

Well Name:
BLEHM-5X-HNB-10-07-67

Project Name:
Sec. 9-T7N-R67W

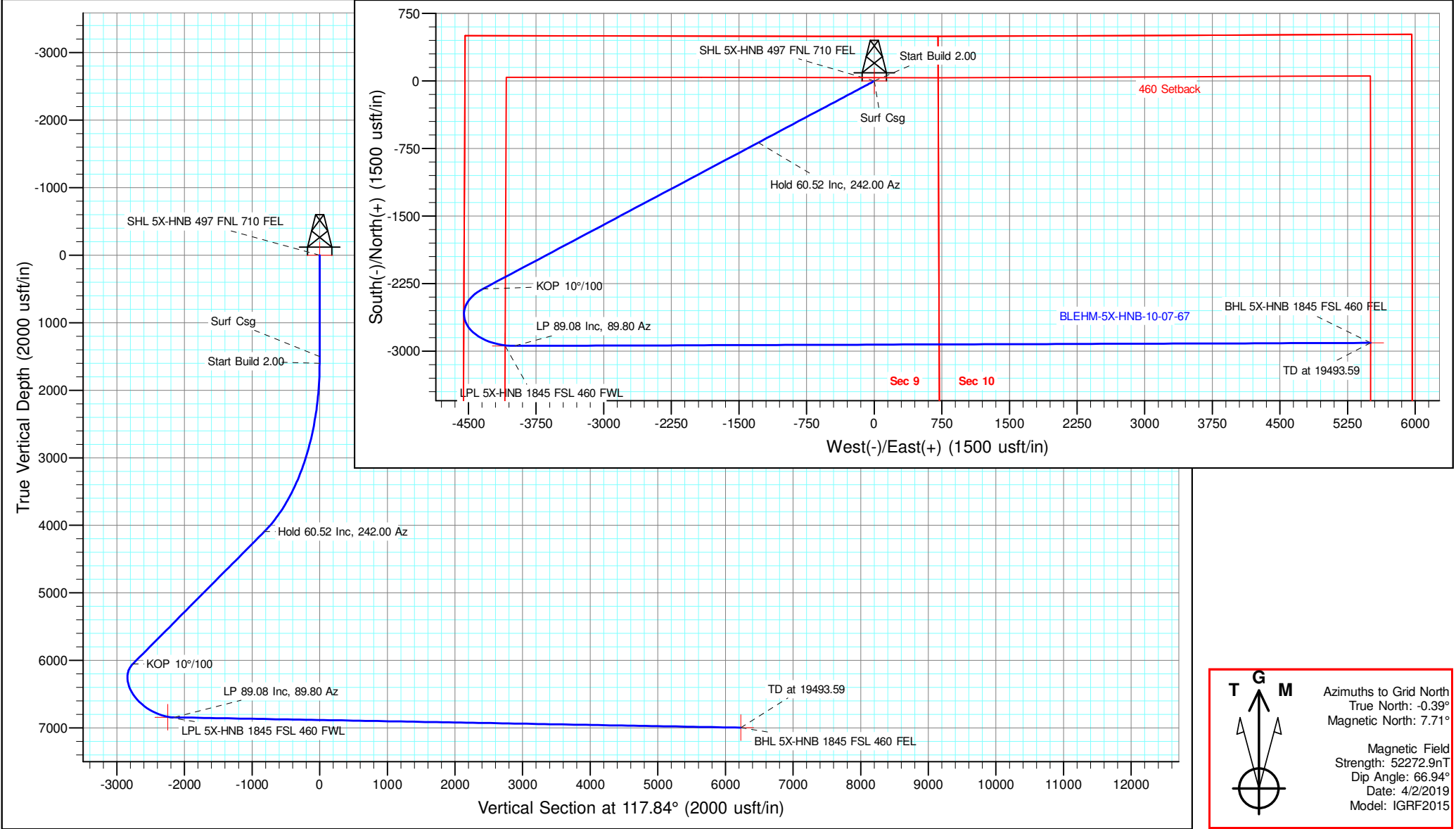
Pad Name:
BLEHM Pad

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	
4625.85	60.52	242.00	4093.80	-683.06	-1284.52	-816.88	1454.84	Hold 60.52 Inc, 242.00 Az	
8605.95	60.52	242.00	6052.67	-2309.77	-4343.58	-2762.28	4919.52	KOP 10°/100	
10002.38	89.08	89.80	6845.00	-2941.50	-3983.00	-2148.43	6253.18	LP 89.08 Inc, 89.80 Az	
19493.59	89.08	89.80	6997.00	-2908.17	5506.93	6227.66	15743.17	TD at 19493.59	

