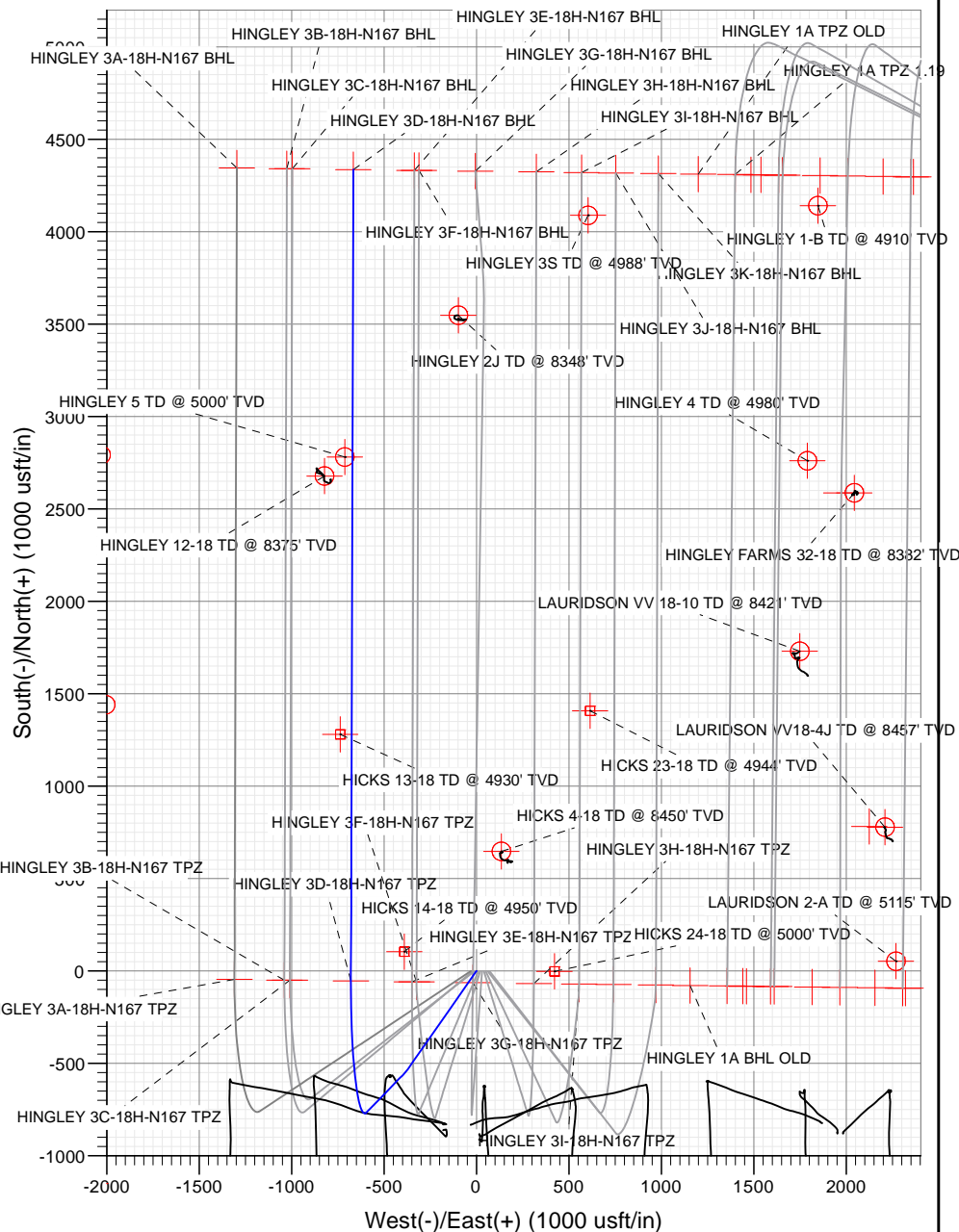
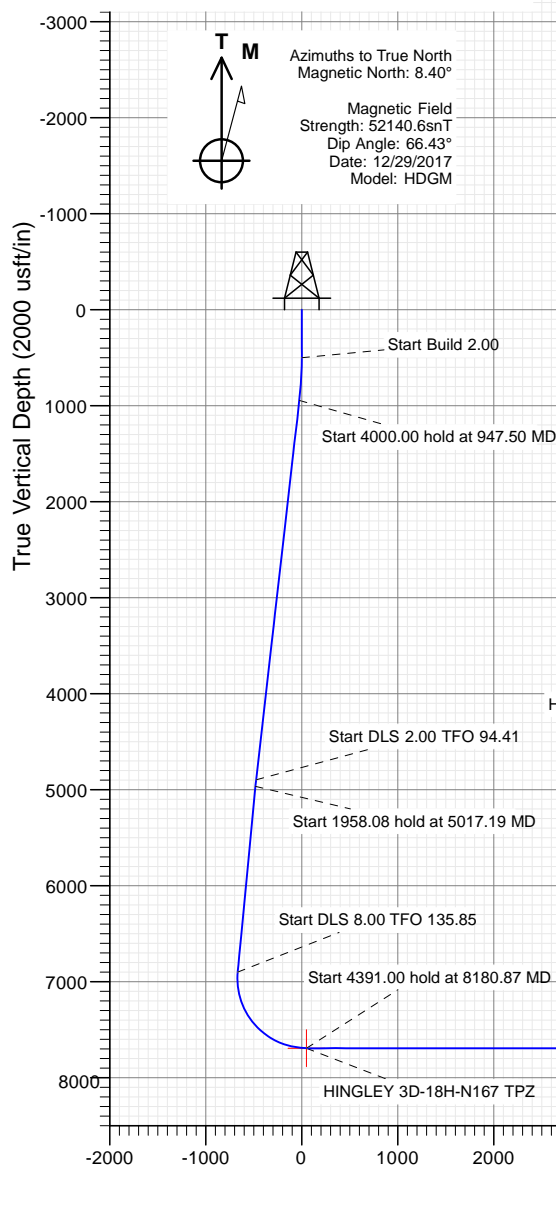




Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	947.50	8.95	215.00	945.68	-28.57	-20.01	2.00	215.00	-25.20	
4	4947.50	8.95	215.00	4896.98	-538.32	-376.94	0.00	0.00	-474.86	
5	5017.19	8.95	223.97	4965.83	-546.67	-383.81	2.00	94.41	-482.06	
6	6975.27	8.95	223.97	6900.06	-765.92	-595.31	0.00	0.00	-666.67	
7	8180.87	90.00	0.17	7692.00	-54.00	-679.48	8.00	135.85	49.78	HINGLEY 3D-18H-N167 TPZ
8	12571.87	90.00	0.17	7692.00	4336.98	-666.21	0.00	0.00	4387.85	HINGLEY 3D-18H-N167 BHL

Project: DJ BASIN  
Site: S18-T1N-R67W (HINGLEY)  
Well: HINGLEY 3D-18H-N167  
Wellbore: OH  
Design: PLAN #2



Vertical Section at 351.27° (2000 usft/in)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1259880.04	3157470.10	40.045388	-104.937538



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well HINGLEY 3D-18H-N167
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 5133.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 5133.00usft
<b>Site:</b>	S18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	HINGLEY 3D-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2		

<b>Project</b>	DJ BASIN		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 3D-18H-N167					
Well Position	+N/-S	0.00 usft	Northing:	1,259,880.04 usft	Latitude:	40.045388
	+E/-W	0.00 usft	Easting:	3,157,470.10 usft	Longitude:	-104.937538
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,110.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
			(°)	(°)	(nT)
	HDGM	12/29/2017	8.40	66.43	52,140.60000000

Design	PLAN #2			
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	351.27

<b>Plan Sections</b>										
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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
947.50	8.95	215.00	945.68	-28.57	-20.01	2.00	2.00	0.00	215.00	
4,947.50	8.95	215.00	4,896.98	-538.32	-376.94	0.00	0.00	0.00	0.00	
