

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

Project Name:
Sec. 9-T7N-R67W

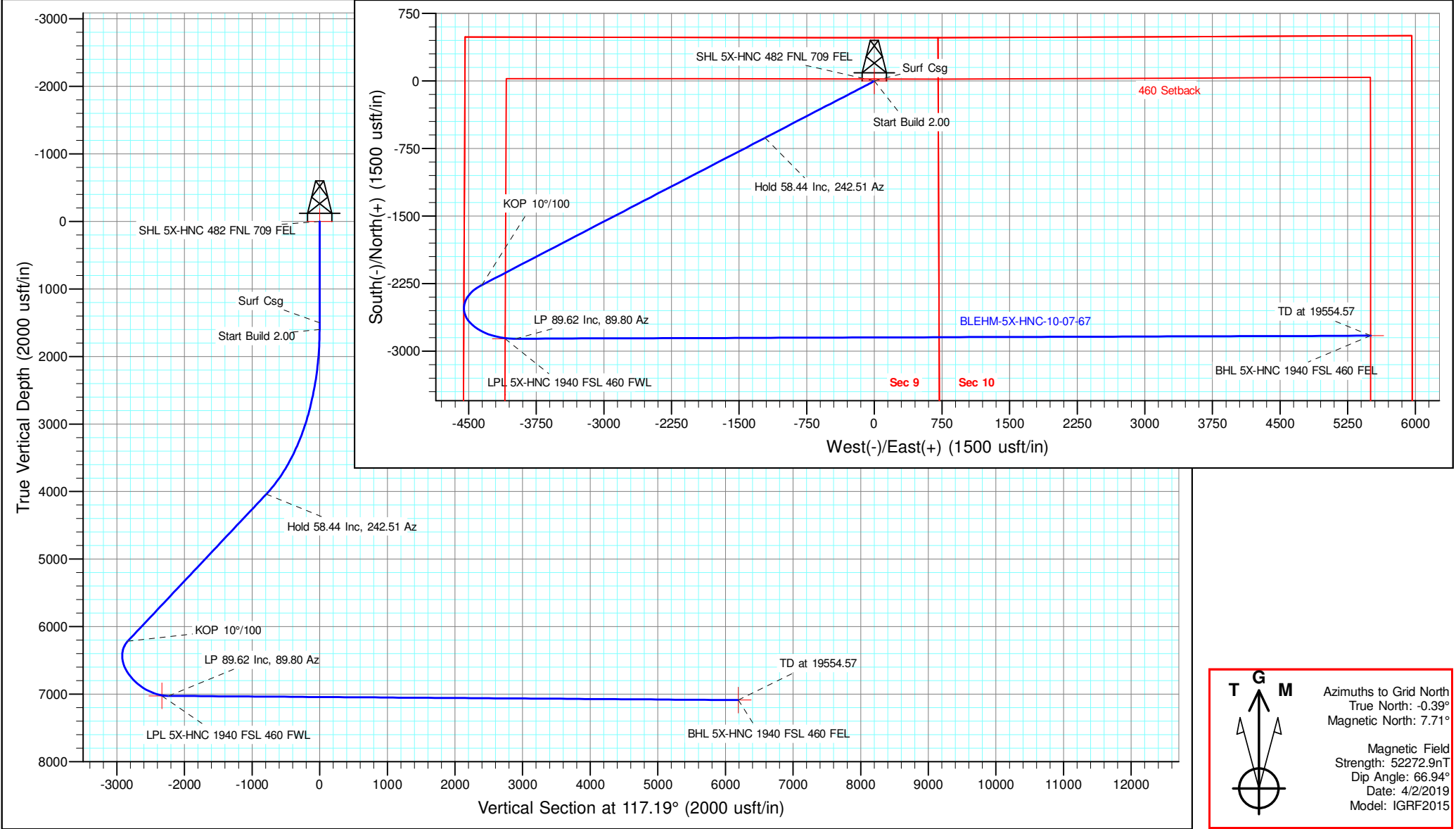
Pad Name:
BLEHM Pad

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	
4522.05	58.44	242.51	4041.09	-630.28	-1211.25	-789.49	1365.43	Hold 58.44 Inc, 242.51 Az	
8678.74	58.44	242.51	6216.60	-2265.23	-4353.26	-2837.44	4907.35	KOP 10°/100	
10067.95	89.62	89.80	7027.00	-2861.39	-3980.00	-2233.04	5976.17	LP 89.62 Inc, 89.80 Az	
19554.57	89.62	89.80	7089.00	-2828.40	5506.36	6190.30	15462.59	TD at 19554.57	