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 5X-HNB 497 FNL 710 FEL	0.00	0.00	0.00	1460032.019	3169073.237	40.594593	-104.891185	Point
LPL 5X-HNB 1845 FSL 460 FWL	6843.00	-2941.92	-4091.89	1457090.099	3164981.342	40.586594	-104.905990	Point
plan misses target center by 10.10usft at 9895.07usft MD (6835.48 TVD, -2935.59 N, -4089.57 E)								
BHL 5X-HNB 1845 FSL 460 FEL	6997.00	-2908.17	5506.93	1457123.846	3174580.168	40.586505	-104.871430	Point



T G M

True North: -0.39°
Magnetic North: 7.71°

Magnetic Field
Strength: 52272.9nT
Dip Angle: 66.94°
Date: 4/2/2019
Model: IGRF2015



Nickel Road Operating

Sec. 9-T7N-R67W

BLEHM Pad

BLEHM-5X-HNB-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-5X-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-5X-HNB-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-5X-HNB-10-07-67					
Well Position	+N/-S	0.00 usft	Northing:	1,460,032.018 usft	Latitude:	40.594593
	+E/-W	0.00 usft	Easting:	3,169,073.237 usft	Longitude:	-104.891185
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	52,272.87459959

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	117.84

Plan Survey Tool Program	Date	7/20/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,493.59 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	
4,625.85	60.52	242.00	4,093.80	-683.06	-1,284.52	2.00	2.00	0.00	242.00	
8,605.95	60.52	242.00	6,052.67	-2,309.77	-4,343.58	0.00	0.00	0.00	0.00	
10,002.38	89.08	89.80	6,845.00	-2,941.50	-3,983.00	10.00	2.05	-10.90	-133.93	
19,493.59	89.08	89.80	6,997.00	-2,908.17	5,506.93	0.00	0.00	0.00	0.00	BHL 5X-HNB 1845 F5

