



Job Number: SWAN-HG-117
 Company: SWEPI LP
 Lease/Well: HART GULCH 1-17
 Location: WILLIAMS FORK UNIT
 Rig Name:
 RKB: 0.00 Ft
 Vertical Datum: MSL

State/Country:
 Declination: 10.19°E
 Grid: -1.31;US State Plane 1983
 Project name: HART GULCH-Project
 Date/Time: 20-Jul-11 / 16:49
 Well Name: HART GULCH 1-17 PILOT Proposal
 North Reference: Grid North
 Convergence: -1.3085°

EXCEL Directional Technologies LLC

WinSURV3D SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 253.91°

Vertical Section Referenced to Wellhead

Local Coordinates Referenced to Structure Reference :

EW=2435282.43 Ft, NS=1362985.85 Ft

Direction referenced to Grid North -1.309° 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
10 3/4 Surface Casing @ 580 Ft MD							
580.00	0.00	0.00	580.00	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
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	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		
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	0.00
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	0.00
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00
KOP: Begin Build @ 4216MD ,6.00% 100 Ft							
4215.90	0.00	0.00	4215.90	0.00	0.00	0.00	0.00
4245.90	1.80	253.91	4245.90	-0.13	-0.45	0.47	6.00
4275.90	3.60	253.91	4275.86	-0.52	-1.81	1.88	6.00
4305.90	5.40	253.91	4305.77	-1.17	-4.07	4.24	6.00
4335.90	7.20	253.91	4335.58	-2.09	-7.23	7.53	6.00
4365.90	9.00	253.91	4365.28	-3.26	-11.30	11.76	6.00
4395.90	10.80	253.91	4394.84	-4.69	-16.25	16.91	6.00
4425.90	12.60	253.91	4424.21	-6.37	-22.10	23.00	6.00
4455.90	14.40	253.91	4453.38	-8.31	-28.83	30.00	6.00
4485.90	16.20	253.91	4482.32	-10.51	-36.43	37.92	6.00
4515.90	18.00	253.91	4510.99	-12.95	-44.91	46.74	6.00
4545.90	19.80	253.91	4539.37	-15.65	-54.24	56.45	6.00
4575.90	21.60	253.91	4567.43	-18.58	-64.43	67.06	6.00
4605.90	23.40	253.91	4595.15	-21.77	-75.46	78.54	6.00
4635.90	25.20	253.91	4622.49	-25.19	-87.32	90.88	6.00
NIOBRARA							
4660.94	26.70	253.91	4645.00	-28.22	-97.85	101.84	6.00
4665.90	27.00	253.91	4649.43	-28.85	-100.00	104.08	6.00
4695.90	28.80	253.91	4675.94	-32.74	-113.49	118.12	6.00
4725.90	30.60	253.91	4702.00	-36.85	-127.77	132.98	6.00
IB1							
4730.56	30.88	253.91	4706.00	-37.51	-130.06	135.36	6.00
4755.90	32.40	253.91	4727.58	-41.20	-142.83	148.66	6.00
4785.90	34.20	253.91	4752.65	-45.76	-158.66	165.13	6.00
4815.90	36.00	253.91	4777.19	-50.54	-175.23	182.37	6.00
4845.90	37.80	253.91	4801.18	-55.54	-192.54	200.39	6.00
4875.90	39.60	253.91	4824.60	-60.73	-210.56	219.14	6.00
4905.90	41.40	253.91	4847.41	-66.13	-229.28	238.63	6.00
4935.90	43.20	253.91	4869.59	-71.73	-248.68	258.82	6.00
4965.90	45.00	253.91	4891.14	-77.51	-268.74	279.69	6.00

