

SECTION DETAILS

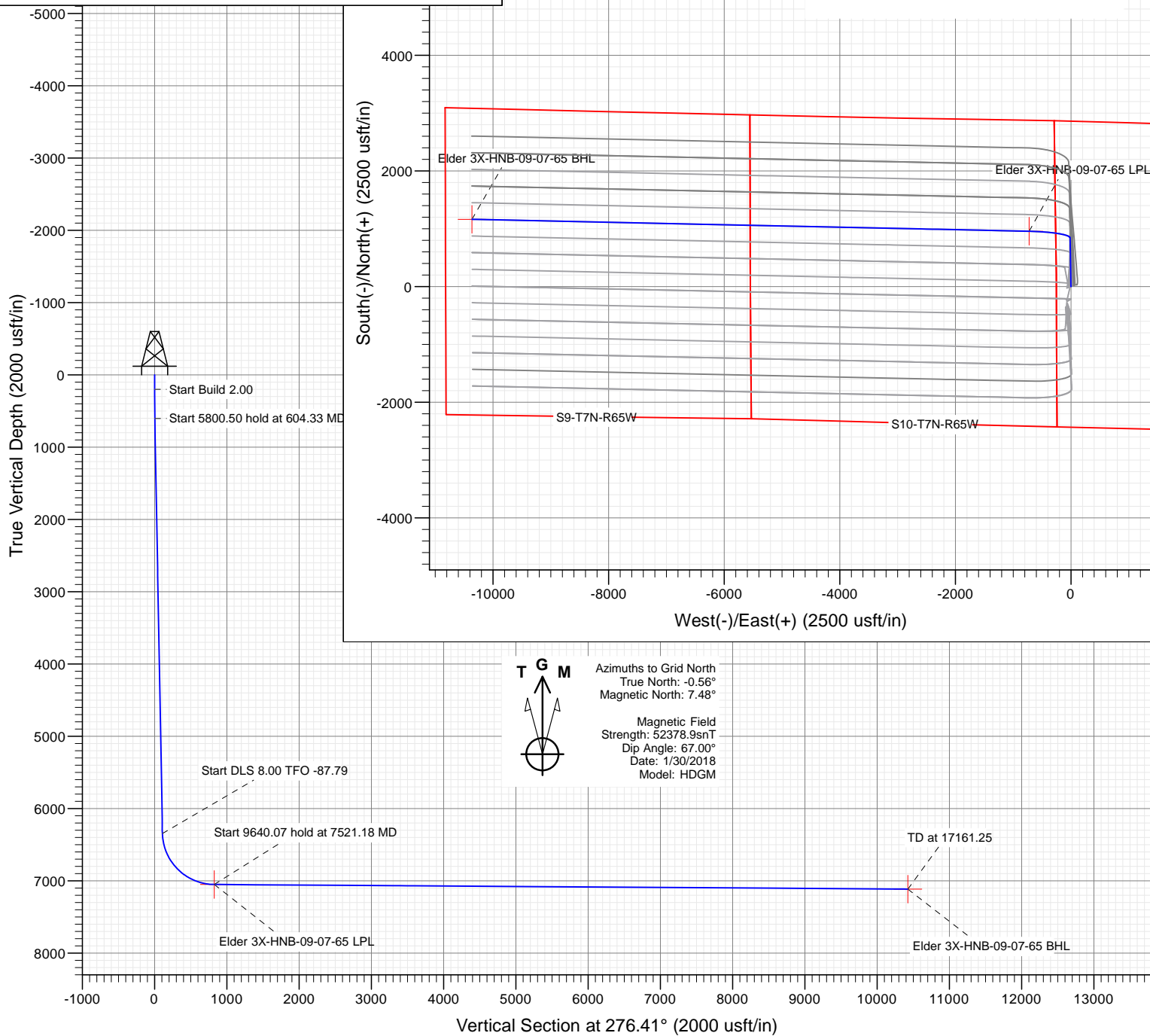
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	604.33	8.09	358.94	602.99	28.48	-0.53	2.00	358.94	3.71	
4	6404.83	8.09	358.94	6345.81	844.30	-15.68	0.00	0.00	109.83	
5	7521.18	89.63	271.22	7051.00	958.89	-724.95	8.00	-87.79	827.46	Elder 3X-HNB-09-07-65 LPL
6	17161.25	89.63	271.22	7114.00	1164.11	10362.63	0.00	0.00	0427.81	Elder 3X-HNB-09-07-65 BHL

