

**5D Plan Report**

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**Anadarko Petroleum**

**Field Name:** *WATTENBERG\_ANADARKO\_NAD 83*  
**Site Name:** *ELLIOTT STATE 4-17HZ PAD*  
**Well Name:** *ELLIOTT STATE 26C-17HZ*  
**Plan:** *WP01 PERMIT*

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**Plan Data for ELLIOTT STATE 26C-17HZ**

**Field:** WATTENBERG\_ANADARKO\_NAD 83

Map Unit: USft

Vertical Reference Datum (VRD): Mean Sea Level

Projected Coordinate System: NAD83 / Colorado North (ftUS)

**Slot:** ELLIOTT STATE 26C-17HZ

Position:

Offset is from Site centre

+N/-S: 0.00USft Northing: 1327770.69USft Latitude: 40.231678°

+E/-W: 0.00USft Easting: 3161758.36USft Longitude: -104.920636°

Elevation Above VRD: 4836.00USft

**Plan Point Information:**

DogLeg Severity Unit: °/100.00ft Position offsets from Slot centre

MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Toolface
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0R
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.0R
2873.52	17.47	288.83	2860.04	42.64	-125.08	-125.36	2.00	71.2L
5872.82	17.47	288.83	5721.00	333.20	-977.33	-979.58	0.00	0.0R
6746.34	0.00	0.00	6581.04	375.84	-1102.41	-1104.94	2.00	180.0R
7646.45	90.01	90.39	7154.00	371.98	-529.35	-531.87	10.00	90.4R
12566.86	90.01	90.39	7153.00	338.81	4390.94	4388.54	0.00	0.0R

**Plan Data for ELLIOTT STATE 26C-17HZ**

**Casing Point Information:**

Name	MD	TVD
	(USft)	(USft)
9 5/8 in	800.00	800.00
7 in	7646.45	7154.00

**Plan Data for ELLIOTT STATE 26C-17HZ**

**Target Set Information:**

Name: 19

Name	TVD	Lat	Long	Shape
	(USft)	(°)	(°)	

HEEL 7154.00 40.232699 -104.922532 Cuboid

PBHL 7153.00 40.232607 -104.904909 Cuboid

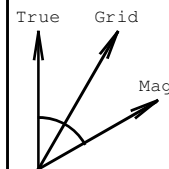
**Plan Data for ELLIOTT STATE 26C-17HZ**

**Formation Point Information:**

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
FOX HILLS BASE	750.00	4103.00	750.00
PARKMAN	3546.00	1307.00	3592.64
SUSSEX	4009.00	844.00	4078.03
SHARON SPRINGS	6823.00	-1970.00	6996.13
NIOBRARA A	6882.00	-2029.00	7063.20
NIOBRARA B	6929.00	-2076.00	7120.28
NIOBRARA C	6999.00	-2146.00	7214.76
FORT HAYS	7129.00	-2276.00	7476.46
CODELL	7149.00	-2296.00	7570.60

