

Nickel Road Operating LLC

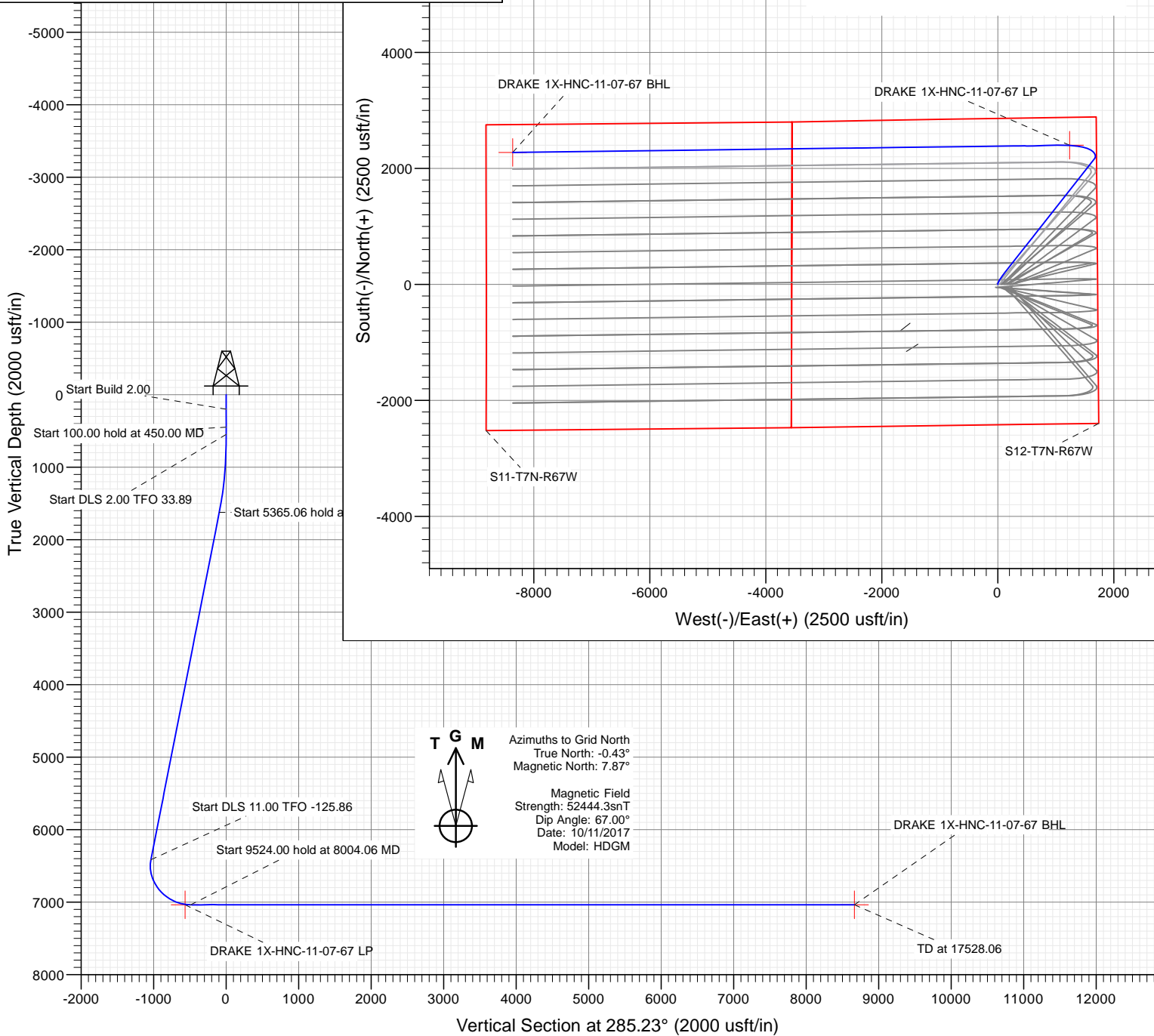
SECTION DETAILS

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	450.00	5.00	10.00	449.68	10.74	1.89	2.00	10.00	0.99	
4	550.00	5.00	10.00	549.30	19.32	3.41	0.00	0.00	1.79	
5	1671.46	26.72	38.24	1622.50	268.64	170.08	2.00	33.89	-93.53	
6	7036.51	26.72	38.24	6414.73	2163.08	1663.19	0.00	0.00	-1036.53	
7	8004.06	90.00	269.26	7037.00	2400.06	1160.48	11.00	-125.86	-489.23	
8	17528.06	90.00	269.26	7037.00	2276.86	-8362.72	0.00	0.00	8667.13	DRAKE 1X-HNC-11-07-67 BHL