PLAN #1
Elder 3X-HNB-09-07-65
20' KB @ 4888.00usft (Original Well Elev)
Ground Level @ 4868.00
North American Datum, 1983
Well Elder 3X-HNB-09-07-65 - Slot Elder 3X-HNB-09-07-65 SHL Grid North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
TD	No Target (Freehand)	276.41	Slot		0.00	0.00	0.00

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Elder 3X-HNB-09-07-65 LPL	7051.00	958.89	-724.95	40.590256	-104.640862
Elder 3X-HNB-09-07-65 BHL	7114.00	1164.11	-10362.63	40.591071	-104.676676

Project: WELD COUNTY, CO
Site: S11-T7N-R65W
Well: Elder 3X-HNB-09-07-65
Wellbore: OH
Design: PLAN #1



WELL DETAILS: Elder 3X-HNB-09-07-65

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1458068.45	3239295.16	40.587605	-104.638405



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 3X-HNB-09-07-65 - Slot Elder 3X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Project:	WELD COUNTY, CO	MD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 3X-HNB-09-07-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Project	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		S11-T7N-R65W			
Site Position:		Northing:	1,458,088.96 usft	Latitude:	40.587660
From:	Lat/Long	Easting:	3,239,351.48 usft	Longitude:	-104.638202
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.56 °

Well	Elder 3X-HNB-09-07-65 - Slot Elder 3X-HNB-09-07-65 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,458,068.45 usft	Latitude:	40.587605
	+E/-W	0.00 usft	Easting:	3,239,295.16 usft	Longitude:	-104.638405
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,868.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	1/30/2018	8.03	67.00	52,378.90000000

Design	PLAN #1			
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	276.41

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	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	0.00	
604.33	8.09	358.94	602.99	28.48	-0.53	2.00	2.00	0.00	358.94	
6,404.83	8.09	358.94	6,345.81	844.30	-15.68	0.00	0.00	0.00	0.00	
7,521.18	89.63	271.22	7,051.00	958.89	-724.95	8.00	7.30	-7.86	-87.79	Elder 3X-HNB-09-07-65
17,161.25	89.63	271.22	7,114.00	1,164.11	-10,362.63	0.00	0.00	0.00	0.00	Elder 3X-HNB-09-07-65

