

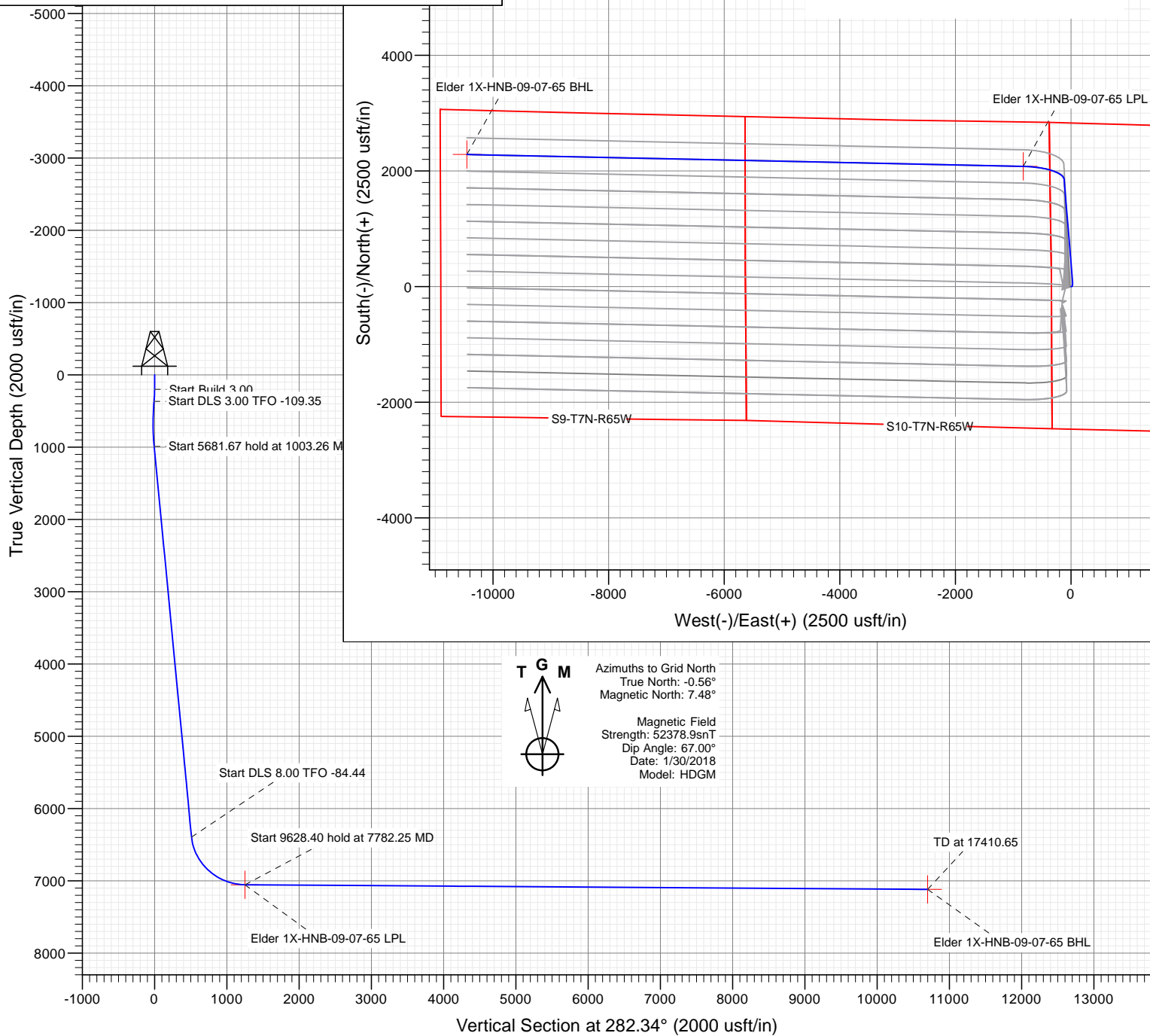
SECTION DETAILS

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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	366.67	5.00	90.00	366.46	0.00	7.27	3.00	90.00	-7.10	
4	1003.26	18.04	355.25	991.99	99.18	27.03	3.00	-109.35	-5.21	
5	6684.94	18.04	355.25	6394.20	1853.10	-118.68	0.00	0.00	511.88	
6	7782.25	89.61	271.22	7054.00	2080.50	-825.22	8.00	-84.44	1250.69	Elder 1X-HNB-09-07-65 LPL
7	17410.65	89.61	271.22	7119.00	2285.81	10451.21	0.00	0.00	10698.26	Elder 1X-HNB-09-07-65 BHL

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

Type	Target	Target	Target	Target	Target	Target	Target	Target	Target	Target
TD	No Target (Freehand)	282.34	Origin Type	N/S	E/W	From TVD	0.00			
Name	Elder 1X-HNB-09-07-65 LPL	TVD	+N/-S	+E/-W	Latitude	Longitude				
	Elder 1X-HNB-09-07-65 BHL	7054.00	2080.50	-825.22	40.593420	-104.640998				
		7119.00	2285.81	-10451.21	40.594234	-104.676651				

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



WELL DETAILS: Elder 1X-HNB-09-07-65

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1458099.21	3239379.74	40.587687	-104.638100

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 1X-HNB-09-07-65 - Slot Elder 1X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB
Project:	WELD COUNTY, CO	MD Reference:	20' KB
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 1X-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 1X-HNB-09-07-65 - Slot Elder 1X-HNB-09-07-65 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,458,099.21 usft	Latitude:	40.587687
	+E/-W	0.00 usft	Easting:	3,239,379.74 usft	Longitude:	-104.638100
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	282.34

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
366.67	5.00	90.00	366.46	0.00	7.27	3.00	3.00	0.00	90.00	
1,003.26	18.04	355.25	991.99	99.18	27.03	3.00	2.05	-14.88	-109.35	
6,684.94	18.04	355.25	6,394.20	1,853.10	-118.68	0.00	0.00	0.00	0.00	
7,782.25	89.61	271.22	7,054.00	2,080.50	-825.22	8.00	6.52	-7.66	-84.44	Elder 1X-HNB-09-07-65
17,410.65	89.61	271.22	7,119.00	2,285.81	-10,451.21	0.00	0.00	0.00	0.00	Elder 1X-HNB-09-07-65

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 1X-HNB-09-07-65 - Slot Elder 1X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB