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						
TOW CREEK							
4985.71	46.19	253.91	4905.00	-81.44	-282.33	293.84	6.00
4995.90	46.80	253.91	4912.01	-83.49	-289.43	301.23	6.00
Begin Hold @ 47.95°, 253.91° Azm (Int. Csg)							
5015.08	47.95	253.91	4925.00	-87.40	-302.99	315.34	6.00
5115.08	47.95	253.91	4991.98	-107.98	-374.34	389.60	0.00
IB2							
5118.10	47.95	253.91	4994.00	-108.60	-376.50	391.84	0.01
WOLF MOUNTAIN							
5204.69	47.95	253.91	5052.00	-126.42	-438.28	456.15	0.00
5215.08	47.95	253.91	5058.95	-128.56	-445.69	463.86	0.00
5315.08	47.95	253.91	5125.93	-149.14	-517.04	538.12	0.00
5415.08	47.95	253.91	5192.91	-169.72	-588.38	612.37	0.00
BASE/MAIN BENCH							
5416.71	47.95	253.91	5194.00	-170.05	-589.55	613.58	0.02
5515.08	47.95	253.91	5259.89	-190.30	-659.73	686.63	0.00
5615.08	47.95	253.91	5326.86	-210.88	-731.08	760.89	0.00
5715.08	47.95	253.91	5393.84	-231.46	-802.43	835.14	0.00
5815.08	47.95	253.91	5460.82	-252.04	-873.78	909.40	0.00
5915.08	47.95	253.91	5527.79	-272.61	-945.12	983.66	0.00
6015.08	47.95	253.91	5594.77	-293.19	-1016.47	1057.91	0.00
6115.08	47.95	253.91	5661.75	-313.77	-1087.82	1132.17	0.00
PBHL @ 6172 Ft MD / 5700 Ft TVD							
6172.19	47.95	253.91	5700.00	-325.53	-1128.57	1174.58	0.00



SWEPI LP - SWAN PROJECT

HART GULCH 1-17
SEC 17 - T4N - R90W
WILLIAMS FORK UNIT
MOFFAT COUNTY, CO

GEODETIC INFORMATION

Grid System: CO83-N Datum: NAD83
Group: US-SPC83 Units: USFEET
Surface Location: X = 2435282.43 Y = 1362985.85
Latitude: 40° 18' 43.54" N
Longitude: -107° 31' 30.67" W
Convergence: -1.01° W Scale Factor: 1.0000



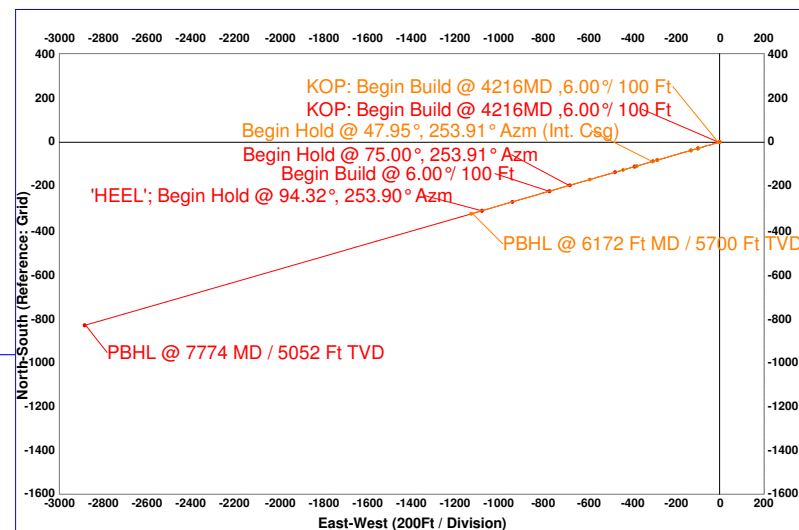
MAGNETIC INFORMATION

Declination Date: Friday, July 15, 2011
Model: IGRF 2010
Total Correction: 11.24° E --> GN = MN + 11.24 : Magnetic to Grid
Field Strength: 52803 (nt) Mag Dip Angle: 66.49°
Bx,By,Bz (nt): Bx=20726, By=3740, Bz=48421

