

# NICKEL ROAD OPERATING

## 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	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	1165.12	13.30	358.35	1159.16	76.83	-2.21	2.00	358.35	14.85	
4	6714.63	13.30	358.35	6559.77	1353.19	-38.99	0.00	0.00	261.60	
5	7826.74	89.62	271.22	7249.00	1529.96	-746.90	8.00	-87.29	988.97	Elder 2X-HC-09-07-65 LPL
6	17460.97	89.62	271.22	7313.00	1735.22	10378.73	0.00	0.0010522.79		Elder 2X-HC-09-07-65 BHL

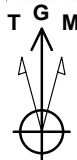
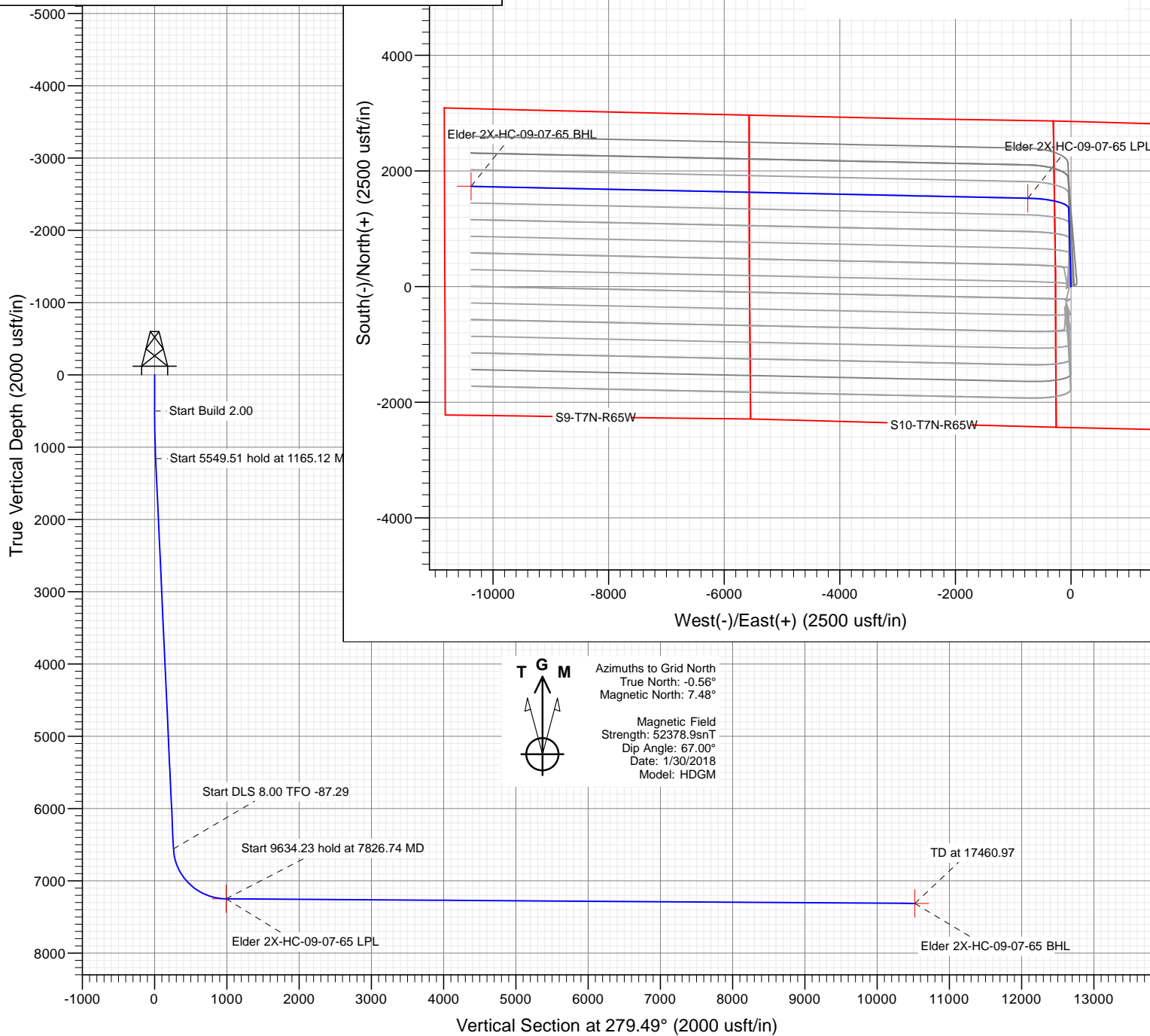
PLAN #1  
Elder 2X-HC-09-07-65  
20' KB @ 4888.00usft (Original Well Elev)  
Ground Level @ 4868.00  
North American Datum 1983  
Well Elder 2X-HC-09-07-65 - Slot Elder 2X-HC-09-07-65 SHL, Grid North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
TD	No Target (Freehand)	279.49	Slot		0.00	0.00	0.00

