

Nickel Road Operating

Weld Co., CO (NAD-83)

Sec.5-T6N-R65W

REEMAN 6X-HNB-04-06-65

OH

Plan: Plan #2

Standard Planning Report

21 July, 2022

Project: Weld Co., CO (NAD-83)
Site: Sec.5-T6N-R65W
Well: REEMAN 6X-HNB-04-06-65
Wellbore: OH
Design: Plan #2
Lat: 40.518460
Long: -104.691617
GL: 4816.00
KB: KB=17 @ 4833.00usft



Azimuths to Grid North
True North: -0.52°
Magnetic North: 7.19°

Magnetic Field
Strength: 51932.7nT
Dip Angle: 66.77°
Date: 4/25/2022
Model: HDGM2022

WELL DETAILS: REEMAN 6X-HNB-04-06-65

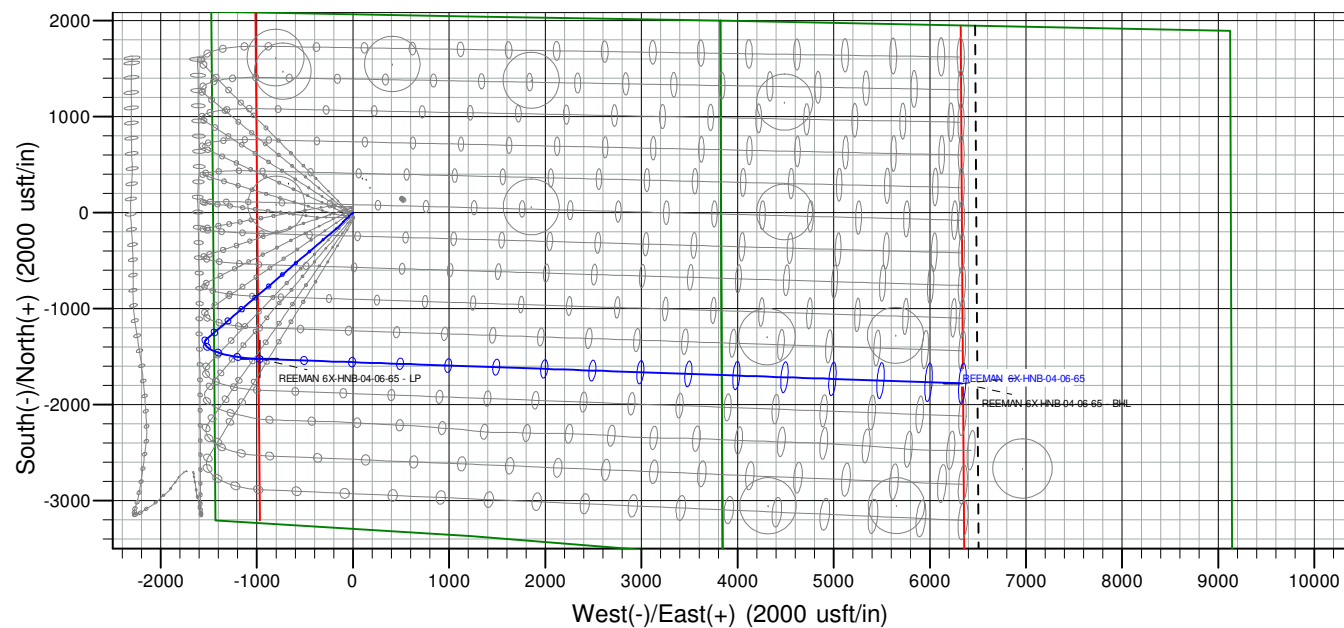
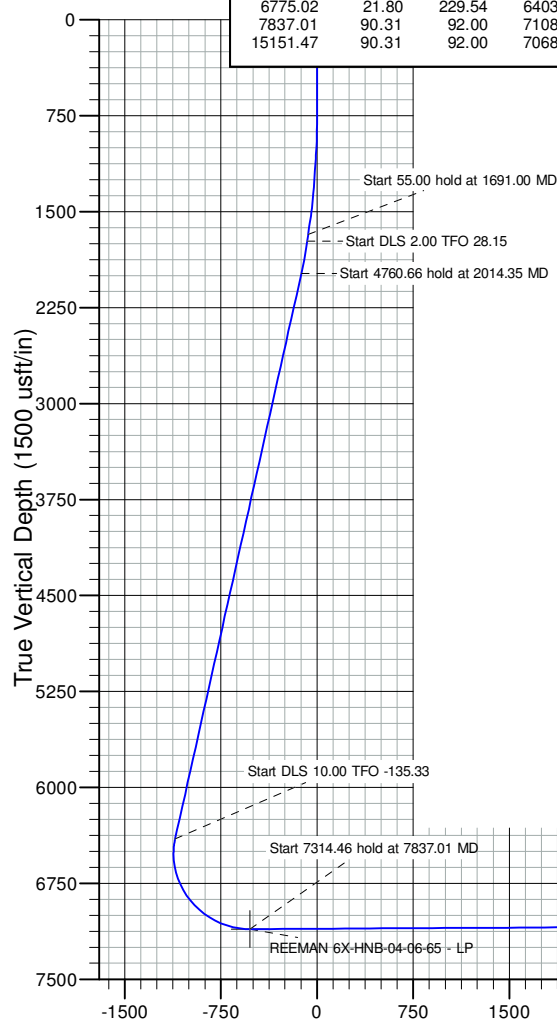
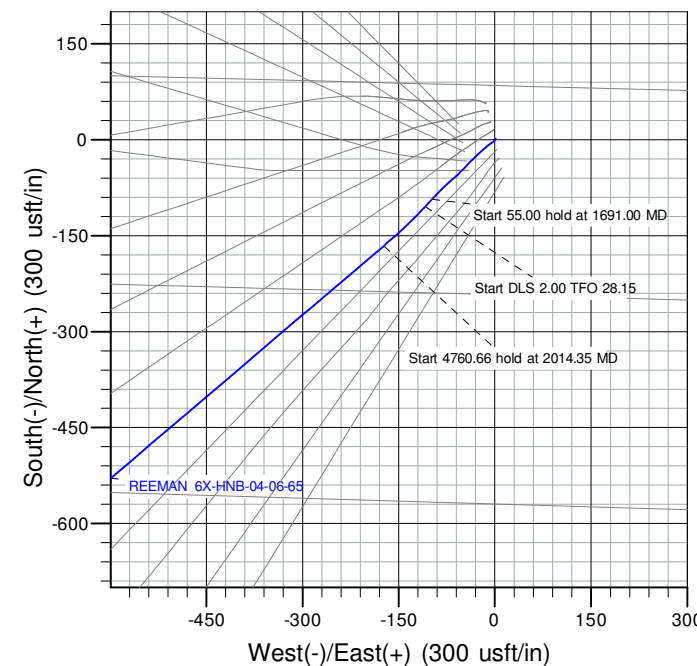
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1432740.00	3224746.51	40.518460	-104.691617