PLAN #1  
DRAKE 1X-HNC-11-07-67  
20' KB @ 5220.00usft  
Ground Level @ 5200.00  
North American Datum 1983  
Well DRAKE 1X-HNC-11-07-67, Grid North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
TD	No Target (Freehand)	285.23	Slot		0.00	0.00	0.00
Name		TVD	+N/-S	+E/-W	Latitude	Longitude	
DRAKE 1X-HNC-11-07-67 BHL		7037.00	2276.86	-8362.72	40.594592	-104.833474	
DRAKE 1X-HNC-11-07-67 LP		7037.00	2401.09	-1239.86	40.594740	-104.833474	

Project: WELD COUNTY, CO  
Site: S12-T7N-R67W  
Well: DRAKE 1X-HNC-11-07-67  
Wellbore: OH  
Design: PLAN #1



WELL DETAILS: DRAKE 1X-HNC-11-07-67

+N/-S	+E/-W	Northing	Easting	5200.00	Latitude	Longitude
0.00	0.00	1457799.78	3183859.53		40.588175	-104.838003



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well DRAKE 1X-HNC-11-07-67
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 5220.00usft
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 5220.00usft
<b>Site:</b>	S12-T7N-R67W	<b>North Reference:</b>	Grid
<b>Well:</b>	DRAKE 1X-HNC-11-07-67	<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	S12-T7N-R67W				
Site Position:		Northing:	1,457,799.97 usft	Latitude:	40.588176
From:	Lat/Long	Easting:	3,183,834.54 usft	Longitude:	-104.838093
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.43 °

Well	DRAKE 1X-HNC-11-07-67					
Well Position	+N/-S	0.00 usft	Northing:	1,457,799.78 usft	Latitude:	40.588175
	+E/-W	0.00 usft	Easting:	3,183,859.53 usft	Longitude:	-104.838003
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,200.00 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	10/11/2017	8.30	67.00	52,444.30000000

<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	285.23

<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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	5.00	10.00	449.68	10.74	1.89	2.00	2.00	0.00	10.00	
550.00	5.00	10.00	549.30	19.32	3.41	0.00	0.00	0.00	0.00	
1,671.46	26.72	38.24	1,622.50	268.64	170.08	2.00	1.94	2.52	33.89	
7,036.51	26.72	38.24	6,414.73	2,163.08	1,663.19	0.00	0.00	0.00	0.00	
8,004.06	90.00	269.26	7,037.00	2,400.06	1,160.48	11.00	6.54	-13.33	-125.86	
17,528.06	90.00	269.26	7,037.00	2,276.86	-8,362.72	0.00	0.00	0.00	0.00	DRAKE 1X-HNC-11-0

