



Job Number: GN 1-29 PERMIT
 Company: SWEPI LP
 Lease/Well: GNAT HILL 1-29
 Location: 32-T6N-R88W
 Rig Name:
 RKB: 0.00 Ft
 Vertical Datum: MSL

State/Country:
 Declination: 10.13°E
 Grid: -1.22;US State Plane 1983
 Project name: GNAT HILL 1-29-Project
 Date/Time: 01-Aug-11 / 14:59
 Well Name: GNAT HILL 1-29 Proposal REV0-2
 North Reference: Grid North
 Convergence: -1.2228°

EXCEL Directional Technologies LLC

WinSURV3D SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 213.13°
Vertical Section Referenced to Wellhead
Local Coordinates Referenced to Structure Reference :
EW=2473313.20 Ft, NS=1410843.52 Ft
Direction referenced to Grid North -1.223° Convergence

Measured Depth Ft	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	L O C A L S		Vertical Section Ft	Dogleg Severity Deg/100
N-S Ft	E-W Ft						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00
KOP:Begin Build @ 1000MD ,2.50°/100 Ft (SurfCsg)							
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00
1030.00	0.75	213.13	1030.00	-0.16	-0.11	0.20	2.50
1060.00	1.50	213.13	1059.99	-0.66	-0.43	0.79	2.50
1090.00	2.25	213.13	1089.98	-1.48	-0.97	1.77	2.50
1120.00	3.00	213.13	1119.95	-2.63	-1.72	3.14	2.50
1150.00	3.75	213.13	1149.89	-4.11	-2.68	4.91	2.50
1180.00	4.50	213.13	1179.82	-5.92	-3.86	7.06	2.50
1210.00	5.25	213.13	1209.71	-8.05	-5.25	9.61	2.50
1240.00	6.00	213.13	1239.56	-10.51	-6.86	12.55	2.50
1270.00	6.75	213.13	1269.38	-13.30	-8.68	15.89	2.50
1300.00	7.50	213.13	1299.14	-16.42	-10.71	19.61	2.50
1330.00	8.25	213.13	1328.86	-19.86	-12.96	23.72	2.50
1360.00	9.00	213.13	1358.52	-23.63	-15.42	28.22	2.50
1390.00	9.75	213.13	1388.12	-27.72	-18.09	33.10	2.50
1420.00	10.50	213.13	1417.65	-32.14	-20.97	38.38	2.50
1450.00	11.25	213.13	1447.11	-36.88	-24.06	44.04	2.50

