

Well Name:

BLEHM-8X-HNC-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
4701.75	62.03	232.62	4130.28	-923.58	-1208.99	-416.22	1521.39	Hold 62.03 Inc, 232.62 Az
9301.11	62.03	232.62	6287.07	-3389.64	-4437.13	-1527.60	5583.71	KOP 10°/100
10642.04	89.05	89.80	6944.00	-4110.29	-4034.00	-773.43	6720.55	LP 89.05 Inc, 89.80 Az
20137.93	89.05	89.80	7102.15	-4077.26	5459.52	6813.99	16214.13	TD at 20137.93

Geodetic Datum:

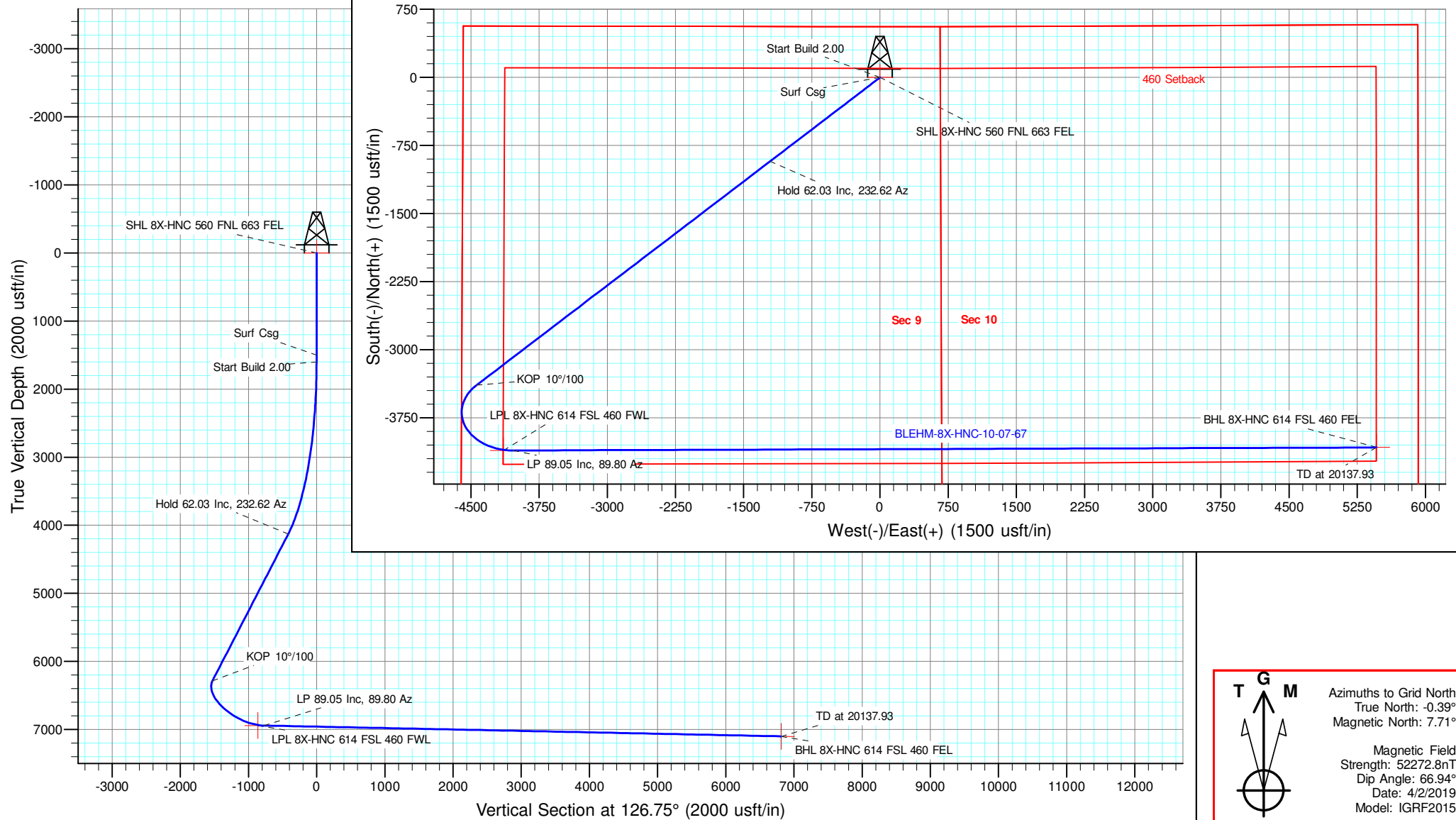
North American Datum 1983
US State Plane 1983, Colorado Northern Zone

Elevation:

Ground Elevation: 5088.00
KB Elevation: KB @ 5115.00usft

DESIGN TARGET DETAILS

Name	THD	+N/0	+E/-W	Northing	Easting	Latitude	Longitude	Shape
8X-HNC 560 FNL 663 FEL	0.00	0.00	0.00	1459693.12	3169120.046	40.594420	-104.891018	Point
LPL 8X-HNC 614 FSL 460 FWL	6942.00	-4110.29	-144.35	1455859.018	3164975.701	40.583215	-104.906040	Point
BHL 8X-HNC 614 FSL 460 FEL	7102.00	-4076.87	5460.52	1455892.438	3174580.564	40.583125	-104.871460	Point





Nickel Road Operating

Sec. 9-T7N-R67W

BLEHM Pad

BLEHM-8X-HNC-10-07-67

Wellbore #1

Plan: Plan #2

Standard Planning Report - Geographic

20 July, 2020

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-8X-HNC-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-8X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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:	1,458,460.000 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-8X-HNC-10-07-67					
Well Position	+N/-S	0.00 usft	Northing:	1,459,969.312 usft	Latitude:	40.594420
	+E/-W	0.00 usft	Easting:	3,169,120.047 usft	Longitude:	-104.891018
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	52,272.80302602

Design	Plan #2			
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	126.75

Plan Survey Tool Program	Date	7/20/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,137.03 Plan #2 (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	
4,701.75	62.03	232.62	4,130.28	-923.58	-1,208.99	2.00	2.00	0.00	232.62	
9,301.11	62.03	232.62	6,287.07	-3,389.64	-4,437.13	0.00	0.00	0.00	0.00	
10,642.04	89.05	89.80	6,944.00	-4,110.29	-4,034.00	10.00	2.01	-10.65	-122.73	
20,137.93	89.05	89.80	7,102.00	-4,076.87	5,460.52	0.00	0.00	0.00	0.00	BHL 8X-HNC 614 FSI

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-8X-HNC-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-8X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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	1,459,969.312	3,169,120.047	40.594420	-104.891018
SHL 8X-HNC 560 FNL 663 FEL									
100.00	0.00	0.00	100.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
200.00	0.00	0.00	200.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
300.00	0.00	0.00	300.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
400.00	0.00	0.00	400.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
500.00	0.00	0.00	500.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
600.00	0.00	0.00	600.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
700.00	0.00	0.00	700.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
800.00	0.00	0.00	800.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
900.00	0.00	0.00	900.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
Surf Csg									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
Start Build 2.00									
1,700.00	2.00	232.62	1,699.98	-1.06	-1.39	1,459,968.253	3,169,118.660	40.594417	-104.891023
1,800.00	4.00	232.62	1,799.84	-4.24	-5.55	1,459,965.076	3,169,114.501	40.594408	-104.891038
1,900.00	6.00	232.62	1,899.45	-9.53	-12.47	1,459,959.785	3,169,107.576	40.594394	-104.891063
2,000.00	8.00	232.62	1,998.70	-16.92	-22.15	1,459,952.387	3,169,097.892	40.594374	-104.891098
2,100.00	10.00	232.62	2,097.47	-26.42	-34.59	1,459,942.891	3,169,085.461	40.594348	-104.891143
2,200.00	12.00	232.62	2,195.62	-38.00	-49.75	1,459,931.309	3,169,070.299	40.594317	-104.891198
2,300.00	14.00	232.62	2,293.06	-51.66	-67.62	1,459,917.653	3,169,052.424	40.594279	-104.891263
2,400.00	16.00	232.62	2,389.64	-67.37	-88.19	1,459,901.942	3,169,031.858	40.594237	-104.891337
2,500.00	18.00	232.62	2,485.27	-85.12	-111.42	1,459,884.195	3,169,008.626	40.594188	-104.891422
2,600.00	20.00	232.62	2,579.82	-104.88	-137.29	1,459,864.432	3,168,982.755	40.594135	-104.891515
2,700.00	22.00	232.62	2,673.17	-126.63	-165.77	1,459,842.678	3,168,954.279	40.594075	-104.891618
2,800.00	24.00	232.62	2,765.21	-150.35	-196.82	1,459,818.959	3,168,923.231	40.594011	-104.891731
2,900.00	26.00	232.62	2,855.84	-176.01	-230.40	1,459,793.305	3,168,889.649	40.593941	-104.891852
3,000.00	28.00	232.62	2,944.94	-203.57	-266.47	1,459,765.747	3,168,853.574	40.593866	-104.891983
3,100.00	30.00	232.62	3,032.39	-232.99	-305.00	1,459,736.317	3,168,815.050	40.593786	-104.892122
3,200.00	32.00	232.62	3,118.11	-264.26	-345.92	1,459,705.053	3,168,774.124	40.593701	-104.892270
3,300.00	34.00	232.62	3,201.97	-297.32	-389.20	1,459,671.992	3,168,730.847	40.593611	-104.892427
3,400.00	36.00	232.62	3,283.88	-332.14	-434.78	1,459,637.174	3,168,685.269	40.593516	-104.892592
3,500.00	38.00	232.62	3,363.74	-368.67	-482.60	1,459,600.642	3,168,637.448	40.593417	-104.892765
3,600.00	40.00	232.62	3,441.45	-406.87	-532.61	1,459,562.441	3,168,587.440	40.593313	-104.892946
3,700.00	42.00	232.62	3,516.92	-446.70	-584.74	1,459,522.616	3,168,535.309	40.593205	-104.893135
3,800.00	44.00	232.62	3,590.05	-488.09	-638.93	1,459,481.217	3,168,481.116	40.593092	-104.893331
3,900.00	46.00	232.62	3,660.76	-531.02	-695.12	1,459,438.294	3,168,424.928	40.592975	-104.893534
4,000.00	48.00	232.62	3,728.95	-575.41	-753.23	1,459,393.898	3,168,366.814	40.592855	-104.893745
4,100.00	50.00	232.62	3,794.56	-621.23	-813.20	1,459,348.085	3,168,306.843	40.592730	-104.893962
4,200.00	52.00	232.62	3,857.48	-668.40	-874.96	1,459,300.911	3,168,245.090	40.592602	-104.894185
4,300.00	54.00	232.62	3,917.66	-716.88	-938.42	1,459,252.431	3,168,181.629	40.592470	-104.894415
4,400.00	56.00	232.62	3,975.02	-766.61	-1,003.51	1,459,202.706	3,168,116.538	40.592335	-104.894651
4,500.00	58.00	232.62	4,029.48	-817.52	-1,070.15	1,459,151.797	3,168,049.896	40.592196	-104.894892
4,600.00	60.00	232.62	4,080.98	-869.55	-1,138.26	1,459,099.764	3,167,981.784	40.592055	-104.895138
4,700.00	62.00	232.62	4,129.46	-922.64	-1,207.76	1,459,046.672	3,167,912.285	40.591910	-104.895390
4,701.75	62.03	232.62	4,130.28	-923.58	-1,208.99	1,459,045.736	3,167,911.060	40.591908	-104.895394
Hold 62.03 Inc, 232.62 Az									
4,800.00	62.03	232.62	4,176.35	-976.26	-1,277.95	1,458,993.055	3,167,842.098	40.591764	-104.895644