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Elder 2X-HC-09-07-65 LPL	7249.00	1529.96	-746.90	40.591838	-104.640960
Elder 2X-HC-09-07-65 BHL	7313.00	1735.22	-10378.73	40.592652	-104.676663

Project: WELD COUNTY, CO  
Site: S11-T7N-R65W  
Well: Elder 2X-HC-09-07-65  
Wellbore: OH  
Design: PLAN #1



Azimuths to Grid North  
True North: -0.56°  
Magnetic North: 7.48°

Magnetic Field  
Strength: 52378.9snT  
Dip Angle: 67.00°  
Date: 1/30/2018  
Model: HDGM

## WELL DETAILS: Elder 2X-HC-09-07-65

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1458073.57	3239309.26	40.587619	-104.638355



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Elder 2X-HC-09-07-65 - Slot Elder 2X-HC-0
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Site:</b>	S11-T7N-R65W	<b>North Reference:</b>	Grid
<b>Well:</b>	Elder 2X-HC-09-07-65	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1		

<b>Project</b>	WELD COUNTY, CO		
<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		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 2X-HC-09-07-65 - Slot Elder 2X-HC-09-07-65 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,458,073.57 usft	Latitude:	40.587619
	+E/-W	0.00 usft	Easting:	3,239,309.26 usft	Longitude:	-104.638355
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,868.00 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	1/30/2018	8.03	67.00	52,378.90000000

<b>Design</b>	PLAN #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	279.49

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,165.12	13.30	358.35	1,159.16	76.83	-2.21	2.00	2.00	0.00	358.35	
6,714.63	13.30	358.35	6,559.77	1,353.19	-38.99	0.00	0.00	0.00	0.00	
7,826.74	89.62	271.22	7,249.00	1,529.96	-746.90	8.00	6.86	-7.83	-87.29	Elder 2X-HC-09-07-65
17,460.97	89.62	271.22	7,313.00	1,735.22	-10,378.73	0.00	0.00	0.00	0.00	Elder 2X-HC-09-07-65