**KOP- 6746.34' MD**

LINER TOP- 6646.34' MD



Grid Convergence: 0.37°

Mag Declination: 8.67°

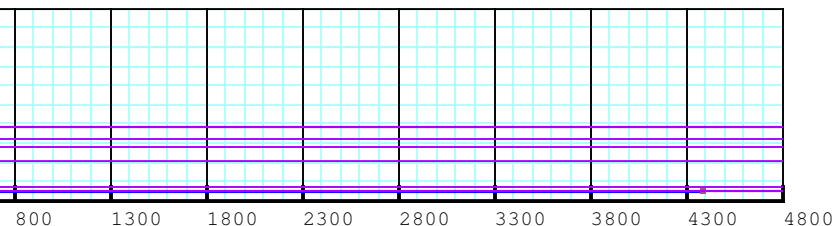
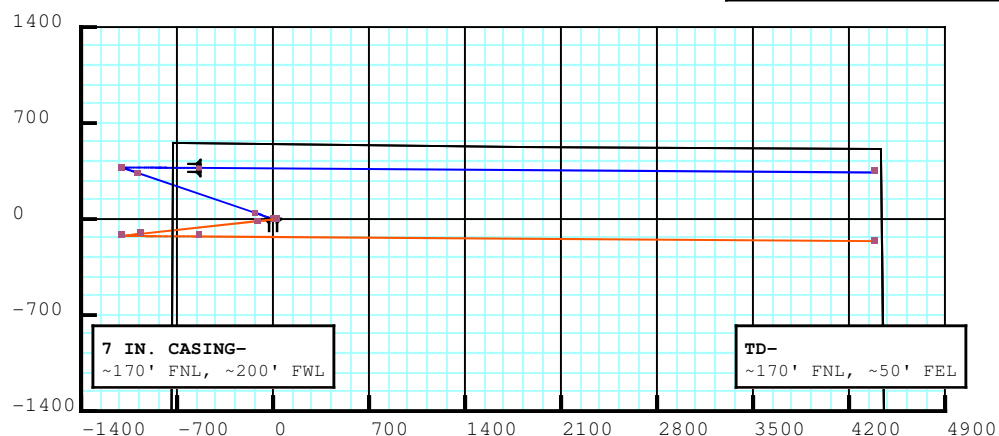
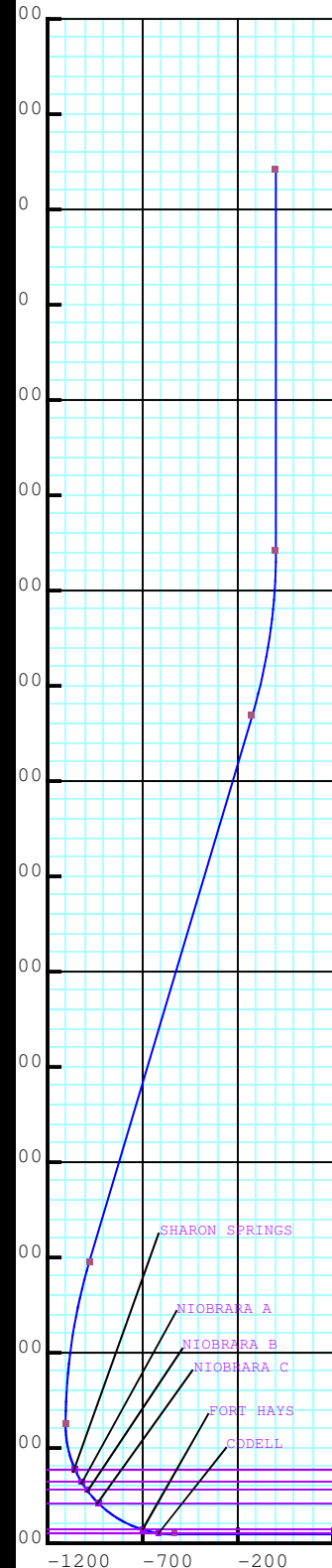
Bearing:

True = Mag + 8.67°

Grid = True - 0.37°

**WP01 PERMIT 8/22/13**

BY: JA UNDERWOOD





# Weatherford®



## Plan Surveys for the ELLIOTT STATE 26C-17HZ

<b>Site Name</b>  ELLIOTT STATE 4-17HZ PAD	<b>Units :</b> US ft	<b>North Reference :</b> True	<b>Convergence Angle :</b> 0.37
	<b>Position</b>	<b>Northing :</b> 1327770.69 US ft	<b>Latitude :</b> 40.231678
		<b>Easting :</b> 3161758.36 US ft	<b>Longitude :</b> -104.920636
	<b>Elevation above:</b> 4836.00 US ft <b>Comment :</b>		
<b>Slot Name</b>  ELLIOTT STATE 26C-17HZ	<b>Position (Offsets relative to Site Centre)</b>		
	<b>+N / -S :</b> 0.00 US ft	<b>Northing :</b> 1327770.69 US ft	<b>Latitude :</b> 40.231678
	<b>+E / -W :</b> 0.00 US ft	<b>Easting :</b> 3161758.36 US ft	<b>Longitude :</b> -104.920636
	<b>Slot TVD Reference :</b> Ground Elevation <b>Elevation above :</b> 4836.00 US ft <b>Comment :</b>		
<b>Well Name</b>  ELLIOTT STATE 26C-17HZ	<b>Type :</b> Main well	<b>UWI :</b>	<b>Plan :</b> WP01 PERMIT
	<b>Rig Height</b> <b>Drill Floor :</b> 17.00 US ft	<b>Comment :</b>	
	<b>Relative to :</b> 4853.00 US ft		
	<b>Closure Distance :</b> 4404 US ft	<b>Closure Azimuth :</b> 85.5878°	
	<b>Vertical Section (Position of Origin Relative to Slot )</b>		
	<b>+N / -S :</b> 0.00 US ft	<b>+E / -W :</b> 0.00 US ft	<b>Az :</b> 90.39°
	<b>Magnetic Parameters</b>		
	<b>Model :</b> BGGM	<b>Field Strength :</b> 52684.0nT	<b>Dec :</b> 8.67°
			<b>Dip :</b> 66.64°
			<b>Date :</b> 22/May/2013