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-8X-HNC-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-8X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,900.00	62.03	232.62	4,223.25	-1,029.87	-1,348.13	1,458,939.437	3,167,771.912	40.591618	-104.895898
5,000.00	62.03	232.62	4,270.14	-1,083.49	-1,418.32	1,458,885.820	3,167,701.725	40.591473	-104.896152
5,100.00	62.03	232.62	4,317.03	-1,137.11	-1,488.51	1,458,832.202	3,167,631.538	40.591327	-104.896406
5,200.00	62.03	232.62	4,363.93	-1,190.73	-1,558.69	1,458,778.585	3,167,561.351	40.591181	-104.896660
5,300.00	62.03	232.62	4,410.82	-1,244.34	-1,628.88	1,458,724.968	3,167,491.165	40.591035	-104.896914
5,400.00	62.03	232.62	4,457.71	-1,297.96	-1,699.07	1,458,671.350	3,167,420.978	40.590889	-104.897168
5,500.00	62.03	232.62	4,504.61	-1,351.58	-1,769.25	1,458,617.733	3,167,350.791	40.590743	-104.897422
5,600.00	62.03	232.62	4,551.50	-1,405.20	-1,839.44	1,458,564.115	3,167,280.604	40.590597	-104.897676
5,700.00	62.03	232.62	4,598.39	-1,458.81	-1,909.63	1,458,510.498	3,167,210.418	40.590452	-104.897930
5,800.00	62.03	232.62	4,645.29	-1,512.43	-1,979.81	1,458,456.880	3,167,140.231	40.590306	-104.898184
5,900.00	62.03	232.62	4,692.18	-1,566.05	-2,050.00	1,458,403.263	3,167,070.044	40.590160	-104.898438
6,000.00	62.03	232.62	4,739.07	-1,619.67	-2,120.19	1,458,349.645	3,166,999.857	40.590014	-104.898692
6,100.00	62.03	232.62	4,785.97	-1,673.28	-2,190.38	1,458,296.028	3,166,929.671	40.589868	-104.898946
6,200.00	62.03	232.62	4,832.86	-1,726.90	-2,260.56	1,458,242.410	3,166,859.484	40.589722	-104.899200
6,300.00	62.03	232.62	4,879.75	-1,780.52	-2,330.75	1,458,188.793	3,166,789.297	40.589576	-104.899454
6,400.00	62.03	232.62	4,926.65	-1,834.14	-2,400.94	1,458,135.175	3,166,719.110	40.589430	-104.899708
6,500.00	62.03	232.62	4,973.54	-1,887.75	-2,471.12	1,458,081.558	3,166,648.924	40.589285	-104.899962
6,600.00	62.03	232.62	5,020.43	-1,941.37	-2,541.31	1,458,027.940	3,166,578.737	40.589139	-104.900216
6,700.00	62.03	232.62	5,067.33	-1,994.99	-2,611.50	1,457,974.323	3,166,508.550	40.588993	-104.900470
6,800.00	62.03	232.62	5,114.22	-2,048.61	-2,681.68	1,457,920.705	3,166,438.363	40.588847	-104.900724
6,900.00	62.03	232.62	5,161.11	-2,102.22	-2,751.87	1,457,867.088	3,166,368.177	40.588701	-104.900978
7,000.00	62.03	232.62	5,208.01	-2,155.84	-2,822.06	1,457,813.470	3,166,297.990	40.588555	-104.901232
7,100.00	62.03	232.62	5,254.90	-2,209.46	-2,892.24	1,457,759.853	3,166,227.803	40.588409	-104.901486
7,200.00	62.03	232.62	5,301.79	-2,263.08	-2,962.43	1,457,706.235	3,166,157.616	40.588264	-104.901740
7,300.00	62.03	232.62	5,348.69	-2,316.69	-3,032.62	1,457,652.618	3,166,087.430	40.588118	-104.901994
7,400.00	62.03	232.62	5,395.58	-2,370.31	-3,102.80	1,457,599.000	3,166,017.243	40.587972	-104.902248