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Elder 2X-HC-09-07-65 - Slot Elder 2X-HC-0
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Site:</b>	S11-T7N-R65W	<b>North Reference:</b>	Grid
<b>Well:</b>	Elder 2X-HC-09-07-65	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	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	358.35	599.98	1.74	-0.05	0.34	2.00	2.00	
700.00	4.00	358.35	699.84	6.98	-0.20	1.35	2.00	2.00	
800.00	6.00	358.35	799.45	15.69	-0.45	3.03	2.00	2.00	
900.00	8.00	358.35	898.70	27.87	-0.80	5.39	2.00	2.00	
1,000.00	10.00	358.35	997.47	43.50	-1.25	8.41	2.00	2.00	
1,100.00	12.00	358.35	1,095.62	62.58	-1.80	12.10	2.00	2.00	
1,165.12	13.30	358.35	1,159.16	76.83	-2.21	14.85	2.00	2.00	
1,200.00	13.30	358.35	1,193.10	84.85	-2.44	16.40	0.00	0.00	
1,300.00	13.30	358.35	1,290.42	107.85	-3.11	20.85	0.00	0.00	
1,400.00	13.30	358.35	1,387.74	130.85	-3.77	25.30	0.00	0.00	
1,500.00	13.30	358.35	1,485.06	153.85	-4.43	29.74	0.00	0.00	
1,600.00	13.30	358.35	1,582.37	176.85	-5.10	34.19	0.00	0.00	
1,700.00	13.30	358.35	1,679.69	199.85	-5.76	38.63	0.00	0.00	
1,800.00	13.30	358.35	1,777.01	222.85	-6.42	43.08	0.00	0.00	
1,900.00	13.30	358.35	1,874.32	245.85	-7.08	47.53	0.00	0.00	
2,000.00	13.30	358.35	1,971.64	268.85	-7.75	51.97	0.00	0.00	
2,100.00	13.30	358.35	2,068.96	291.85	-8.41	56.42	0.00	0.00	
2,200.00	13.30	358.35	2,166.27	314.85	-9.07	60.87	0.00	0.00	
2,300.00	13.30	358.35	2,263.59	337.85	-9.73	65.31	0.00	0.00	
2,400.00	13.30	358.35	2,360.91	360.85	-10.40	69.76	0.00	0.00	
2,500.00	13.30	358.35	2,458.23	383.85	-11.06	74.20	0.00	0.00	
2,600.00	13.30	358.35	2,555.54	406.85	-11.72	78.65	0.00	0.00	
2,700.00	13.30	358.35	2,652.86	429.85	-12.38	83.10	0.00	0.00	
2,800.00	13.30	358.35	2,750.18	452.85	-13.05	87.54	0.00	0.00	
2,900.00	13.30	358.35	2,847.49	475.85	-13.71	91.99	0.00	0.00	
3,000.00	13.30	358.35	2,944.81	498.84	-14.37	96.44	0.00	0.00	
3,100.00	13.30	358.35	3,042.13	521.84	-15.03	100.88	0.00	0.00	
3,200.00	13.30	358.35	3,139.44	544.84	-15.70	105.33	0.00	0.00	
3,300.00	13.30	358.35	3,236.76	567.84	-16.36	109.77	0.00	0.00	
3,400.00	13.30	358.35	3,334.08	590.84	-17.02	114.22	0.00	0.00	
3,500.00	13.30	358.35	3,431.39	613.84	-17.69	118.67	0.00	0.00	
3,600.00	13.30	358.35	3,528.71	636.84	-18.35	123.11	0.00	0.00	
3,700.00	13.30	358.35	3,626.03	659.84	-19.01	127.56	0.00	0.00	
3,800.00	13.30	358.35	3,723.35	682.84	-19.67	132.01	0.00	0.00	
3,900.00	13.30	358.35	3,820.66	705.84	-20.34	136.45	0.00	0.00	
4,000.00	13.30	358.35	3,917.98	728.84	-21.00	140.90	0.00	0.00	
4,100.00	13.30	358.35	4,015.30	751.84	-21.66	145.34	0.00	0.00	
4,200.00	13.30	358.35	4,112.61	774.84	-22.32	149.79	0.00	0.00	