5,017.19	8.95	223.97	4,965.83	-546.67	-383.81	2.00	0.00	12.87	94.41	
6,975.27	8.95	223.97	6,900.06	-765.92	-595.31	0.00	0.00	0.00	0.00	
8,180.87	90.00	0.17	7,692.00	-54.00	-679.48	8.00	6.72	11.30	135.85	HINGLEY 3D-18H-N1
12,571.87	90.00	0.17	7,692.00	4,336.98	-666.21	0.00	0.00	0.00	0.00	HINGLEY 3D-18H-N1

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well HINGLEY 3D-18H-N167
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 5133.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 5133.00usft
<b>Site:</b>	S18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	HINGLEY 3D-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	2.00	215.00	599.98	-1.43	-1.00	-1.26	2.00	2.00	
700.00	4.00	215.00	699.84	-5.72	-4.00	-5.04	2.00	2.00	
800.00	6.00	215.00	799.45	-12.86	-9.00	-11.34	2.00	2.00	
900.00	8.00	215.00	898.70	-22.84	-15.99	-20.15	2.00	2.00	
947.50	8.95	215.00	945.68	-28.57	-20.01	-25.20	2.00	2.00	
1,000.00	8.95	215.00	997.54	-35.26	-24.69	-31.11	0.00	0.00	
1,100.00	8.95	215.00	1,096.32	-48.01	-33.61	-42.35	0.00	0.00	
1,200.00	8.95	215.00	1,195.11	-60.75	-42.54	-53.59	0.00	0.00	
1,300.00	8.95	215.00	1,293.89	-73.49	-51.46	-64.83	0.00	0.00	
1,400.00	8.95	215.00	1,392.67	-86.24	-60.38	-76.07	0.00	0.00	
1,500.00	8.95	215.00	1,491.45	-98.98	-69.31	-87.31	0.00	0.00	
1,600.00	8.95	215.00	1,590.23	-111.72	-78.23	-98.55	0.00	0.00	
1,700.00	8.95	215.00	1,689.02	-124.47	-87.15	-109.80	0.00	0.00	
1,800.00	8.95	215.00	1,787.80	-137.21	-96.08	-121.04	0.00	0.00	
1,900.00	8.95	215.00	1,886.58	-149.96	-105.00	-132.28	0.00	0.00	
2,000.00	8.95	215.00	1,985.36	-162.70	-113.92	-143.52	0.00	0.00	
2,100.00	8.95	215.00	2,084.15	-175.44	-122.85	-154.76	0.00	0.00	
2,200.00	8.95	215.00	2,182.93	-188.19	-131.77	-166.00	0.00	0.00	
2,300.00	8.95	215.00	2,281.71	-200.93	-140.69	-177.24	0.00	0.00	
2,400.00	8.95	215.00	2,380.49	-213.67	-149.62	-188.49	0.00	0.00	
2,500.00	8.95	215.00	2,479.27	-226.42	-158.54	-199.73	0.00	0.00	
2,599.99	8.95	215.00	2,578.06	-239.16	-167.46	-210.97	0.00	0.00	