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 3X-HNB-09-07-65 - Slot Elder 3X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Project:	WELD COUNTY, CO	MD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 3X-HNB-09-07-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	2.00	358.94	299.98	1.74	-0.03	0.23	2.00	2.00	
400.00	4.00	358.94	399.84	6.98	-0.13	0.91	2.00	2.00	
500.00	6.00	358.94	499.45	15.69	-0.29	2.04	2.00	2.00	
600.00	8.00	358.94	598.70	27.88	-0.52	3.63	2.00	2.00	
604.33	8.09	358.94	602.99	28.48	-0.53	3.71	2.00	2.00	
700.00	8.09	358.94	697.71	41.94	-0.78	5.46	0.00	0.00	
800.00	8.09	358.94	796.71	56.00	-1.04	7.29	0.00	0.00	
900.00	8.09	358.94	895.72	70.07	-1.30	9.11	0.00	0.00	
1,000.00	8.09	358.94	994.72	84.13	-1.56	10.94	0.00	0.00	
1,100.00	8.09	358.94	1,093.73	98.20	-1.82	12.77	0.00	0.00	
1,200.00	8.09	358.94	1,192.74	112.26	-2.08	14.60	0.00	0.00	
1,300.00	8.09	358.94	1,291.74	126.32	-2.35	16.43	0.00	0.00	
1,400.00	8.09	358.94	1,390.75	140.39	-2.61	18.26	0.00	0.00	
1,500.00	8.09	358.94	1,489.75	154.45	-2.87	20.09	0.00	0.00	
1,600.00	8.09	358.94	1,588.76	168.52	-3.13	21.92	0.00	0.00	
1,700.00	8.09	358.94	1,687.76	182.58	-3.39	23.75	0.00	0.00	
1,800.00	8.09	358.94	1,786.77	196.65	-3.65	25.58	0.00	0.00	
1,900.00	8.09	358.94	1,885.78	210.71	-3.91	27.41	0.00	0.00	
2,000.00	8.09	358.94	1,984.78	224.78	-4.17	29.24	0.00	0.00	
2,100.00	8.09	358.94	2,083.79	238.84	-4.43	31.07	0.00	0.00	
2,200.00	8.09	358.94	2,182.79	252.91	-4.70	32.90	0.00	0.00	
2,300.00	8.09	358.94	2,281.80	266.97	-4.96	34.73	0.00	0.00	
2,400.00	8.09	358.94	2,380.80	281.04	-5.22	36.56	0.00	0.00	
2,500.00	8.09	358.94	2,479.81	295.10	-5.48	38.39	0.00	0.00	
2,600.00	8.09	358.94	2,578.81	309.17	-5.74	40.22	0.00	0.00	
2,700.00	8.09	358.94	2,677.82	323.23	-6.00	42.05	0.00	0.00	
2,800.00	8.09	358.94	2,776.83	337.30	-6.26	43.88	0.00	0.00	
2,900.00	8.09	358.94	2,875.83	351.36	-6.52	45.71	0.00	0.00	
3,000.00	8.09	358.94	2,974.84	365.42	-6.79	47.54	0.00	0.00	
3,100.00	8.09	358.94	3,073.84	379.49	-7.05	49.37	0.00	0.00	
3,200.00	8.09	358.94	3,172.85	393.55	-7.31	51.20	0.00	0.00	
3,300.00	8.09	358.94	3,271.85	407.62	-7.57	53.03	0.00	0.00	
3,400.00	8.09	358.94	3,370.86	421.68	-7.83	54.86	0.00	0.00	
3,500.00	8.09	358.94	3,469.87	435.75	-8.09	56.69	0.00	0.00	