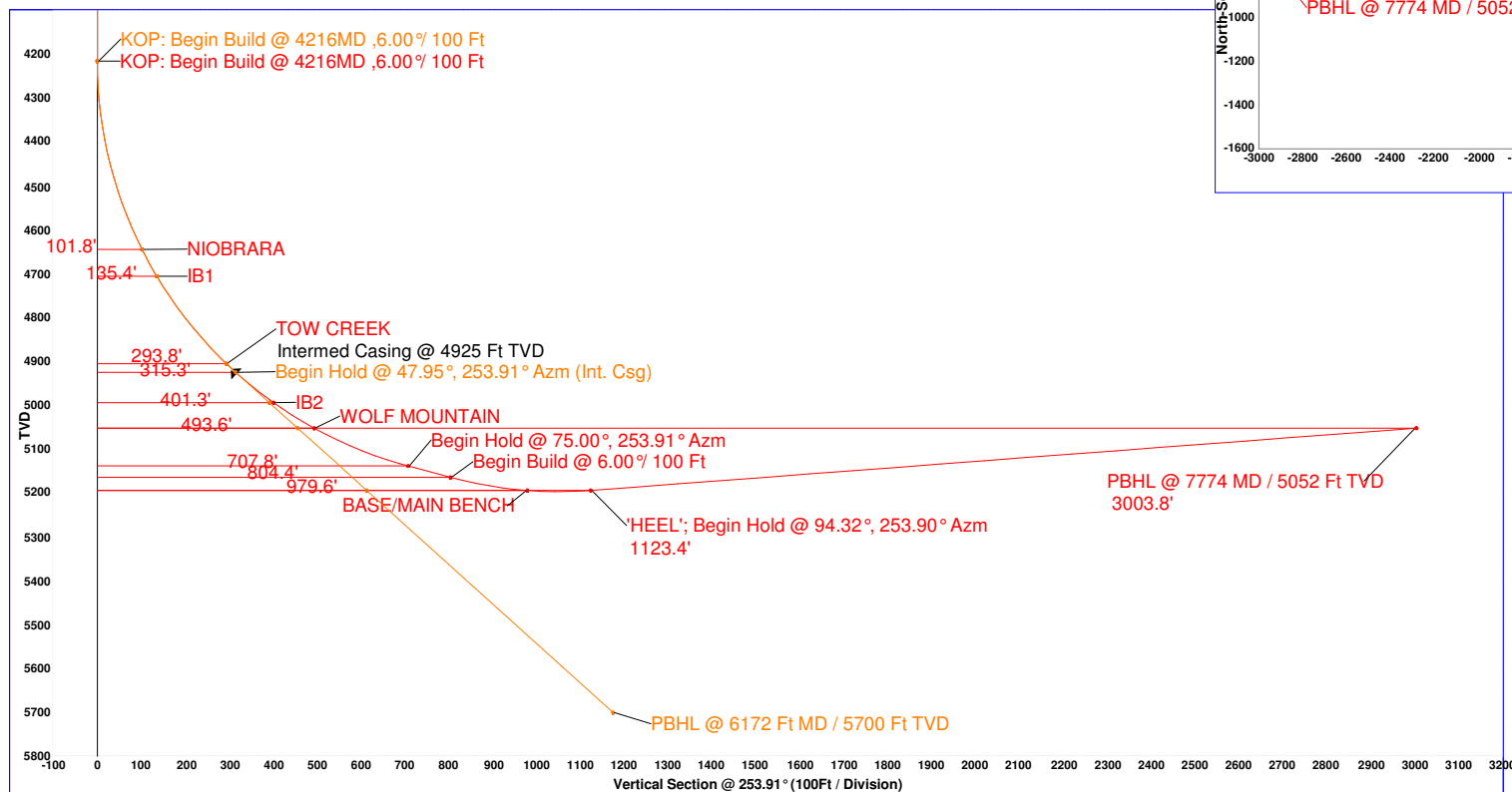
Critical Points for HART GULCH 1-17 PILOT Proposal									
MD Ft	INC Deg	Azm Deg	TVD Ft	NS Ft	EW Ft	VS Ft	DLS	Comments	
580.00	0.00	0.00	580.00	0.00	0.00	0.00	0.00	10 3/4 Surface Casing @ 580 Ft MD	
4215.90	0.00	0.00	4215.90	0.00	0.00	0.00	0.00	KOP: Begin Build @ 4216MD ,6.00% / 100 Ft	
4660.94	26.70	253.91	4645.00	-28.22	-97.85	101.84	6.00	NIOBRARA	
4730.56	30.88	253.91	4706.00	-37.51	-130.06	135.36	6.00	IB1	
4985.71	46.19	253.91	4905.00	-81.44	-282.33	293.84	6.00	TOW CREEK	
5015.08	47.95	253.91	4925.00	-87.40	-302.99	315.34	6.00	Begin Hold @ 47.95°, 253.91° Azm (Int. Csg)	
5118.10	47.95	253.91	4994.00	-108.60	-376.50	391.84	0.01	IB2	
5204.69	47.95	253.91	5052.00	-126.42	-438.28	456.15	0.00	WOLF MOUNTAIN	
5416.71	47.95	253.91	5194.00	-170.05	-589.55	613.58	0.02	BASE/MAIN BENCH	
6172.19	47.95	253.91	5700.00	-325.53	-1128.57	1174.58	0.00	PBHL @ 6172 Ft MD / 5700 Ft TVD	