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-HNC 482 FNL 709 FEL	0.00	0.00	0.00	1460046.969	3169073.967	40.594634	-104.891182	Point
LPL 5X-HNC 1940 FSL 460 FWL	7026.00	-2861.79	-4093.54	1457185.181	3164980.427	40.586855	-104.905991	Point
plan misses target center by 10.95usft at 9955.45usft MD (7017.41 TVD, -2855.24 N, -4091.74 E)								
BHL 5X-HNC 1940 FSL 460 FEL	7089.00	-2828.40	5506.36	1457218.571	3174580.330	40.586765	-104.871427	Point



NICKEL ROAD

O P E R A T I N G

Nickel Road Operating

Sec. 9-T7N-R67W

BLEHM Pad

BLEHM-5X-HNC-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-5X-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-5X-HNC-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-5X-HNC-10-07-67					
Well Position	+N/-S	0.00 usft	Northing:	1,460,046.969 usft	Latitude:	40.594634
	+E/-W	0.00 usft	Easting:	3,169,073.968 usft	Longitude:	-104.891182
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	52,272.89601643

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	117.19

Plan Survey Tool Program	Date	3/10/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,554.57 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	
4,522.05	58.44	242.51	4,041.09	-630.28	-1,211.25	2.00	2.00	0.00	242.51	
8,678.74	58.44	242.51	6,216.61	-2,265.23	-4,353.26	0.00	0.00	0.00	0.00	
10,067.95	89.62	89.80	7,027.00	-2,861.40	-3,980.00	10.00	2.24	-10.99	-135.75	
19,554.57	89.62	89.80	7,089.00	-2,828.40	5,506.36	0.00	0.00	0.00	0.00	BHL 5X-HNC 1940 F

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNC-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	1,460,046.969	3,169,073.968	40.594634	-104.891182
Laramie-Fox Hills - SHL 5X-HNC 482 FNL 709 FEL									
100.00	0.00	0.00	100.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
200.00	0.00	0.00	200.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
300.00	0.00	0.00	300.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
Upper Pierre									
400.00	0.00	0.00	400.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
500.00	0.00	0.00	500.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
600.00	0.00	0.00	600.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
700.00	0.00	0.00	700.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
800.00	0.00	0.00	800.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
900.00	0.00	0.00	900.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
1,314.00	0.00	0.00	1,314.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
Pierre Shale									
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
Surf Csg									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
Start Build 2.00									
1,700.00	2.00	242.51	1,699.98	-0.81	-1.55	1,460,046.163	3,169,072.420	40.594632	-104.891188
1,800.00	4.00	242.51	1,799.84	-3.22	-6.19	1,460,043.747	3,169,067.777	40.594625	-104.891205
1,900.00	6.00	242.51	1,899.45	-7.24	-13.92	1,460,039.725	3,169,060.046	40.594614	-104.891233
2,000.00	8.00	242.51	1,998.70	-12.87	-24.73	1,460,034.099	3,169,049.236	40.594599	-104.891272
2,100.00	10.00	242.51	2,097.47	-20.09	-38.61	1,460,026.879	3,169,035.359	40.594580	-104.891322
2,200.00	12.00	242.51	2,195.62	-28.90	-55.53	1,460,018.072	3,169,018.434	40.594556	-104.891383
2,300.00	14.00	242.51	2,293.06	-39.28	-75.49	1,460,007.688	3,168,998.480	40.594528	-104.891455
2,400.00	16.00	242.51	2,389.64	-51.23	-98.45	1,459,995.742	3,168,975.521	40.594495	-104.891538
2,500.00	18.00	242.51	2,485.27	-64.72	-124.38	1,459,982.247	3,168,949.586	40.594459	-104.891632
2,600.00	20.00	242.51	2,579.82	-79.75	-153.26	1,459,967.219	3,168,920.707	40.594418	-104.891736
2,700.00	22.00	242.51	2,673.17	-96.29	-185.05	1,459,950.678	3,168,888.918	40.594373	-104.891851
2,800.00	24.00	242.51	2,765.21	-114.33	-219.71	1,459,932.643	3,168,854.259	40.594324	-104.891976
2,900.00	26.00	242.51	2,855.84	-133.83	-257.20	1,459,913.136	3,168,816.771	40.594271	-104.892112
3,000.00	28.00	242.51	2,944.94	-154.79	-297.47	1,459,892.181	3,168,776.500	40.594215	-104.892257
3,100.00	30.00	242.51	3,032.39	-177.17	-340.47	1,459,869.803	3,168,733.495	40.594154	-104.892413
3,200.00	32.00	242.51	3,118.11	-200.94	-386.16	1,459,846.030	3,168,687.809	40.594090	-104.892578
3,300.00	34.00	242.51	3,201.97	-226.08	-434.47	1,459,820.891	3,168,639.497	40.594022	-104.892752
3,400.00	36.00	242.51	3,283.88	-252.55	-485.35	1,459,794.416	3,168,588.617	40.593950	-104.892936
3,500.00	38.00	242.51	3,363.74	-280.33	-538.73	1,459,766.638	3,168,535.234	40.593875	-104.893129
3,600.00	40.00	242.51	3,441.45	-309.38	-594.56	1,459,737.590	3,168,479.410	40.593796	-104.893331
3,700.00	42.00	242.51	3,516.92	-339.66	-652.75	1,459,707.308	3,168,421.215	40.593714	-104.893541
3,800.00	44.00	242.51	3,590.05	-371.14	-713.25	1,459,675.829	3,168,360.719	40.593629	-104.893760
3,900.00	46.00	242.51	3,660.76	-403.78	-775.97	1,459,643.190	3,168,297.995	40.593540	-104.893986
4,000.00	48.00	242.51	3,728.95	-437.54	-840.85	1,459,609.433	3,168,233.121	40.593449	-104.894221
4,100.00	50.00	242.51	3,794.56	-472.37	-907.79	1,459,574.597	3,168,166.175	40.593354	-104.894463
4,200.00	52.00	242.51	3,857.48	-508.24	-976.73	1,459,538.726	3,168,097.239	40.593257	-104.894712
4,300.00	54.00	242.51	3,917.66	-545.11	-1,047.57	1,459,501.863	3,168,026.396	40.593157	-104.894968
4,400.00	56.00	242.51	3,975.02	-582.92	-1,120.23	1,459,464.053	3,167,953.734	40.593055	-104.895230
4,500.00	58.00	242.51	4,029.48	-621.63	-1,194.63	1,459,425.342	3,167,879.340	40.592950	-104.895499
4,522.05	58.44	242.51	4,041.09	-630.28	-1,211.25	1,459,416.690	3,167,862.712	40.592927	-104.895559
Hold 58.44 Inc, 242.51 Az									