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNB-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	1,460,032.018	3,169,073.237	40.594593	-104.891185
SHL 5X-HNB 497 FNL 710 FEL									
100.00	0.00	0.00	100.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
200.00	0.00	0.00	200.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
300.00	0.00	0.00	300.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
400.00	0.00	0.00	400.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
500.00	0.00	0.00	500.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
600.00	0.00	0.00	600.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
700.00	0.00	0.00	700.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
800.00	0.00	0.00	800.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
900.00	0.00	0.00	900.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
Surf Csg									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
Start Build 2.00									
1,700.00	2.00	242.00	1,699.98	-0.82	-1.54	1,460,031.199	3,169,071.696	40.594591	-104.891191
1,800.00	4.00	242.00	1,799.84	-3.28	-6.16	1,460,028.742	3,169,067.076	40.594584	-104.891208
1,900.00	6.00	242.00	1,899.45	-7.37	-13.86	1,460,024.650	3,169,059.381	40.594573	-104.891235
2,000.00	8.00	242.00	1,998.70	-13.09	-24.62	1,460,018.929	3,169,048.621	40.594557	-104.891274
2,100.00	10.00	242.00	2,097.47	-20.43	-38.43	1,460,011.584	3,169,034.810	40.594538	-104.891324
2,200.00	12.00	242.00	2,195.62	-29.39	-55.27	1,460,002.626	3,169,017.964	40.594513	-104.891385
2,300.00	14.00	242.00	2,293.06	-39.95	-75.13	1,459,992.065	3,168,998.103	40.594485	-104.891457
2,400.00	16.00	242.00	2,389.64	-52.11	-97.98	1,459,979.913	3,168,975.253	40.594452	-104.891539
2,500.00	18.00	242.00	2,485.27	-65.83	-123.80	1,459,966.187	3,168,949.440	40.594415	-104.891633
2,600.00	20.00	242.00	2,579.82	-81.12	-152.54	1,459,950.902	3,168,920.696	40.594373	-104.891737
2,700.00	22.00	242.00	2,673.17	-97.94	-184.18	1,459,934.077	3,168,889.056	40.594328	-104.891851
2,800.00	24.00	242.00	2,765.21	-116.29	-218.68	1,459,915.733	3,168,854.559	40.594278	-104.891976
2,900.00	26.00	242.00	2,855.84	-136.13	-255.99	1,459,895.891	3,168,817.247	40.594224	-104.892110
3,000.00	28.00	242.00	2,944.94	-157.44	-296.07	1,459,874.577	3,168,777.165	40.594166	-104.892255
3,100.00	30.00	242.00	3,032.39	-180.20	-338.87	1,459,851.816	3,168,734.362	40.594105	-104.892410
3,200.00	32.00	242.00	3,118.11	-204.38	-384.35	1,459,827.635	3,168,688.890	40.594039	-104.892574
3,300.00	34.00	242.00	3,201.97	-229.95	-432.43	1,459,802.065	3,168,640.805	40.593970	-104.892748
3,400.00	36.00	242.00	3,283.88	-256.88	-483.07	1,459,775.136	3,168,590.164	40.593897	-104.892931
3,500.00	38.00	242.00	3,363.74	-285.14	-536.21	1,459,746.882	3,168,537.031	40.593820	-104.893123
3,600.00	40.00	242.00	3,441.45	-314.68	-591.77	1,459,717.336	3,168,481.470	40.593740	-104.893324
3,700.00	42.00	242.00	3,516.92	-345.48	-649.69	1,459,686.535	3,168,423.547	40.593657	-104.893533
3,800.00	44.00	242.00	3,590.05	-377.50	-709.90	1,459,654.516	3,168,363.335	40.593570	-104.893751
3,900.00	46.00	242.00	3,660.76	-410.70	-772.33	1,459,621.318	3,168,300.906	40.593480	-104.893976
4,000.00	48.00	242.00	3,728.95	-445.04	-836.90	1,459,586.982	3,168,236.336	40.593387	-104.894210
4,100.00	50.00	242.00	3,794.56	-480.47	-903.53	1,459,551.549	3,168,169.704	40.593291	-104.894451
4,200.00	52.00	242.00	3,857.48	-516.96	-972.14	1,459,515.063	3,168,101.091	40.593192	-104.894698
4,300.00	54.00	242.00	3,917.66	-554.45	-1,042.65	1,459,477.568	3,168,030.581	40.593091	-104.894953
4,400.00	56.00	242.00	3,975.02	-592.91	-1,114.98	1,459,439.110	3,167,958.260	40.592986	-104.895215
4,500.00	58.00	242.00	4,029.48	-632.28	-1,189.02	1,459,399.736	3,167,884.215	40.592880	-104.895482
4,600.00	60.00	242.00	4,080.98	-672.53	-1,264.70	1,459,359.493	3,167,808.538	40.592771	-104.895756
4,625.85	60.52	242.00	4,093.80	-683.06	-1,284.52	1,459,348.955	3,167,788.721	40.592742	-104.895827
Hold 60.52 Inc, 242.00 Az									
4,700.00	60.52	242.00	4,130.30	-713.37	-1,341.51	1,459,318.649	3,167,731.730	40.592660	-104.896033
4,800.00	60.52	242.00	4,179.51	-754.24	-1,418.37	1,459,277.778	3,167,654.871	40.592549	-104.896311