Project:	WELD COUNTY, CO	MD Reference:	20' KB
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 1X-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	3.00	90.00	299.95	0.00	2.62	-2.56	3.00	3.00	
366.67	5.00	90.00	366.46	0.00	7.27	-7.10	3.00	3.00	
400.00	4.76	78.56	399.67	0.27	10.08	-9.79	3.00	-0.71	
500.00	5.26	44.16	499.31	4.39	17.34	-16.00	3.00	0.50	
600.00	7.12	21.92	598.73	13.43	22.85	-19.46	3.00	1.86	
700.00	9.57	9.87	697.67	27.38	26.59	-20.13	3.00	2.45	
800.00	12.27	2.88	795.86	46.18	28.55	-18.03	3.00	2.70	
900.00	15.08	358.41	893.02	69.80	28.73	-13.15	3.00	2.81	
1,000.00	17.95	355.34	988.88	98.17	27.11	-5.51	3.00	2.87	
1,003.26	18.04	355.25	991.99	99.18	27.03	-5.21	3.00	2.89	
1,100.00	18.04	355.25	1,083.97	129.04	24.55	3.59	0.00	0.00	
1,200.00	18.04	355.25	1,179.05	159.91	21.98	12.69	0.00	0.00	
1,300.00	18.04	355.25	1,274.13	190.78	19.42	21.79	0.00	0.00	
1,400.00	18.04	355.25	1,369.21	221.65	16.85	30.89	0.00	0.00	
1,500.00	18.04	355.25	1,464.29	252.52	14.29	39.99	0.00	0.00	
1,600.00	18.04	355.25	1,559.37	283.39	11.73	49.10	0.00	0.00	
1,700.00	18.04	355.25	1,654.45	314.26	9.16	58.20	0.00	0.00	
1,800.00	18.04	355.25	1,749.54	345.13	6.60	67.30	0.00	0.00	
1,900.00	18.04	355.25	1,844.62	376.00	4.03	76.40	0.00	0.00	
2,000.00	18.04	355.25	1,939.70	406.87	1.47	85.50	0.00	0.00	
2,100.00	18.04	355.25	2,034.78	437.74	-1.10	94.60	0.00	0.00	
2,200.00	18.04	355.25	2,129.86	468.61	-3.66	103.70	0.00	0.00	
2,300.00	18.04	355.25	2,224.94	499.48	-6.23	112.80	0.00	0.00	
2,400.00	18.04	355.25	2,320.02	530.35	-8.79	121.90	0.00	0.00	
2,500.00	18.04	355.25	2,415.11	561.22	-11.36	131.01	0.00	0.00	
2,600.00	18.04	355.25	2,510.19	592.09	-13.92	140.11	0.00	0.00	
2,700.00	18.04	355.25	2,605.27	622.96	-16.49	149.21	0.00	0.00	
2,800.00	18.04	355.25	2,700.35	653.83	-19.05	158.31	0.00	0.00	
2,900.00	18.04	355.25	2,795.43	684.70	-21.61	167.41	0.00	0.00	
3,000.00	18.04	355.25	2,890.51	715.57	-24.18	176.51	0.00	0.00	
3,100.00	18.04	355.25	2,985.59	746.44	-26.74	185.61	0.00	0.00	
3,200.00	18.04	355.25	3,080.68	777.31	-29.31	194.71	0.00	0.00	
3,300.00	18.04	355.25	3,175.76	808.18	-31.87	203.81	0.00	0.00	
3,400.00	18.04	355.25	3,270.84	839.05	-34.44	212.92	0.00	0.00	