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured			Vertical			Map		Map		
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
4,600.00	58.44	242.51	4,081.89	-660.94	-1,270.18	1,459,386.030	3,167,803.790	40.592844	-104.895772	
4,700.00	58.44	242.51	4,134.23	-700.27	-1,345.77	1,459,346.697	3,167,728.201	40.592737	-104.896045	
4,800.00	58.44	242.51	4,186.56	-739.60	-1,421.35	1,459,307.364	3,167,652.612	40.592631	-104.896318	
4,827.58	58.44	242.51	4,201.00	-750.45	-1,442.20	1,459,296.515	3,167,631.763	40.592601	-104.896394	
Sussex										
4,900.00	58.44	242.51	4,238.90	-778.94	-1,496.94	1,459,268.031	3,167,577.023	40.592524	-104.896592	
5,000.00	58.44	242.51	4,291.24	-818.27	-1,572.53	1,459,228.699	3,167,501.434	40.592417	-104.896865	
5,100.00	58.44	242.51	4,343.58	-857.60	-1,648.12	1,459,189.366	3,167,425.845	40.592311	-104.897138	
5,200.00	58.44	242.51	4,395.91	-896.94	-1,723.71	1,459,150.033	3,167,350.256	40.592204	-104.897411	
5,300.00	58.44	242.51	4,448.25	-936.27	-1,799.30	1,459,110.700	3,167,274.667	40.592098	-104.897684	
5,400.00	58.44	242.51	4,500.59	-975.60	-1,874.89	1,459,071.367	3,167,199.078	40.591991	-104.897957	
5,494.41	58.44	242.51	4,550.00	-1,012.73	-1,946.25	1,459,034.234	3,167,127.717	40.591891	-104.898215	
Shannon										
5,500.00	58.44	242.51	4,552.93	-1,014.93	-1,950.48	1,459,032.034	3,167,123.489	40.591885	-104.898230	
5,549.82	58.44	242.51	4,579.00	-1,034.53	-1,988.13	1,459,012.440	3,167,085.834	40.591832	-104.898366	
Pierre Shale										
5,600.00	58.44	242.51	4,605.26	-1,054.27	-2,026.07	1,458,992.701	3,167,047.900	40.591778	-104.898503	
5,700.00	58.44	242.51	4,657.60	-1,093.60	-2,101.66	1,458,953.368	3,166,972.311	40.591672	-104.898777	
5,800.00	58.44	242.51	4,709.94	-1,132.93	-2,177.24	1,458,914.035	3,166,896.722	40.591565	-104.899050	
5,900.00	58.44	242.51	4,762.28	-1,172.27	-2,252.83	1,458,874.703	3,166,821.133	40.591458	-104.899323	
6,000.00	58.44	242.51	4,814.62	-1,211.60	-2,328.42	1,458,835.370	3,166,745.544	40.591352	-104.899596	
6,100.00	58.44	242.51	4,866.95	-1,250.93	-2,404.01	1,458,796.037	3,166,669.955	40.591245	-104.899869	
6,200.00	58.44	242.51	4,919.29	-1,290.26	-2,479.60	1,458,756.704	3,166,594.366	40.591139	-104.900142	
6,300.00	58.44	242.51	4,971.63	-1,329.60	-2,555.19	1,458,717.371	3,166,518.777	40.591032	-104.900415	
6,400.00	58.44	242.51	5,023.97	-1,368.93	-2,630.78	1,458,678.038	3,166,443.188	40.590926	-104.900688	
6,500.00	58.44	242.51	5,076.30	-1,408.26	-2,706.37	1,458,638.705	3,166,367.599	40.590819	-104.900962	
6,600.00	58.44	242.51	5,128.64	-1,447.60	-2,781.96	1,458,599.372	3,166,292.010	40.590713	-104.901235	
6,700.00	58.44	242.51	5,180.98	-1,486.93	-2,857.55	1,458,560.039	3,166,216.421	40.590606	-104.901508	
6,800.00	58.44	242.51	5,233.32	-1,526.26	-2,933.13	1,458,520.707	3,166,140.832	40.590499	-104.901781	
6,900.00	58.44	242.51	5,285.65	-1,565.60	-3,008.72	1,458,481.374	3,166,065.243	40.590393	-104.902054	
7,000.00	58.44	242.51	5,337.99	-1,604.93	-3,084.31	1,458,442.041	3,165,989.654	40.590286	-104.902327	
7,100.00	58.44	242.51	5,390.33	-1,644.26	-3,159.90	1,458,402.708	3,165,914.065	40.590180	-104.902600	
7,200.00	58.44	242.51	5,442.67	-1,683.59	-3,235.49	1,458,363.375	3,165,838.476	40.590073	-104.902873	
7,300.00	58.44	242.51	5,495.00	-1,722.93	-3,311.08	1,458,324.042	3,165,762.887	40.589967	-104.903147	
7,400.00	58.44	242.51	5,547.34	-1,762.26	-3,386.67	1,458,284.709	3,165,687.298	40.589860	-104.903420	
7,500.00	58.44	242.51	5,599.68	-1,801.59	-3,462.26	1,458,245.376	3,165,611.709	40.589754	-104.903693	