3,600.00	8.09	358.94	3,568.87	449.81	-8.35	58.51	0.00	0.00	
3,700.00	8.09	358.94	3,667.88	463.88	-8.61	60.34	0.00	0.00	
3,800.00	8.09	358.94	3,766.88	477.94	-8.87	62.17	0.00	0.00	
3,900.00	8.09	358.94	3,865.89	492.01	-9.14	64.00	0.00	0.00	
4,000.00	8.09	358.94	3,964.89	506.07	-9.40	65.83	0.00	0.00	
4,100.00	8.09	358.94	4,063.90	520.14	-9.66	67.66	0.00	0.00	
4,200.00	8.09	358.94	4,162.90	534.20	-9.92	69.49	0.00	0.00	
4,300.00	8.09	358.94	4,261.91	548.27	-10.18	71.32	0.00	0.00	
4,400.00	8.09	358.94	4,360.92	562.33	-10.44	73.15	0.00	0.00	
4,500.00	8.09	358.94	4,459.92	576.40	-10.70	74.98	0.00	0.00	
4,600.00	8.09	358.94	4,558.93	590.46	-10.96	76.81	0.00	0.00	
4,700.00	8.09	358.94	4,657.93	604.53	-11.22	78.64	0.00	0.00	
4,800.00	8.09	358.94	4,756.94	618.59	-11.49	80.47	0.00	0.00	
4,900.00	8.09	358.94	4,855.94	632.65	-11.75	82.30	0.00	0.00	
5,000.00	8.09	358.94	4,954.95	646.72	-12.01	84.13	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 3X-HNB-09-07-65 - Slot Elder 3X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Project:	WELD COUNTY, CO	MD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 3X-HNB-09-07-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	8.09	358.94	5,053.96	660.78	-12.27	85.96	0.00	0.00	
5,200.00	8.09	358.94	5,152.96	674.85	-12.53	87.79	0.00	0.00	
5,300.00	8.09	358.94	5,251.97	688.91	-12.79	89.62	0.00	0.00	
5,400.00	8.09	358.94	5,350.97	702.98	-13.05	91.45	0.00	0.00	
5,500.00	8.09	358.94	5,449.98	717.04	-13.31	93.28	0.00	0.00	
5,600.00	8.09	358.94	5,548.98	731.11	-13.58	95.11	0.00	0.00	
5,700.00	8.09	358.94	5,647.99	745.17	-13.84	96.94	0.00	0.00	
5,800.00	8.09	358.94	5,747.00	759.24	-14.10	98.77	0.00	0.00	
5,900.00	8.09	358.94	5,846.00	773.30	-14.36	100.60	0.00	0.00	
6,000.00	8.09	358.94	5,945.01	787.37	-14.62	102.43	0.00	0.00	
6,100.00	8.09	358.94	6,044.01	801.43	-14.88	104.26	0.00	0.00	
6,200.00	8.09	358.94	6,143.02	815.50	-15.14	106.09	0.00	0.00	
6,300.00	8.09	358.94	6,242.02	829.56	-15.40	107.92	0.00	0.00	
6,400.00	8.09	358.94	6,341.03	843.63	-15.66	109.74	0.00	0.00	
6,404.83	8.09	358.94	6,345.81	844.30	-15.68	109.83	0.00	0.00	
6,500.00	11.30	316.44	6,439.72	857.77	-22.24	117.86	8.00	3.38	
6,600.00	17.81	297.39	6,536.51	871.93	-42.60	139.68	8.00	6.51	
6,700.00	25.18	288.74	6,629.52	885.83	-76.38	174.79	8.00	7.37	