Measured Depth Ft	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	L O C A L S		Vertical Section Ft	Dogleg Severity Deg/100
				N-S Ft	E-W Ft		
1480.00	12.00	213.13	1476.50	-41.94	-27.37	50.08	2.50
1510.00	12.75	213.13	1505.80	-47.33	-30.88	56.51	2.50
1540.00	13.50	213.13	1535.02	-53.03	-34.60	63.32	2.50
1570.00	14.25	213.13	1564.14	-59.06	-38.54	70.52	2.50
1600.00	15.00	213.13	1593.17	-65.40	-42.68	78.09	2.50
1630.00	15.75	213.13	1622.10	-72.06	-47.02	86.05	2.50
1660.00	16.50	213.13	1650.92	-79.04	-51.58	94.38	2.50
1690.00	17.25	213.13	1679.62	-86.33	-56.33	103.09	2.50
1720.00	18.00	213.13	1708.21	-93.94	-61.30	112.17	2.50
1750.00	18.75	213.13	1736.68	-101.86	-66.47	121.63	2.50
1780.00	19.50	213.13	1765.03	-110.09	-71.84	131.46	2.50
1810.00	20.25	213.13	1793.24	-118.63	-77.41	141.66	2.50
1840.00	21.00	213.13	1821.32	-127.48	-83.19	152.22	2.50
1870.00	21.75	213.13	1849.26	-136.64	-89.16	163.16	2.50
1900.00	22.50	213.13	1877.05	-146.10	-95.33	174.46	2.50
1930.00	23.25	213.13	1904.69	-155.87	-101.71	186.12	2.50
1960.00	24.00	213.13	1932.17	-165.94	-108.28	198.14	2.50
1990.00	24.75	213.13	1959.50	-176.31	-115.04	210.52	2.50
2020.00	25.50	213.13	1986.66	-186.97	-122.00	223.26	2.50
2050.00	26.25	213.13	2013.65	-197.94	-129.16	236.35	2.50
2080.00	27.00	213.13	2040.47	-209.20	-136.51	249.79	2.50
2110.00	27.75	213.13	2067.11	-220.75	-144.04	263.59	2.50
2140.00	28.50	213.13	2093.57	-232.59	-151.77	277.73	2.50
2170.00	29.25	213.13	2119.84	-244.73	-159.69	292.22	2.50
Begin Hold @ 29.91 °, 213.13° Azm							
2196.21	29.91	213.13	2142.63	-255.56	-166.76	305.16	2.50
2296.21	29.91	213.13	2229.32	-297.32	-194.00	355.01	0.00
2396.21	29.91	213.13	2316.00	-339.07	-221.25	404.87	0.00
2496.21	29.91	213.13	2402.69	-380.82	-248.50	454.73	0.00
2596.21	29.91	213.13	2489.37	-422.58	-275.74	504.58	0.00
2696.21	29.91	213.13	2576.06	-464.33	-302.99	554.44	0.00
2796.21	29.91	213.13	2662.74	-506.08	-330.23	604.30	0.00
2896.21	29.91	213.13	2749.43	-547.84	-357.48	654.15	0.00
2996.21	29.91	213.13	2836.11	-589.59	-384.72	704.01	0.00
3096.21	29.91	213.13	2922.80	-631.35	-411.97	753.87	0.00
3196.21	29.91	213.13	3009.48	-673.10	-439.21	803.72	0.00
3296.21	29.91	213.13	3096.17	-714.85	-466.46	853.58	0.00
3396.21	29.91	213.13	3182.85	-756.61	-493.70	903.44	0.00
3496.21	29.91	213.13	3269.54	-798.36	-520.95	953.29	0.00
3596.21	29.91	213.13	3356.22	-840.12	-548.19	1003.15	0.00
3696.21	29.91	213.13	3442.91	-881.87	-575.44	1053.01	0.00
3796.21	29.91	213.13	3529.59	-923.62	-602.68	1102.86	0.00
3896.21	29.91	213.13	3616.28	-965.38	-629.93	1152.72	0.00
3996.21	29.91	213.13	3702.96	-1007.13	-657.17	1202.58	0.00
4096.21	29.91	213.13	3789.65	-1048.89	-684.42	1252.43	0.00
4196.21	29.91	213.13	3876.33	-1090.64	-711.67	1302.29	0.00
4296.21	29.91	213.13	3963.02	-1132.39	-738.91	1352.15	0.00
4396.21	29.91	213.13	4049.70	-1174.15	-766.16	1402.00	0.00
4496.21	29.91	213.13	4136.39	-1215.90	-793.40	1451.86	0.00
4596.21	29.91	213.13	4223.07	-1257.66	-820.65	1501.72	0.00