3,500.00	18.04	355.25	3,365.92	869.92	-37.00	222.02	0.00	0.00	
3,600.00	18.04	355.25	3,461.00	900.79	-39.57	231.12	0.00	0.00	
3,700.00	18.04	355.25	3,556.08	931.66	-42.13	240.22	0.00	0.00	
3,800.00	18.04	355.25	3,651.16	962.53	-44.70	249.32	0.00	0.00	
3,900.00	18.04	355.25	3,746.25	993.40	-47.26	258.42	0.00	0.00	
4,000.00	18.04	355.25	3,841.33	1,024.27	-49.83	267.52	0.00	0.00	
4,100.00	18.04	355.25	3,936.41	1,055.14	-52.39	276.62	0.00	0.00	
4,200.00	18.04	355.25	4,031.49	1,086.01	-54.95	285.72	0.00	0.00	
4,300.00	18.04	355.25	4,126.57	1,116.88	-57.52	294.83	0.00	0.00	
4,400.00	18.04	355.25	4,221.65	1,147.75	-60.08	303.93	0.00	0.00	
4,500.00	18.04	355.25	4,316.73	1,178.62	-62.65	313.03	0.00	0.00	
4,600.00	18.04	355.25	4,411.82	1,209.49	-65.21	322.13	0.00	0.00	
4,700.00	18.04	355.25	4,506.90	1,240.36	-67.78	331.23	0.00	0.00	
4,800.00	18.04	355.25	4,601.98	1,271.23	-70.34	340.33	0.00	0.00	
4,900.00	18.04	355.25	4,697.06	1,302.10	-72.91	349.43	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 1X-HNB-09-07-65 - Slot Elder 1X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB
Project:	WELD COUNTY, CO	MD Reference:	20' KB
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 1X-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
5,000.00	18.04	355.25	4,792.14	1,332.97	-75.47	358.53	0.00	0.00	
5,100.00	18.04	355.25	4,887.22	1,363.83	-78.04	367.63	0.00	0.00	
5,200.00	18.04	355.25	4,982.30	1,394.70	-80.60	376.74	0.00	0.00	
5,300.00	18.04	355.25	5,077.39	1,425.57	-83.17	385.84	0.00	0.00	
5,400.00	18.04	355.25	5,172.47	1,456.44	-85.73	394.94	0.00	0.00	
5,500.00	18.04	355.25	5,267.55	1,487.31	-88.29	404.04	0.00	0.00	
5,600.00	18.04	355.25	5,362.63	1,518.18	-90.86	413.14	0.00	0.00	
5,700.00	18.04	355.25	5,457.71	1,549.05	-93.42	422.24	0.00	0.00	
5,800.00	18.04	355.25	5,552.79	1,579.92	-95.99	431.34	0.00	0.00	
5,900.00	18.04	355.25	5,647.87	1,610.79	-98.55	440.44	0.00	0.00	
6,000.00	18.04	355.25	5,742.95	1,641.66	-101.12	449.54	0.00	0.00	
6,100.00	18.04	355.25	5,838.04	1,672.53	-103.68	458.64	0.00	0.00	
6,200.00	18.04	355.25	5,933.12	1,703.40	-106.25	467.75	0.00	0.00	
6,300.00	18.04	355.25	6,028.20	1,734.27	-108.81	476.85	0.00	0.00	
6,400.00	18.04	355.25	6,123.28	1,765.14	-111.38	485.95	0.00	0.00	