6,800.00	32.83	283.88	6,716.92	899.19	-122.92	222.53	8.00	7.65	
6,900.00	40.60	280.70	6,797.03	911.75	-181.30	281.95	8.00	7.77	
7,000.00	48.44	278.40	6,868.28	923.28	-250.40	351.90	8.00	7.84	
7,100.00	56.31	276.60	6,929.28	933.54	-328.87	431.03	8.00	7.87	
7,200.00	64.21	275.10	6,978.86	942.34	-415.17	517.78	8.00	7.89	
7,300.00	72.11	273.79	7,016.03	949.50	-507.64	610.47	8.00	7.91	
7,400.00	80.03	272.60	7,040.09	954.89	-604.47	707.29	8.00	7.92	
7,500.00	87.95	271.46	7,050.55	958.40	-703.78	806.37	8.00	7.92	
7,521.18	89.63	271.22	7,051.00	958.89	-724.95	827.46	8.00	7.92	Elder 3X-HNB-09-07-65 LPL
7,600.00	89.63	271.22	7,051.52	960.57	-803.75	905.96	0.00	0.00	
7,700.00	89.63	271.22	7,052.17	962.70	-903.72	1,005.55	0.00	0.00	
7,800.00	89.63	271.22	7,052.82	964.83	-1,003.70	1,105.13	0.00	0.00	
7,900.00	89.63	271.22	7,053.48	966.95	-1,103.67	1,204.72	0.00	0.00	
8,000.00	89.63	271.22	7,054.13	969.08	-1,203.65	1,304.31	0.00	0.00	
8,100.00	89.63	271.22	7,054.78	971.21	-1,303.62	1,403.90	0.00	0.00	
8,200.00	89.63	271.22	7,055.44	973.34	-1,403.60	1,503.49	0.00	0.00	
8,300.00	89.63	271.22	7,056.09	975.47	-1,503.57	1,603.07	0.00	0.00	
8,400.00	89.63	271.22	7,056.74	977.60	-1,603.55	1,702.66	0.00	0.00	
8,500.00	89.63	271.22	7,057.40	979.73	-1,703.53	1,802.25	0.00	0.00	
8,600.00	89.63	271.22	7,058.05	981.86	-1,803.50	1,901.84	0.00	0.00	
8,700.00	89.63	271.22	7,058.70	983.98	-1,903.48	2,001.42	0.00	0.00	
8,800.00	89.63	271.22	7,059.36	986.11	-2,003.45	2,101.01	0.00	0.00	
8,900.00	89.63	271.22	7,060.01	988.24	-2,103.43	2,200.60	0.00	0.00	
9,000.00	89.63	271.22	7,060.66	990.37	-2,203.40	2,300.19	0.00	0.00	
9,100.00	89.63	271.22	7,061.32	992.50	-2,303.38	2,399.78	0.00	0.00	
9,200.00	89.63	271.22	7,061.97	994.63	-2,403.35	2,499.36	0.00	0.00	
9,300.00	89.63	271.22	7,062.62	996.76	-2,503.33	2,598.95	0.00	0.00	
9,400.00	89.63	271.22	7,063.28	998.89	-2,603.30	2,698.54	0.00	0.00	
9,500.00	89.63	271.22	7,063.93	1,001.02	-2,703.28	2,798.13	0.00	0.00	
9,600.00	89.63	271.22	7,064.59	1,003.14	-2,803.25	2,897.72	0.00	0.00	
9,700.00	89.63	271.22	7,065.24	1,005.27	-2,903.23	2,997.30	0.00	0.00	
9,800.00	89.63	271.22	7,065.89	1,007.40	-3,003.20	3,096.89	0.00	0.00	
9,900.00	89.63	271.22	7,066.55	1,009.53	-3,103.18	3,196.48	0.00	0.00	
10,000.00	89.63	271.22	7,067.20	1,011.66	-3,203.15	3,296.07	0.00	0.00	