7,500.00	62.03	232.62	5,442.47	-2,423.93	-3,172.99	1,457,545.383	3,165,947.056	40.587826	-104.902502
7,600.00	62.03	232.62	5,489.37	-2,477.55	-3,243.18	1,457,491.765	3,165,876.869	40.587680	-104.902756
7,700.00	62.03	232.62	5,536.26	-2,531.16	-3,313.36	1,457,438.148	3,165,806.683	40.587534	-104.903010
7,800.00	62.03	232.62	5,583.15	-2,584.78	-3,383.55	1,457,384.530	3,165,736.496	40.587388	-104.903264
7,900.00	62.03	232.62	5,630.05	-2,638.40	-3,453.74	1,457,330.913	3,165,666.309	40.587242	-104.903518
8,000.00	62.03	232.62	5,676.94	-2,692.02	-3,523.92	1,457,277.295	3,165,596.122	40.587097	-104.903772
8,100.00	62.03	232.62	5,723.83	-2,745.63	-3,594.11	1,457,223.678	3,165,525.936	40.586951	-104.904026
8,200.00	62.03	232.62	5,770.73	-2,799.25	-3,664.30	1,457,170.061	3,165,455.749	40.586805	-104.904280
8,300.00	62.03	232.62	5,817.62	-2,852.87	-3,734.48	1,457,116.443	3,165,385.562	40.586659	-104.904534
8,400.00	62.03	232.62	5,864.51	-2,906.49	-3,804.67	1,457,062.826	3,165,315.375	40.586513	-104.904788
8,500.00	62.03	232.62	5,911.41	-2,960.10	-3,874.86	1,457,009.208	3,165,245.189	40.586367	-104.905042
8,600.00	62.03	232.62	5,958.30	-3,013.72	-3,945.04	1,456,955.591	3,165,175.002	40.586221	-104.905296
8,700.00	62.03	232.62	6,005.19	-3,067.34	-4,015.23	1,456,901.973	3,165,104.815	40.586075	-104.905550
8,800.00	62.03	232.62	6,052.09	-3,120.96	-4,085.42	1,456,848.356	3,165,034.628	40.585930	-104.905804
8,900.00	62.03	232.62	6,098.98	-3,174.57	-4,155.60	1,456,794.738	3,164,964.442	40.585784	-104.906058
9,000.00	62.03	232.62	6,145.87	-3,228.19	-4,225.79	1,456,741.121	3,164,894.255	40.585638	-104.906312
9,100.00	62.03	232.62	6,192.77	-3,281.81	-4,295.98	1,456,687.503	3,164,824.068	40.585492	-104.906566
9,200.00	62.03	232.62	6,239.66	-3,335.43	-4,366.16	1,456,633.886	3,164,753.881	40.585346	-104.906820
9,300.00	62.03	232.62	6,286.55	-3,389.04	-4,436.35	1,456,580.268	3,164,683.695	40.585200	-104.907074
9,301.11	62.03	232.62	6,287.07	-3,389.64	-4,437.13	1,456,579.673	3,164,682.915	40.585199	-104.907077
KOP 10°/100									
9,400.00	57.05	222.71	6,337.28	-3,446.78	-4,500.13	1,456,522.533	3,164,619.914	40.585043	-104.907305
9,500.00	52.89	211.59	6,394.80	-3,511.74	-4,549.60	1,456,457.575	3,164,570.445	40.584865	-104.907485
9,600.00	49.87	199.37	6,457.35	-3,581.94	-4,583.25	1,456,387.369	3,164,536.792	40.584673	-104.907608
9,700.00	48.24	186.30	6,523.04	-3,655.27	-4,600.07	1,456,314.046	3,164,519.976	40.584472	-104.907670
9,800.00	48.14	172.87	6,589.88	-3,729.48	-4,599.54	1,456,239.836	3,164,520.509	40.584269	-104.907670
9,900.00	49.59	159.72	6,655.83	-3,802.32	-4,581.67	1,456,166.992	3,164,538.374	40.584068	-104.907607
10,000.00	52.44	147.37	6,718.89	-3,871.58	-4,547.02	1,456,097.729	3,164,573.030	40.583878	-104.907484