# Cathedral Energy Services

## Planning Report

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<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 5220.00usft
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 5220.00usft
<b>Site:</b>	S12-T7N-R67W	<b>North Reference:</b>	Grid
<b>Well:</b>	DRAKE 1X-HNC-11-07-67	<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	2.00	10.00	299.98	1.72	0.30	0.16	2.00	2.00	
400.00	4.00	10.00	399.84	6.87	1.21	0.64	2.00	2.00	
450.00	5.00	10.00	449.68	10.74	1.89	0.99	2.00	2.00	
500.00	5.00	10.00	499.49	15.03	2.65	1.39	0.00	0.00	
550.00	5.00	10.00	549.30	19.32	3.41	1.79	0.00	0.00	
600.00	5.86	15.47	599.08	23.92	4.47	1.98	2.00	1.71	
700.00	7.67	22.62	698.38	35.00	8.40	1.10	2.00	1.82	
800.00	9.56	27.01	797.25	48.57	14.74	-1.46	2.00	1.89	
900.00	11.49	29.94	895.56	64.61	23.48	-5.69	2.00	1.93	
1,000.00	13.44	32.04	993.20	83.09	34.62	-11.58	2.00	1.95	
1,100.00	15.40	33.62	1,090.04	104.00	48.14	-19.13	2.00	1.96	
1,200.00	17.37	34.84	1,185.98	127.32	64.02	-28.33	2.00	1.97	
1,300.00	19.35	35.83	1,280.88	153.00	82.25	-39.17	2.00	1.98	
1,400.00	21.33	36.63	1,374.64	181.03	102.80	-51.63	2.00	1.98	
1,500.00	23.31	37.31	1,467.15	211.36	125.65	-65.71	2.00	1.98	
1,600.00	25.30	37.88	1,558.28	243.97	150.76	-81.37	2.00	1.99	
1,671.46	26.72	38.24	1,622.50	268.64	170.08	-93.53	2.00	1.99	
1,700.00	26.72	38.24	1,647.99	278.72	178.02	-98.55	0.00	0.00	
1,800.00	26.72	38.24	1,737.32	314.03	205.85	-116.13	0.00	0.00	
1,900.00	26.72	38.24	1,826.64	349.34	233.68	-133.70	0.00	0.00	
2,000.00	26.72	38.24	1,915.96	384.65	261.51	-151.28	0.00	0.00	
2,100.00	26.72	38.24	2,005.29	419.96	289.34	-168.86	0.00	0.00	
2,200.00	26.72	38.24	2,094.61	455.27	317.17	-186.43	0.00	0.00	
2,300.00	26.72	38.24	2,183.93	490.58	345.00	-204.01	0.00	0.00	
2,400.00	26.72	38.24	2,273.25	525.89	372.83	-221.59	0.00	0.00	
2,500.00	26.72	38.24	2,362.58	561.20	400.67	-239.16	0.00	0.00	
2,600.00	26.72	38.24	2,451.90	596.51	428.50	-256.74	0.00	0.00	
2,700.00	26.72	38.24	2,541.22	631.82	456.33	-274.32	0.00	0.00	
2,800.00	26.72	38.24	2,630.55	667.13	484.16	-291.89	0.00	0.00	
2,900.00	26.72	38.24	2,719.87	702.44	511.99	-309.47	0.00	0.00	
3,000.00	26.72	38.24	2,809.19	737.76	539.82	-327.05	0.00	0.00	
3,100.00	26.72	38.24	2,898.52	773.07	567.65	-344.62	0.00	0.00	
3,200.00	26.72	38.24	2,987.84	808.38	595.48	-362.20	0.00	0.00	
3,300.00	26.72	38.24	3,077.16	843.69	623.31	-379.78	0.00	0.00	