Cathedral Energy Services

Planning Report

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Project:	WELD COUNTY, CO	MD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 3X-HNB-09-07-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	89.63	271.22	7,067.85	1,013.79	-3,303.13	3,395.66	0.00	0.00	
10,200.00	89.63	271.22	7,068.51	1,015.92	-3,403.10	3,495.24	0.00	0.00	
10,300.00	89.63	271.22	7,069.16	1,018.05	-3,503.08	3,594.83	0.00	0.00	
10,400.00	89.63	271.22	7,069.81	1,020.17	-3,603.05	3,694.42	0.00	0.00	
10,500.00	89.63	271.22	7,070.47	1,022.30	-3,703.03	3,794.01	0.00	0.00	
10,600.00	89.63	271.22	7,071.12	1,024.43	-3,803.00	3,893.60	0.00	0.00	
10,700.00	89.63	271.22	7,071.77	1,026.56	-3,902.98	3,993.18	0.00	0.00	
10,800.00	89.63	271.22	7,072.43	1,028.69	-4,002.96	4,092.77	0.00	0.00	
10,900.00	89.63	271.22	7,073.08	1,030.82	-4,102.93	4,192.36	0.00	0.00	
11,000.00	89.63	271.22	7,073.73	1,032.95	-4,202.91	4,291.95	0.00	0.00	
11,100.00	89.63	271.22	7,074.39	1,035.08	-4,302.88	4,391.54	0.00	0.00	
11,200.00	89.63	271.22	7,075.04	1,037.21	-4,402.86	4,491.12	0.00	0.00	
11,300.00	89.63	271.22	7,075.70	1,039.33	-4,502.83	4,590.71	0.00	0.00	
11,400.00	89.63	271.22	7,076.35	1,041.46	-4,602.81	4,690.30	0.00	0.00	
11,500.00	89.63	271.22	7,077.00	1,043.59	-4,702.78	4,789.89	0.00	0.00	
11,600.00	89.63	271.22	7,077.66	1,045.72	-4,802.76	4,889.48	0.00	0.00	
11,700.00	89.63	271.22	7,078.31	1,047.85	-4,902.73	4,989.06	0.00	0.00	
11,800.00	89.63	271.22	7,078.96	1,049.98	-5,002.71	5,088.65	0.00	0.00	
11,900.00	89.63	271.22	7,079.62	1,052.11	-5,102.68	5,188.24	0.00	0.00	
12,000.00	89.63	271.22	7,080.27	1,054.24	-5,202.66	5,287.83	0.00	0.00	
12,100.00	89.63	271.22	7,080.92	1,056.36	-5,302.63	5,387.41	0.00	0.00	
12,200.00	89.63	271.22	7,081.58	1,058.49	-5,402.61	5,487.00	0.00	0.00	
12,300.00	89.63	271.22	7,082.23	1,060.62	-5,502.58	5,586.59	0.00	0.00	
12,400.00	89.63	271.22	7,082.88	1,062.75	-5,602.56	5,686.18	0.00	0.00	
12,500.00	89.63	271.22	7,083.54	1,064.88	-5,702.53	5,785.77	0.00	0.00	
12,600.00	89.63	271.22	7,084.19	1,067.01	-5,802.51	5,885.35	0.00	0.00	
12,700.00	89.63	271.22	7,084.84	1,069.14	-5,902.48	5,984.94	0.00	0.00	
12,800.00	89.63	271.22	7,085.50	1,071.27	-6,002.46	6,084.53	0.00	0.00	
12,900.00	89.63	271.22	7,086.15	1,073.40	-6,102.43	6,184.12	0.00	0.00	
13,000.00	89.63	271.22	7,086.81	1,075.52	-6,202.41	6,283.71	0.00	0.00	
13,100.00	89.63	271.22	7,087.46	1,077.65	-6,302.38	6,383.29	0.00	0.00	
13,200.00	89.63	271.22	7,088.11	1,079.78	-6,402.36	6,482.88	0.00	0.00	
13,300.00	89.63	271.22	7,088.77	1,081.91	-6,502.34	6,582.47	0.00	0.00	
13,400.00	89.63	271.22	7,089.42	1,084.04	-6,602.31	6,682.06	0.00	0.00	
13,500.00	89.63	271.22	7,090.07	1,086.17	-6,702.29	6,781.65	0.00	0.00	
13,600.00	89.63	271.22	7,090.73	1,088.30	-6,802.26	6,881.23	0.00	0.00	
13,700.00	89.63	271.22	7,091.38	1,090.43	-6,902.24	6,980.82	0.00	0.00	
13,800.00	89.63	271.22	7,092.03	1,092.55	-7,002.21	7,080.41	0.00	0.00	
13,900.00	89.63	271.22	7,092.69	1,094.68	-7,102.19	7,180.00	0.00	0.00	
14,000.00	89.63	271.22	7,093.34	1,096.81	-7,202.16	7,279.59	0.00	0.00	
