

Well Name:

BLEHM-6X-HNB-10-07-67

Project Name:

Sec. 9-T7N-R67W

Pad Name:	
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BLEHM Pad

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	Surf Csg
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	Start Build 2.00
4592.51	59.85	239.47	4077.23	-724.39	-1228.20	-700.17	1425.91	Hard 59.85 Inc, 239.47 Az
8795.74	59.85	239.47	6188.35	-2570.84	-4358.84	-2484.89	5060.51	KOP 10°/100
10175.73	89.64	89.80	6947.50	-3221.33	-3978.00	-1829.45	6164.26	LP 89.64 Inc, 89.80 Az
16663.18	89.64	89.80	7007.77	-3188.33	5508.20	6364.41	15650.52	TD at 19663.18

Geodetic Datum:

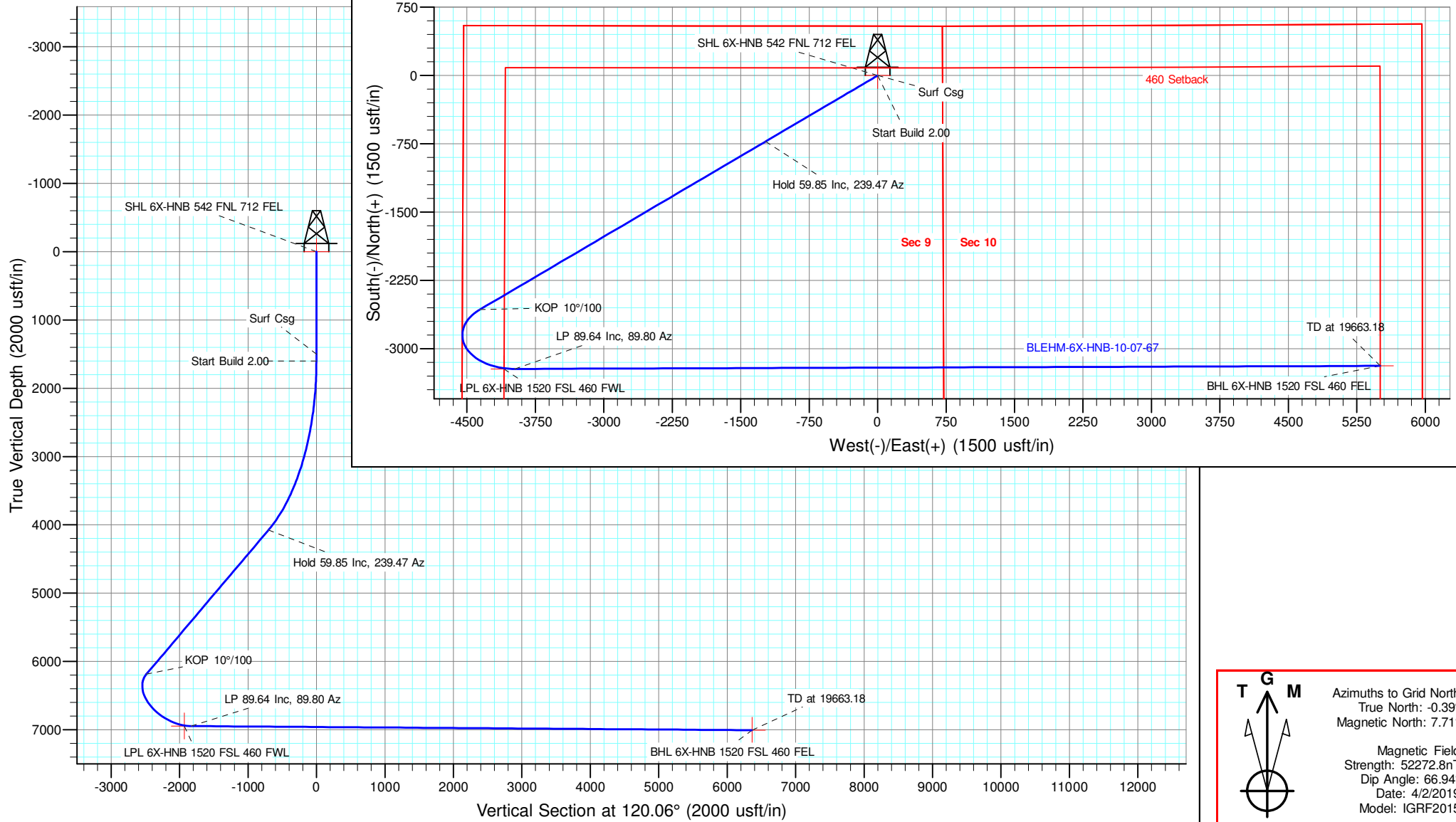
North American Datum 1983
US State Plane 1983, Colorado Northern Zone

Elevation:

Ground Elevation: 5088.00
KB Elevation: KB @ 5115.00usft

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SHL 6X-HNB 542 FNL 712 FEL	0.00	0.00	0.00	1459986.834	3169070.770	40.594469	-104.891195	Point
LPL 6X-HNB 1520 FSL 460 FWL	6947.00	-321.73	-4092.25	1456765.105	3164978.519	40.585702	-104.906008	Point
- plan misses target center by 11.45usft at 10062.75usft MD (6938.37 TVD, -3214.47 N, -4090.22 E)								
BHL 6X-HNB 1520 FSL 460 FEL	7008.00	-3188.33	5509.20	1456798.504	3174579.975	40.585612	-104.871439	Point



NICKEL ROAD

O P E R A T I N G

Nickel Road Operating

Sec. 9-T7N-R67W

BLEHM Pad

BLEHM-6X-HNB-10-07-67

Wellbore #1

Plan: Plan #3

Standard Planning Report - Geographic

11 March, 2021

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-6X-HNB-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-6X-HNB-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Project	Sec. 9-T7N-R67W, 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		BLEHM Pad			
Site Position:		Northing:	1,458,460.008 usft	Latitude:	40.590318
From:	Lat/Long	Easting:	3,166,936.305 usft	Longitude:	-104.898918
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well	BLEHM-6X-HNB-10-07-67					
Well Position	+N/-S	0.00 usft	Northing:	1,459,986.833 usft	Latitude:	40.594469
	+E/-W	0.00 usft	Easting:	3,169,070.770 usft	Longitude:	-104.891195
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,088.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/2/2019	8.10	66.94	52,272.80972961

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	120.06

Plan Survey Tool Program	Date	3/10/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,662.79 Plan #3 (Wellbore #1)	MWD	
			OWSG MWD - Standard	

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	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,592.51	59.85	239.47	4,077.23	-724.39	-1,228.20	2.00	2.00	0.00	239.47	
8,795.74	59.85	239.47	6,188.35	-2,570.84	-4,358.84	0.00	0.00	0.00	0.00	
10,175.73	89.64	89.80	6,947.50	-3,221.33	-3,978.00	10.00	2.16	-10.85	-131.00	
19,663.18	89.64	89.80	7,008.00	-3,188.33	5,509.21	0.00	0.00	0.00	0.00	BHL 6X-HNB 1520 F5