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-8X-HNC-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-8X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.00	56.47	136.11	6,777.14	-3,935.16	-4,496.62	1,456,034.150	3,164,623.421	40.583702	-104.907304
10,200.00	61.42	125.96	6,828.81	-3,991.12	-4,432.03	1,455,978.188	3,164,688.019	40.583547	-104.907073
10,300.00	67.05	116.78	6,872.33	-4,037.77	-4,355.19	1,455,931.543	3,164,764.860	40.583418	-104.906798
10,400.00	73.17	108.36	6,906.39	-4,073.68	-4,268.44	1,455,895.632	3,164,851.608	40.583318	-104.906486
10,500.00	79.61	100.48	6,929.94	-4,097.77	-4,174.42	1,455,871.546	3,164,945.629	40.583250	-104.906148
10,532.62	81.76	98.00	6,935.22	-4,102.93	-4,142.65	1,455,866.381	3,164,977.392	40.583235	-104.906034
LPL 8X-HNC 614 FSL 460 FWL									
10,600.00	86.24	92.93	6,942.27	-4,109.29	-4,075.98	1,455,860.017	3,165,044.065	40.583217	-104.905794
10,642.04	89.05	89.80	6,944.00	-4,110.29	-4,034.00	1,455,859.018	3,165,086.046	40.583213	-104.905643
LP 89.05 Inc, 89.80 Az									
10,700.00	89.05	89.80	6,944.97	-4,110.09	-3,976.05	1,455,859.220	3,165,144.000	40.583213	-104.905434
10,800.00	89.05	89.80	6,946.63	-4,109.74	-3,876.06	1,455,859.568	3,165,243.985	40.583212	-104.905074
10,900.00	89.05	89.80	6,948.30	-4,109.40	-3,776.07	1,455,859.915	3,165,343.971	40.583211	-104.904714
11,000.00	89.05	89.80	6,949.96	-4,109.05	-3,676.09	1,455,860.263	3,165,443.956	40.583210	-104.904354
11,100.00	89.05	89.80	6,951.63	-4,108.70	-3,576.10	1,455,860.611	3,165,543.942	40.583209	-104.903994
11,200.00	89.05	89.80	6,953.29	-4,108.35	-3,476.12	1,455,860.959	3,165,643.927	40.583208	-104.903634
11,300.00	89.05	89.80	6,954.96	-4,108.01	-3,376.13	1,455,861.307	3,165,743.913	40.583207	-104.903275
11,400.00	89.05	89.80	6,956.62	-4,107.66	-3,276.15	1,455,861.655	3,165,843.898	40.583206	-104.902915
11,500.00	89.05	89.80	6,958.29	-4,107.31	-3,176.16	1,455,862.003	3,165,943.884	40.583205	-104.902555
11,600.00	89.05	89.80	6,959.96	-4,106.96	-3,076.18	1,455,862.351	3,166,043.870	40.583205	-104.902195
11,700.00	89.05	89.80	6,961.62	-4,106.61	-2,976.19	1,455,862.699	3,166,143.855	40.583204	-104.901835
11,800.00	89.05	89.80	6,963.29	-4,106.27	-2,876.21	1,455,863.047	3,166,243.841	40.583203	-104.901475
11,900.00	89.05	89.80	6,964.95	-4,105.92	-2,776.22	1,455,863.394	3,166,343.826	40.583202	-104.901115
12,000.00	89.05	89.80	6,966.62	-4,105.57	-2,676.23	1,455,863.742	3,166,443.812	40.583201	-104.900755
12,100.00	89.05	89.80	6,968.28	-4,105.22	-2,576.25	1,455,864.090	3,166,543.797	40.583200	-104.900395
12,200.00	89.05	89.80	6,969.95	-4,104.87	-2,476.26	1,455,864.438	3,166,643.783	40.583199	-104.900035
12,300.00	89.05	89.80	6,971.61	-4,104.53	-2,376.28	1,455,864.786	3,166,743.768	40.583198	-104.899675