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
REEMAN 6X-HNB-04-06-65 - BHL7068.00		-1778.63	6338.84	1430961.37	3231085.35	Point
REEMAN 6X-HNB-04-06-65 - LP 7108.00		-1523.43	-971.06	1431216.57	3223775.45	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1691.00	16.92	222.71	1677.52	-92.95	-98.02	0.00	0.00	-69.27	Start 55.00 hold at 1691.00 MD
1746.00	16.92	222.71	1730.14	-104.71	-108.88	0.00	0.00	-76.54	Start DLS 2.00 TFO 28.15
2014.35	21.80	229.54	1983.28	-165.78	-173.32	2.00	28.15	-122.08	Start 4760.66 hold at 2014.35 MD
6775.02	21.80	229.54	6403.63	-1312.93	-1518.12	0.00	0.00	-1106.97	Start DLS 10.00 TFO -135.33
7837.01	90.31	92.00	7108.00	-1523.43	-971.06	10.00	-135.33	-523.38	Start 7314.46 hold at 7837.01 MD
15151.47	90.31	92.00	7068.00	-1778.63	6338.84	0.00	0.00	6583.65	TD at 15151.47

Vertical Section at 105.67° (1500 usft/in)

Planning Report

Database:	FHartmann	Local Co-ordinate Reference:	Well REEMAN 6X-HNB-04-06-65
Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Weld Co., CO (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec.5-T6N-R65W				
Site Position:		Northing:	1,432,798.19	usft	Latitude:	40.518620
From:	Lat/Long	Easting:	3,224,732.64	usft	Longitude:	-104.691665
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		REEMAN 6X-HNB-04-06-65				
Well Position	+N/-S	0.00 usft	Northing:	1,432,740.00 usft	Latitude:	40.518460
	+E/-W	0.00 usft	Easting:	3,224,746.51 usft	Longitude:	-104.691617
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,816.00 usft
Grid Convergence:		0.52 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2022	4/25/2022	7.72	66.77	51,932.70000000