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-6X-HNB-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-6X-HNB-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
Laramie-Fox Hills - SHL 6X-HNB 542 FNL 712 FEL									
100.00	0.00	0.00	100.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
200.00	0.00	0.00	200.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
300.00	0.00	0.00	300.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
Upper Pierre									
400.00	0.00	0.00	400.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
500.00	0.00	0.00	500.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
600.00	0.00	0.00	600.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
700.00	0.00	0.00	700.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
800.00	0.00	0.00	800.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
900.00	0.00	0.00	900.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
1,314.00	0.00	0.00	1,314.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
Pierre Shale									
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
Surf Csg									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
Start Build 2.00									
1,700.00	2.00	239.47	1,699.98	-0.89	-1.50	1,459,985.947	3,169,069.267	40.594467	-104.891201
1,800.00	4.00	239.47	1,799.84	-3.55	-6.01	1,459,983.288	3,169,064.759	40.594459	-104.891217
1,900.00	6.00	239.47	1,899.45	-7.97	-13.52	1,459,978.861	3,169,057.253	40.594447	-104.891244
2,000.00	8.00	239.47	1,998.70	-14.16	-24.01	1,459,972.670	3,169,046.756	40.594431	-104.891282
2,100.00	10.00	239.47	2,097.47	-22.11	-37.49	1,459,964.723	3,169,033.282	40.594409	-104.891331
2,200.00	12.00	239.47	2,195.62	-31.80	-53.92	1,459,955.030	3,169,016.848	40.594383	-104.891390
2,300.00	14.00	239.47	2,293.06	-43.23	-73.30	1,459,943.603	3,168,997.473	40.594352	-104.891460
2,400.00	16.00	239.47	2,389.64	-56.38	-95.59	1,459,930.455	3,168,975.181	40.594316	-104.891541
2,500.00	18.00	239.47	2,485.27	-71.23	-120.77	1,459,915.602	3,168,949.999	40.594276	-104.891632
2,600.00	20.00	239.47	2,579.82	-87.77	-148.81	1,459,899.064	3,168,921.957	40.594231	-104.891733
2,700.00	22.00	239.47	2,673.17	-105.97	-179.68	1,459,880.859	3,168,891.091	40.594181	-104.891845
2,800.00	24.00	239.47	2,765.21	-125.82	-213.33	1,459,861.010	3,168,857.438	40.594128	-104.891967
2,900.00	26.00	239.47	2,855.84	-147.29	-249.73	1,459,839.541	3,168,821.037	40.594069	-104.892098
3,000.00	28.00	239.47	2,944.94	-170.35	-288.84	1,459,816.479	3,168,781.935	40.594007	-104.892239
3,100.00	30.00	239.47	3,032.39	-194.98	-330.59	1,459,791.850	3,168,740.178	40.593940	-104.892390
3,200.00	32.00	239.47	3,118.11	-221.15	-374.95	1,459,765.687	3,168,695.818	40.593869	-104.892551
3,300.00	34.00	239.47	3,201.97	-248.81	-421.86	1,459,738.019	3,168,648.908	40.593794	-104.892720
3,400.00	36.00	239.47	3,283.88	-277.95	-471.26	1,459,708.882	3,168,599.506	40.593715	-104.892899
3,500.00	38.00	239.47	3,363.74	-308.52	-523.10	1,459,678.310	3,168,547.671	40.593632	-104.893086
3,600.00	40.00	239.47	3,441.45	-340.49	-577.30	1,459,646.341	3,168,493.467	40.593545	-104.893282
3,700.00	42.00	239.47	3,516.92	-373.82	-633.81	1,459,613.013	3,168,436.961	40.593455	-104.893487
3,800.00	44.00	239.47	3,590.05	-408.47	-692.55	1,459,578.368	3,168,378.220	40.593361	-104.893699
3,900.00	46.00	239.47	3,660.76	-444.39	-753.45	1,459,542.447	3,168,317.317	40.593263	-104.893919
4,000.00	48.00	239.47	3,728.95	-481.54	-816.44	1,459,505.295	3,168,254.326	40.593163	-104.894147
4,100.00	50.00	239.47	3,794.56	-519.88	-881.45	1,459,466.956	3,168,189.323	40.593059	-104.894382
4,200.00	52.00	239.47	3,857.48	-559.36	-948.38	1,459,427.477	3,168,122.387	40.592951	-104.894624
4,300.00	54.00	239.47	3,917.66	-599.93	-1,017.17	1,459,386.907	3,168,053.600	40.592841	-104.894873
4,400.00	56.00	239.47	3,975.02	-641.54	-1,087.72	1,459,345.295	3,167,983.047	40.592729	-104.895128
4,500.00	58.00	239.47	4,029.48	-684.14	-1,159.96	1,459,302.691	3,167,910.812	40.592613	-104.895389
4,592.51	59.85	239.47	4,077.23	-724.39	-1,228.20	1,459,262.441	3,167,842.569	40.592504	-104.895636
Hold 59.85 Inc, 239.47 Az									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-6X-HNB-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-6X-HNB-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,600.00	59.85	239.47	4,080.99	-727.68	-1,233.78	1,459,259.149	3,167,836.988	40.592495	-104.895656
4,700.00	59.85	239.47	4,131.21	-771.61	-1,308.26	1,459,215.220	3,167,762.507	40.592376	-104.895925
4,800.00	59.85	239.47	4,181.44	-815.54	-1,382.74	1,459,171.291	3,167,688.025	40.592256	-104.896194
4,842.92	59.85	239.47	4,203.00	-834.40	-1,414.71	1,459,152.435	3,167,656.055	40.592205	-104.896310
Sussex									