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNB-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	60.52	242.00	4,228.73	-795.11	-1,495.22	1,459,236.906	3,167,578.012	40.592439	-104.896589
5,000.00	60.52	242.00	4,277.95	-835.98	-1,572.08	1,459,196.035	3,167,501.153	40.592328	-104.896866
5,100.00	60.52	242.00	4,327.16	-876.85	-1,648.94	1,459,155.164	3,167,424.294	40.592217	-104.897144
5,200.00	60.52	242.00	4,376.38	-917.73	-1,725.80	1,459,114.293	3,167,347.435	40.592106	-104.897422
5,300.00	60.52	242.00	4,425.60	-958.60	-1,802.66	1,459,073.422	3,167,270.576	40.591996	-104.897700
5,400.00	60.52	242.00	4,474.81	-999.47	-1,879.52	1,459,032.551	3,167,193.717	40.591885	-104.897977
5,500.00	60.52	242.00	4,524.03	-1,040.34	-1,956.38	1,458,991.680	3,167,116.859	40.591774	-104.898255
5,600.00	60.52	242.00	4,573.25	-1,081.21	-2,033.24	1,458,950.809	3,167,040.000	40.591663	-104.898533
5,700.00	60.52	242.00	4,622.46	-1,122.08	-2,110.10	1,458,909.938	3,166,963.141	40.591553	-104.898811
5,800.00	60.52	242.00	4,671.68	-1,162.95	-2,186.95	1,458,869.067	3,166,886.282	40.591442	-104.899088
5,900.00	60.52	242.00	4,720.90	-1,203.82	-2,263.81	1,458,828.196	3,166,809.423	40.591331	-104.899366
6,000.00	60.52	242.00	4,770.11	-1,244.69	-2,340.67	1,458,787.325	3,166,732.564	40.591220	-104.899644
6,100.00	60.52	242.00	4,819.33	-1,285.56	-2,417.53	1,458,746.454	3,166,655.705	40.591110	-104.899922
6,200.00	60.52	242.00	4,868.55	-1,326.44	-2,494.39	1,458,705.583	3,166,578.846	40.590999	-104.900199
6,300.00	60.52	242.00	4,917.76	-1,367.31	-2,571.25	1,458,664.711	3,166,501.988	40.590888	-104.900477
6,400.00	60.52	242.00	4,966.98	-1,408.18	-2,648.11	1,458,623.840	3,166,425.129	40.590777	-104.900755
6,500.00	60.52	242.00	5,016.20	-1,449.05	-2,724.97	1,458,582.969	3,166,348.270	40.590666	-104.901033
6,600.00	60.52	242.00	5,065.41	-1,489.92	-2,801.83	1,458,542.098	3,166,271.411	40.590556	-104.901310
6,700.00	60.52	242.00	5,114.63	-1,530.79	-2,878.68	1,458,501.227	3,166,194.552	40.590445	-104.901588
6,800.00	60.52	242.00	5,163.85	-1,571.66	-2,955.54	1,458,460.356	3,166,117.693	40.590334	-104.901866
6,900.00	60.52	242.00	5,213.06	-1,612.53	-3,032.40	1,458,419.485	3,166,040.834	40.590223	-104.902143
7,000.00	60.52	242.00	5,262.28	-1,653.40	-3,109.26	1,458,378.614	3,165,963.975	40.590113	-104.902421
7,100.00	60.52	242.00	5,311.50	-1,694.28	-3,186.12	1,458,337.743	3,165,887.117	40.590002	-104.902699
7,200.00	60.52	242.00	5,360.71	-1,735.15	-3,262.98	1,458,296.872	3,165,810.258	40.589891	-104.902977
7,300.00	60.52	242.00	5,409.93	-1,776.02	-3,339.84	1,458,256.001	3,165,733.399	40.589780	-104.903254
7,400.00	60.52	242.00	5,459.14	-1,816.89	-3,416.70	1,458,215.130	3,165,656.540	40.589670	-104.903532
7,500.00	60.52	242.00	5,508.36	-1,857.76	-3,493.56	1,458,174.259	3,165,579.681	40.589559	-104.903810
7,600.00	60.52	242.00	5,557.58	-1,898.63	-3,570.41	1,458,133.388	3,165,502.822	40.589448	-104.904088
7,700.00	60.52	242.00	5,606.79	-1,939.50	-3,647.27	1,458,092.517	3,165,425.963	40.589337	-104.904365
7,800.00	60.52	242.00	5,656.01	-1,980.37	-3,724.13	1,458,051.645	3,165,349.104	40.589227	-104.904643
7,900.00	60.52	242.00	5,705.23	-2,021.24	-3,800.99	1,458,010.774	3,165,272.246	40.589116	-104.904921
8,000.00	60.52	242.00	5,754.44	-2,062.12	-3,877.85	1,457,969.903	3,165,195.387	40.589005	-104.905198
8,100.00	60.52	242.00	5,803.66	-2,102.99	-3,954.71	1,457,929.032	3,165,118.528	40.588894	-104.905476
8,200.00	60.52	242.00	5,852.88	-2,143.86	-4,031.57	1,457,888.161	3,165,041.669	40.588784	-104.905754
8,300.00	60.52	242.00	5,902.09	-2,184.73	-4,108.43	1,457,847.290	3,164,964.810	40.588673	-104.906032