7,600.00	58.44	242.51	5,652.02	-1,840.93	-3,537.85	1,458,206.044	3,165,536.120	40.589647	-104.903966	
7,700.00	58.44	242.51	5,704.35	-1,880.26	-3,613.44	1,458,166.711	3,165,460.531	40.589540	-104.904239	
7,800.00	58.44	242.51	5,756.69	-1,919.59	-3,689.02	1,458,127.378	3,165,384.942	40.589434	-104.904512	
7,900.00	58.44	242.51	5,809.03	-1,958.92	-3,764.61	1,458,088.045	3,165,309.353	40.589327	-104.904785	
8,000.00	58.44	242.51	5,861.37	-1,998.26	-3,840.20	1,458,048.712	3,165,233.764	40.589221	-104.905058	
8,100.00	58.44	242.51	5,913.71	-2,037.59	-3,915.79	1,458,009.379	3,165,158.175	40.589114	-104.905331	
8,200.00	58.44	242.51	5,966.04	-2,076.92	-3,991.38	1,457,970.046	3,165,082.586	40.589008	-104.905605	
8,300.00	58.44	242.51	6,018.38	-2,116.26	-4,066.97	1,457,930.713	3,165,006.997	40.588901	-104.905878	
8,400.00	58.44	242.51	6,070.72	-2,155.59	-4,142.56	1,457,891.380	3,164,931.408	40.588794	-104.906151	
8,500.00	58.44	242.51	6,123.06	-2,194.92	-4,218.15	1,457,852.048	3,164,855.819	40.588688	-104.906424	
8,600.00	58.44	242.51	6,175.39	-2,234.25	-4,293.74	1,457,812.715	3,164,780.230	40.588581	-104.906697	
8,678.74	58.44	242.51	6,216.61	-2,265.23	-4,353.26	1,457,781.743	3,164,720.710	40.588497	-104.906912	
KOP 10°/100										
8,700.00	56.93	240.74	6,227.97	-2,273.76	-4,369.06	1,457,773.208	3,164,704.903	40.588474	-104.906969	
8,800.00	50.21	231.51	6,287.40	-2,318.27	-4,435.86	1,457,728.704	3,164,638.104	40.588353	-104.907211	
8,900.00	44.38	220.44	6,355.30	-2,368.92	-4,488.76	1,457,678.048	3,164,585.212	40.588215	-104.907402	
9,000.00	39.84	207.12	6,429.62	-2,424.19	-4,526.13	1,457,622.780	3,164,547.833	40.588064	-104.907538	
9,100.00	37.10	191.62	6,508.09	-2,482.39	-4,546.86	1,457,564.579	3,164,527.105	40.587905	-104.907614	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNC-10-07-67	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured			Vertical			Map				
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,200.00	36.57	174.93	6,588.33	-2,541.76	-4,550.31	1,457,505.214	3,164,523.657	40.587742	-104.907628	
9,300.00	38.35	158.71	6,667.90	-2,600.48	-4,536.37	1,457,446.487	3,164,537.592	40.587580	-104.907579	
9,400.00	42.14	144.34	6,744.39	-2,656.78	-4,505.48	1,457,390.185	3,164,568.489	40.587425	-104.907469	
9,500.00	47.44	132.29	6,815.46	-2,708.95	-4,458.56	1,457,338.016	3,164,615.408	40.587281	-104.907302	
9,500.79	47.49	132.20	6,816.00	-2,709.35	-4,458.13	1,457,337.623	3,164,615.841	40.587280	-104.907300	
Niobrara										
9,600.00	53.80	122.28	6,878.97	-2,755.40	-4,397.04	1,457,291.567	3,164,676.924	40.587153	-104.907081	
9,700.00	60.87	113.86	6,932.98	-2,794.72	-4,322.80	1,457,252.249	3,164,751.167	40.587043	-104.906815	
9,800.00	68.39	106.56	6,975.84	-2,825.71	-4,238.08	1,457,221.256	3,164,835.882	40.586957	-104.906511	
9,900.00	76.20	99.99	7,006.26	-2,847.44	-4,145.47	1,457,199.530	3,164,928.494	40.586895	-104.906178	
9,955.94	80.64	96.52	7,017.49	-2,855.29	-4,091.26	1,457,191.676	3,164,982.704	40.586873	-104.905983	
LPL 5X-HNC 1940 FSL 460 FWL										
10,000.00	84.17	93.86	7,023.32	-2,859.24	-4,047.78	1,457,187.731	3,165,026.191	40.586861	-104.905826	
10,067.95	89.62	89.80	7,027.00	-2,861.40	-3,980.00	1,457,185.574	3,165,093.967	40.586854	-104.905582	
LP 89.62 Inc, 89.80 Az										
10,100.00	89.62	89.80	7,027.21	-2,861.28	-3,947.95	1,457,185.685	3,165,126.016	40.586854	-104.905467	
10,200.00	89.62	89.80	7,027.87	-2,860.94	-3,847.95	1,457,186.033	3,165,226.013	40.586853	-104.905107	
10,300.00	89.62	89.80	7,028.52	-2,860.59	-3,747.96	1,457,186.381	3,165,326.010	40.586852	-104.904747	
10,400.00	89.62	89.80	7,029.18	-2,860.24	-3,647.96	1,457,186.729	3,165,426.007	40.586851	-104.904387	