12,400.00	89.05	89.80	6,973.28	-4,104.18	-2,276.29	1,455,865.134	3,166,843.754	40.583197	-104.899315
12,500.00	89.05	89.80	6,974.95	-4,103.83	-2,176.31	1,455,865.482	3,166,943.739	40.583196	-104.898955
12,600.00	89.05	89.80	6,976.61	-4,103.48	-2,076.32	1,455,865.830	3,167,043.725	40.583196	-104.898595
12,700.00	89.05	89.80	6,978.28	-4,103.13	-1,976.34	1,455,866.178	3,167,143.710	40.583195	-104.898235
12,800.00	89.05	89.80	6,979.94	-4,102.79	-1,876.35	1,455,866.525	3,167,243.696	40.583194	-104.897875
12,900.00	89.05	89.80	6,981.61	-4,102.44	-1,776.36	1,455,866.873	3,167,343.681	40.583193	-104.897515
13,000.00	89.05	89.80	6,983.27	-4,102.09	-1,676.38	1,455,867.221	3,167,443.667	40.583192	-104.897155
13,100.00	89.05	89.80	6,984.94	-4,101.74	-1,576.39	1,455,867.569	3,167,543.652	40.583191	-104.896795
13,200.00	89.05	89.80	6,986.61	-4,101.40	-1,476.41	1,455,867.917	3,167,643.638	40.583190	-104.896435
13,300.00	89.05	89.80	6,988.27	-4,101.05	-1,376.42	1,455,868.265	3,167,743.623	40.583189	-104.896075
13,400.00	89.05	89.80	6,989.94	-4,100.70	-1,276.44	1,455,868.613	3,167,843.609	40.583188	-104.895715
13,500.00	89.05	89.80	6,991.60	-4,100.35	-1,176.45	1,455,868.961	3,167,943.594	40.583187	-104.895355
13,600.00	89.05	89.80	6,993.27	-4,100.00	-1,076.47	1,455,869.309	3,168,043.580	40.583186	-104.894995
13,700.00	89.05	89.80	6,994.93	-4,099.66	-976.48	1,455,869.657	3,168,143.565	40.583185	-104.894635
13,800.00	89.05	89.80	6,996.60	-4,099.31	-876.49	1,455,870.004	3,168,243.551	40.583185	-104.894275
13,900.00	89.05	89.80	6,998.26	-4,098.96	-776.51	1,455,870.352	3,168,343.536	40.583184	-104.893915
14,000.00	89.05	89.80	6,999.93	-4,098.61	-676.52	1,455,870.700	3,168,443.522	40.583183	-104.893555
14,100.00	89.05	89.80	7,001.60	-4,098.26	-576.54	1,455,871.048	3,168,543.507	40.583182	-104.893195
14,200.00	89.05	89.80	7,003.26	-4,097.92	-476.55	1,455,871.396	3,168,643.494	40.583181	-104.892835
14,300.00	89.05	89.80	7,004.93	-4,097.57	-376.57	1,455,871.744	3,168,743.480	40.583180	-104.892475
14,400.00	89.05	89.80	7,006.59	-4,097.22	-276.58	1,455,872.092	3,168,843.465	40.583179	-104.892115
14,500.00	89.05	89.80	7,008.26	-4,096.87	-176.60	1,455,872.440	3,168,943.451	40.583178	-104.891755
14,600.00	89.05	89.80	7,009.92	-4,096.52	-76.61	1,455,872.788	3,169,043.436	40.583177	-104.891395
14,700.00	89.05	89.80	7,011.59	-4,096.18	23.37	1,455,873.136	3,169,143.422	40.583176	-104.891035
14,800.00	89.05	89.80	7,013.25	-4,095.83	123.36	1,455,873.483	3,169,243.407	40.583175	-104.890675
14,900.00	89.05	89.80	7,014.92	-4,095.48	223.35	1,455,873.831	3,169,343.393	40.583174	-104.890315
15,000.00	89.05	89.80	7,016.59	-4,095.13	323.33	1,455,874.179	3,169,443.378	40.583173	-104.889955