2,699.99	8.95	215.00	2,676.84	-251.91	-176.39	-222.21	0.00	0.00	
2,799.99	8.95	215.00	2,775.62	-264.65	-185.31	-233.45	0.00	0.00	
2,899.99	8.95	215.00	2,874.40	-277.39	-194.23	-244.69	0.00	0.00	
2,999.99	8.95	215.00	2,973.19	-290.14	-203.16	-255.93	0.00	0.00	
3,099.99	8.95	215.00	3,071.97	-302.88	-212.08	-267.17	0.00	0.00	
3,199.99	8.95	215.00	3,170.75	-315.62	-221.00	-278.42	0.00	0.00	
3,299.99	8.95	215.00	3,269.53	-328.37	-229.93	-289.66	0.00	0.00	
3,399.99	8.95	215.00	3,368.32	-341.11	-238.85	-300.90	0.00	0.00	
3,499.99	8.95	215.00	3,467.10	-353.86	-247.77	-312.14	0.00	0.00	
3,599.99	8.95	215.00	3,565.88	-366.60	-256.70	-323.38	0.00	0.00	
3,699.99	8.95	215.00	3,664.66	-379.34	-265.62	-334.62	0.00	0.00	
3,799.99	8.95	215.00	3,763.44	-392.09	-274.54	-345.86	0.00	0.00	
3,899.99	8.95	215.00	3,862.23	-404.83	-283.47	-357.11	0.00	0.00	
3,999.99	8.95	215.00	3,961.01	-417.57	-292.39	-368.35	0.00	0.00	
4,099.99	8.95	215.00	4,059.79	-430.32	-301.31	-379.59	0.00	0.00	
4,199.99	8.95	215.00	4,158.57	-443.06	-310.24	-390.83	0.00	0.00	
4,299.99	8.95	215.00	4,257.36	-455.81	-319.16	-402.07	0.00	0.00	
4,399.99	8.95	215.00	4,356.14	-468.55	-328.08	-413.31	0.00	0.00	
4,499.99	8.95	215.00	4,454.92	-481.29	-337.00	-424.55	0.00	0.00	
4,599.99	8.95	215.00	4,553.70	-494.04	-345.93	-435.80	0.00	0.00	
4,699.99	8.95	215.00	4,652.48	-506.78	-354.85	-447.04	0.00	0.00	
4,799.99	8.95	215.00	4,751.27	-519.52	-363.77	-458.28	0.00	0.00	
4,899.99	8.95	215.00	4,850.05	-532.27	-372.70	-469.52	0.00	0.00	
4,947.50	8.95	215.00	4,896.98	-538.32	-376.94	-474.86	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well HINGLEY 3D-18H-N167
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 5133.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 5133.00usft
<b>Site:</b>	S18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	HINGLEY 3D-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
4,999.99	8.93	221.76	4,948.83	-544.71	-381.99	-480.40	2.00	-0.04	