Measured Depth Ft	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	L O C A L S		Vertical Section Ft	Dogleg Severity Deg/100
				N-S Ft	E-W Ft		
4696.21	29.91	213.13	4309.76	-1299.41	-847.89	1551.58	0.00
4796.21	29.91	213.13	4396.45	-1341.16	-875.14	1601.43	0.00
4896.21	29.91	213.13	4483.13	-1382.92	-902.38	1651.29	0.00
4996.21	29.91	213.13	4569.82	-1424.67	-929.63	1701.15	0.00
5096.21	29.91	213.13	4656.50	-1466.43	-956.87	1751.00	0.00
5196.21	29.91	213.13	4743.19	-1508.18	-984.12	1800.86	0.00
5296.21	29.91	213.13	4829.87	-1549.93	-1011.36	1850.72	0.00
5396.21	29.91	213.13	4916.56	-1591.69	-1038.61	1900.57	0.00
5496.21	29.91	213.13	5003.24	-1633.44	-1065.85	1950.43	0.00
5596.21	29.91	213.13	5089.93	-1675.19	-1093.10	2000.29	0.00
5696.21	29.91	213.13	5176.61	-1716.95	-1120.35	2050.14	0.00
5796.21	29.91	213.13	5263.30	-1758.70	-1147.59	2100.00	0.00
5896.21	29.91	213.13	5349.98	-1800.46	-1174.84	2149.86	0.00
5996.21	29.91	213.13	5436.67	-1842.21	-1202.08	2199.71	0.00
7in Intermed Casing @ 6000 Ft MD							
6000.00	29.91	213.13	5439.95	-1843.79	-1203.11	2201.60	0.01
6096.21	29.91	213.13	5523.35	-1883.96	-1229.33	2249.57	0.00
6196.21	29.91	213.13	5610.04	-1925.72	-1256.57	2299.43	0.00
6296.21	29.91	213.13	5696.72	-1967.47	-1283.82	2349.28	0.00
6396.21	29.91	213.13	5783.41	-2009.23	-1311.06	2399.14	0.00
6496.21	29.91	213.13	5870.09	-2050.98	-1338.31	2449.00	0.00
6596.21	29.91	213.13	5956.78	-2092.73	-1365.55	2498.85	0.00
6696.21	29.91	213.13	6043.46	-2134.49	-1392.80	2548.71	0.00
6796.21	29.91	213.13	6130.15	-2176.24	-1420.04	2598.57	0.00
6896.21	29.91	213.13	6216.83	-2218.00	-1447.29	2648.42	0.00
6996.21	29.91	213.13	6303.52	-2259.75	-1474.53	2698.28	0.00
7096.21	29.91	213.13	6390.20	-2301.50	-1501.78	2748.14	0.00
7196.21	29.91	213.13	6476.89	-2343.26	-1529.03	2797.99	0.00
7296.21	29.91	213.13	6563.57	-2385.01	-1556.27	2847.85	0.00
7396.21	29.91	213.13	6650.26	-2426.77	-1583.52	2897.71	0.00
7496.21	29.91	213.13	6736.94	-2468.52	-1610.76	2947.56	0.00
7596.21	29.91	213.13	6823.63	-2510.27	-1638.01	2997.42	0.00
7696.21	29.91	213.13	6910.31	-2552.03	-1665.25	3047.28	0.00
7796.21	29.91	213.13	6997.00	-2593.78	-1692.50	3097.14	0.00
7896.21	29.91	213.13	7083.68	-2635.54	-1719.74	3146.99	0.00
7996.21	29.91	213.13	7170.37	-2677.29	-1746.99	3196.85	0.00
8096.21	29.91	213.13	7257.05	-2719.04	-1774.23	3246.71	0.00
8196.21	29.91	213.13	7343.74	-2760.80	-1801.48	3296.56	0.00
8296.21	29.91	213.13	7430.42	-2802.55	-1828.72	3346.42	0.00
8396.21	29.91	213.13	7517.11	-2844.30	-1855.97	3396.28	0.00
8496.21	29.91	213.13	7603.79	-2886.06	-1883.21	3446.13	0.00
8596.21	29.91	213.13	7690.48	-2927.81	-1910.46	3495.99	0.00
8696.21	29.91	213.13	7777.16	-2969.57	-1937.71	3545.85	0.00
8796.21	29.91	213.13	7863.85	-3011.32	-1964.95	3595.70	0.00
8896.21	29.91	213.13	7950.53	-3053.07	-1992.20	3645.56	0.00
8996.21	29.91	213.13	8037.22	-3094.83	-2019.44	3695.42	0.00
9096.21	29.91	213.13	8123.90	-3136.58	-2046.69	3745.27	0.00
9196.21	29.91	213.13	8210.59	-3178.34	-2073.93	3795.13	0.00
9296.21	29.91	213.13	8297.27	-3220.09	-2101.18	3844.99	0.00
9396.21	29.91	213.13	8383.96	-3261.84	-2128.42	3894.84	0.00

Measured Depth Ft	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	L O C A L S		Vertical Section Ft	Dogleg Severity Deg/100
9496.21	29.91	213.13	8470.64	N-S Ft	E-W Ft	3944.70	0.00
9596.21	29.91	213.13	8557.33	-3303.60	-2155.67	3994.56	0.00
				-3345.35	-2182.91		
PBHL @ 9634 MD / 8590 Ft TVD							
9633.90	29.91	213.13	8590.00	-3361.09	-2193.18	4013.35	0.00