Design	Plan #2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	1,691.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	105.67	

Plan Survey Tool Program	Date	7/21/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	94.00	1,691.00	Surface Survey (OH)	MWD	
				OWSG MWD - Standard	
2	1,691.00	15,151.47	Plan #2 (OH)	MWD	
				OWSG MWD - Standard	

Planning Report

Database:	FHartmann	Local Co-ordinate Reference:	Well REEMAN 6X-HNB-04-06-65
Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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
1,691.00	16.92	222.71	1,677.52	-92.95	-98.02	0.00	0.00	0.00	0.00	
1,746.00	16.92	222.71	1,730.14	-104.71	-108.88	0.00	0.00	0.00	0.00	
2,014.35	21.80	229.54	1,983.28	-165.78	-173.32	2.00	1.82	2.54	28.15	
6,775.02	21.80	229.54	6,403.63	-1,312.93	-1,518.12	0.00	0.00	0.00	0.00	
7,837.01	90.31	92.00	7,108.00	-1,523.43	-971.06	10.00	6.45	-12.95	-135.33	REEMAN 6X-HNB-04
15,151.47	90.31	92.00	7,068.00	-1,778.63	6,338.84	0.00	0.00	0.00	0.00	REEMAN 6X-HNB-04

Planning Report

Database:	FHartmann	Local Co-ordinate Reference:	Well REEMAN 6X-HNB-04-06-65
Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94.00	0.44	40.16	94.00	0.28	0.23	0.15	0.47	0.47	0.00
185.00	0.57	59.76	185.00	0.77	0.85	0.61	0.24	0.14	21.54
277.00	0.22	38.93	276.99	1.14	1.36	1.00	0.41	-0.38	-22.64
369.00	0.22	259.01	368.99	1.24	1.29	0.91	0.45	0.00	-152.09
459.00	0.35	197.66	458.99	0.95	1.04	0.75	0.35	0.14	-68.17
549.00	0.48	231.76	548.99	0.45	0.66	0.51	0.30	0.14	37.89
639.00	0.53	219.10	638.99	-0.10	0.10	0.13	0.14	0.06	-14.07
729.00	0.53	206.54	728.98	-0.80	-0.35	-0.12	0.13	0.00	-13.96
819.00	0.62	208.21	818.98	-1.60	-0.76	-0.30	0.10	0.10	1.86
909.00	2.50	235.80	908.94	-3.13	-2.62	-1.67	2.19	2.09	30.66
999.00	4.04	235.80	998.79	-6.02	-6.86	-4.98	1.71	1.71	0.00
1,089.00	6.50	231.32	1,088.41	-10.99	-13.46	-9.99	2.77	2.73	-4.98
1,179.00	7.25	226.66	1,177.76	-18.07	-21.57	-15.89	1.04	0.83	-5.18
1,269.00	8.00	225.61	1,266.96	-26.35	-30.18	-21.94	0.85	0.83	-1.17
1,359.00	9.84	223.06	1,355.87	-36.35	-39.90	-28.60	2.09	2.04	-2.83
1,449.00	12.30	225.87	1,444.19	-48.64	-52.04	-36.96	2.80	2.73	3.12
1,539.00	15.03	228.95	1,531.63	-62.98	-67.72	-48.19	3.14	3.03	3.42
1,629.00	16.79	224.47	1,618.19	-79.93	-85.63	-60.85	2.38	1.96	-4.98