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-8X-HNC-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-8X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,100.00	89.05	89.80	7,018.25	-4,094.79	423.32	1,455,874.527	3,169,543.364	40.583172	-104.889595
15,200.00	89.05	89.80	7,019.92	-4,094.44	523.30	1,455,874.875	3,169,643.349	40.583172	-104.889236
15,300.00	89.05	89.80	7,021.58	-4,094.09	623.29	1,455,875.223	3,169,743.335	40.583171	-104.888876
15,400.00	89.05	89.80	7,023.25	-4,093.74	723.27	1,455,875.571	3,169,843.320	40.583170	-104.888516
15,500.00	89.05	89.80	7,024.91	-4,093.39	823.26	1,455,875.919	3,169,943.306	40.583169	-104.888156
15,600.00	89.05	89.80	7,026.58	-4,093.05	923.24	1,455,876.267	3,170,043.291	40.583168	-104.887796
15,700.00	89.05	89.80	7,028.24	-4,092.70	1,023.23	1,455,876.615	3,170,143.277	40.583167	-104.887436
15,800.00	89.05	89.80	7,029.91	-4,092.35	1,123.22	1,455,876.962	3,170,243.262	40.583166	-104.887076
15,900.00	89.05	89.80	7,031.58	-4,092.00	1,223.20	1,455,877.310	3,170,343.248	40.583165	-104.886716
16,000.00	89.05	89.80	7,033.24	-4,091.65	1,323.19	1,455,877.658	3,170,443.233	40.583164	-104.886356
16,100.00	89.05	89.80	7,034.91	-4,091.31	1,423.17	1,455,878.006	3,170,543.219	40.583163	-104.885996
16,200.00	89.05	89.80	7,036.57	-4,090.96	1,523.16	1,455,878.354	3,170,643.204	40.583162	-104.885636
16,300.00	89.05	89.80	7,038.24	-4,090.61	1,623.14	1,455,878.702	3,170,743.190	40.583161	-104.885276
16,400.00	89.05	89.80	7,039.90	-4,090.26	1,723.13	1,455,879.050	3,170,843.175	40.583160	-104.884916
16,500.00	89.05	89.80	7,041.57	-4,089.91	1,823.11	1,455,879.398	3,170,943.161	40.583159	-104.884556
16,600.00	89.05	89.80	7,043.23	-4,089.57	1,923.10	1,455,879.746	3,171,043.146	40.583158	-104.884196
16,700.00	89.05	89.80	7,044.90	-4,089.22	2,023.09	1,455,880.093	3,171,143.132	40.583157	-104.883836
16,800.00	89.05	89.80	7,046.57	-4,088.87	2,123.07	1,455,880.441	3,171,243.117	40.583156	-104.883476
16,900.00	89.05	89.80	7,048.23	-4,088.52	2,223.06	1,455,880.789	3,171,343.103	40.583155	-104.883116
17,000.00	89.05	89.80	7,049.90	-4,088.18	2,323.04	1,455,881.137	3,171,443.088	40.583155	-104.882756
17,100.00	89.05	89.80	7,051.56	-4,087.83	2,423.03	1,455,881.485	3,171,543.074	40.583154	-104.882396
17,200.00	89.05	89.80	7,053.23	-4,087.48	2,523.01	1,455,881.833	3,171,643.060	40.583153	-104.882036
17,300.00	89.05	89.80	7,054.89	-4,087.13	2,623.00	1,455,882.181	3,171,743.045	40.583152	-104.881676
17,400.00	89.05	89.80	7,056.56	-4,086.78	2,722.98	1,455,882.529	3,171,843.031	40.583151	-104.881316
17,500.00	89.05	89.80	7,058.23	-4,086.44	2,822.97	1,455,882.877	3,171,943.016	40.583150	-104.880956
17,600.00	89.05	89.80	7,059.89	-4,086.09	2,922.96	1,455,883.225	3,172,043.002	40.583149	-104.880596
17,700.00	89.05	89.80	7,061.56	-4,085.74	3,022.94	1,455,883.572	3,172,142.987	40.583148	-104.880236
17,800.00	89.05	89.80	7,063.22	-4,085.39	3,122.93	1,455,883.920	3,172,242.973	40.583147	-104.879876
17,900.00	89.05	89.80	7,064.89	-4,085.04	3,222.91	1,455,884.268	3,172,342.958	40.583146	-104.879516
18,000.00	89.05	89.80	7,066.55	-4,084.70	3,322.90	1,455,884.616	3,172,442.944	40.583145	-104.879156