10,500.00	89.62	89.80	7,029.84	-2,859.89	-3,547.96	1,457,187.077	3,165,526.005	40.586850	-104.904027	
10,600.00	89.62	89.80	7,030.49	-2,859.54	-3,447.96	1,457,187.424	3,165,626.002	40.586849	-104.903667	
10,700.00	89.62	89.80	7,031.15	-2,859.20	-3,347.97	1,457,187.772	3,165,725.999	40.586848	-104.903307	
10,800.00	89.62	89.80	7,031.80	-2,858.85	-3,247.97	1,457,188.120	3,165,825.996	40.586848	-104.902947	
10,900.00	89.62	89.80	7,032.46	-2,858.50	-3,147.97	1,457,188.468	3,165,925.994	40.586847	-104.902587	
11,000.00	89.62	89.80	7,033.12	-2,858.15	-3,047.98	1,457,188.816	3,166,025.991	40.586846	-104.902227	
11,100.00	89.62	89.80	7,033.77	-2,857.81	-2,947.98	1,457,189.163	3,166,125.988	40.586845	-104.901867	
11,200.00	89.62	89.80	7,034.43	-2,857.46	-2,847.98	1,457,189.511	3,166,225.985	40.586844	-104.901507	
11,300.00	89.62	89.80	7,035.09	-2,857.11	-2,747.98	1,457,189.859	3,166,325.983	40.586843	-104.901147	
11,400.00	89.62	89.80	7,035.74	-2,856.76	-2,647.99	1,457,190.207	3,166,425.980	40.586842	-104.900787	
11,500.00	89.62	89.80	7,036.40	-2,856.41	-2,547.99	1,457,190.555	3,166,525.977	40.586841	-104.900427	
11,600.00	89.62	89.80	7,037.05	-2,856.07	-2,447.99	1,457,190.902	3,166,625.974	40.586840	-104.900067	
11,700.00	89.62	89.80	7,037.71	-2,855.72	-2,348.00	1,457,191.250	3,166,725.972	40.586839	-104.899707	
11,800.00	89.62	89.80	7,038.37	-2,855.37	-2,248.00	1,457,191.598	3,166,825.969	40.586839	-104.899346	
11,900.00	89.62	89.80	7,039.02	-2,855.02	-2,148.00	1,457,191.946	3,166,925.966	40.586838	-104.898986	
12,000.00	89.62	89.80	7,039.68	-2,854.68	-2,048.00	1,457,192.294	3,167,025.963	40.586837	-104.898626	
12,100.00	89.62	89.80	7,040.34	-2,854.33	-1,948.01	1,457,192.642	3,167,125.960	40.586836	-104.898266	
12,200.00	89.62	89.80	7,040.99	-2,853.98	-1,848.01	1,457,192.989	3,167,225.958	40.586835	-104.897906	
12,300.00	89.62	89.80	7,041.65	-2,853.63	-1,748.01	1,457,193.337	3,167,325.955	40.586834	-104.897546	
12,400.00	89.62	89.80	7,042.30	-2,853.28	-1,648.01	1,457,193.685	3,167,425.952	40.586833	-104.897186	
12,500.00	89.62	89.80	7,042.96	-2,852.94	-1,548.02	1,457,194.033	3,167,525.949	40.586832	-104.896826	
12,600.00	89.62	89.80	7,043.62	-2,852.59	-1,448.02	1,457,194.381	3,167,625.947	40.586831	-104.896466	
12,700.00	89.62	89.80	7,044.27	-2,852.24	-1,348.02	1,457,194.728	3,167,725.944	40.586830	-104.896106	
12,800.00	89.62	89.80	7,044.93	-2,851.89	-1,248.03	1,457,195.076	3,167,825.941	40.586829	-104.895746	
12,900.00	89.62	89.80	7,045.59	-2,851.54	-1,148.03	1,457,195.424	3,167,925.938	40.586829	-104.895386	
13,000.00	89.62	89.80	7,046.24	-2,851.20	-1,048.03	1,457,195.772	3,168,025.936	40.586828	-104.895026	
13,100.00	89.62	89.80	7,046.90	-2,850.85	-948.03	1,457,196.120	3,168,125.933	40.586827	-104.894666	
13,200.00	89.62	89.80	7,047.55	-2,850.50	-848.04	1,457,196.467	3,168,225.930	40.586826	-104.894306	
13,300.00	89.62	89.80	7,048.21	-2,850.15	-748.04	1,457,196.815	3,168,325.927	40.586825	-104.893946	
13,400.00	89.62	89.80	7,048.87	-2,849.81	-648.04	1,457,197.163	3,168,425.925	40.586824	-104.893586	
13,500.00	89.62	89.80	7,049.52	-2,849.46	-548.04	1,457,197.511	3,168,525.922	40.586823	-104.893226	
13,600.00	89.62	89.80	7,050.18	-2,849.11	-448.05	1,457,197.859	3,168,625.920	40.586822	-104.892866	
13,700.00	89.62	89.80	7,050.84	-2,848.76	-348.05	1,457,198.206	3,168,725.917	40.586821	-104.892506	
13,800.00	89.62	89.80	7,051.49	-2,848.41	-248.05	1,457,198.554	3,168,825.915	40.586820	-104.892146	
13,900.00	89.62	89.80	7,052.15	-2,848.07	-148.06	1,457,198.902	3,168,925.912	40.586819	-104.891786	