1,691.00	16.92	222.71	1,677.52	-92.95	-98.02	-69.27	0.85	0.21	-2.84
Start 55.00 hold at 1691.00 MD									
1,700.00	16.92	222.71	1,686.13	-94.87	-99.80	-70.46	0.00	0.00	0.00
1,746.00	16.92	222.71	1,730.14	-104.71	-108.88	-76.54	0.00	0.00	0.00
Start DLS 2.00 TFO 28.15									
1,800.00	17.88	224.37	1,781.67	-116.41	-120.01	-84.10	2.00	1.78	3.07
1,900.00	19.69	227.02	1,876.34	-138.87	-143.07	-100.23	2.00	1.81	2.66
2,000.00	21.53	229.25	1,969.94	-162.33	-169.29	-119.14	2.00	1.84	2.22
2,014.35	21.80	229.54	1,983.28	-165.78	-173.32	-122.08	2.00	1.86	2.02
Start 4760.66 hold at 2014.35 MD									
2,100.00	21.80	229.54	2,062.81	-186.42	-197.51	-139.80	0.00	0.00	0.00
2,200.00	21.80	229.54	2,155.66	-210.51	-225.76	-160.49	0.00	0.00	0.00
2,300.00	21.80	229.54	2,248.51	-234.61	-254.01	-181.18	0.00	0.00	0.00
2,400.00	21.80	229.54	2,341.36	-258.71	-282.25	-201.87	0.00	0.00	0.00
2,500.00	21.80	229.54	2,434.21	-282.80	-310.50	-222.56	0.00	0.00	0.00
2,600.00	21.80	229.54	2,527.06	-306.90	-338.75	-243.24	0.00	0.00	0.00
2,700.00	21.80	229.54	2,619.91	-330.99	-367.00	-263.93	0.00	0.00	0.00
2,800.00	21.80	229.54	2,712.77	-355.09	-395.25	-284.62	0.00	0.00	0.00
2,900.00	21.80	229.54	2,805.62	-379.19	-423.50	-305.31	0.00	0.00	0.00
3,000.00	21.80	229.54	2,898.47	-403.28	-451.74	-326.00	0.00	0.00	0.00
3,100.00	21.80	229.54	2,991.32	-427.38	-479.99	-346.68	0.00	0.00	0.00
3,200.00	21.80	229.54	3,084.17	-451.48	-508.24	-367.37	0.00	0.00	0.00
3,300.00	21.80	229.54	3,177.02	-475.57	-536.49	-388.06	0.00	0.00	0.00
3,400.00	21.80	229.54	3,269.87	-499.67	-564.74	-408.75	0.00	0.00	0.00
3,500.00	21.80	229.54	3,362.73	-523.77	-592.99	-429.44	0.00	0.00	0.00
3,600.00	21.80	229.54	3,455.58	-547.86	-621.23	-450.12	0.00	0.00	0.00
3,700.00	21.80	229.54	3,548.43	-571.96	-649.48	-470.81	0.00	0.00	0.00
3,800.00	21.80	229.54	3,641.28	-596.06	-677.73	-491.50	0.00	0.00	0.00
3,900.00	21.80	229.54	3,734.13	-620.15	-705.98	-512.19	0.00	0.00	0.00
3,930.01	21.80	229.54	3,762.00	-627.38	-714.46	-518.40	0.00	0.00	0.00
Parkman									
4,000.00	21.80	229.54	3,826.98	-644.25	-734.23	-532.88	0.00	0.00	0.00
4,100.00	21.80	229.54	3,919.84	-668.34	-762.47	-553.56	0.00	0.00	0.00
4,200.00	21.80	229.54	4,012.69	-692.44	-790.72	-574.25	0.00	0.00	0.00
4,300.00	21.80	229.54	4,105.54	-716.54	-818.97	-594.94	0.00	0.00	0.00