4,300.00	13.30	358.35	4,209.93	797.84	-22.99	154.24	0.00	0.00	
4,400.00	13.30	358.35	4,307.25	820.84	-23.65	158.68	0.00	0.00	
4,500.00	13.30	358.35	4,404.56	843.84	-24.31	163.13	0.00	0.00	
4,600.00	13.30	358.35	4,501.88	866.84	-24.97	167.57	0.00	0.00	
4,700.00	13.30	358.35	4,599.20	889.84	-25.64	172.02	0.00	0.00	
4,800.00	13.30	358.35	4,696.51	912.83	-26.30	176.47	0.00	0.00	
4,900.00	13.30	358.35	4,793.83	935.83	-26.96	180.91	0.00	0.00	
5,000.00	13.30	358.35	4,891.15	958.83	-27.63	185.36	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 Elder 2X-HC-09-07-65 - Slot Elder 2X-HC-0
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Site:</b>	S11-T7N-R65W	<b>North Reference:</b>	Grid
<b>Well:</b>	Elder 2X-HC-09-07-65	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	13.30	358.35	4,988.47	981.83	-28.29	189.81	0.00	0.00	
5,200.00	13.30	358.35	5,085.78	1,004.83	-28.95	194.25	0.00	0.00	
5,300.00	13.30	358.35	5,183.10	1,027.83	-29.61	198.70	0.00	0.00	
5,400.00	13.30	358.35	5,280.42	1,050.83	-30.28	203.14	0.00	0.00	
5,500.00	13.30	358.35	5,377.73	1,073.83	-30.94	207.59	0.00	0.00	
5,600.00	13.30	358.35	5,475.05	1,096.83	-31.60	212.04	0.00	0.00	
5,700.00	13.30	358.35	5,572.37	1,119.83	-32.26	216.48	0.00	0.00	
5,800.00	13.30	358.35	5,669.68	1,142.83	-32.93	220.93	0.00	0.00	
5,900.00	13.30	358.35	5,767.00	1,165.83	-33.59	225.38	0.00	0.00	
6,000.00	13.30	358.35	5,864.32	1,188.83	-34.25	229.82	0.00	0.00	
6,100.00	13.30	358.35	5,961.63	1,211.83	-34.91	234.27	0.00	0.00	
6,200.00	13.30	358.35	6,058.95	1,234.83	-35.58	238.71	0.00	0.00	
6,300.00	13.30	358.35	6,156.27	1,257.83	-36.24	243.16	0.00	0.00	
6,400.00	13.30	358.35	6,253.59	1,280.83	-36.90	247.61	0.00	0.00	
6,500.00	13.30	358.35	6,350.90	1,303.83	-37.56	252.05	0.00	0.00	
6,600.00	13.30	358.35	6,448.22	1,326.82	-38.23	256.50	0.00	0.00	
6,700.00	13.30	358.35	6,545.54	1,349.82	-38.89	260.95	0.00	0.00	
6,714.63	13.30	358.35	6,559.77	1,353.19	-38.99	261.60	0.00	0.00	
6,800.00	15.21	331.43	6,642.60	1,372.86	-44.63	270.41	8.00	2.23	
6,900.00	20.29	310.84	6,737.90	1,395.76	-64.05	293.34	8.00	5.08	
7,000.00	26.78	299.03	6,829.59	1,418.06	-96.92	329.44	8.00	6.50	
7,100.00	33.89	291.71	6,915.87	1,439.34	-142.60	378.00	8.00	7.11	
7,200.00	41.30	286.73	6,995.07	1,459.19	-200.20	438.08	8.00	7.40	
7,300.00	48.86	283.04	7,065.64	1,477.21	-268.60	508.51	8.00	7.56	
7,400.00	56.52	280.12	7,126.22	1,493.05	-346.46	587.93	8.00	7.66	
7,500.00	64.23	277.68	7,175.62	1,506.42	-432.28	674.78	8.00	7.71	
7,600.00	71.98	275.54	7,212.88	1,517.04	-524.38	767.37	8.00	7.75	
7,700.00	79.75	273.58	7,237.28	1,524.70	-620.97	863.90	8.00	7.77	
7,800.00	87.54	271.71	7,248.34	1,529.28	-720.17	962.49	8.00	7.78	