5,017.19	8.95	223.97	4,965.83	-546.67	-383.81	-482.06	2.00	0.12	
5,099.99	8.95	223.97	5,047.62	-555.94	-392.75	-489.87	0.00	0.00	
5,199.99	8.95	223.97	5,146.40	-567.13	-403.56	-499.30	0.00	0.00	
5,299.99	8.95	223.97	5,245.18	-578.33	-414.36	-508.73	0.00	0.00	
5,399.99	8.95	223.97	5,343.96	-589.53	-425.16	-518.15	0.00	0.00	
5,499.99	8.95	223.97	5,442.75	-600.73	-435.96	-527.58	0.00	0.00	
5,599.99	8.95	223.97	5,541.53	-611.92	-446.76	-537.01	0.00	0.00	
5,699.99	8.95	223.97	5,640.31	-623.12	-457.56	-546.44	0.00	0.00	
5,799.99	8.95	223.97	5,739.09	-634.32	-468.36	-555.87	0.00	0.00	
5,899.99	8.95	223.97	5,837.87	-645.52	-479.17	-565.29	0.00	0.00	
5,999.99	8.95	223.97	5,936.66	-656.71	-489.97	-574.72	0.00	0.00	
6,099.99	8.95	223.97	6,035.44	-667.91	-500.77	-584.15	0.00	0.00	
6,199.99	8.95	223.97	6,134.22	-679.11	-511.57	-593.58	0.00	0.00	
6,299.99	8.95	223.97	6,233.00	-690.31	-522.37	-603.01	0.00	0.00	
6,399.99	8.95	223.97	6,331.78	-701.50	-533.17	-612.43	0.00	0.00	
6,499.99	8.95	223.97	6,430.57	-712.70	-543.97	-621.86	0.00	0.00	
6,599.99	8.95	223.97	6,529.35	-723.90	-554.77	-631.29	0.00	0.00	
6,699.99	8.95	223.97	6,628.13	-735.10	-565.58	-640.72	0.00	0.00	
6,799.99	8.95	223.97	6,726.91	-746.29	-576.38	-650.15	0.00	0.00	
6,899.99	8.95	223.97	6,825.69	-757.49	-587.18	-659.57	0.00	0.00	
6,975.27	8.95	223.97	6,900.06	-765.92	-595.31	-666.67	0.00	0.00	
6,999.99	7.66	234.36	6,924.52	-768.27	-597.98	-668.58	8.00	-5.24	
7,099.99	7.15	299.82	7,023.85	-769.05	-608.81	-667.72	8.00	-0.51	
7,199.99	13.08	332.19	7,122.32	-755.93	-619.51	-653.12	8.00	5.93	
7,299.99	20.46	343.18	7,218.02	-729.15	-629.86	-625.08	8.00	7.38	
7,399.99	28.17	348.43	7,309.10	-689.23	-639.66	-584.13	8.00	7.71	
7,499.99	36.00	351.54	7,393.76	-636.95	-648.74	-531.08	8.00	7.83	
7,599.98	43.88	353.67	7,470.38	-573.33	-656.89	-466.96	8.00	7.88	
7,699.98	51.80	355.25	7,537.45	-499.61	-663.98	-393.02	8.00	7.91	
7,799.98	59.73	356.53	7,593.67	-417.21	-669.86	-310.69	8.00	7.93	