8,400.00	60.52	242.00	5,951.31	-2,225.60	-4,185.29	1,457,806.419	3,164,887.951	40.588562	-104.906309
8,500.00	60.52	242.00	6,000.53	-2,266.47	-4,262.14	1,457,765.548	3,164,811.092	40.588451	-104.906587
8,600.00	60.52	242.00	6,049.74	-2,307.34	-4,339.00	1,457,724.677	3,164,734.233	40.588340	-104.906865
8,605.95	60.52	242.00	6,052.67	-2,309.77	-4,343.58	1,457,722.245	3,164,729.661	40.588334	-104.906881
KOP 10°/100									
8,700.00	54.25	233.66	6,103.40	-2,351.70	-4,410.61	1,457,680.316	3,164,662.625	40.588220	-104.907124
8,800.00	48.33	223.31	6,166.02	-2,403.05	-4,469.07	1,457,628.965	3,164,604.169	40.588080	-104.907335
8,900.00	43.51	211.09	6,235.70	-2,459.85	-4,512.58	1,457,572.169	3,164,560.661	40.587925	-104.907493
9,000.00	40.21	196.92	6,310.34	-2,520.36	-4,539.81	1,457,511.655	3,164,533.423	40.587759	-104.907593
9,100.00	38.84	181.32	6,387.66	-2,582.76	-4,549.95	1,457,449.261	3,164,523.282	40.587588	-104.907631
9,200.00	39.61	165.52	6,465.32	-2,645.14	-4,542.69	1,457,386.882	3,164,530.548	40.587417	-104.907606
9,300.00	42.40	150.86	6,540.96	-2,705.60	-4,518.24	1,457,326.415	3,164,554.998	40.587251	-104.907520
9,400.00	46.83	138.07	6,612.27	-2,762.32	-4,477.35	1,457,269.696	3,164,595.891	40.587094	-104.907374
9,500.00	52.48	127.22	6,677.09	-2,813.57	-4,421.25	1,457,218.449	3,164,651.983	40.586952	-104.907173
9,600.00	58.98	118.00	6,733.46	-2,857.79	-4,351.67	1,457,174.231	3,164,721.571	40.586830	-104.906924
9,700.00	66.04	110.01	6,779.65	-2,893.63	-4,270.70	1,457,138.386	3,164,802.539	40.586730	-104.906633
9,800.00	73.47	102.87	6,814.27	-2,920.02	-4,180.81	1,457,112.002	3,164,892.428	40.586656	-104.906310
9,895.52	80.78	96.56	6,835.56	-2,935.64	-4,089.13	1,457,096.376	3,164,984.109	40.586611	-104.905980
LPL 5X-HNB 1845 FSL 460 FWL									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNB-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
9,900.00	81.13	96.27	6,836.26	-2,936.14	-4,084.73	1,457,095.881	3,164,988.507	40.586610	-104.905964
10,000.00	88.90	89.95	6,844.96	-2,941.51	-3,985.38	1,457,090.513	3,165,087.856	40.586593	-104.905607
10,002.38	89.08	89.80	6,845.00	-2,941.50	-3,983.00	1,457,090.519	3,165,090.236	40.586593	-104.905598
LP 89.08 Inc, 89.80 Az									
10,100.00	89.08	89.80	6,846.57	-2,941.16	-3,885.39	1,457,090.862	3,165,187.842	40.586592	-104.905247
10,200.00	89.08	89.80	6,848.17	-2,940.81	-3,785.41	1,457,091.213	3,165,287.829	40.586591	-104.904887
10,300.00	89.08	89.80	6,849.77	-2,940.45	-3,685.42	1,457,091.565	3,165,387.815	40.586591	-104.904527
10,400.00	89.08	89.80	6,851.38	-2,940.10	-3,585.43	1,457,091.916	3,165,487.802	40.586590	-104.904167
10,500.00	89.08	89.80	6,852.98	-2,939.75	-3,485.45	1,457,092.268	3,165,587.788	40.586589	-104.903807
10,600.00	89.08	89.80	6,854.59	-2,939.40	-3,385.46	1,457,092.619	3,165,687.775	40.586588	-104.903447
10,700.00	89.08	89.80	6,856.19	-2,939.05	-3,285.48	1,457,092.971	3,165,787.761	40.586587	-104.903087
10,800.00	89.08	89.80	6,857.80	-2,938.70	-3,185.49	1,457,093.322	3,165,887.748	40.586586	-104.902727
10,900.00	89.08	89.80	6,859.40	-2,938.34	-3,085.50	1,457,093.674	3,165,987.734	40.586585	-104.902367
11,000.00	89.08	89.80	6,861.00	-2,937.99	-2,985.52	1,457,094.025	3,166,087.721	40.586584	-104.902007
11,100.00	89.08	89.80	6,862.61	-2,937.64	-2,885.53	1,457,094.377	3,166,187.707	40.586584	-104.901647
11,200.00	89.08	89.80	6,864.21	-2,937.29	-2,785.54	1,457,094.729	3,166,287.694	40.586583	-104.901287
11,300.00	89.08	89.80	6,865.82	-2,936.94	-2,685.56	1,457,095.080	3,166,387.680	40.586582	-104.900927
11,400.00	89.08	89.80	6,867.42	-2,936.59	-2,585.57	1,457,095.432	3,166,487.667	40.586581	-104.900567