4,900.00	59.85	239.47	4,231.67	-859.47	-1,457.23	1,459,127.361	3,167,613.543	40.592137	-104.896463
5,000.00	59.85	239.47	4,281.89	-903.40	-1,531.71	1,459,083.432	3,167,539.061	40.592018	-104.896733
5,100.00	59.85	239.47	4,332.12	-947.33	-1,606.19	1,459,039.503	3,167,464.580	40.591899	-104.897002
5,200.00	59.85	239.47	4,382.35	-991.26	-1,680.67	1,458,995.573	3,167,390.098	40.591780	-104.897271
5,300.00	59.85	239.47	4,432.57	-1,035.19	-1,755.15	1,458,951.644	3,167,315.616	40.591660	-104.897541
5,400.00	59.85	239.47	4,482.80	-1,079.12	-1,829.63	1,458,907.715	3,167,241.134	40.591541	-104.897810
5,500.00	59.85	239.47	4,533.03	-1,123.05	-1,904.12	1,458,863.785	3,167,166.653	40.591422	-104.898079
5,537.78	59.85	239.47	4,552.00	-1,139.64	-1,932.25	1,458,847.189	3,167,138.515	40.591377	-104.898181
Shannon									
5,595.52	59.85	239.47	4,581.00	-1,165.01	-1,975.26	1,458,821.825	3,167,095.510	40.591308	-104.898336
Pierre Shale									
5,600.00	59.85	239.47	4,583.25	-1,166.98	-1,978.60	1,458,819.856	3,167,092.171	40.591303	-104.898348
5,700.00	59.85	239.47	4,633.48	-1,210.91	-2,053.08	1,458,775.927	3,167,017.689	40.591184	-104.898618
5,800.00	59.85	239.47	4,683.70	-1,254.84	-2,127.56	1,458,731.997	3,166,943.207	40.591065	-104.898887
5,900.00	59.85	239.47	4,733.93	-1,298.77	-2,202.04	1,458,688.068	3,166,868.726	40.590945	-104.899156
6,000.00	59.85	239.47	4,784.16	-1,342.70	-2,276.53	1,458,644.139	3,166,794.244	40.590826	-104.899425
6,100.00	59.85	239.47	4,834.38	-1,386.62	-2,351.01	1,458,600.209	3,166,719.762	40.590707	-104.899695
6,200.00	59.85	239.47	4,884.61	-1,430.55	-2,425.49	1,458,556.280	3,166,645.280	40.590588	-104.899964
6,300.00	59.85	239.47	4,934.84	-1,474.48	-2,499.97	1,458,512.351	3,166,570.799	40.590469	-104.900233
6,400.00	59.85	239.47	4,985.06	-1,518.41	-2,574.45	1,458,468.421	3,166,496.317	40.590349	-104.900502
6,500.00	59.85	239.47	5,035.29	-1,562.34	-2,648.93	1,458,424.492	3,166,421.835	40.590230	-104.900772
6,600.00	59.85	239.47	5,085.51	-1,606.27	-2,723.42	1,458,380.563	3,166,347.353	40.590111	-104.901041
6,700.00	59.85	239.47	5,135.74	-1,650.20	-2,797.90	1,458,336.633	3,166,272.872	40.589992	-104.901310
6,800.00	59.85	239.47	5,185.97	-1,694.13	-2,872.38	1,458,292.704	3,166,198.390	40.589873	-104.901579
6,900.00	59.85	239.47	5,236.19	-1,738.06	-2,946.86	1,458,248.774	3,166,123.908	40.589753	-104.901848
7,000.00	59.85	239.47	5,286.42	-1,781.99	-3,021.34	1,458,204.845	3,166,049.427	40.589634	-104.902118
7,100.00	59.85	239.47	5,336.65	-1,825.92	-3,095.82	1,458,160.916	3,165,974.945	40.589515	-104.902387
7,200.00	59.85	239.47	5,386.87	-1,869.85	-3,170.31	1,458,116.986	3,165,900.463	40.589396	-104.902656
7,300.00	59.85	239.47	5,437.10	-1,913.78	-3,244.79	1,458,073.057	3,165,825.981	40.589277	-104.902925
7,400.00	59.85	239.47	5,487.33	-1,957.71	-3,319.27	1,458,029.128	3,165,751.500	40.589157	-104.903195
7,500.00	59.85	239.47	5,537.55	-2,001.64	-3,393.75	1,457,985.198	3,165,677.018	40.589038	-104.903464
7,600.00	59.85	239.47	5,587.78	-2,045.56	-3,468.23	1,457,941.269	3,165,602.536	40.588919	-104.903733
7,700.00	59.85	239.47	5,638.00	-2,089.49	-3,542.72	1,457,897.340	3,165,528.054	40.588800	-104.904002
7,800.00	59.85	239.47	5,688.23	-2,133.42	-3,617.20	1,457,853.410	3,165,453.573	40.588681	-104.904272
7,900.00	59.85	239.47	5,738.46	-2,177.35	-3,691.68	1,457,809.481	3,165,379.091	40.588561	-104.904541
8,000.00	59.85	239.47	5,788.68	-2,221.28	-3,766.16	1,457,765.552	3,165,304.609	40.588442	-104.904810
8,100.00	59.85	239.47	5,838.91	-2,265.21	-3,840.64	1,457,721.622	3,165,230.127	40.588323	-104.905079
8,200.00	59.85	239.47	5,889.14	-2,309.14	-3,915.12	1,457,677.693	3,165,155.646	40.588204	-104.905349
8,300.00	59.85	239.47	5,939.36	-2,353.07	-3,989.61	1,457,633.764	3,165,081.164	40.588085	-104.905618
8,400.00	59.85	239.47	5,989.59	-2,397.00	-4,064.09	1,457,589.834	3,165,006.682	40.587965	-104.905887
8,500.00	59.85	239.47	6,039.81	-2,440.93	-4,138.57	1,457,545.905	3,164,932.200	40.587846	-104.906156
8,600.00	59.85	239.47	6,090.04	-2,484.86	-4,213.05	1,457,501.976	3,164,857.719	40.587727	-104.906425
8,700.00	59.85	239.47	6,140.27	-2,528.79	-4,287.53	1,457,458.046	3,164,783.237	40.587608	-104.906695
8,795.74	59.85	239.47	6,188.35	-2,570.84	-4,358.84	1,457,415.989	3,164,711.930	40.587494	-104.906952
KOP 10°/100									
8,800.00	59.57	239.09	6,190.50	-2,572.72	-4,362.00	1,457,414.109	3,164,708.766	40.587488	-104.906964
8,900.00	53.37	229.67	6,245.80	-2,620.96	-4,429.76	1,457,365.874	3,164,641.014	40.587357	-104.907209
9,000.00	48.04	218.72	6,309.22	-2,676.08	-4,483.74	1,457,310.758	3,164,587.032	40.587207	-104.907405
9,100.00	43.91	206.03	6,378.85	-2,736.40	-4,522.31	1,457,250.437	3,164,548.461	40.587042	-104.907545