3,400.00	26.72	38.24	3,166.49	879.00	651.14	-397.36	0.00	0.00	
3,500.00	26.72	38.24	3,255.81	914.31	678.97	-414.93	0.00	0.00	
3,600.00	26.72	38.24	3,345.13	949.62	706.80	-432.51	0.00	0.00	
3,700.00	26.72	38.24	3,434.46	984.93	734.63	-450.09	0.00	0.00	
3,800.00	26.72	38.24	3,523.78	1,020.24	762.46	-467.66	0.00	0.00	
3,900.00	26.72	38.24	3,613.10	1,055.55	790.29	-485.24	0.00	0.00	
4,000.00	26.72	38.24	3,702.43	1,090.86	818.12	-502.82	0.00	0.00	
4,100.00	26.72	38.24	3,791.75	1,126.17	845.95	-520.39	0.00	0.00	
4,200.00	26.72	38.24	3,881.07	1,161.48	873.78	-537.97	0.00	0.00	
4,300.00	26.72	38.24	3,970.39	1,196.80	901.61	-555.55	0.00	0.00	
4,400.00	26.72	38.24	4,059.72	1,232.11	929.44	-573.12	0.00	0.00	
4,500.00	26.72	38.24	4,149.04	1,267.42	957.27	-590.70	0.00	0.00	
4,600.00	26.72	38.24	4,238.36	1,302.73	985.10	-608.28	0.00	0.00	
4,700.00	26.72	38.24	4,327.69	1,338.04	1,012.93	-625.85	0.00	0.00	
4,800.00	26.72	38.24	4,417.01	1,373.35	1,040.76	-643.43	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 DRAKE 1X-HNC-11-07-67
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 5220.00usft
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 5220.00usft
<b>Site:</b>	S12-T7N-R67W	<b>North Reference:</b>	Grid
<b>Well:</b>	DRAKE 1X-HNC-11-07-67	<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
4,900.00	26.72	38.24	4,506.33	1,408.66	1,068.59	-661.01	0.00	0.00	
5,000.00	26.72	38.24	4,595.66	1,443.97	1,096.42	-678.58	0.00	0.00	
5,100.00	26.72	38.24	4,684.98	1,479.28	1,124.25	-696.16	0.00	0.00	
5,200.00	26.72	38.24	4,774.30	1,514.59	1,152.08	-713.74	0.00	0.00	
5,300.00	26.72	38.24	4,863.63	1,549.90	1,179.91	-731.31	0.00	0.00	
5,400.00	26.72	38.24	4,952.95	1,585.21	1,207.74	-748.89	0.00	0.00	
5,500.00	26.72	38.24	5,042.27	1,620.52	1,235.57	-766.47	0.00	0.00	
5,600.00	26.72	38.24	5,131.60	1,655.84	1,263.40	-784.04	0.00	0.00	
5,700.00	26.72	38.24	5,220.92	1,691.15	1,291.23	-801.62	0.00	0.00	
5,800.00	26.72	38.24	5,310.24	1,726.46	1,319.07	-819.20	0.00	0.00	
5,900.00	26.72	38.24	5,399.56	1,761.77	1,346.90	-836.77	0.00	0.00	
6,000.00	26.72	38.24	5,488.89	1,797.08	1,374.73	-854.35	0.00	0.00	
6,100.00	26.72	38.24	5,578.21	1,832.39	1,402.56	-871.93	0.00	0.00	
6,200.00	26.72	38.24	5,667.53	1,867.70	1,430.39	-889.50	0.00	0.00	
6,300.00	26.72	38.24	5,756.86	1,903.01	1,458.22	-907.08	0.00	0.00	
6,400.00	26.72	38.24	5,846.18	1,938.32	1,486.05	-924.66	0.00	0.00	