SWEPI LP

GNAT HILL 1-29
SEC 29 - TWN 6N - R89W
NE 1/4 SE 1/4 (Surface)
ROUTT COUNTY, CO

GEODETIC INFORMATION

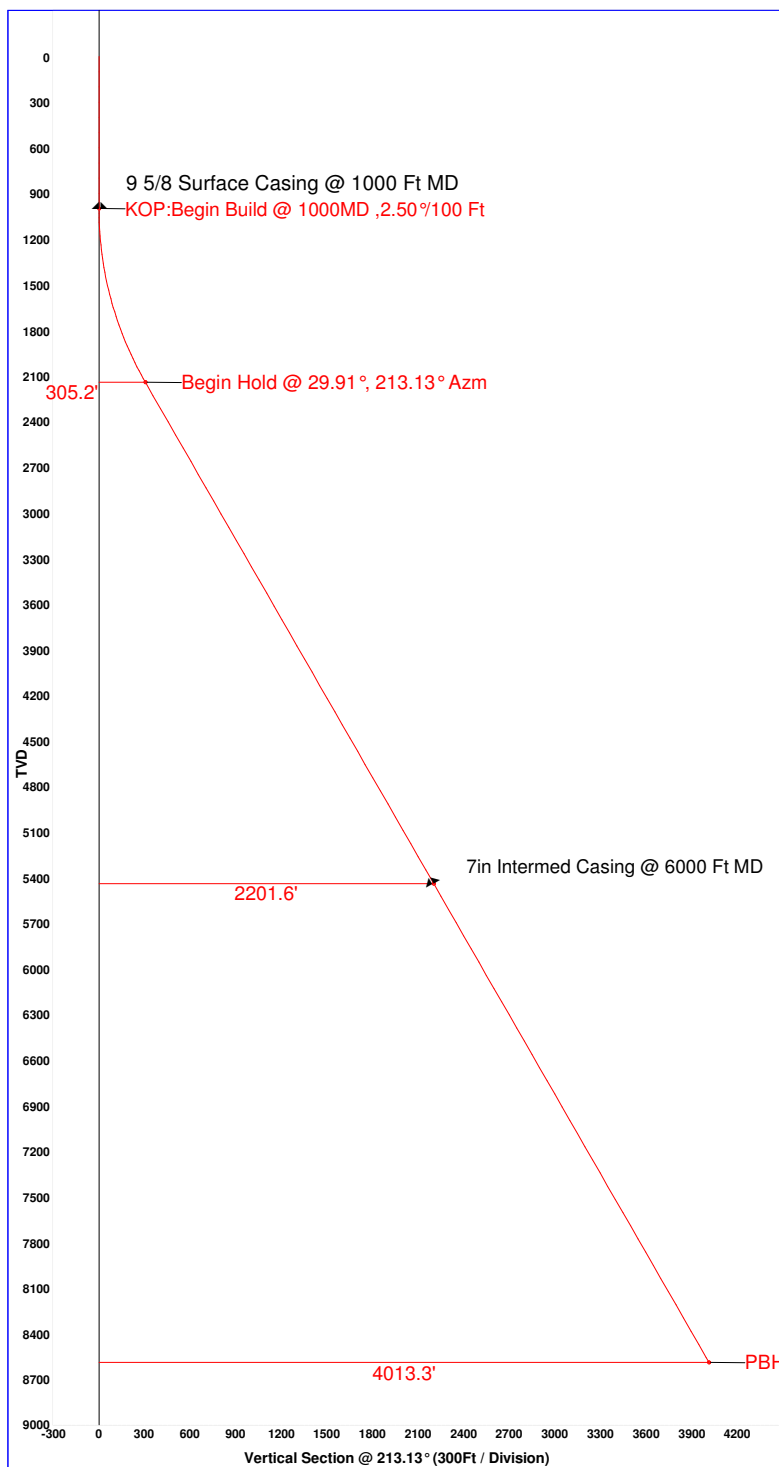
Grid System C083-N Datum: NAD83
Group: US-SPC83 Units: USFEET
Surface Location: X= 2473313.20 Y = 1410843.52
Latitude: 40° 26' 44.66" N Longitude: -107° 23' 33.02" W
Convergence: -1.22° W Scale Factor: 1.0000