Planning Report

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Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 (°/100usft)	Turn Rate (°/100usft)
4,400.00	21.80	229.54	4,198.39	-740.63	-847.22	-615.63	0.00	0.00	0.00
4,500.00	21.80	229.54	4,291.24	-764.73	-875.47	-636.32	0.00	0.00	0.00
4,600.00	21.80	229.54	4,384.09	-788.83	-903.72	-657.00	0.00	0.00	0.00
4,700.00	21.80	229.54	4,476.94	-812.92	-931.96	-677.69	0.00	0.00	0.00
4,721.60	21.80	229.54	4,497.00	-818.13	-938.07	-682.16	0.00	0.00	0.00
Sussex									
4,800.00	21.80	229.54	4,569.80	-837.02	-960.21	-698.38	0.00	0.00	0.00
4,900.00	21.80	229.54	4,662.65	-861.12	-988.46	-719.07	0.00	0.00	0.00
5,000.00	21.80	229.54	4,755.50	-885.21	-1,016.71	-739.76	0.00	0.00	0.00
5,100.00	21.80	229.54	4,848.35	-909.31	-1,044.96	-760.44	0.00	0.00	0.00
5,200.00	21.80	229.54	4,941.20	-933.41	-1,073.21	-781.13	0.00	0.00	0.00
5,300.00	21.80	229.54	5,034.05	-957.50	-1,101.45	-801.82	0.00	0.00	0.00
5,377.49	21.80	229.54	5,106.00	-976.17	-1,123.34	-817.85	0.00	0.00	0.00
Shannon									
5,400.00	21.80	229.54	5,126.90	-981.60	-1,129.70	-822.51	0.00	0.00	0.00
5,500.00	21.80	229.54	5,219.76	-1,005.69	-1,157.95	-843.20	0.00	0.00	0.00
5,553.04	21.80	229.54	5,269.00	-1,018.47	-1,172.93	-854.17	0.00	0.00	0.00
Pierre Shale									
5,600.00	21.80	229.54	5,312.61	-1,029.79	-1,186.20	-863.88	0.00	0.00	0.00
5,700.00	21.80	229.54	5,405.46	-1,053.89	-1,214.45	-884.57	0.00	0.00	0.00
5,800.00	21.80	229.54	5,498.31	-1,077.98	-1,242.69	-905.26	0.00	0.00	0.00
5,900.00	21.80	229.54	5,591.16	-1,102.08	-1,270.94	-925.95	0.00	0.00	0.00
6,000.00	21.80	229.54	5,684.01	-1,126.18	-1,299.19	-946.63	0.00	0.00	0.00
6,100.00	21.80	229.54	5,776.86	-1,150.27	-1,327.44	-967.32	0.00	0.00	0.00
6,200.00	21.80	229.54	5,869.72	-1,174.37	-1,355.69	-988.01	0.00	0.00	0.00
6,300.00	21.80	229.54	5,962.57	-1,198.47	-1,383.94	-1,008.70	0.00	0.00	0.00
6,400.00	21.80	229.54	6,055.42	-1,222.56	-1,412.18	-1,029.39	0.00	0.00	0.00
6,500.00	21.80	229.54	6,148.27	-1,246.66	-1,440.43	-1,050.07	0.00	0.00	0.00
6,600.00	21.80	229.54	6,241.12	-1,270.76	-1,468.68	-1,070.76	0.00	0.00	0.00
6,700.00	21.80	229.54	6,333.97	-1,294.85	-1,496.93	-1,091.45	0.00	0.00	0.00
6,775.02	21.80	229.54	6,403.63	-1,312.93	-1,518.12	-1,106.97	0.00	0.00	0.00
Start DLS 10.00 TFO -135.33									
6,800.00	20.09	224.42	6,426.96	-1,319.00	-1,524.65	-1,111.62	10.00	-6.82	-20.49
6,850.00	17.25	211.51	6,474.35	-1,331.47	-1,534.54	-1,117.78	10.00	-5.69	-25.81
6,900.00	15.49	194.82	6,522.34	-1,344.25	-1,540.13	-1,119.70	10.00	-3.51	-33.38
6,950.00	15.22	175.89	6,570.59	-1,357.26	-1,541.37	-1,117.38	10.00	-0.56	-37.87
7,000.00	16.49	158.10	6,618.72	-1,370.40	-1,538.25	-1,110.83	10.00	2.54	-35.57
7,050.00	19.00	143.84	6,666.36	-1,383.56	-1,530.80	-1,100.09	10.00	5.02	-28.51
7,100.00	22.33	133.25	6,713.15	-1,396.65	-1,519.07	-1,085.27	10.00	6.67	-21.20
7,150.00	26.18	125.45	6,758.74	-1,409.56	-1,503.15	-1,066.45	10.00	7.70	-15.60
7,200.00	30.35	119.59	6,802.77	-1,422.20	-1,483.17	-1,043.80	10.00	8.33	-11.71
7,250.00	34.72	115.06	6,844.93	-1,434.48	-1,459.27	-1,017.47	10.00	8.74	-9.07
7,300.00	39.22	111.43	6,884.87	-1,446.29	-1,431.64	-987.68	10.00	9.00	-7.24
7,338.60	42.76	109.09	6,914.00	-1,455.04	-1,407.90	-962.45	10.00	9.17	-6.08
Sharon Springs									
7,350.00	43.81	108.46	6,922.30	-1,457.56	-1,400.49	-954.64	10.00	9.25	-5.55
7,380.82	46.68	106.86	6,944.00	-1,464.19	-1,379.64	-932.77	10.00	9.30	-5.18
Niobrara									
7,400.00	48.47	105.94	6,956.94	-1,468.18	-1,366.06	-918.62	10.00	9.35	-4.79
7,450.00	53.18	103.76	6,988.51	-1,478.09	-1,328.60	-879.88	10.00	9.41	-4.35
7,500.00	57.92	101.84	7,016.79	-1,487.20	-1,288.40	-838.71	10.00	9.49	-3.84
7,550.00	62.69	100.11	7,041.55	-1,495.45	-1,245.77	-795.44	10.00	9.54	-3.46
7,600.00	67.48	98.52	7,062.61	-1,502.78	-1,201.04	-750.39	10.00	9.58	-3.18