14,100.00	89.63	271.22	7,093.99	1,098.94	-7,302.14	7,379.17	0.00	0.00	
14,200.00	89.63	271.22	7,094.65	1,101.07	-7,402.11	7,478.76	0.00	0.00	
14,300.00	89.63	271.22	7,095.30	1,103.20	-7,502.09	7,578.35	0.00	0.00	
14,400.00	89.63	271.22	7,095.95	1,105.33	-7,602.06	7,677.94	0.00	0.00	
14,500.00	89.63	271.22	7,096.61	1,107.46	-7,702.04	7,777.53	0.00	0.00	
14,600.00	89.63	271.22	7,097.26	1,109.59	-7,802.01	7,877.11	0.00	0.00	
14,700.00	89.63	271.22	7,097.92	1,111.71	-7,901.99	7,976.70	0.00	0.00	
14,800.00	89.63	271.22	7,098.57	1,113.84	-8,001.96	8,076.29	0.00	0.00	
14,900.00	89.63	271.22	7,099.22	1,115.97	-8,101.94	8,175.88	0.00	0.00	
15,000.00	89.63	271.22	7,099.88	1,118.10	-8,201.91	8,275.46	0.00	0.00	
15,100.00	89.63	271.22	7,100.53	1,120.23	-8,301.89	8,375.05	0.00	0.00	
15,200.00	89.63	271.22	7,101.18	1,122.36	-8,401.86	8,474.64	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 3X-HNB-09-07-65 - Slot Elder 3X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Project:	WELD COUNTY, CO	MD Reference:	20' KB @ 4888.00usft (Original Well Elev)
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 3X-HNB-09-07-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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
15,300.00	89.63	271.22	7,101.84	1,124.49	-8,501.84	8,574.23	0.00	0.00	
15,400.00	89.63	271.22	7,102.49	1,126.62	-8,601.81	8,673.82	0.00	0.00	
15,500.00	89.63	271.22	7,103.14	1,128.74	-8,701.79	8,773.40	0.00	0.00	
15,600.00	89.63	271.22	7,103.80	1,130.87	-8,801.76	8,872.99	0.00	0.00	
15,700.00	89.63	271.22	7,104.45	1,133.00	-8,901.74	8,972.58	0.00	0.00	
15,800.00	89.63	271.22	7,105.10	1,135.13	-9,001.72	9,072.17	0.00	0.00	
15,900.00	89.63	271.22	7,105.76	1,137.26	-9,101.69	9,171.76	0.00	0.00	
16,000.00	89.63	271.22	7,106.41	1,139.39	-9,201.67	9,271.34	0.00	0.00	
16,100.00	89.63	271.22	7,107.06	1,141.52	-9,301.64	9,370.93	0.00	0.00	
16,200.00	89.63	271.22	7,107.72	1,143.65	-9,401.62	9,470.52	0.00	0.00	
16,300.00	89.63	271.22	7,108.37	1,145.78	-9,501.59	9,570.11	0.00	0.00	
16,400.00	89.63	271.22	7,109.03	1,147.90	-9,601.57	9,669.70	0.00	0.00	
16,500.00	89.63	271.22	7,109.68	1,150.03	-9,701.54	9,769.28	0.00	0.00	
16,600.00	89.63	271.22	7,110.33	1,152.16	-9,801.52	9,868.87	0.00	0.00	
16,700.00	89.63	271.22	7,110.99	1,154.29	-9,901.49	9,968.46	0.00	0.00	
16,800.00	89.63	271.22	7,111.64	1,156.42	-10,001.47	10,068.05	0.00	0.00	
16,900.00	89.63	271.22	7,112.29	1,158.55	-10,101.44	10,167.64	0.00	0.00	
17,000.00	89.63	271.22	7,112.95	1,160.68	-10,201.42	10,267.22	0.00	0.00	
17,100.00	89.63	271.22	7,113.60	1,162.81	-10,301.39	10,366.81	0.00	0.00	
17,161.25	89.63	271.22	7,114.00	1,164.11	-10,362.63	10,427.81	0.00	0.00	Elder 3X-HNB-09-07-65 BHL

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									
Elder 3X-HNB-09-07-65	0.00	0.00	7,051.00	958.89	-724.95	1,459,027.34	3,238,570.21	40.590256	-104.640982
- plan hits target center									
- Point									
Elder 3X-HNB-09-07-65	0.00	0.00	7,114.00	1,164.11	-10,362.63	1,459,232.56	3,228,932.53	40.591071	-104.675676
- plan hits target center									
- Point									