18,100.00	89.05	89.80	7,068.22	-4,084.35	3,422.88	1,455,884.964	3,172,542.929	40.583144	-104.878796
18,200.00	89.05	89.80	7,069.88	-4,084.00	3,522.87	1,455,885.312	3,172,642.915	40.583143	-104.878436
18,300.00	89.05	89.80	7,071.55	-4,083.65	3,622.85	1,455,885.660	3,172,742.900	40.583142	-104.878076
18,400.00	89.05	89.80	7,073.22	-4,083.30	3,722.84	1,455,886.008	3,172,842.886	40.583141	-104.877716
18,500.00	89.05	89.80	7,074.88	-4,082.96	3,822.82	1,455,886.356	3,172,942.871	40.583140	-104.877356
18,600.00	89.05	89.80	7,076.55	-4,082.61	3,922.81	1,455,886.704	3,173,042.857	40.583139	-104.876996
18,700.00	89.05	89.80	7,078.21	-4,082.26	4,022.80	1,455,887.051	3,173,142.842	40.583138	-104.876636
18,800.00	89.05	89.80	7,079.88	-4,081.91	4,122.78	1,455,887.399	3,173,242.828	40.583137	-104.876276
18,900.00	89.05	89.80	7,081.54	-4,081.57	4,222.77	1,455,887.747	3,173,342.813	40.583136	-104.875916
19,000.00	89.05	89.80	7,083.21	-4,081.22	4,322.75	1,455,888.095	3,173,442.799	40.583135	-104.875557
19,100.00	89.05	89.80	7,084.87	-4,080.87	4,422.74	1,455,888.443	3,173,542.784	40.583134	-104.875197
19,200.00	89.05	89.80	7,086.54	-4,080.52	4,522.72	1,455,888.791	3,173,642.770	40.583133	-104.874837
19,300.00	89.05	89.80	7,088.21	-4,080.17	4,622.71	1,455,889.139	3,173,742.755	40.583132	-104.874477
19,400.00	89.05	89.80	7,089.87	-4,079.83	4,722.69	1,455,889.487	3,173,842.741	40.583131	-104.874117
19,500.00	89.05	89.80	7,091.54	-4,079.48	4,822.68	1,455,889.835	3,173,942.726	40.583130	-104.873757
19,600.00	89.05	89.80	7,093.20	-4,079.13	4,922.67	1,455,890.183	3,174,042.712	40.583129	-104.873397
19,700.00	89.05	89.80	7,094.87	-4,078.78	5,022.65	1,455,890.530	3,174,142.697	40.583128	-104.873037
19,800.00	89.05	89.80	7,096.53	-4,078.43	5,122.64	1,455,890.878	3,174,242.683	40.583127	-104.872677
19,900.00	89.05	89.80	7,098.20	-4,078.09	5,222.62	1,455,891.226	3,174,342.669	40.583126	-104.872317
20,000.00	89.05	89.80	7,099.86	-4,077.74	5,322.61	1,455,891.574	3,174,442.654	40.583125	-104.871957
20,100.00	89.05	89.80	7,101.53	-4,077.39	5,422.59	1,455,891.922	3,174,542.640	40.583124	-104.871597
20,137.93	89.05	89.80	7,102.00	-4,076.87	5,460.52	1,455,892.438	3,174,580.564	40.583125	-104.871460
TD at 20137.93 - BHL 8X-HNC 614 FSL 460 FEL									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-8X-HNC-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-8X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL 8X-HNC 560 FNL 6	0.00	0.01	0.00	0.00	0.00	1,459,969.312	3,169,120.047	40.594420	-104.891018
- plan hits target center									
- Point									
LPL 8X-HNC 614 FSL 4	0.00	0.00	6,942.00	-4,110.29	-4,144.35	1,455,859.018	3,164,975.700	40.583215	-104.906040
- plan misses target center by 10.15usft at 10532.62usft MD (6935.22 TVD, -4102.93 N, -4142.65 E)									
- Point									
BHL 8X-HNC 614 FSL 4	0.00	0.00	7,102.00	-4,076.87	5,460.52	1,455,892.438	3,174,580.564	40.583125	-104.871460
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+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
4,701.75	4,130.28	-923.58	-1,208.99	Hold 62.03 Inc, 232.62 Az
9,301.11	6,287.07	-3,389.64	-4,437.13	KOP 10°/100
10,642.04	6,944.00	-4,110.29	-4,034.00	LP 89.05 Inc, 89.80 Az
20,137.93	7,102.00	-4,076.87	5,460.52	TD at 20137.93