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-6X-HNB-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-6X-HNB-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,200.00	41.39	191.72	6,452.57	-2,800.09	-4,544.30	1,457,186.743	3,164,526.473	40.586868	-104.907626	
9,300.00	40.78	176.51	6,528.14	-2,865.22	-4,549.03	1,457,121.612	3,164,521.736	40.586689	-104.907644	
9,400.00	42.16	161.52	6,603.25	-2,929.81	-4,536.38	1,457,057.023	3,164,534.394	40.586512	-104.907600	
9,500.00	45.35	147.79	6,675.64	-2,991.90	-4,506.71	1,456,994.938	3,164,564.062	40.586341	-104.907495	
9,600.00	49.99	135.79	6,743.10	-3,049.59	-4,460.93	1,456,937.243	3,164,609.839	40.586181	-104.907333	
9,700.00	55.70	125.47	6,803.58	-3,101.14	-4,400.44	1,456,885.692	3,164,670.334	40.586039	-104.907115	
9,726.14	57.33	123.02	6,818.00	-3,113.40	-4,382.42	1,456,873.429	3,164,688.354	40.586005	-104.907050	
Niobrara										
9,800.00	62.16	116.55	6,855.24	-3,144.98	-4,327.06	1,456,841.851	3,164,743.708	40.585917	-104.906852	
9,900.00	69.12	108.66	6,896.51	-3,179.78	-4,243.04	1,456,807.052	3,164,827.733	40.585820	-104.906550	
10,000.00	76.42	101.50	6,926.14	-3,204.48	-4,150.91	1,456,782.352	3,164,919.855	40.585751	-104.906219	
10,063.27	81.14	97.20	6,938.45	-3,214.54	-4,089.71	1,456,772.295	3,164,981.057	40.585722	-104.905999	
LPL 6X-HNB 1520 FSL 460 FWL										
10,100.00	83.91	94.76	6,943.23	-3,218.33	-4,053.49	1,456,768.502	3,165,017.275	40.585711	-104.905869	
10,175.73	89.64	89.80	6,947.50	-3,221.33	-3,978.00	1,456,765.504	3,165,092.769	40.585701	-104.905597	
LP 89.64 Inc, 89.80 Az										
10,200.00	89.64	89.80	6,947.65	-3,221.25	-3,953.73	1,456,765.588	3,165,117.040	40.585701	-104.905510	
10,300.00	89.64	89.80	6,948.29	-3,220.90	-3,853.73	1,456,765.936	3,165,217.037	40.585700	-104.905150	
10,400.00	89.64	89.80	6,948.92	-3,220.55	-3,753.74	1,456,766.284	3,165,317.034	40.585699	-104.904789	
10,500.00	89.64	89.80	6,949.56	-3,220.20	-3,653.74	1,456,766.632	3,165,417.032	40.585698	-104.904429	
10,600.00	89.64	89.80	6,950.20	-3,219.85	-3,553.74	1,456,766.979	3,165,517.029	40.585697	-104.904069	
10,700.00	89.64	89.80	6,950.83	-3,219.51	-3,453.74	1,456,767.327	3,165,617.026	40.585696	-104.903709	
10,800.00	89.64	89.80	6,951.47	-3,219.16	-3,353.75	1,456,767.675	3,165,717.024	40.585696	-104.903349	
10,900.00	89.64	89.80	6,952.10	-3,218.81	-3,253.75	1,456,768.023	3,165,817.021	40.585695	-104.902989	
11,000.00	89.64	89.80	6,952.74	-3,218.46	-3,153.75	1,456,768.371	3,165,917.019	40.585694	-104.902629	
11,100.00	89.64	89.80	6,953.37	-3,218.12	-3,053.75	1,456,768.719	3,166,017.016	40.585693	-104.902269	
11,200.00	89.64	89.80	6,954.01	-3,217.77	-2,953.76	1,456,769.067	3,166,117.013	40.585692	-104.901909	
11,300.00	89.64	89.80	6,954.64	-3,217.42	-2,853.76	1,456,769.414	3,166,217.011	40.585691	-104.901549	
11,400.00	89.64	89.80	6,955.28	-3,217.07	-2,753.76	1,456,769.762	3,166,317.008	40.585690	-104.901189	
11,500.00	89.64	89.80	6,955.91	-3,216.72	-2,653.76	1,456,770.110	3,166,417.005	40.585689	-104.900829	
11,600.00	89.64	89.80	6,956.55	-3,216.38	-2,553.77	1,456,770.458	3,166,517.003	40.585688	-104.900469	
11,700.00	89.64	89.80	6,957.18	-3,216.03	-2,453.77	1,456,770.806	3,166,617.000	40.585687	-104.900109	
11,800.00	89.64	89.80	6,957.82	-3,215.68	-2,353.77	1,456,771.154	3,166,716.998	40.585687	-104.899749	
11,900.00	89.64	89.80	6,958.45	-3,215.33	-2,253.77	1,456,771.501	3,166,816.995	40.585686	-104.899389	
12,000.00	89.64	89.80	6,959.09	-3,214.98	-2,153.78	1,456,771.849	3,166,916.992	40.585685	-104.899029	
12,100.00	89.64	89.80	6,959.73	-3,214.64	-2,053.78	1,456,772.197	3,167,016.990	40.585684	-104.898669	
12,200.00	89.64	89.80	6,960.36	-3,214.29	-1,953.78	1,456,772.545	3,167,116.987	40.585683	-104.898309	
12,300.00	89.64	89.80	6,961.00	-3,213.94	-1,853.78	1,456,772.893	3,167,216.984	40.585682	-104.897949	
12,400.00	89.64	89.80	6,961.63	-3,213.59	-1,753.79	1,456,773.241	3,167,316.982	40.585681	-104.897589	