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNC-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	89.62	89.80	7,052.80	-2,847.72	-48.06	1,457,199.250	3,169,025.909	40.586818	-104.891426
14,100.00	89.62	89.80	7,053.46	-2,847.37	51.94	1,457,199.598	3,169,125.906	40.586817	-104.891066
14,200.00	89.62	89.80	7,054.12	-2,847.02	151.94	1,457,199.945	3,169,225.903	40.586817	-104.890706
14,300.00	89.62	89.80	7,054.77	-2,846.68	251.93	1,457,200.293	3,169,325.901	40.586816	-104.890346
14,400.00	89.62	89.80	7,055.43	-2,846.33	351.93	1,457,200.641	3,169,425.898	40.586815	-104.889986
14,500.00	89.62	89.80	7,056.08	-2,845.98	451.93	1,457,200.989	3,169,525.895	40.586814	-104.889626
14,600.00	89.62	89.80	7,056.74	-2,845.63	551.92	1,457,201.337	3,169,625.892	40.586813	-104.889265
14,700.00	89.62	89.80	7,057.40	-2,845.28	651.92	1,457,201.685	3,169,725.890	40.586812	-104.888905
14,800.00	89.62	89.80	7,058.05	-2,844.94	751.92	1,457,202.032	3,169,825.887	40.586811	-104.888545
14,900.00	89.62	89.80	7,058.71	-2,844.59	851.92	1,457,202.380	3,169,925.884	40.586810	-104.888185
15,000.00	89.62	89.80	7,059.37	-2,844.24	951.91	1,457,202.728	3,170,025.881	40.586809	-104.887825
15,100.00	89.62	89.80	7,060.02	-2,843.89	1,051.91	1,457,203.076	3,170,125.879	40.586808	-104.887465
15,200.00	89.62	89.80	7,060.68	-2,843.55	1,151.91	1,457,203.424	3,170,225.876	40.586807	-104.887105
15,300.00	89.62	89.80	7,061.33	-2,843.20	1,251.91	1,457,203.771	3,170,325.873	40.586806	-104.886745
15,400.00	89.62	89.80	7,061.99	-2,842.85	1,351.90	1,457,204.119	3,170,425.870	40.586805	-104.886385
15,500.00	89.62	89.80	7,062.65	-2,842.50	1,451.90	1,457,204.467	3,170,525.868	40.586804	-104.886025
15,600.00	89.62	89.80	7,063.30	-2,842.15	1,551.90	1,457,204.815	3,170,625.865	40.586803	-104.885665
15,700.00	89.62	89.80	7,063.96	-2,841.81	1,651.89	1,457,205.163	3,170,725.862	40.586802	-104.885305
15,800.00	89.62	89.80	7,064.62	-2,841.46	1,751.89	1,457,205.510	3,170,825.859	40.586802	-104.884945
15,900.00	89.62	89.80	7,065.27	-2,841.11	1,851.89	1,457,205.858	3,170,925.856	40.586801	-104.884585
16,000.00	89.62	89.80	7,065.93	-2,840.76	1,951.89	1,457,206.206	3,171,025.854	40.586800	-104.884225
16,100.00	89.62	89.80	7,066.58	-2,840.42	2,051.88	1,457,206.554	3,171,125.851	40.586799	-104.883865
16,200.00	89.62	89.80	7,067.24	-2,840.07	2,151.88	1,457,206.902	3,171,225.848	40.586798	-104.883505
16,300.00	89.62	89.80	7,067.90	-2,839.72	2,251.88	1,457,207.249	3,171,325.845	40.586797	-104.883145
16,400.00	89.62	89.80	7,068.55	-2,839.37	2,351.88	1,457,207.597	3,171,425.843	40.586796	-104.882785
16,500.00	89.62	89.80	7,069.21	-2,839.02	2,451.87	1,457,207.945	3,171,525.840	40.586795	-104.882425
16,600.00	89.62	89.80	7,069.87	-2,838.68	2,551.87	1,457,208.293	3,171,625.837	40.586794	-104.882065