11,500.00	89.08	89.80	6,869.02	-2,936.24	-2,485.58	1,457,095.783	3,166,587.653	40.586580	-104.900207
11,600.00	89.08	89.80	6,870.63	-2,935.88	-2,385.60	1,457,096.135	3,166,687.640	40.586579	-104.899847
11,700.00	89.08	89.80	6,872.23	-2,935.53	-2,285.61	1,457,096.486	3,166,787.626	40.586578	-104.899487
11,800.00	89.08	89.80	6,873.84	-2,935.18	-2,185.62	1,457,096.838	3,166,887.613	40.586577	-104.899127
11,900.00	89.08	89.80	6,875.44	-2,934.83	-2,085.64	1,457,097.189	3,166,987.599	40.586576	-104.898767
12,000.00	89.08	89.80	6,877.04	-2,934.48	-1,985.65	1,457,097.541	3,167,087.586	40.586576	-104.898407
12,100.00	89.08	89.80	6,878.65	-2,934.13	-1,885.66	1,457,097.892	3,167,187.572	40.586575	-104.898047
12,200.00	89.08	89.80	6,880.25	-2,933.77	-1,785.68	1,457,098.244	3,167,287.559	40.586574	-104.897687
12,300.00	89.08	89.80	6,881.86	-2,933.42	-1,685.69	1,457,098.595	3,167,387.545	40.586573	-104.897327
12,400.00	89.08	89.80	6,883.46	-2,933.07	-1,585.70	1,457,098.947	3,167,487.532	40.586572	-104.896967
12,500.00	89.08	89.80	6,885.07	-2,932.72	-1,485.72	1,457,099.298	3,167,587.518	40.586571	-104.896607
12,600.00	89.08	89.80	6,886.67	-2,932.37	-1,385.73	1,457,099.650	3,167,687.505	40.586570	-104.896247
12,700.00	89.08	89.80	6,888.27	-2,932.02	-1,285.74	1,457,100.001	3,167,787.491	40.586569	-104.895887
12,800.00	89.08	89.80	6,889.88	-2,931.67	-1,185.76	1,457,100.353	3,167,887.478	40.586568	-104.895527
12,900.00	89.08	89.80	6,891.48	-2,931.31	-1,085.77	1,457,100.704	3,167,987.464	40.586567	-104.895167
13,000.00	89.08	89.80	6,893.09	-2,930.96	-985.79	1,457,101.056	3,168,087.451	40.586566	-104.894807
13,100.00	89.08	89.80	6,894.69	-2,930.61	-885.80	1,457,101.408	3,168,187.437	40.586566	-104.894447
13,200.00	89.08	89.80	6,896.29	-2,930.26	-785.81	1,457,101.759	3,168,287.424	40.586565	-104.894087
13,300.00	89.08	89.80	6,897.90	-2,929.91	-685.83	1,457,102.111	3,168,387.410	40.586564	-104.893727
13,400.00	89.08	89.80	6,899.50	-2,929.56	-585.84	1,457,102.462	3,168,487.397	40.586563	-104.893367
13,500.00	89.08	89.80	6,901.11	-2,929.21	-485.85	1,457,102.814	3,168,587.383	40.586562	-104.893007
13,600.00	89.08	89.80	6,902.71	-2,928.85	-385.87	1,457,103.165	3,168,687.371	40.586561	-104.892647
13,700.00	89.08	89.80	6,904.32	-2,928.50	-285.88	1,457,103.517	3,168,787.357	40.586560	-104.892287
13,800.00	89.08	89.80	6,905.92	-2,928.15	-185.89	1,457,103.868	3,168,887.344	40.586559	-104.891927
13,900.00	89.08	89.80	6,907.52	-2,927.80	-85.91	1,457,104.220	3,168,987.330	40.586558	-104.891567
14,000.00	89.08	89.80	6,909.13	-2,927.45	14.08	1,457,104.571	3,169,087.317	40.586557	-104.891207
14,100.00	89.08	89.80	6,910.73	-2,927.10	114.07	1,457,104.923	3,169,187.304	40.586556	-104.890847
14,200.00	89.08	89.80	6,912.34	-2,926.74	214.05	1,457,105.274	3,169,287.290	40.586556	-104.890487
14,300.00	89.08	89.80	6,913.94	-2,926.39	314.04	1,457,105.626	3,169,387.277	40.586555	-104.890127
14,400.00	89.08	89.80	6,915.54	-2,926.04	414.03	1,457,105.977	3,169,487.263	40.586554	-104.889767
14,500.00	89.08	89.80	6,917.15	-2,925.69	514.01	1,457,106.329	3,169,587.250	40.586553	-104.889407
14,600.00	89.08	89.80	6,918.75	-2,925.34	614.00	1,457,106.680	3,169,687.236	40.586552	-104.889047
14,700.00	89.08	89.80	6,920.36	-2,924.99	713.99	1,457,107.032	3,169,787.223	40.586551	-104.888687
14,800.00	89.08	89.80	6,921.96	-2,924.64	813.97	1,457,107.383	3,169,887.209	40.586550	-104.888327
14,900.00	89.08	89.80	6,923.57	-2,924.28	913.96	1,457,107.735	3,169,987.196	40.586549	-104.887967
15,000.00	89.08	89.80	6,925.17	-2,923.93	1,013.95	1,457,108.087	3,170,087.182	40.586548	-104.887607