Critical Points for HART GULCH 1-17 Proposal REV0									
MD Ft	INC Deg	Azm Deg	TVD Ft	NS Ft	EW Ft	VS Ft	DLS	Comments	
580.00	0.00	0.00	580.00	0.00	0.00	0.00	0.00	10 3/4 Surface Casing @ 580 Ft MD	
4215.90	0.00	0.00	4215.90	0.00	0.00	0.00	0.00	KOP: Begin Build @ 4216MD ,6.00% / 100 Ft	
4660.94	26.70	253.91	4645.00	-28.22	-97.85	101.84	6.00	NIOBRARA	
4730.56	30.88	253.91	4706.00	-37.51	-130.06	135.36	6.00	IB1	
4985.71	46.19	253.91	4905.00	-81.44	-282.33	293.84	6.00	TOW CREEK	
5015.08	47.95	253.91	4925.00	-87.40	-302.99	315.34	6.00	7 5/8 Intermed Casing @ 4925 Ft TVD	
5125.40	54.57	253.91	4994.00	-111.23	-385.63	401.35	6.00	IB2	
5234.43	61.11	253.91	5052.00	-136.80	-474.26	493.60	6.00	WOLF MOUNTAIN	
5465.90	75.00	253.91	5164.17	-196.16	-680.05	707.78	6.00	Begin Hold @ 75.00°, 253.91° Azm	
5565.90	75.00	253.91	5164.17	-222.93	-772.86	804.37	6.00	Begin Build @ 6.00% / 100 Ft	
5743.91	85.68	253.91	5194.00	-271.50	-941.22	979.60	6.00	BASE/MAIN BENCH	
5887.88	94.32	253.90	5194.00	-311.37	-1079.42	1123.43	6.00	'HEEL'; Begin Hold @ 94.32°, 253.90° Azm	
7773.59	94.32	253.90	5052.00	-832.73	-2886.05	3003.78	0.00	PBHL @ 7774 MD / 5052 Ft TVD	

PLAN VIEW SCALE = 200 Ft / DIV.



PROPOSED VERTICAL SECTION PLANE: 253.91
SCALE = 100 Ft / DIV.



SURFACE LOCATION
GL Elevation: 6911', RKB:
1577 FSL & 1514' FEL
Y=1362985.85
X=2435282.43
LAT: 40° 18' 43.5399" N
LONG: -107° 31' 30.6700" W

'HEEL' (LAND PT) @ 5194.00' TVD
1123.43' @ 253.91°
S:311.37° W:1079.42'
Y=1362674.48'
X=2434203.01'
LAT: 40° 18' 40.2199" N
LONG: -107° 31' 44.5088" W

PBHL 'PILOT' @ 6172 Ft MD / 5700' TVD
1174.58' @ 253.91°
S:325.53° W:1128.57'
Y=1362660.32'
X=2434153.86'
LAT: 40° 18' 40.0689" N
LONG: -107° 31' 45.1389" W

PBHL 'HZ' REV0 @ 7774 Ft MD / 5052' TVD
3003.78' @ 253.91°
S:832.73° W:2886.05'
650' FSL & 908' FWL
Y=1362153.12'
X=2432396.38'
LAT: 40° 18' 34.6599" N
LONG: -107° 32' 7.6700" W

Rig:

Report Date: Thursday, July 21, 2011



WFU Hart Gulch 1-17

T4N, R90W, Sec 17

Wellbore Diagram

Updated: 7/22/2011
Location: Section 17 Township 4N Range 90W Moffat County, Colorado
Unit: Williams Fork Unit
API Number: Pending
Target Zone: Niobrara Shale
Elevation: 6911 GL
6923.5 KB

Surface Section

Hole: 13-1/2"
Depth: 500' 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: 5015' MD / 4925' TVD
Casing: 7-5/8", 29.7#, P-110 LT&C
Cement Top: 4400' MD/ 4395' TVD
Mud Weight: AIR DRILLED (5.2 ppg)
Contingency: Aerated Water (5.2ppg)