12,500.00	89.64	89.80	6,962.27	-3,213.25	-1,653.79	1,456,773.589	3,167,416.979	40.585680	-104.897229	
12,600.00	89.64	89.80	6,962.90	-3,212.90	-1,553.79	1,456,773.936	3,167,516.977	40.585679	-104.896869	
12,700.00	89.64	89.80	6,963.54	-3,212.55	-1,453.80	1,456,774.284	3,167,616.974	40.585678	-104.896509	
12,800.00	89.64	89.80	6,964.17	-3,212.20	-1,353.80	1,456,774.632	3,167,716.971	40.585677	-104.896149	
12,900.00	89.64	89.80	6,964.81	-3,211.85	-1,253.80	1,456,774.980	3,167,816.969	40.585677	-104.895789	
13,000.00	89.64	89.80	6,965.44	-3,211.51	-1,153.80	1,456,775.328	3,167,916.966	40.585676	-104.895429	
13,100.00	89.64	89.80	6,966.08	-3,211.16	-1,053.81	1,456,775.676	3,168,016.963	40.585675	-104.895069	
13,200.00	89.64	89.80	6,966.71	-3,210.81	-953.81	1,456,776.023	3,168,116.961	40.585674	-104.894709	
13,300.00	89.64	89.80	6,967.35	-3,210.46	-853.81	1,456,776.371	3,168,216.958	40.585673	-104.894349	
13,400.00	89.64	89.80	6,967.98	-3,210.11	-753.81	1,456,776.719	3,168,316.955	40.585672	-104.893989	
13,500.00	89.64	89.80	6,968.62	-3,209.77	-653.82	1,456,777.067	3,168,416.953	40.585671	-104.893629	
13,600.00	89.64	89.80	6,969.25	-3,209.42	-553.82	1,456,777.415	3,168,516.950	40.585670	-104.893269	
13,700.00	89.64	89.80	6,969.89	-3,209.07	-453.82	1,456,777.763	3,168,616.949	40.585669	-104.892908	
13,800.00	89.64	89.80	6,970.53	-3,208.72	-353.82	1,456,778.111	3,168,716.946	40.585668	-104.892548	
13,900.00	89.64	89.80	6,971.16	-3,208.38	-253.83	1,456,778.458	3,168,816.943	40.585667	-104.892188	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-6X-HNB-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-6X-HNB-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,000.00	89.64	89.80	6,971.80	-3,208.03	-153.83	1,456,778.806	3,168,916.941	40.585666	-104.891828	
14,100.00	89.64	89.80	6,972.43	-3,207.68	-53.83	1,456,779.154	3,169,016.938	40.585665	-104.891468	
14,200.00	89.64	89.80	6,973.07	-3,207.33	46.17	1,456,779.502	3,169,116.935	40.585665	-104.891108	
14,300.00	89.64	89.80	6,973.70	-3,206.98	146.16	1,456,779.850	3,169,216.933	40.585664	-104.890748	
14,400.00	89.64	89.80	6,974.34	-3,206.64	246.16	1,456,780.198	3,169,316.930	40.585663	-104.890388	
14,500.00	89.64	89.80	6,974.97	-3,206.29	346.16	1,456,780.546	3,169,416.928	40.585662	-104.890028	
14,600.00	89.64	89.80	6,975.61	-3,205.94	446.15	1,456,780.893	3,169,516.925	40.585661	-104.889668	
14,700.00	89.64	89.80	6,976.24	-3,205.59	546.15	1,456,781.241	3,169,616.922	40.585660	-104.889308	
14,800.00	89.64	89.80	6,976.88	-3,205.24	646.15	1,456,781.589	3,169,716.920	40.585659	-104.888948	
14,900.00	89.64	89.80	6,977.51	-3,204.90	746.15	1,456,781.937	3,169,816.917	40.585658	-104.888588	
15,000.00	89.64	89.80	6,978.15	-3,204.55	846.14	1,456,782.285	3,169,916.914	40.585657	-104.888228	
15,100.00	89.64	89.80	6,978.78	-3,204.20	946.14	1,456,782.633	3,170,016.912	40.585656	-104.887868	
15,200.00	89.64	89.80	6,979.42	-3,203.85	1,046.14	1,456,782.980	3,170,116.909	40.585655	-104.887508	
15,300.00	89.64	89.80	6,980.05	-3,203.51	1,146.14	1,456,783.328	3,170,216.907	40.585654	-104.887148	
15,400.00	89.64	89.80	6,980.69	-3,203.16	1,246.13	1,456,783.676	3,170,316.904	40.585653	-104.886788	
15,500.00	89.64	89.80	6,981.33	-3,202.81	1,346.13	1,456,784.024	3,170,416.901	40.585652	-104.886428	
15,600.00	89.64	89.80	6,981.96	-3,202.46	1,446.13	1,456,784.372	3,170,516.899	40.585651	-104.886068	
15,700.00	89.64	89.80	6,982.60	-3,202.11	1,546.13	1,456,784.720	3,170,616.896	40.585650	-104.885708	
15,800.00	89.64	89.80	6,983.23	-3,201.77	1,646.12	1,456,785.068	3,170,716.893	40.585650	-104.885348	
15,900.00	89.64	89.80	6,983.87	-3,201.42	1,746.12	1,456,785.415	3,170,816.891	40.585649	-104.884988	
16,000.00	89.64	89.80	6,984.50	-3,201.07	1,846.12	1,456,785.763	3,170,916.888	40.585648	-104.884628	
16,100.00	89.64	89.80	6,985.14	-3,200.72	1,946.12	1,456,786.111	3,171,016.886	40.585647	-104.884268	
16,200.00	89.64	89.80	6,985.77	-3,200.37	2,046.11	1,456,786.459	3,171,116.883	40.585646	-104.883908	