6,500.00	26.72	38.24	5,935.50	1,973.63	1,513.88	-942.23	0.00	0.00	
6,600.00	26.72	38.24	6,024.83	2,008.94	1,541.71	-959.81	0.00	0.00	
6,700.00	26.72	38.24	6,114.15	2,044.25	1,569.54	-977.39	0.00	0.00	
6,800.00	26.72	38.24	6,203.47	2,079.56	1,597.37	-994.96	0.00	0.00	
6,900.00	26.72	38.24	6,292.80	2,114.88	1,625.20	-1,012.54	0.00	0.00	
7,000.00	26.72	38.24	6,382.12	2,150.19	1,653.03	-1,030.12	0.00	0.00	
7,036.51	26.72	38.24	6,414.73	2,163.08	1,663.19	-1,036.53	0.00	0.00	
7,100.00	23.27	23.80	6,472.32	2,185.79	1,677.10	-1,043.99	11.00	-5.43	
7,200.00	21.42	355.00	6,565.08	2,222.17	1,683.51	-1,040.61	11.00	-1.85	
7,300.00	24.63	327.83	6,657.36	2,258.11	1,670.78	-1,018.89	11.00	3.21	
7,400.00	31.39	309.15	6,745.77	2,292.30	1,639.39	-979.63	11.00	6.75	
7,500.00	39.92	297.14	6,827.05	2,323.47	1,590.50	-924.26	11.00	8.53	
7,600.00	49.30	288.93	6,898.22	2,350.49	1,525.89	-854.83	11.00	9.38	
7,700.00	59.12	282.79	6,956.67	2,372.35	1,447.95	-773.88	11.00	9.82	
7,800.00	69.17	277.82	7,000.25	2,388.25	1,359.53	-684.39	11.00	10.05	
7,900.00	79.35	273.48	7,027.35	2,397.62	1,263.89	-589.65	11.00	10.18	
8,000.00	89.58	269.42	7,036.99	2,400.11	1,164.54	-493.13	11.00	10.23	
8,004.06	90.00	269.26	7,037.00	2,400.06	1,160.48	-489.23	11.00	10.24	
8,100.00	90.00	269.26	7,037.00	2,398.82	1,064.55	-396.99	0.00	0.00	
8,200.00	90.00	269.26	7,037.00	2,397.52	964.56	-300.85	0.00	0.00	
8,300.00	90.00	269.26	7,037.00	2,396.23	864.57	-204.71	0.00	0.00	
8,400.00	90.00	269.26	7,037.00	2,394.94	764.58	-108.57	0.00	0.00	
8,500.00	90.00	269.26	7,037.00	2,393.64	664.58	-12.43	0.00	0.00	
8,600.00	90.00	269.26	7,037.00	2,392.35	564.59	83.71	0.00	0.00	
8,700.00	90.00	269.26	7,037.00	2,391.06	464.60	179.85	0.00	0.00	
8,800.00	90.00	269.26	7,037.00	2,389.76	364.61	275.99	0.00	0.00	
8,900.00	90.00	269.26	7,037.00	2,388.47	264.62	372.13	0.00	0.00	
9,000.00	90.00	269.26	7,037.00	2,387.18	164.63	468.27	0.00	0.00	
9,100.00	90.00	269.26	7,037.00	2,385.88	64.64	564.41	0.00	0.00	
9,200.00	90.00	269.26	7,037.00	2,384.59	-35.36	660.55	0.00	0.00	
9,300.00	90.00	269.26	7,037.00	2,383.29	-135.35	756.69	0.00	0.00	
9,400.00	90.00	269.26	7,037.00	2,382.00	-235.34	852.83	0.00	0.00	
9,500.00	90.00	269.26	7,037.00	2,380.71	-335.33	948.97	0.00	0.00	
9,600.00	90.00	269.26	7,037.00	2,379.41	-435.32	1,045.11	0.00	0.00	
9,700.00	90.00	269.26	7,037.00	2,378.12	-535.31	1,141.25	0.00	0.00	
9,800.00	90.00	269.26	7,037.00	2,376.83	-635.31	1,237.39	0.00	0.00	