7,826.74	89.62	271.22	7,249.00	1,529.96	-746.90	988.97	8.00	7.79	Elder 2X-HC-09-07-65 LPL
7,900.00	89.62	271.22	7,249.49	1,531.52	-820.14	1,061.46	0.00	0.00	
8,000.00	89.62	271.22	7,250.15	1,533.65	-920.11	1,160.42	0.00	0.00	
8,100.00	89.62	271.22	7,250.82	1,535.78	-1,020.09	1,259.37	0.00	0.00	
8,200.00	89.62	271.22	7,251.48	1,537.91	-1,120.06	1,358.33	0.00	0.00	
8,300.00	89.62	271.22	7,252.14	1,540.04	-1,220.04	1,457.29	0.00	0.00	
8,400.00	89.62	271.22	7,252.81	1,542.17	-1,320.01	1,556.25	0.00	0.00	
8,500.00	89.62	271.22	7,253.47	1,544.30	-1,419.99	1,655.21	0.00	0.00	
8,600.00	89.62	271.22	7,254.14	1,546.43	-1,519.96	1,754.16	0.00	0.00	
8,700.00	89.62	271.22	7,254.80	1,548.56	-1,619.94	1,853.12	0.00	0.00	
8,800.00	89.62	271.22	7,255.47	1,550.70	-1,719.91	1,952.08	0.00	0.00	
8,900.00	89.62	271.22	7,256.13	1,552.83	-1,819.89	2,051.04	0.00	0.00	
9,000.00	89.62	271.22	7,256.79	1,554.96	-1,919.86	2,149.99	0.00	0.00	
9,100.00	89.62	271.22	7,257.46	1,557.09	-2,019.84	2,248.95	0.00	0.00	
9,200.00	89.62	271.22	7,258.12	1,559.22	-2,119.81	2,347.91	0.00	0.00	
9,300.00	89.62	271.22	7,258.79	1,561.35	-2,219.79	2,446.87	0.00	0.00	
9,400.00	89.62	271.22	7,259.45	1,563.48	-2,319.76	2,545.83	0.00	0.00	
9,500.00	89.62	271.22	7,260.12	1,565.61	-2,419.74	2,644.78	0.00	0.00	
9,600.00	89.62	271.22	7,260.78	1,567.74	-2,519.71	2,743.74	0.00	0.00	
9,700.00	89.62	271.22	7,261.44	1,569.87	-2,619.69	2,842.70	0.00	0.00	
9,800.00	89.62	271.22	7,262.11	1,572.00	-2,719.66	2,941.66	0.00	0.00	
9,900.00	89.62	271.22	7,262.77	1,574.13	-2,819.64	3,040.61	0.00	0.00	
10,000.00	89.62	271.22	7,263.44	1,576.26	-2,919.61	3,139.57	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 Elder 2X-HC-09-07-65 - Slot Elder 2X-HC-0
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
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<b>Site:</b>	S11-T7N-R65W	<b>North Reference:</b>	Grid
<b>Well:</b>	Elder 2X-HC-09-07-65	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	89.62	271.22	7,264.10	1,578.39	-3,019.59	3,238.53	0.00	0.00	
10,200.00	89.62	271.22	7,264.77	1,580.52	-3,119.56	3,337.49	0.00	0.00	
10,300.00	89.62	271.22	7,265.43	1,582.65	-3,219.54	3,436.45	0.00	0.00	
10,400.00	89.62	271.22	7,266.09	1,584.78	-3,319.51	3,535.40	0.00	0.00	
10,500.00	89.62	271.22	7,266.76	1,586.91	-3,419.49	3,634.36	0.00	0.00	
10,600.00	89.62	271.22	7,267.42	1,589.04	-3,519.46	3,733.32	0.00	0.00	
10,700.00	89.62	271.22	7,268.09	1,591.18	-3,619.44	3,832.28	0.00	0.00	
10,800.00	89.62	271.22	7,268.75	1,593.31	-3,719.41	3,931.23	0.00	0.00	
10,900.00	89.62	271.22	7,269.42	1,595.44	-3,819.39	4,030.19	0.00	0.00	
11,000.00	89.62	271.22	7,270.08	1,597.57	-3,919.36	4,129.15	0.00	0.00	