Planning Report

Database:	FHartmann	Local Co-ordinate Reference:	Well REEMAN 6X-HNB-04-06-65
Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 (°/100usft)	Turn Rate (°/100usft)
7,650.00	72.28	97.04	7,079.81	-1,509.13	-1,154.53	-703.90	10.00	9.61	-2.96
7,700.00	77.10	95.64	7,093.00	-1,514.44	-1,106.62	-656.33	10.00	9.63	-2.81
7,750.00	81.92	94.29	7,102.11	-1,518.69	-1,057.65	-608.04	10.00	9.64	-2.70
7,800.00	86.74	92.97	7,107.05	-1,521.83	-1,008.01	-559.40	10.00	9.65	-2.64
7,837.01	90.31	92.00	7,108.00	-1,523.43	-971.06	-523.38	10.00	9.65	-2.61
Start 7314.46 hold at 7837.01 MD									
7,900.00	90.31	92.00	7,107.66	-1,525.63	-908.11	-462.18	0.00	0.00	0.00
8,000.00	90.31	92.00	7,107.11	-1,529.12	-808.17	-365.01	0.00	0.00	0.00
8,100.00	90.31	92.00	7,106.56	-1,532.61	-708.23	-267.85	0.00	0.00	0.00
8,200.00	90.31	92.00	7,106.02	-1,536.10	-608.29	-170.69	0.00	0.00	0.00
8,300.00	90.31	92.00	7,105.47	-1,539.59	-508.36	-73.52	0.00	0.00	0.00
8,400.00	90.31	92.00	7,104.92	-1,543.07	-408.42	23.64	0.00	0.00	0.00
8,500.00	90.31	92.00	7,104.37	-1,546.56	-308.48	120.81	0.00	0.00	0.00
8,600.00	90.31	92.00	7,103.83	-1,550.05	-208.54	217.97	0.00	0.00	0.00
8,700.00	90.31	92.00	7,103.28	-1,553.54	-108.61	315.14	0.00	0.00	0.00
8,800.00	90.31	92.00	7,102.73	-1,557.03	-8.67	412.30	0.00	0.00	0.00
8,900.00	90.31	92.00	7,102.19	-1,560.52	91.27	509.46	0.00	0.00	0.00
9,000.00	90.31	92.00	7,101.64	-1,564.01	191.21	606.63	0.00	0.00	0.00
9,100.00	90.31	92.00	7,101.09	-1,567.50	291.14	703.79	0.00	0.00	0.00
9,200.00	90.31	92.00	7,100.55	-1,570.99	391.08	800.96	0.00	0.00	0.00
9,300.00	90.31	92.00	7,100.00	-1,574.48	491.02	898.12	0.00	0.00	0.00
9,400.00	90.31	92.00	7,099.45	-1,577.96	590.96	995.28	0.00	0.00	0.00
9,500.00	90.31	92.00	7,098.91	-1,581.45	690.89	1,092.45	0.00	0.00	0.00
9,600.00	90.31	92.00	7,098.36	-1,584.94	790.83	1,189.61	0.00	0.00	0.00
9,700.00	90.31	92.00	7,097.81	-1,588.43	890.77	1,286.78	0.00	0.00	0.00
9,800.00	90.31	92.00	7,097.27	-1,591.92	990.71	1,383.94	0.00	0.00	0.00
9,900.00	90.31	92.00	7,096.72	-1,595.41	1,090.65	1,481.10	0.00	0.00	0.00
10,000.00	90.31	92.00	7,096.17	-1,598.90	1,190.58	1,578.27	0.00	0.00	0.00
10,100.00	90.31	92.00	7,095.62	-1,602.39	1,290.52	1,675.43	0.00	0.00	0.00
10,200.00	90.31	92.00	7,095.08	-1,605.88	1,390.46	1,772.60	0.00	0.00	0.00
10,300.00	90.31	92.00	7,094.53	-1,609.37	1,490.40	1,869.76	0.00	0.00	0.00
10,400.00	90.31	92.00	7,093.98	-1,612.85	1,590.33	1,966.92	0.00	0.00	0.00
10,500.00	90.31	92.00	7,093.44	-1,616.34	1,690.27	2,064.09	0.00	0.00	0.00
10,600.00	90.31	92.00	7,092.89	-1,619.83	1,790.21	2,161.25	0.00	0.00	0.00
10,700.00	90.31	92.00	7,092.34	-1,623.32	1,890.15	2,258.42	0.00	0.00	0.00
10,800.00	90.31	92.00	7,091.80	-1,626.81	1,990.08	2,355.58	0.00	0.00	0.00
10,900.00	90.31	92.00	7,091.25	-1,630.30	2,090.02	2,452.75	0.00	0.00	0.00
11,000.00	90.31	92.00	7,090.70	-1,633.79	2,189.96	2,549.91	0.00	0.00	0.00
11,100.00	90.31	92.00	7,090.16	-1,637.28	2,289.90	2,647.07	0.00	0.00	0.00
11,200.00	90.31	92.00	7,089.61	-1,640.77	2,389.83	2,744.24	0.00	0.00	0.00
11,300.00	90.31	92.00	7,089.06	-1,644.25	2,489.77	2,841.40	0.00	0.00	0.00
11,400.00	90.31	92.00	7,088.52	-1,647.74	2,589.71	2,938.57	0.00	0.00	0.00
11,500.00	90.31	92.00	7,087.97	-1,651.23	2,689.65	3,035.73	0.00	0.00	0.00
11,600.00	90.31	92.00	7,087.42	-1,654.72	2,789.58	3,132.89	0.00	0.00	0.00
11,700.00	90.31	92.00	7,086.87	-1,658.21	2,889.52	3,230.06	0.00	0.00	0.00
11,800.00	90.31	92.00	7,086.33	-1,661.70	2,989.46	3,327.22	0.00	0.00	0.00
11,900.00	90.31	92.00	7,085.78	-1,665.19	3,089.40	3,424.39	0.00	0.00	0.00
12,000.00	90.31	92.00	7,085.23	-1,668.68	3,189.34	3,521.55	0.00	0.00	0.00
12,100.00	90.31	92.00	7,084.69	-1,672.17	3,289.27	3,618.71	0.00	0.00	0.00
12,200.00	90.31	92.00	7,084.14	-1,675.66	3,389.21	3,715.88	0.00	0.00	0.00
12,300.00	90.31	92.00	7,083.59	-1,679.14	3,489.15	3,813.04	0.00	0.00	0.00
12,400.00	90.31	92.00	7,083.05	-1,682.63	3,589.09	3,910.21	0.00	0.00	0.00
12,500.00	90.31	92.00	7,082.50	-1,686.12	3,689.02	4,007.37	0.00	0.00	0.00
12,600.00	90.31	92.00	7,081.95	-1,689.61	3,788.96	4,104.54	0.00	0.00	0.00