# Cathedral Energy Services

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<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 5220.00usft
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 5220.00usft
<b>Site:</b>	S12-T7N-R67W	<b>North Reference:</b>	Grid
<b>Well:</b>	DRAKE 1X-HNC-11-07-67	<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
9,900.00	90.00	269.26	7,037.00	2,375.53	-735.30	1,333.53	0.00	0.00	
10,000.00	90.00	269.26	7,037.00	2,374.24	-835.29	1,429.67	0.00	0.00	
10,100.00	90.00	269.26	7,037.00	2,372.95	-935.28	1,525.81	0.00	0.00	
10,200.00	90.00	269.26	7,037.00	2,371.65	-1,035.27	1,621.95	0.00	0.00	
10,300.00	90.00	269.26	7,037.00	2,370.36	-1,135.26	1,718.09	0.00	0.00	
10,400.00	90.00	269.26	7,037.00	2,369.07	-1,235.26	1,814.23	0.00	0.00	
10,500.00	90.00	269.26	7,037.00	2,367.77	-1,335.25	1,910.37	0.00	0.00	
10,600.00	90.00	269.26	7,037.00	2,366.48	-1,435.24	2,006.50	0.00	0.00	
10,700.00	90.00	269.26	7,037.00	2,365.18	-1,535.23	2,102.64	0.00	0.00	
10,800.00	90.00	269.26	7,037.00	2,363.89	-1,635.22	2,198.78	0.00	0.00	
10,900.00	90.00	269.26	7,037.00	2,362.60	-1,735.21	2,294.92	0.00	0.00	
11,000.00	90.00	269.26	7,037.00	2,361.30	-1,835.21	2,391.06	0.00	0.00	
11,100.00	90.00	269.26	7,037.00	2,360.01	-1,935.20	2,487.20	0.00	0.00	
11,200.00	90.00	269.26	7,037.00	2,358.72	-2,035.19	2,583.34	0.00	0.00	
11,300.00	90.00	269.26	7,037.00	2,357.42	-2,135.18	2,679.48	0.00	0.00	
11,400.00	90.00	269.26	7,037.00	2,356.13	-2,235.17	2,775.62	0.00	0.00	
11,500.00	90.00	269.26	7,037.00	2,354.84	-2,335.16	2,871.76	0.00	0.00	
11,600.00	90.00	269.26	7,037.00	2,353.54	-2,435.16	2,967.90	0.00	0.00	
11,700.00	90.00	269.26	7,037.00	2,352.25	-2,535.15	3,064.04	0.00	0.00	
11,800.00	90.00	269.26	7,037.00	2,350.96	-2,635.14	3,160.18	0.00	0.00	
11,900.00	90.00	269.26	7,037.00	2,349.66	-2,735.13	3,256.32	0.00	0.00	
12,000.00	90.00	269.26	7,037.00	2,348.37	-2,835.12	3,352.46	0.00	0.00	
12,100.00	90.00	269.26	7,037.00	2,347.07	-2,935.11	3,448.60	0.00	0.00	
12,200.00	90.00	269.26	7,037.00	2,345.78	-3,035.11	3,544.74	0.00	0.00	
12,300.00	90.00	269.26	7,037.00	2,344.49	-3,135.10	3,640.88	0.00	0.00	
12,400.00	90.00	269.26	7,037.00	2,343.19	-3,235.09	3,737.02	0.00	0.00	
12,500.00	90.00	269.26	7,037.00	2,341.90	-3,335.08	3,833.16	0.00	0.00	
12,600.00	90.00	269.26	7,037.00	2,340.61	-3,435.07	3,929.30	0.00	0.00	
12,700.00	90.00	269.26	7,037.00	2,339.31	-3,535.06	4,025.44	0.00	0.00	
12,800.00	90.00	269.26	7,037.00	2,338.02	-3,635.06	4,121.58	0.00	0.00	
12,900.00	90.00	269.26	7,037.00	2,336.73	-3,735.05	4,217.72	0.00	0.00	
13,000.00	90.00	269.26	7,037.00	2,335.43	-3,835.04	4,313.86	0.00	0.00	
13,100.00	90.00	269.26	7,037.00	2,334.14	-3,935.03	4,410.00	0.00	0.00	
13,200.00	90.00	269.26	7,037.00	2,332.85	-4,035.02	4,506.14	0.00	0.00	
13,300.00	90.00	269.26	7,037.00	2,331.55	-4,135.01	4,602.28	0.00	0.00	
13,400.00	90.00	269.26	7,037.00	2,330.26	-4,235.01	4,698.42	0.00	0.00	
13,500.00	90.00	269.26	7,037.00	2,328.96	-4,335.00	4,794.56	0.00	0.00	
13,600.00	90.00	269.26	7,037.00	2,327.67	-4,434.99	4,890.70	0.00	0.00	
13,700.00	90.00	269.26	7,037.00	2,326.38	-4,534.98	4,986.84	0.00	0.00	
13,800.00	90.00	269.26	7,037.00	2,325.08	-4,634.97	5,082.98	0.00	0.00	
13,900.00	90.00	269.26	7,037.00	2,323.79	-4,734.96	5,179.12	0.00	0.00	
14,000.00	90.00	269.26	7,037.00	2,322.50	-4,834.96	5,275.26	0.00	0.00	