11,100.00	89.62	271.22	7,270.74	1,599.70	-4,019.34	4,228.11	0.00	0.00	
11,200.00	89.62	271.22	7,271.41	1,601.83	-4,119.32	4,327.07	0.00	0.00	
11,300.00	89.62	271.22	7,272.07	1,603.96	-4,219.29	4,426.02	0.00	0.00	
11,400.00	89.62	271.22	7,272.74	1,606.09	-4,319.27	4,524.98	0.00	0.00	
11,500.00	89.62	271.22	7,273.40	1,608.22	-4,419.24	4,623.94	0.00	0.00	
11,600.00	89.62	271.22	7,274.07	1,610.35	-4,519.22	4,722.90	0.00	0.00	
11,700.00	89.62	271.22	7,274.73	1,612.48	-4,619.19	4,821.85	0.00	0.00	
11,800.00	89.62	271.22	7,275.39	1,614.61	-4,719.17	4,920.81	0.00	0.00	
11,900.00	89.62	271.22	7,276.06	1,616.74	-4,819.14	5,019.77	0.00	0.00	
12,000.00	89.62	271.22	7,276.72	1,618.87	-4,919.12	5,118.73	0.00	0.00	
12,100.00	89.62	271.22	7,277.39	1,621.00	-5,019.09	5,217.69	0.00	0.00	
12,200.00	89.62	271.22	7,278.05	1,623.13	-5,119.07	5,316.64	0.00	0.00	
12,300.00	89.62	271.22	7,278.72	1,625.26	-5,219.04	5,415.60	0.00	0.00	
12,400.00	89.62	271.22	7,279.38	1,627.39	-5,319.02	5,514.56	0.00	0.00	
12,500.00	89.62	271.22	7,280.04	1,629.53	-5,418.99	5,613.52	0.00	0.00	
12,600.00	89.62	271.22	7,280.71	1,631.66	-5,518.97	5,712.47	0.00	0.00	
12,700.00	89.62	271.22	7,281.37	1,633.79	-5,618.94	5,811.43	0.00	0.00	
12,800.00	89.62	271.22	7,282.04	1,635.92	-5,718.92	5,910.39	0.00	0.00	
12,900.00	89.62	271.22	7,282.70	1,638.05	-5,818.89	6,009.35	0.00	0.00	
13,000.00	89.62	271.22	7,283.37	1,640.18	-5,918.87	6,108.31	0.00	0.00	
13,100.00	89.62	271.22	7,284.03	1,642.31	-6,018.84	6,207.26	0.00	0.00	
13,200.00	89.62	271.22	7,284.69	1,644.44	-6,118.82	6,306.22	0.00	0.00	
13,300.00	89.62	271.22	7,285.36	1,646.57	-6,218.79	6,405.18	0.00	0.00	
13,400.00	89.62	271.22	7,286.02	1,648.70	-6,318.77	6,504.14	0.00	0.00	
13,500.00	89.62	271.22	7,286.69	1,650.83	-6,418.74	6,603.09	0.00	0.00	
13,600.00	89.62	271.22	7,287.35	1,652.96	-6,518.72	6,702.05	0.00	0.00	
13,700.00	89.62	271.22	7,288.02	1,655.09	-6,618.69	6,801.01	0.00	0.00	
13,800.00	89.62	271.22	7,288.68	1,657.22	-6,718.67	6,899.97	0.00	0.00	
13,900.00	89.62	271.22	7,289.34	1,659.35	-6,818.64	6,998.93	0.00	0.00	
14,000.00	89.62	271.22	7,290.01	1,661.48	-6,918.62	7,097.88	0.00	0.00	
14,100.00	89.62	271.22	7,290.67	1,663.61	-7,018.59	7,196.84	0.00	0.00	
14,200.00	89.62	271.22	7,291.34	1,665.74	-7,118.57	7,295.80	0.00	0.00	
14,300.00	89.62	271.22	7,292.00	1,667.87	-7,218.54	7,394.76	0.00	0.00	
14,400.00	89.62	271.22	7,292.67	1,670.01	-7,318.52	7,493.71	0.00	0.00	
14,500.00	89.62	271.22	7,293.33	1,672.14	-7,418.49	7,592.67	0.00	0.00	
14,600.00	89.62	271.22	7,293.99	1,674.27	-7,518.47	7,691.63	0.00	0.00	
14,700.00	89.62	271.22	7,294.66	1,676.40	-7,618.44	7,790.59	0.00	0.00	