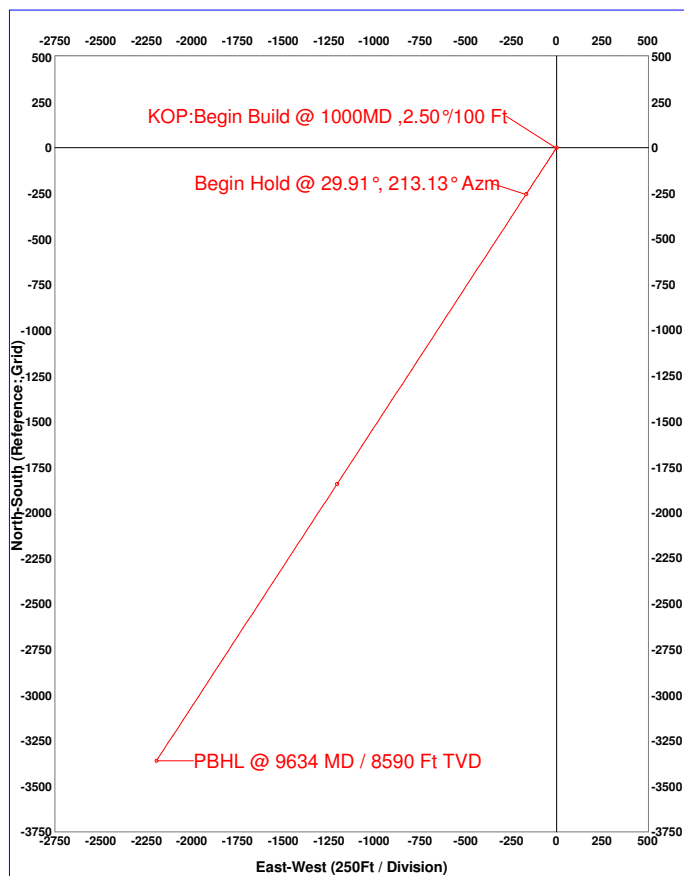
MAGNETIC INFORMATION

Declination Date: Thursday, July 28, 2011
Model: IGRF 2010
Total Correction: 11.40° E --> GN = MN + 11.40 : Magnetic to Grid
Field Strength: 52888 (nt) Mag Dip Angle: 66.63°
Bx,By,Bz (nt): Bx=20653, By=3708, Bz=48457

PROPOSED VERTICAL SECTION PLANE: 213.13
SCALE = 300 Ft / DIV.



PLAN VIEW SCALE = 250 Ft / DIV.



SURFACE LOCATION

GL Elevation: 6656', RKB: (est)
2374' FSL & 360' FEL (Sec 29)
Y=1410843.52'
X=2473313.20'
LAT: 40° 26' 44.6600" N
LONG: -107° 23' 33.0201" W

PBHL @ 8590' TVD

4013.35' @ 213.13°
S:3361.09' W:2193.18'
987.09' FNL 2553.18' FEL
Y=1407482.43'
X=2471120.02'
LAT: 40° 26' 10.9900" N
LONG: -107° 24' .4501" W

Critical Points for GNAT HILL 1-29 Proposal REV0-2

MD Ft	INC Deg	Azm Deg	TVD Ft	NS Ft	EW Ft	VS Ft	DLS	Comments
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	KOP: Begin Build @ 1000MD, 2.50°/100 Ft (SurfCsg)
2196.21	29.91	213.13	2142.63	-255.56	-166.76	305.16	2.50	Begin Hold @ 29.91°, 213.13° Azm
6000.00	29.91	213.13	5439.95	-1842.79	-1203.11	2201.60	0.01	7in Intermed Casing @ 6000 Ft MD
9633.90	29.91	213.13	8590.00	-3361.09	-2193.18	4013.35	0.00	PBHL @ 9634 MD / 8590 Ft TVD

Rig:

Report Date: Monday, August 1, 2011



Gnat Hill 1-29

Wellbore Diagram

Updated: 8/1/2011
Location: Section 29 Township 6N Range 89W Routt County, Colorado
Unit: Skeeters Unit
API Number: Pending Elevation: 6656 GL - Ungraded
Target Zone: Niobrara Shale 6669 KB

Surface Section

Hole: 13-1/2"
Depth: 1000' MD
Casing: 10-3/4" 40.5# J-55, ST&C
Cement Top: Surface
Mud Weight: 8.4 ppg