14,100.00	90.00	269.26	7,037.00	2,321.20	-4,934.95	5,371.40	0.00	0.00	
14,200.00	90.00	269.26	7,037.00	2,319.91	-5,034.94	5,467.54	0.00	0.00	
14,300.00	90.00	269.26	7,037.00	2,318.62	-5,134.93	5,563.68	0.00	0.00	
14,400.00	90.00	269.26	7,037.00	2,317.32	-5,234.92	5,659.82	0.00	0.00	
14,500.00	90.00	269.26	7,037.00	2,316.03	-5,334.91	5,755.96	0.00	0.00	
14,600.00	90.00	269.26	7,037.00	2,314.74	-5,434.90	5,852.10	0.00	0.00	
14,700.00	90.00	269.26	7,037.00	2,313.44	-5,534.90	5,948.24	0.00	0.00	
14,800.00	90.00	269.26	7,037.00	2,312.15	-5,634.89	6,044.38	0.00	0.00	
14,900.00	90.00	269.26	7,037.00	2,310.85	-5,734.88	6,140.52	0.00	0.00	
15,000.00	90.00	269.26	7,037.00	2,309.56	-5,834.87	6,236.66	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 DRAKE 1X-HNC-11-07-67
<b>Company:</b>	Nickel Road Operating LLC	<b>TVD Reference:</b>	20' KB @ 5220.00usft
<b>Project:</b>	WELD COUNTY, CO	<b>MD Reference:</b>	20' KB @ 5220.00usft
<b>Site:</b>	S12-T7N-R67W	<b>North Reference:</b>	Grid
<b>Well:</b>	DRAKE 1X-HNC-11-07-67	<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
15,100.00	90.00	269.26	7,037.00	2,308.27	-5,934.86	6,332.80	0.00	0.00	
15,200.00	90.00	269.26	7,037.00	2,306.97	-6,034.85	6,428.94	0.00	0.00	
15,300.00	90.00	269.26	7,037.00	2,305.68	-6,134.85	6,525.08	0.00	0.00	
15,400.00	90.00	269.26	7,037.00	2,304.39	-6,234.84	6,621.22	0.00	0.00	
15,500.00	90.00	269.26	7,037.00	2,303.09	-6,334.83	6,717.36	0.00	0.00	
15,600.00	90.00	269.26	7,037.00	2,301.80	-6,434.82	6,813.50	0.00	0.00	
15,700.00	90.00	269.26	7,037.00	2,300.51	-6,534.81	6,909.64	0.00	0.00	
15,800.00	90.00	269.26	7,037.00	2,299.21	-6,634.80	7,005.78	0.00	0.00	
15,900.00	90.00	269.26	7,037.00	2,297.92	-6,734.80	7,101.92	0.00	0.00	
16,000.00	90.00	269.26	7,037.00	2,296.63	-6,834.79	7,198.06	0.00	0.00	
16,100.00	90.00	269.26	7,037.00	2,295.33	-6,934.78	7,294.20	0.00	0.00	
16,200.00	90.00	269.26	7,037.00	2,294.04	-7,034.77	7,390.34	0.00	0.00	
16,300.00	90.00	269.26	7,037.00	2,292.74	-7,134.76	7,486.48	0.00	0.00	
16,400.00	90.00	269.26	7,037.00	2,291.45	-7,234.75	7,582.62	0.00	0.00	
16,500.00	90.00	269.26	7,037.00	2,290.16	-7,334.75	7,678.76	0.00	0.00	
16,600.00	90.00	269.26	7,037.00	2,288.86	-7,434.74	7,774.90	0.00	0.00	
16,700.00	90.00	269.26	7,037.00	2,287.57	-7,534.73	7,871.04	0.00	0.00	
16,800.00	90.00	269.26	7,037.00	2,286.28	-7,634.72	7,967.18	0.00	0.00	
16,900.00	90.00	269.26	7,037.00	2,284.98	-7,734.71	8,063.32	0.00	0.00	
17,000.00	90.00	269.26	7,037.00	2,283.69	-7,834.70	8,159.46	0.00	0.00	
17,100.00	90.00	269.26	7,037.00	2,282.40	-7,934.70	8,255.60	0.00	0.00	
17,200.00	90.00	269.26	7,037.00	2,281.10	-8,034.69	8,351.74	0.00	0.00	
17,300.00	90.00	269.26	7,037.00	2,279.81	-8,134.68	8,447.87	0.00	0.00	
17,400.00	90.00	269.26	7,037.00	2,278.52	-8,234.67	8,544.01	0.00	0.00	
17,500.00	90.00	269.26	7,037.00	2,277.22	-8,334.66	8,640.15	0.00	0.00	
17,528.06	90.00	269.26	7,037.00	2,276.86	-8,362.72	8,667.13	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									
DRAKE 1X-HNC-11-07-4	0.00	359.57	7,037.00	2,401.09	1,239.86	1,460,200.87	3,185,099.39	40.594740	-104.833474
- plan misses target center by 6.02usft at 7924.97usft MD (7031.42 TVD, 2398.89 N, 1239.29 E)									
- Point									
DRAKE 1X-HNC-11-07-4	0.00	359.59	7,037.00	2,276.86	-8,362.72	1,460,076.64	3,175,496.81	40.594592	-104.868054
- plan hits target center									
- Point									