6,500.00	18.04	355.25	6,218.36	1,796.01	-113.94	495.05	0.00	0.00	
6,600.00	18.04	355.25	6,313.44	1,826.88	-116.51	504.15	0.00	0.00	
6,684.94	18.04	355.25	6,394.20	1,853.10	-118.68	511.88	0.00	0.00	
6,700.00	18.20	351.41	6,408.52	1,857.75	-119.23	513.41	8.00	1.03	
6,800.00	20.97	328.83	6,502.86	1,888.56	-130.84	531.33	8.00	2.77	
6,900.00	25.92	312.92	6,594.67	1,918.80	-156.15	562.52	8.00	4.95	
7,000.00	32.06	302.26	6,682.15	1,947.90	-194.66	606.36	8.00	6.14	
7,100.00	38.82	294.85	6,763.62	1,975.28	-245.63	662.00	8.00	6.76	
7,200.00	45.93	289.38	6,837.47	2,000.41	-308.06	728.36	8.00	7.11	
7,300.00	53.24	285.11	6,902.28	2,022.81	-380.73	804.14	8.00	7.31	
7,400.00	60.67	281.59	6,956.78	2,042.04	-462.24	887.87	8.00	7.44	
7,500.00	68.19	278.55	6,999.92	2,057.72	-551.00	977.93	8.00	7.52	
7,600.00	75.76	275.81	7,030.84	2,069.55	-645.27	1,072.55	8.00	7.57	
7,700.00	83.35	273.26	7,048.96	2,077.30	-743.23	1,169.90	8.00	7.60	
7,782.25	89.61	271.22	7,054.00	2,080.50	-825.22	1,250.69	8.00	7.61	Elder 1X-HNB-09-07-65 LPL
7,800.00	89.61	271.22	7,054.12	2,080.88	-842.96	1,268.10	0.00	0.00	
7,900.00	89.61	271.22	7,054.79	2,083.01	-942.94	1,366.22	0.00	0.00	
8,000.00	89.61	271.22	7,055.47	2,085.14	-1,042.91	1,464.34	0.00	0.00	
8,100.00	89.61	271.22	7,056.15	2,087.28	-1,142.89	1,562.46	0.00	0.00	
8,200.00	89.61	271.22	7,056.82	2,089.41	-1,242.86	1,660.59	0.00	0.00	
8,300.00	89.61	271.22	7,057.50	2,091.54	-1,342.84	1,758.71	0.00	0.00	
8,400.00	89.61	271.22	7,058.17	2,093.67	-1,442.81	1,856.83	0.00	0.00	
8,500.00	89.61	271.22	7,058.85	2,095.80	-1,542.79	1,954.95	0.00	0.00	
8,600.00	89.61	271.22	7,059.52	2,097.94	-1,642.76	2,053.07	0.00	0.00	
8,700.00	89.61	271.22	7,060.20	2,100.07	-1,742.74	2,151.20	0.00	0.00	
8,800.00	89.61	271.22	7,060.87	2,102.20	-1,842.71	2,249.32	0.00	0.00	
8,900.00	89.61	271.22	7,061.55	2,104.33	-1,942.69	2,347.44	0.00	0.00	
9,000.00	89.61	271.22	7,062.22	2,106.47	-2,042.66	2,445.56	0.00	0.00	
9,100.00	89.61	271.22	7,062.90	2,108.60	-2,142.64	2,543.68	0.00	0.00	
9,200.00	89.61	271.22	7,063.57	2,110.73	-2,242.61	2,641.81	0.00	0.00	
9,300.00	89.61	271.22	7,064.25	2,112.86	-2,342.59	2,739.93	0.00	0.00	
9,400.00	89.61	271.22	7,064.92	2,115.00	-2,442.56	2,838.05	0.00	0.00	