7,899.98	67.67	357.61	7,637.94	-327.76	-674.42	-221.58	8.00	7.94	
7,999.98	75.62	358.57	7,669.41	-232.98	-677.56	-127.42	8.00	7.95	
8,099.98	83.57	359.47	7,687.46	-134.71	-679.23	-30.04	8.00	7.95	
8,180.87	90.00	0.17	7,692.00	-54.00	-679.48	49.78	8.00	7.95	HINGLEY 3D-18H-N167 TPZ
8,199.98	90.00	0.17	7,692.00	-34.89	-679.42	68.66	0.00	0.00	
8,299.98	90.00	0.17	7,692.00	65.11	-679.12	167.46	0.00	0.00	
8,399.98	90.00	0.17	7,692.00	165.11	-678.82	266.25	0.00	0.00	
8,499.98	90.00	0.17	7,692.00	265.11	-678.52	365.04	0.00	0.00	
8,599.98	90.00	0.17	7,692.00	365.11	-678.21	463.84	0.00	0.00	
8,699.98	90.00	0.17	7,692.00	465.11	-677.91	562.63	0.00	0.00	
8,799.98	90.00	0.17	7,692.00	565.11	-677.61	661.43	0.00	0.00	
8,899.98	90.00	0.17	7,692.00	665.11	-677.31	760.22	0.00	0.00	
8,999.98	90.00	0.17	7,692.00	765.11	-677.01	859.02	0.00	0.00	
9,099.98	90.00	0.17	7,692.00	865.11	-676.70	957.81	0.00	0.00	
9,199.98	90.00	0.17	7,692.00	965.11	-676.40	1,056.61	0.00	0.00	
9,299.98	90.00	0.17	7,692.00	1,065.11	-676.10	1,155.40	0.00	0.00	
9,399.98	90.00	0.17	7,692.00	1,165.11	-675.80	1,254.19	0.00	0.00	
9,499.98	90.00	0.17	7,692.00	1,265.11	-675.49	1,352.99	0.00	0.00	
9,599.98	90.00	0.17	7,692.00	1,365.10	-675.19	1,451.78	0.00	0.00	
9,699.98	90.00	0.17	7,692.00	1,465.10	-674.89	1,550.58	0.00	0.00	
9,799.98	90.00	0.17	7,692.00	1,565.10	-674.59	1,649.37	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well HINGLEY 3D-18H-N167
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	23' KB @ 5133.00usft
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	23' KB @ 5133.00usft
<b>Site:</b>	S18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	HINGLEY 3D-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
9,899.98	90.00	0.17	7,692.00	1,665.10	-674.28	1,748.17	0.00	0.00	
9,999.98	90.00	0.17	7,692.00	1,765.10	-673.98	1,846.96	0.00	0.00	
10,099.98	90.00	0.17	7,692.00	1,865.10	-673.68	1,945.76	0.00	0.00	
10,199.98	90.00	0.17	7,692.00	1,965.10	-673.38	2,044.55	0.00	0.00	