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNB-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	89.08	89.80	6,926.77	-2,923.58	1,113.93	1,457,108.438	3,170,187.169	40.586547	-104.887247
15,200.00	89.08	89.80	6,928.38	-2,923.23	1,213.92	1,457,108.790	3,170,287.155	40.586546	-104.886887
15,300.00	89.08	89.80	6,929.98	-2,922.88	1,313.90	1,457,109.141	3,170,387.142	40.586545	-104.886527
15,400.00	89.08	89.80	6,931.59	-2,922.53	1,413.89	1,457,109.493	3,170,487.128	40.586544	-104.886167
15,500.00	89.08	89.80	6,933.19	-2,922.17	1,513.88	1,457,109.844	3,170,587.115	40.586543	-104.885807
15,600.00	89.08	89.80	6,934.79	-2,921.82	1,613.86	1,457,110.196	3,170,687.101	40.586543	-104.885447
15,700.00	89.08	89.80	6,936.40	-2,921.47	1,713.85	1,457,110.547	3,170,787.088	40.586542	-104.885087
15,800.00	89.08	89.80	6,938.00	-2,921.12	1,813.84	1,457,110.899	3,170,887.074	40.586541	-104.884727
15,900.00	89.08	89.80	6,939.61	-2,920.77	1,913.82	1,457,111.250	3,170,987.061	40.586540	-104.884367
16,000.00	89.08	89.80	6,941.21	-2,920.42	2,013.81	1,457,111.602	3,171,087.047	40.586539	-104.884007
16,100.00	89.08	89.80	6,942.81	-2,920.07	2,113.80	1,457,111.953	3,171,187.034	40.586538	-104.883647
16,200.00	89.08	89.80	6,944.42	-2,919.71	2,213.78	1,457,112.305	3,171,287.020	40.586537	-104.883287
16,300.00	89.08	89.80	6,946.02	-2,919.36	2,313.77	1,457,112.656	3,171,387.007	40.586536	-104.882927
16,400.00	89.08	89.80	6,947.63	-2,919.01	2,413.76	1,457,113.008	3,171,486.993	40.586535	-104.882567
16,500.00	89.08	89.80	6,949.23	-2,918.66	2,513.74	1,457,113.359	3,171,586.980	40.586534	-104.882207
16,600.00	89.08	89.80	6,950.84	-2,918.31	2,613.73	1,457,113.711	3,171,686.966	40.586533	-104.881847
16,700.00	89.08	89.80	6,952.44	-2,917.96	2,713.72	1,457,114.062	3,171,786.953	40.586532	-104.881487
16,800.00	89.08	89.80	6,954.04	-2,917.60	2,813.70	1,457,114.414	3,171,886.939	40.586531	-104.881127
16,900.00	89.08	89.80	6,955.65	-2,917.25	2,913.69	1,457,114.766	3,171,986.926	40.586530	-104.880767
17,000.00	89.08	89.80	6,957.25	-2,916.90	3,013.68	1,457,115.117	3,172,086.912	40.586529	-104.880407
17,100.00	89.08	89.80	6,958.86	-2,916.55	3,113.66	1,457,115.469	3,172,186.899	40.586528	-104.880047
17,200.00	89.08	89.80	6,960.46	-2,916.20	3,213.65	1,457,115.820	3,172,286.885	40.586527	-104.879687
17,300.00	89.08	89.80	6,962.06	-2,915.85	3,313.63	1,457,116.172	3,172,386.872	40.586526	-104.879327
17,400.00	89.08	89.80	6,963.67	-2,915.50	3,413.62	1,457,116.523	3,172,486.858	40.586525	-104.878967
17,500.00	89.08	89.80	6,965.27	-2,915.14	3,513.61	1,457,116.875	3,172,586.845	40.586524	-104.878607
17,600.00	89.08	89.80	6,966.88	-2,914.79	3,613.59	1,457,117.226	3,172,686.831	40.586524	-104.878247
17,700.00	89.08	89.80	6,968.48	-2,914.44	3,713.58	1,457,117.578	3,172,786.818	40.586523	-104.877887