9,500.00	89.61	271.22	7,065.60	2,117.13	-2,542.54	2,936.17	0.00	0.00	
9,600.00	89.61	271.22	7,066.27	2,119.26	-2,642.51	3,034.29	0.00	0.00	
9,700.00	89.61	271.22	7,066.95	2,121.39	-2,742.49	3,132.42	0.00	0.00	
9,800.00	89.61	271.22	7,067.62	2,123.53	-2,842.46	3,230.54	0.00	0.00	
9,900.00	89.61	271.22	7,068.30	2,125.66	-2,942.44	3,328.66	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 1X-HNB-09-07-65 - Slot Elder 1X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB
Project:	WELD COUNTY, CO	MD Reference:	20' KB
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 1X-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
10,000.00	89.61	271.22	7,068.97	2,127.79	-3,042.41	3,426.78	0.00	0.00	
10,100.00	89.61	271.22	7,069.65	2,129.92	-3,142.39	3,524.90	0.00	0.00	
10,200.00	89.61	271.22	7,070.32	2,132.05	-3,242.36	3,623.03	0.00	0.00	
10,300.00	89.61	271.22	7,071.00	2,134.19	-3,342.34	3,721.15	0.00	0.00	
10,400.00	89.61	271.22	7,071.67	2,136.32	-3,442.31	3,819.27	0.00	0.00	
10,500.00	89.61	271.22	7,072.35	2,138.45	-3,542.29	3,917.39	0.00	0.00	
10,600.00	89.61	271.22	7,073.02	2,140.58	-3,642.26	4,015.51	0.00	0.00	
10,700.00	89.61	271.22	7,073.70	2,142.72	-3,742.24	4,113.64	0.00	0.00	
10,800.00	89.61	271.22	7,074.37	2,144.85	-3,842.21	4,211.76	0.00	0.00	
10,900.00	89.61	271.22	7,075.05	2,146.98	-3,942.19	4,309.88	0.00	0.00	
11,000.00	89.61	271.22	7,075.72	2,149.11	-4,042.16	4,408.00	0.00	0.00	
11,100.00	89.61	271.22	7,076.40	2,151.25	-4,142.14	4,506.12	0.00	0.00	
11,200.00	89.61	271.22	7,077.07	2,153.38	-4,242.11	4,604.24	0.00	0.00	
11,300.00	89.61	271.22	7,077.75	2,155.51	-4,342.09	4,702.37	0.00	0.00	
11,400.00	89.61	271.22	7,078.42	2,157.64	-4,442.06	4,800.49	0.00	0.00	
11,500.00	89.61	271.22	7,079.10	2,159.77	-4,542.04	4,898.61	0.00	0.00	
11,600.00	89.61	271.22	7,079.77	2,161.91	-4,642.01	4,996.73	0.00	0.00	
11,700.00	89.61	271.22	7,080.45	2,164.04	-4,741.99	5,094.85	0.00	0.00	
11,800.00	89.61	271.22	7,081.12	2,166.17	-4,841.96	5,192.98	0.00	0.00	
11,900.00	89.61	271.22	7,081.80	2,168.30	-4,941.94	5,291.10	0.00	0.00	
12,000.00	89.61	271.22	7,082.47	2,170.44	-5,041.91	5,389.22	0.00	0.00	
12,100.00	89.61	271.22	7,083.15	2,172.57	-5,141.89	5,487.34	0.00	0.00	
12,200.00	89.61	271.22	7,083.82	2,174.70	-5,241.86	5,585.46	0.00	0.00	