Planning Report

Database:	FHartmann	Local Co-ordinate Reference:	Well REEMAN 6X-HNB-04-06-65
Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 (°/100usft)	Turn Rate (°/100usft)
12,700.00	90.31	92.00	7,081.41	-1,693.10	3,888.90	4,201.70	0.00	0.00	0.00
12,800.00	90.31	92.00	7,080.86	-1,696.59	3,988.84	4,298.86	0.00	0.00	0.00
12,900.00	90.31	92.00	7,080.31	-1,700.08	4,088.77	4,396.03	0.00	0.00	0.00
13,000.00	90.31	92.00	7,079.77	-1,703.57	4,188.71	4,493.19	0.00	0.00	0.00
13,100.00	90.31	92.00	7,079.22	-1,707.06	4,288.65	4,590.36	0.00	0.00	0.00
13,200.00	90.31	92.00	7,078.67	-1,710.55	4,388.59	4,687.52	0.00	0.00	0.00
13,300.00	90.31	92.00	7,078.13	-1,714.03	4,488.52	4,784.68	0.00	0.00	0.00
13,400.00	90.31	92.00	7,077.58	-1,717.52	4,588.46	4,881.85	0.00	0.00	0.00
13,500.00	90.31	92.00	7,077.03	-1,721.01	4,688.40	4,979.01	0.00	0.00	0.00
13,600.00	90.31	92.00	7,076.48	-1,724.50	4,788.34	5,076.18	0.00	0.00	0.00
13,700.00	90.31	92.00	7,075.94	-1,727.99	4,888.27	5,173.34	0.00	0.00	0.00
13,800.00	90.31	92.00	7,075.39	-1,731.48	4,988.21	5,270.50	0.00	0.00	0.00
13,900.00	90.31	92.00	7,074.84	-1,734.97	5,088.15	5,367.67	0.00	0.00	0.00
14,000.00	90.31	92.00	7,074.30	-1,738.46	5,188.09	5,464.83	0.00	0.00	0.00
14,100.00	90.31	92.00	7,073.75	-1,741.95	5,288.03	5,562.00	0.00	0.00	0.00
14,200.00	90.31	92.00	7,073.20	-1,745.44	5,387.96	5,659.16	0.00	0.00	0.00
14,300.00	90.31	92.00	7,072.66	-1,748.92	5,487.90	5,756.32	0.00	0.00	0.00
14,400.00	90.31	92.00	7,072.11	-1,752.41	5,587.84	5,853.49	0.00	0.00	0.00
14,500.00	90.31	92.00	7,071.56	-1,755.90	5,687.78	5,950.65	0.00	0.00	0.00
14,600.00	90.31	92.00	7,071.02	-1,759.39	5,787.71	6,047.82	0.00	0.00	0.00
14,700.00	90.31	92.00	7,070.47	-1,762.88	5,887.65	6,144.98	0.00	0.00	0.00
14,800.00	90.31	92.00	7,069.92	-1,766.37	5,987.59	6,242.15	0.00	0.00	0.00
14,900.00	90.31	92.00	7,069.38	-1,769.86	6,087.53	6,339.31	0.00	0.00	0.00
15,000.00	90.31	92.00	7,068.83	-1,773.35	6,187.46	6,436.47	0.00	0.00	0.00
15,100.00	90.31	92.00	7,068.28	-1,776.84	6,287.40	6,533.64	0.00	0.00	0.00
15,151.47	90.31	92.00	7,068.00	-1,778.63	6,338.84	6,583.65	0.00	0.00	0.00
TD at 15151.47									

Design 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									
REEMAN 6X-HNB-04-06-65	0.00	0.00	7,068.00	-1,778.63	6,338.84	1,430,961.37	3,231,085.35	40.513417	-104.668879
- plan hits target center									
- Point									
REEMAN 6X-HNB-04-06-65	0.00	0.00	7,108.00	-1,523.43	-971.06	1,431,216.57	3,223,775.45	40.514303	-104.695160
- plan hits target center									
- Point									

Planning Report

Database:	FHartmann	Local Co-ordinate Reference:	Well REEMAN 6X-HNB-04-06-65
Company:	Nickel Road Operating	TVD Reference:	KB=17 @ 4833.00usft
Project:	Weld Co., CO (NAD-83)	MD Reference:	KB=17 @ 4833.00usft
Site:	Sec.5-T6N-R65W	North Reference:	Grid
Well:	REEMAN 6X-HNB-04-06-65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	0.00	Quaternary Alluvium				
25.00	25.00	Laramie/Fox Hills				
440.01	440.00	Upper Pierre				
1,604.81	1,595.00	Pierre Shale				
3,930.01	3,762.00	Parkman				
4,721.60	4,497.00	Sussex				
5,377.49	5,106.00	Shannon				
5,553.04	5,269.00	Pierre Shale				
7,338.60	6,914.00	Sharon Springs				
7,380.82	6,944.00	Niobrara				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,691.00	1,677.52	-92.95	-98.02	Start 55.00 hold at 1691.00 MD	
1,746.00	1,730.14	-104.71	-108.88	Start DLS 2.00 TFO 28.15	
2,014.35	1,983.28	-165.78	-173.32	Start 4760.66 hold at 2014.35 MD	
6,775.02	6,403.63	-1,312.93	-1,518.12	Start DLS 10.00 TFO -135.33	
7,837.01	7,108.00	-1,523.43	-971.06	Start 7314.46 hold at 7837.01 MD	
15,151.47	7,068.00	-1,778.63	6,338.84	TD at 15151.47	