17,800.00	89.08	89.80	6,970.09	-2,914.09	3,813.57	1,457,117.929	3,172,886.804	40.586522	-104.877527
17,900.00	89.08	89.80	6,971.69	-2,913.74	3,913.55	1,457,118.281	3,172,986.791	40.586521	-104.877167
18,000.00	89.08	89.80	6,973.29	-2,913.39	4,013.54	1,457,118.632	3,173,086.777	40.586520	-104.876807
18,100.00	89.08	89.80	6,974.90	-2,913.03	4,113.53	1,457,118.984	3,173,186.764	40.586519	-104.876447
18,200.00	89.08	89.80	6,976.50	-2,912.68	4,213.51	1,457,119.335	3,173,286.750	40.586518	-104.876087
18,300.00	89.08	89.80	6,978.11	-2,912.33	4,313.50	1,457,119.687	3,173,386.737	40.586517	-104.875727
18,400.00	89.08	89.80	6,979.71	-2,911.98	4,413.49	1,457,120.038	3,173,486.723	40.586516	-104.875367
18,500.00	89.08	89.80	6,981.31	-2,911.63	4,513.47	1,457,120.390	3,173,586.710	40.586515	-104.875007
18,600.00	89.08	89.80	6,982.92	-2,911.28	4,613.46	1,457,120.741	3,173,686.696	40.586514	-104.874647
18,700.00	89.08	89.80	6,984.52	-2,910.93	4,713.45	1,457,121.093	3,173,786.683	40.586513	-104.874287
18,800.00	89.08	89.80	6,986.13	-2,910.57	4,813.43	1,457,121.445	3,173,886.669	40.586512	-104.873927
18,900.00	89.08	89.80	6,987.73	-2,910.22	4,913.42	1,457,121.796	3,173,986.656	40.586511	-104.873567
19,000.00	89.08	89.80	6,989.34	-2,909.87	5,013.41	1,457,122.148	3,174,086.643	40.586510	-104.873207
19,100.00	89.08	89.80	6,990.94	-2,909.52	5,113.39	1,457,122.499	3,174,186.629	40.586509	-104.872847
19,200.00	89.08	89.80	6,992.54	-2,909.17	5,213.38	1,457,122.851	3,174,286.616	40.586508	-104.872487
19,300.00	89.08	89.80	6,994.15	-2,908.82	5,313.37	1,457,123.202	3,174,386.602	40.586507	-104.872127
19,400.00	89.08	89.80	6,995.75	-2,908.46	5,413.35	1,457,123.554	3,174,486.589	40.586506	-104.871767
19,493.59	89.08	89.80	6,997.00	-2,908.17	5,506.93	1,457,123.846	3,174,580.168	40.586505	-104.871430
TD at 19493.59 - BHL 5X-HNB 1845 FSL 460 FEL									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNB-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 5X-HNB 497 FNL 7	0.00	0.00	0.00	0.00	0.00	1,460,032.018	3,169,073.237	40.594593	-104.891185
- plan hits target center									
- Point									
LPL 5X-HNB 1845 FSL 4	0.00	0.00	6,843.00	-2,941.92	-4,091.89	1,457,090.099	3,164,981.342	40.586594	-104.905990
- plan misses target center by 10.12usft at 9895.52usft MD (6835.56 TVD, -2935.64 N, -4089.13 E)									
- Point									
BHL 5X-HNB 1845 FSL 1	0.00	0.00	6,997.00	-2,908.17	5,506.93	1,457,123.846	3,174,580.168	40.586505	-104.871430
- 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
4,625.85	4,093.80	-683.06	-1,284.52	Hold 60.52 Inc, 242.00 Az
8,605.95	6,052.67	-2,309.77	-4,343.58	KOP 10°/100
10,002.38	6,845.00	-2,941.50	-3,983.00	LP 89.08 Inc, 89.80 Az
19,493.59	6,997.00	-2,908.17	5,506.93	TD at 19493.59