12,300.00	89.61	271.22	7,084.50	2,176.83	-5,341.83	5,683.59	0.00	0.00	
12,400.00	89.61	271.22	7,085.17	2,178.97	-5,441.81	5,781.71	0.00	0.00	
12,500.00	89.61	271.22	7,085.85	2,181.10	-5,541.78	5,879.83	0.00	0.00	
12,600.00	89.61	271.22	7,086.52	2,183.23	-5,641.76	5,977.95	0.00	0.00	
12,700.00	89.61	271.22	7,087.20	2,185.36	-5,741.73	6,076.07	0.00	0.00	
12,800.00	89.61	271.22	7,087.87	2,187.50	-5,841.71	6,174.20	0.00	0.00	
12,900.00	89.61	271.22	7,088.55	2,189.63	-5,941.68	6,272.32	0.00	0.00	
13,000.00	89.61	271.22	7,089.22	2,191.76	-6,041.66	6,370.44	0.00	0.00	
13,100.00	89.61	271.22	7,089.90	2,193.89	-6,141.63	6,468.56	0.00	0.00	
13,200.00	89.61	271.22	7,090.57	2,196.02	-6,241.61	6,566.68	0.00	0.00	
13,300.00	89.61	271.22	7,091.25	2,198.16	-6,341.58	6,664.81	0.00	0.00	
13,400.00	89.61	271.22	7,091.92	2,200.29	-6,441.56	6,762.93	0.00	0.00	
13,500.00	89.61	271.22	7,092.60	2,202.42	-6,541.53	6,861.05	0.00	0.00	
13,600.00	89.61	271.22	7,093.27	2,204.55	-6,641.51	6,959.17	0.00	0.00	
13,700.00	89.61	271.22	7,093.95	2,206.69	-6,741.48	7,057.29	0.00	0.00	
13,800.00	89.61	271.22	7,094.62	2,208.82	-6,841.46	7,155.41	0.00	0.00	
13,900.00	89.61	271.22	7,095.30	2,210.95	-6,941.43	7,253.54	0.00	0.00	
14,000.00	89.61	271.22	7,095.98	2,213.08	-7,041.41	7,351.66	0.00	0.00	
14,100.00	89.61	271.22	7,096.65	2,215.22	-7,141.38	7,449.78	0.00	0.00	
14,200.00	89.61	271.22	7,097.33	2,217.35	-7,241.36	7,547.90	0.00	0.00	
14,300.00	89.61	271.22	7,098.00	2,219.48	-7,341.33	7,646.02	0.00	0.00	
14,400.00	89.61	271.22	7,098.68	2,221.61	-7,441.31	7,744.15	0.00	0.00	
14,500.00	89.61	271.22	7,099.35	2,223.75	-7,541.28	7,842.27	0.00	0.00	
14,600.00	89.61	271.22	7,100.03	2,225.88	-7,641.26	7,940.39	0.00	0.00	
14,700.00	89.61	271.22	7,100.70	2,228.01	-7,741.23	8,038.51	0.00	0.00	
14,800.00	89.61	271.22	7,101.38	2,230.14	-7,841.21	8,136.63	0.00	0.00	
14,900.00	89.61	271.22	7,102.05	2,232.27	-7,941.18	8,234.76	0.00	0.00	
15,000.00	89.61	271.22	7,102.73	2,234.41	-8,041.16	8,332.88	0.00	0.00	
15,100.00	89.61	271.22	7,103.40	2,236.54	-8,141.13	8,431.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Elder 1X-HNB-09-07-65 - Slot Elder 1X-HNB
Company:	Nickel Road Operating LLC	TVD Reference:	20' KB