14,800.00	89.62	271.22	7,295.32	1,678.53	-7,718.42	7,889.55	0.00	0.00	
14,900.00	89.62	271.22	7,295.99	1,680.66	-7,818.39	7,988.50	0.00	0.00	
15,000.00	89.62	271.22	7,296.65	1,682.79	-7,918.37	8,087.46	0.00	0.00	
15,100.00	89.62	271.22	7,297.32	1,684.92	-8,018.34	8,186.42	0.00	0.00	
15,200.00	89.62	271.22	7,297.98	1,687.05	-8,118.32	8,285.38	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 Elder 2X-HC-09-07-65 - Slot Elder 2X-HC-0
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 4888.00usft (Original Well Elev)
<b>Site:</b>	S11-T7N-R65W	<b>North Reference:</b>	Grid
<b>Well:</b>	Elder 2X-HC-09-07-65	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	89.62	271.22	7,298.64	1,689.18	-8,218.29	8,384.33	0.00	0.00	
15,400.00	89.62	271.22	7,299.31	1,691.31	-8,318.27	8,483.29	0.00	0.00	
15,500.00	89.62	271.22	7,299.97	1,693.44	-8,418.24	8,582.25	0.00	0.00	
15,600.00	89.62	271.22	7,300.64	1,695.57	-8,518.22	8,681.21	0.00	0.00	
15,700.00	89.62	271.22	7,301.30	1,697.70	-8,618.19	8,780.17	0.00	0.00	
15,800.00	89.62	271.22	7,301.97	1,699.83	-8,718.17	8,879.12	0.00	0.00	
15,900.00	89.62	271.22	7,302.63	1,701.96	-8,818.14	8,978.08	0.00	0.00	
16,000.00	89.62	271.22	7,303.29	1,704.09	-8,918.12	9,077.04	0.00	0.00	
16,100.00	89.62	271.22	7,303.96	1,706.22	-9,018.09	9,176.00	0.00	0.00	
16,200.00	89.62	271.22	7,304.62	1,708.35	-9,118.07	9,274.95	0.00	0.00	
16,300.00	89.62	271.22	7,305.29	1,710.49	-9,218.04	9,373.91	0.00	0.00	
16,400.00	89.62	271.22	7,305.95	1,712.62	-9,318.02	9,472.87	0.00	0.00	
16,500.00	89.62	271.22	7,306.62	1,714.75	-9,418.00	9,571.83	0.00	0.00	
16,600.00	89.62	271.22	7,307.28	1,716.88	-9,517.97	9,670.79	0.00	0.00	
16,700.00	89.62	271.22	7,307.94	1,719.01	-9,617.95	9,769.74	0.00	0.00	
16,800.00	89.62	271.22	7,308.61	1,721.14	-9,717.92	9,868.70	0.00	0.00	
16,900.00	89.62	271.22	7,309.27	1,723.27	-9,817.90	9,967.66	0.00	0.00	
17,000.00	89.62	271.22	7,309.94	1,725.40	-9,917.87	10,066.62	0.00	0.00	
17,100.00	89.62	271.22	7,310.60	1,727.53	-10,017.85	10,165.57	0.00	0.00	
17,200.00	89.62	271.22	7,311.27	1,729.66	-10,117.82	10,264.53	0.00	0.00	
17,300.00	89.62	271.22	7,311.93	1,731.79	-10,217.80	10,363.49	0.00	0.00	
17,400.00	89.62	271.22	7,312.59	1,733.92	-10,317.77	10,462.45	0.00	0.00	
17,460.97	89.62	271.22	7,313.00	1,735.22	-10,378.73	10,522.79	0.00	0.00	Elder 2X-HC-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 2X-HC-09-07-65 L	0.00	0.00	7,249.00	1,529.96	-746.90	1,459,603.53	3,238,562.36	40.591838	-104.640990
- plan hits target center									
- Point									
Elder 2X-HC-09-07-65 B	0.00	0.00	7,313.00	1,735.22	-10,378.73	1,459,808.79	3,228,930.53	40.592652	-104.675663
- plan hits target center									
- Point									