10,299.98	90.00	0.17	7,692.00	2,065.10	-673.07	2,143.34	0.00	0.00	
10,399.98	90.00	0.17	7,692.00	2,165.10	-672.77	2,242.14	0.00	0.00	
10,499.98	90.00	0.17	7,692.00	2,265.10	-672.47	2,340.93	0.00	0.00	
10,599.98	90.00	0.17	7,692.00	2,365.10	-672.17	2,439.73	0.00	0.00	
10,699.98	90.00	0.17	7,692.00	2,465.10	-671.87	2,538.52	0.00	0.00	
10,799.98	90.00	0.17	7,692.00	2,565.10	-671.56	2,637.32	0.00	0.00	
10,899.98	90.00	0.17	7,692.00	2,665.10	-671.26	2,736.11	0.00	0.00	
10,999.98	90.00	0.17	7,692.00	2,765.10	-670.96	2,834.91	0.00	0.00	
11,099.98	90.00	0.17	7,692.00	2,865.10	-670.66	2,933.70	0.00	0.00	
11,199.98	90.00	0.17	7,692.00	2,965.09	-670.35	3,032.49	0.00	0.00	
11,299.98	90.00	0.17	7,692.00	3,065.09	-670.05	3,131.29	0.00	0.00	
11,399.98	90.00	0.17	7,692.00	3,165.09	-669.75	3,230.08	0.00	0.00	
11,499.98	90.00	0.17	7,692.00	3,265.09	-669.45	3,328.88	0.00	0.00	
11,599.98	90.00	0.17	7,692.00	3,365.09	-669.14	3,427.67	0.00	0.00	
11,699.98	90.00	0.17	7,692.00	3,465.09	-668.84	3,526.47	0.00	0.00	
11,799.98	90.00	0.17	7,692.00	3,565.09	-668.54	3,625.26	0.00	0.00	
11,899.98	90.00	0.17	7,692.00	3,665.09	-668.24	3,724.06	0.00	0.00	
11,999.98	90.00	0.17	7,692.00	3,765.09	-667.93	3,822.85	0.00	0.00	
12,099.98	90.00	0.17	7,692.00	3,865.09	-667.63	3,921.64	0.00	0.00	
12,199.98	90.00	0.17	7,692.00	3,965.09	-667.33	4,020.44	0.00	0.00	
12,299.98	90.00	0.17	7,692.00	4,065.09	-667.03	4,119.23	0.00	0.00	
12,399.98	90.00	0.17	7,692.00	4,165.09	-666.73	4,218.03	0.00	0.00	
12,499.98	90.00	0.17	7,692.00	4,265.09	-666.42	4,316.82	0.00	0.00	
12,571.87	90.00	0.17	7,692.00	4,336.98	-666.21	4,387.85	0.00	0.00	HINGLEY 3D-18H-N167 BHL

### 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 3D-18H-N167 - plan hits target center - Point	0.00	0.00	7,692.00	4,336.98	-666.21	1,264,212.71	3,156,776.40	40.057294	-104.939917
HINGLEY 3D-18H-N167 - plan hits target center - Point	0.00	0.00	7,692.00	-54.00	-679.48	1,259,821.74	3,156,790.97	40.045240	-104.939964