16,700.00	89.62	89.80	7,070.52	-2,838.33	2,651.87	1,457,208.641	3,171,725.834	40.586793	-104.881705
16,800.00	89.62	89.80	7,071.18	-2,837.98	2,751.86	1,457,208.989	3,171,825.832	40.586792	-104.881345
16,900.00	89.62	89.80	7,071.83	-2,837.63	2,851.86	1,457,209.336	3,171,925.829	40.586791	-104.880985
17,000.00	89.62	89.80	7,072.49	-2,837.28	2,951.86	1,457,209.684	3,172,025.826	40.586790	-104.880625
17,100.00	89.62	89.80	7,073.15	-2,836.94	3,051.86	1,457,210.032	3,172,125.823	40.586789	-104.880265
17,200.00	89.62	89.80	7,073.80	-2,836.59	3,151.85	1,457,210.380	3,172,225.821	40.586788	-104.879905
17,300.00	89.62	89.80	7,074.46	-2,836.24	3,251.85	1,457,210.728	3,172,325.818	40.586787	-104.879545
17,400.00	89.62	89.80	7,075.12	-2,835.89	3,351.85	1,457,211.075	3,172,425.815	40.586786	-104.879184
17,500.00	89.62	89.80	7,075.77	-2,835.55	3,451.84	1,457,211.423	3,172,525.812	40.586785	-104.878824
17,600.00	89.62	89.80	7,076.43	-2,835.20	3,551.84	1,457,211.771	3,172,625.810	40.586784	-104.878464
17,700.00	89.62	89.80	7,077.08	-2,834.85	3,651.84	1,457,212.119	3,172,725.807	40.586783	-104.878104
17,800.00	89.62	89.80	7,077.74	-2,834.50	3,751.84	1,457,212.467	3,172,825.804	40.586782	-104.877744
17,900.00	89.62	89.80	7,078.40	-2,834.15	3,851.83	1,457,212.814	3,172,925.801	40.586781	-104.877384
18,000.00	89.62	89.80	7,079.05	-2,833.81	3,951.83	1,457,213.162	3,173,025.798	40.586780	-104.877024
18,100.00	89.62	89.80	7,079.71	-2,833.46	4,051.83	1,457,213.510	3,173,125.796	40.586779	-104.876664
18,200.00	89.62	89.80	7,080.37	-2,833.11	4,151.83	1,457,213.858	3,173,225.793	40.586778	-104.876304
18,300.00	89.62	89.80	7,081.02	-2,832.76	4,251.82	1,457,214.206	3,173,325.790	40.586777	-104.875944
18,400.00	89.62	89.80	7,081.68	-2,832.42	4,351.82	1,457,214.553	3,173,425.787	40.586776	-104.875584
18,500.00	89.62	89.80	7,082.33	-2,832.07	4,451.82	1,457,214.901	3,173,525.785	40.586775	-104.875224
18,600.00	89.62	89.80	7,082.99	-2,831.72	4,551.81	1,457,215.249	3,173,625.782	40.586774	-104.874864
18,700.00	89.62	89.80	7,083.65	-2,831.37	4,651.81	1,457,215.597	3,173,725.779	40.586774	-104.874504
18,800.00	89.62	89.80	7,084.30	-2,831.02	4,751.81	1,457,215.945	3,173,825.776	40.586773	-104.874144
18,900.00	89.62	89.80	7,084.96	-2,830.68	4,851.81	1,457,216.292	3,173,925.774	40.586772	-104.873784
19,000.00	89.62	89.80	7,085.62	-2,830.33	4,951.80	1,457,216.640	3,174,025.771	40.586771	-104.873424
19,100.00	89.62	89.80	7,086.27	-2,829.98	5,051.80	1,457,216.988	3,174,125.768	40.586770	-104.873064
19,200.00	89.62	89.80	7,086.93	-2,829.63	5,151.80	1,457,217.336	3,174,225.765	40.586769	-104.872704
19,300.00	89.62	89.80	7,087.58	-2,829.29	5,251.80	1,457,217.684	3,174,325.763	40.586768	-104.872344
19,400.00	89.62	89.80	7,088.24	-2,828.94	5,351.79	1,457,218.032	3,174,425.760	40.586767	-104.871984