Project:	WELD COUNTY, CO	MD Reference:	20' KB
Site:	S11-T7N-R65W	North Reference:	Grid
Well:	Elder 1X-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
15,200.00	89.61	271.22	7,104.08	2,238.67	-8,241.11	8,529.12	0.00	0.00	
15,300.00	89.61	271.22	7,104.75	2,240.80	-8,341.08	8,627.24	0.00	0.00	
15,400.00	89.61	271.22	7,105.43	2,242.94	-8,441.06	8,725.37	0.00	0.00	
15,500.00	89.61	271.22	7,106.10	2,245.07	-8,541.03	8,823.49	0.00	0.00	
15,600.00	89.61	271.22	7,106.78	2,247.20	-8,641.01	8,921.61	0.00	0.00	
15,700.00	89.61	271.22	7,107.45	2,249.33	-8,740.98	9,019.73	0.00	0.00	
15,800.00	89.61	271.22	7,108.13	2,251.47	-8,840.96	9,117.85	0.00	0.00	
15,900.00	89.61	271.22	7,108.80	2,253.60	-8,940.93	9,215.98	0.00	0.00	
16,000.00	89.61	271.22	7,109.48	2,255.73	-9,040.91	9,314.10	0.00	0.00	
16,100.00	89.61	271.22	7,110.15	2,257.86	-9,140.88	9,412.22	0.00	0.00	
16,200.00	89.61	271.22	7,110.83	2,259.99	-9,240.86	9,510.34	0.00	0.00	
16,300.00	89.61	271.22	7,111.50	2,262.13	-9,340.83	9,608.46	0.00	0.00	
16,400.00	89.61	271.22	7,112.18	2,264.26	-9,440.81	9,706.58	0.00	0.00	
16,500.00	89.61	271.22	7,112.85	2,266.39	-9,540.78	9,804.71	0.00	0.00	
16,600.00	89.61	271.22	7,113.53	2,268.52	-9,640.76	9,902.83	0.00	0.00	
16,700.00	89.61	271.22	7,114.20	2,270.66	-9,740.73	10,000.95	0.00	0.00	
16,800.00	89.61	271.22	7,114.88	2,272.79	-9,840.71	10,099.07	0.00	0.00	
16,900.00	89.61	271.22	7,115.55	2,274.92	-9,940.68	10,197.19	0.00	0.00	
17,000.00	89.61	271.22	7,116.23	2,277.05	-10,040.66	10,295.32	0.00	0.00	
17,100.00	89.61	271.22	7,116.90	2,279.19	-10,140.63	10,393.44	0.00	0.00	
17,200.00	89.61	271.22	7,117.58	2,281.32	-10,240.61	10,491.56	0.00	0.00	
17,300.00	89.61	271.22	7,118.25	2,283.45	-10,340.58	10,589.68	0.00	0.00	
17,400.00	89.61	271.22	7,118.93	2,285.58	-10,440.56	10,687.80	0.00	0.00	
17,410.65	89.61	271.22	7,119.00	2,285.81	-10,451.21	10,698.26	0.00	0.00	Elder 1X-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 1X-HNB-09-07-65	0.00	0.00	7,054.00	2,080.50	-825.22	1,460,179.71	3,238,554.52	40.593420	-104.640998
- plan hits target center									
- Point									
Elder 1X-HNB-09-07-65	0.00	0.00	7,119.00	2,285.81	-10,451.21	1,460,385.02	3,228,928.53	40.594234	-104.675651
- plan hits target center									
- Point									