Intermediate Section

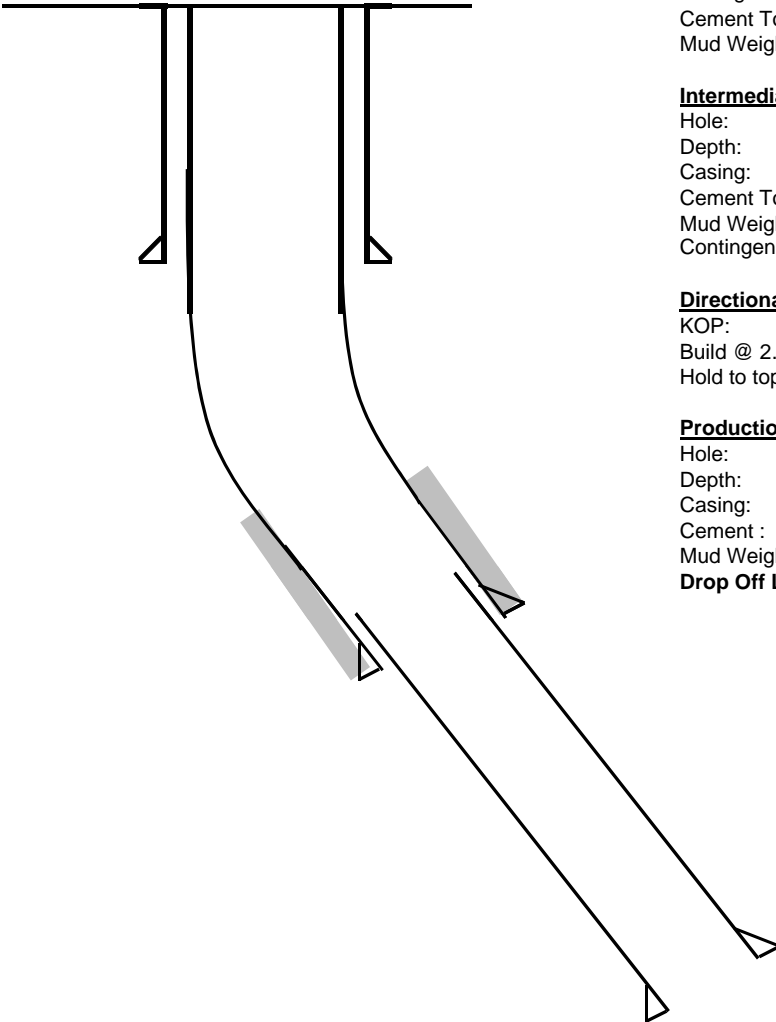
Hole: 9-7/8"
Depth: 6000' MD / 5440' TVD
Casing: 7-5/8", 29.7#, P-110 LT&C
Cement Top : 5000' MD
Mud Weight: AIR DRILLED (5.2 ppg)
Contingency Aerated Water (5.2ppg)

Directional Hole Sections

KOP: 1000
Build @ 2.5 deg per 100' to 29.2 deg at 2,196' MD / 2,143' TVD
Hold to top of Carlile

Production Section

Hole: 6-3/4"
Depth: 9,634' MD / 8,590' TVD
Casing: 5-1/2", 17# N-80 H511
Cement : None
Mud Weight: OBM + N2
Drop Off Liner Top @ 5,834' MD / 5,270' TVD



Drilling and Completion Plan – Slant Hole

This well is a “slant” well with kickoff point below surface casing depth and a tangent angle held to TD. See attached directional plan for well.

The surface hole will be 13-1/2” with a 10-3/4” casing cemented from the bottom to the surface. The intermediate hole will be a 9-7/8” with a 7-5/8” casing. The production section will be a 6-3/4” hole with a 5-1/2” casing. Depths of casing strings will vary by hole and are detailed on Form 2. All casing will be new, range 3 casing.

Completion of the main horizontal (lateral) borehole will consist of an open-hole section covered by a perforated or slotted liner run to the well TD by the drilling rig. The producing interval will be the Niobrara Formation and will start below the intermediate casing string set point near the top of the Niobrara Formation. If drilling with casing is required, a contingency will be to perforate the liner once landed in the well.

Artificial lift will consist of a sucker rod and pump jack system. The tubing will be run and anchored above the producing interval. The sucker rods will be run with the pump set near the end of the tubing. All tubing and sucker rod equipment will be run with a workover rig or the drilling rig, each with a BOP package and a kill weight completion fluid system. Fracing or additional stimulation methods are not anticipated to be necessary. The surface pump unit will be a permanent pump jack unit.