16,300.00	89.64	89.80	6,986.41	-3,200.03	2,146.11	1,456,786.807	3,171,216.880	40.585645	-104.883548	
16,400.00	89.64	89.80	6,987.04	-3,199.68	2,246.11	1,456,787.155	3,171,316.878	40.585644	-104.883188	
16,500.00	89.64	89.80	6,987.68	-3,199.33	2,346.10	1,456,787.502	3,171,416.875	40.585643	-104.882828	
16,600.00	89.64	89.80	6,988.31	-3,198.98	2,446.10	1,456,787.850	3,171,516.872	40.585642	-104.882468	
16,700.00	89.64	89.80	6,988.95	-3,198.64	2,546.10	1,456,788.198	3,171,616.870	40.585641	-104.882108	
16,800.00	89.64	89.80	6,989.58	-3,198.29	2,646.10	1,456,788.546	3,171,716.867	40.585640	-104.881748	
16,900.00	89.64	89.80	6,990.22	-3,197.94	2,746.09	1,456,788.894	3,171,816.865	40.585639	-104.881388	
17,000.00	89.64	89.80	6,990.86	-3,197.59	2,846.09	1,456,789.242	3,171,916.862	40.585638	-104.881028	
17,100.00	89.64	89.80	6,991.49	-3,197.24	2,946.09	1,456,789.590	3,172,016.859	40.585637	-104.880667	
17,200.00	89.64	89.80	6,992.13	-3,196.90	3,046.09	1,456,789.937	3,172,116.857	40.585636	-104.880307	
17,300.00	89.64	89.80	6,992.76	-3,196.55	3,146.08	1,456,790.285	3,172,216.854	40.585635	-104.879947	
17,400.00	89.64	89.80	6,993.40	-3,196.20	3,246.08	1,456,790.633	3,172,316.851	40.585634	-104.879587	
17,500.00	89.64	89.80	6,994.03	-3,195.85	3,346.08	1,456,790.981	3,172,416.849	40.585633	-104.879227	
17,600.00	89.64	89.80	6,994.67	-3,195.50	3,446.08	1,456,791.329	3,172,516.846	40.585632	-104.878867	
17,700.00	89.64	89.80	6,995.30	-3,195.16	3,546.07	1,456,791.677	3,172,616.843	40.585631	-104.878507	
17,800.00	89.64	89.80	6,995.94	-3,194.81	3,646.07	1,456,792.024	3,172,716.841	40.585630	-104.878147	
17,900.00	89.64	89.80	6,996.57	-3,194.46	3,746.07	1,456,792.372	3,172,816.838	40.585629	-104.877787	
18,000.00	89.64	89.80	6,997.21	-3,194.11	3,846.07	1,456,792.720	3,172,916.836	40.585628	-104.877427	
18,100.00	89.64	89.80	6,997.84	-3,193.77	3,946.06	1,456,793.068	3,173,016.833	40.585627	-104.877067	
18,200.00	89.64	89.80	6,998.48	-3,193.42	4,046.06	1,456,793.416	3,173,116.830	40.585626	-104.876707	
18,300.00	89.64	89.80	6,999.11	-3,193.07	4,146.06	1,456,793.764	3,173,216.828	40.585625	-104.876347	
18,400.00	89.64	89.80	6,999.75	-3,192.72	4,246.06	1,456,794.112	3,173,316.825	40.585625	-104.875987	
18,500.00	89.64	89.80	7,000.38	-3,192.37	4,346.05	1,456,794.459	3,173,416.822	40.585624	-104.875627	
18,600.00	89.64	89.80	7,001.02	-3,192.03	4,446.05	1,456,794.807	3,173,516.820	40.585623	-104.875267	
18,700.00	89.64	89.80	7,001.66	-3,191.68	4,546.05	1,456,795.155	3,173,616.817	40.585622	-104.874907	
18,800.00	89.64	89.80	7,002.29	-3,191.33	4,646.04	1,456,795.503	3,173,716.815	40.585621	-104.874547	
18,900.00	89.64	89.80	7,002.93	-3,190.98	4,746.04	1,456,795.851	3,173,816.812	40.585620	-104.874187	
19,000.00	89.64	89.80	7,003.56	-3,190.64	4,846.04	1,456,796.199	3,173,916.809	40.585619	-104.873827	
19,100.00	89.64	89.80	7,004.20	-3,190.29	4,946.04	1,456,796.546	3,174,016.807	40.585618	-104.873467	
19,200.00	89.64	89.80	7,004.83	-3,189.94	5,046.03	1,456,796.894	3,174,116.804	40.585617	-104.873107	
19,300.00	89.64	89.80	7,005.47	-3,189.59	5,146.03	1,456,797.242	3,174,216.801	40.585616	-104.872747	
19,400.00	89.64	89.80	7,006.10	-3,189.24	5,246.03	1,456,797.590	3,174,316.799	40.585615	-104.872387	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-6X-HNB-10-07-67
Company:	Nickel Road Operating	TVD Reference:	KB @ 5115.00usft
Project:	Sec. 9-T7N-R67W	MD Reference:	KB @ 5115.00usft
Site:	BLEHM Pad	North Reference:	Grid
Well:	BLEHM-6X-HNB-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
19,500.00	89.64	89.80	7,006.74	-3,188.90	5,346.03	1,456,797.938	3,174,416.796	40.585614	-104.872027
19,600.00	89.64	89.80	7,007.37	-3,188.55	5,446.02	1,456,798.286	3,174,516.794	40.585613	-104.871667
19,663.18	89.64	89.80	7,008.00	-3,188.33	5,509.21	1,456,798.504	3,174,579.975	40.585612	-104.871439
TD at 19663.18 - TD - BHL 6X-HNB 1520 FSL 460 FEL									