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well BLEHM-5X-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-5X-HNC-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	89.62	89.80	7,088.90	-2,828.59	5,451.79	1,457,218.379	3,174,525.757	40.586766	-104.871624
19,554.57	89.62	89.80	7,089.00	-2,828.40	5,506.36	1,457,218.571	3,174,580.330	40.586765	-104.871427
TD at 19554.57 - TD - BHL 5X-HNC 1940 FSL 460 FEL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 5X-HNC 482 FNL 7 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,460,046.969	3,169,073.968	40.594634	-104.891182
LPL 5X-HNC 1940 FSL - plan misses target center by 10.94usft at 9955.94usft MD (7017.49 TVD, -2855.29 N, -4091.26 E) - Point	0.00	0.00	7,026.00	-2,861.79	-4,093.54	1,457,185.181	3,164,980.427	40.586855	-104.905991
BHL 5X-HNC 1940 FSL - plan hits target center - Point	0.00	0.00	7,089.00	-2,828.40	5,506.36	1,457,218.571	3,174,580.330	40.586765	-104.871427

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				
4,827.58	4,201.00	Sussex				
5,494.41	4,550.00	Shannon				
5,549.82	4,579.00	Pierre Shale				
9,500.79	6,816.00	Niobrara				
19,554.57	7,089.00	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
4,522.05	4,041.09	-630.28	-1,211.25	Hold 58.44 Inc, 242.51 Az
8,678.74	6,216.61	-2,265.23	-4,353.26	KOP 10°/100
10,067.95	7,027.00	-2,861.40	-3,980.00	LP 89.62 Inc, 89.80 Az
19,554.57	7,089.00	-2,828.40	5,506.36	TD at 19554.57