Directional Hole Sections

Pilot Hole

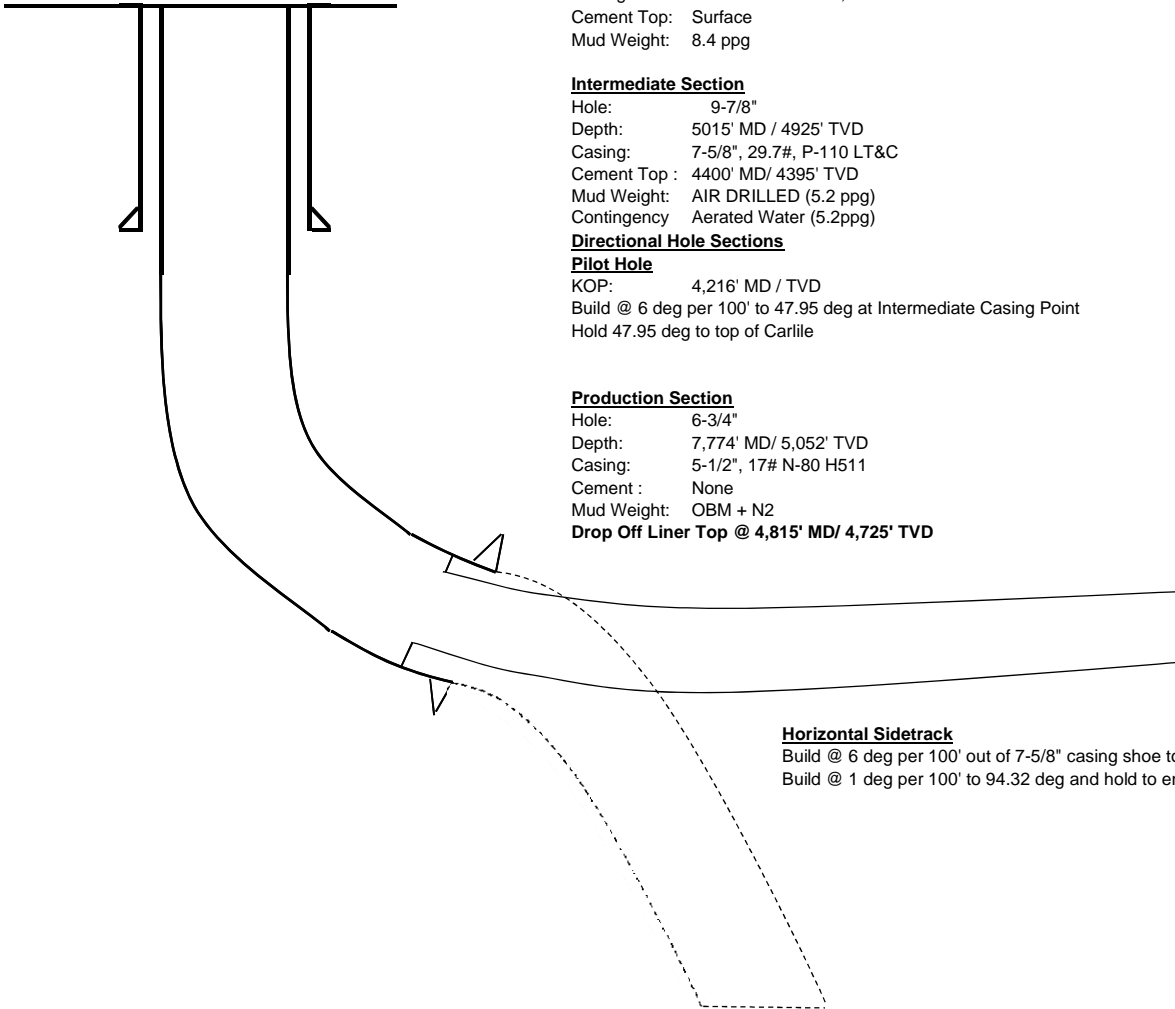
KOP: 4,216' MD / TVD
Build @ 6 deg per 100' to 47.95 deg at Intermediate Casing Point
Hold 47.95 deg to top of Carlie

Production Section

Hole: 6-3/4"
Depth: 7,774' MD/ 5,052' TVD
Casing: 5-1/2", 17# N-80 H511
Cement: None
Mud Weight: OBM + N2
Drop Off Liner Top @ 4,815' MD/ 4,725' TVD

Horizontal Sidetrack

Build @ 6 deg per 100' out of 7-5/8" casing shoe to land horizontal
Build @ 1 deg per 100' to 94.32 deg and hold to end of section



Drilling and Completion Plan – Pilot and Horizontal Hole

This well is a “toe-up” horizontal well with a pilot hole. 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.

After setting 7-5/8” intermediate casing on this well, a slant pilot hole will be drilled penetrating the Niobrara, into the underlying Carlisle formation. After obtaining appropriate geological data from the pilot hole, the main lateral borehole will be sidetracked away from the pilot hole and drilled to TD.

The purpose of the pilot hole is to obtain subsurface data that cannot easily be obtained in the horizontal production section. The pilot hole provides the following:

- Wellbore for obtaining core samples
- The slant trajectory of pilot hole is preferred for open hole logs over the toe-up horizontal section
- Formation data obtained from the pilot hole greatly improves accuracy of depth control during drilling of the subsequent horizontal section.

Due to the under-pressured nature of the target reservoir, the pilot hole will not be plugged. As a contingency for directional concerns, the pilot hole may be filled with sand.

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 near the low spot of the well, the “heel”, 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 initially be a rental system to test the well, with a permanent pump jack unit being installed at a later date.