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									
SHL 6X-HNB 542 FNL 7	0.00	0.00	0.00	0.00	0.00	1,459,986.833	3,169,070.770	40.594469	-104.891195
- plan hits target center									
- Point									
LPL 6X-HNB 1520 FSL 4	0.00	0.00	6,947.00	-3,221.73	-4,092.25	1,456,765.105	3,164,978.519	40.585702	-104.906008
- plan misses target center by 11.45usft at 10063.26usft MD (6938.45 TVD, -3214.54 N, -4089.71 E)									
- Point									
BHL 6X-HNB 1520 FSL	0.00	0.00	7,008.00	-3,188.33	5,509.21	1,456,798.504	3,174,579.975	40.585612	-104.871439
- plan hits target center									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	0.00	Laramie-Fox Hills				
300.00	300.00	Upper Pierre				
1,314.00	1,314.00	Pierre Shale				
4,842.92	4,203.00	Sussex				
5,537.78	4,552.00	Shannon				
5,595.52	4,581.00	Pierre Shale				
9,726.14	6,818.00	Niobrara				
19,663.18	7,008.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,500.00	1,500.00	0.00	0.00	Surf Csg	
1,600.00	1,600.00	0.00	0.00	Start Build 2.00	
4,592.51	4,077.23	-724.39	-1,228.20	Hold 59.85 Inc, 239.47 Az	
8,795.74	6,188.35	-2,570.84	-4,358.84	KOP 10°/100	
10,175.73	6,947.50	-3,221.33	-3,978.00	LP 89.64 Inc, 89.80 Az	
19,663.18	7,008.00	-3,188.33	5,509.21	TD at 19663.18	