Target Set												
Name : 19				Number of Targets : 2								
Comment :												
TargetName:		Position (Relative to centre)										
HEEL	Shape:	Cuboid	+N / -S : 371.94US ft		Northing : 1328139.16 US ft			Latitude : 40°13'57.716400"				
			+E / -W : -529.36 US ft		Easting : 3161226.58US ft			Longitude : -104°55'21.115200"				
			TVD (Drill Floor) : 7154.00 US ft									
			Orientation		Azimuth : 0.00°		Inclination : 0.00°					
			Dimensions		Length : 1.00 US ft		Breadth : 1.00 US ft		Height : 1.00 US ft			
TargetName:		Position (Relative to centre)										
PBHL	Shape:	Cuboid	+N / -S : 338.81US ft		Northing : 1328138.18 US ft			Latitude : 40°13'57.385200"				
			+E / -W : 4390.94 US ft		Easting : 3166147.00US ft			Longitude : -104°54'17.672400"				
			TVD (Drill Floor) : 7153.00 US ft									
			Orientation		Azimuth : 0.00°		Inclination : 0.00°					
			Dimensions		Length : 1.00 US ft		Breadth : 1.00 US ft		Height : 1.00 US ft			

Casing Points (Relative to centre, TVD relative to Drill Floor )								
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)
9 5/8 in	800.00	0.00	0.00	800.00	0.00	0.00	40.231678	-104.920636
7 in	7646.45	90.01	90.39	7154.00	371.98	-529.35	40.232699	-104.922532

## Well path created using minimum curvature

Salient Points (Relative to centre, TVD relative to Drill Floor )											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	1327770.69	3161758.36	0.00	0.00	-0.00	SURFACE
800.00	0.00	0.00	800.00	0.00	0.00	1327770.69	3161758.36	0.00	0.00	-0.00	9 5/8 in
2000.00	0.00	0.00	2000.00	0.00	0.00	1327770.69	3161758.36	0.00	0.00	-0.00	BEGIN NUDGE
2873.52	17.47	288.83	2860.04	42.64	-125.08	1327812.51	3161633.01	2.00	288.83	-125.36	
5872.82	17.47	288.83	5721.00	333.20	-977.33	1328097.50	3160778.87	0.00	0.00	-979.58	

## 5D Plan Report

Salient Points (Relative to centre, TVD relative to Drill Floor )											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
6746.34	0.00	0.00	6581.04	375.84	-1102.41	1328139.32	3160653.52	2.00	180.00	-1104.94	KOP
7646.45	90.01	90.39	7154.00	371.98	-529.35	1328139.20	3161226.59	10.00	90.39	-531.87	7 in
12566.86	90.01	90.39	7153.00	338.81	4390.94	1328138.18	3166147.00	0.00	0.00	4388.54	TD
Interpolated Points (Relative to centre, TVD relative to Drill Floor )											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)		DLS (°/100 US ft)		T.Face (°)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	-0.00	SURFACE
100.00	0.00	0.00	100.00	0.00	0.00		0.00		0.00	-0.00	
200.00	0.00	0.00	200.00	0.00	0.00		0.00		0.00	-0.00	
300.00	0.00	0.00	300.00	0.00	0.00		0.00		0.00	-0.00	
400.00	0.00	0.00	400.00	0.00	0.00		0.00		0.00	-0.00	
500.00	0.00	0.00	500.00	0.00	0.00		0.00		0.00	-0.00	
600.00	0.00	0.00	600.00	0.00	0.00		0.00		0.00	-0.00	
700.00	0.00	0.00	700.00	0.00	0.00		0.00		0.00	-0.00	
800.00	0.00	0.00	800.00	0.00	0.00		0.00		0.00	-0.00	
900.00	0.00	0.00	900.00	0.00	0.00		0.00		0.00	-0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00		0.00		0.00	-0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00		0.00		0.00	-0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00		0.00		0.00	-0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00		0.00		0.00	-0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00		0.00		0.00	-0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00		0.00		0.00	-0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00		0.00		0.00	-0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00		0.00		0.00	-0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00		0.00		0.00	-0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00		0.00		0.00	-0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00		0.00		0.00	-0.00	BEGIN NUDGE
2100.00	2.00	288.83	2099.98	0.56	-1.65		2.00		288.83	-1.66	
2200.00	4.00	288.83	2199.84	2.25	-6.61		2.00		0.00	-6.62	
2300.00	6.00	288.83	2299.45	5.06	-14.85		2.00		0.00	-14.89	
2400.00	8.00	288.83	2398.70	9.00	-26.39		2.00		0.00	-26.45	
2500.00	10.00	288.83	2497.47	14.04	-41.19		2.00		0.00	-41.29	
2600.00	12.00	288.83	2595.62	20.20	-59.25		2.00		0.00	-59.39	
2700.00	14.00	288.83	2693.06	27.46	-80.54		2.00		0.00	-80.73	
2800.00	16.00	288.83	2789.64	35.81	-105.04		2.00		0.00	-105.28	
2873.52	17.47	288.83	2860.04	42.64	-125.08		2.00		0.00	-125.36	
2900.00	17.47	288.83	2885.31	45.21	-132.60		0.00		0.00	-132.91	
3000.00	17.47	288.83	2980.69	54.89	-161.02		0.00		0.00	-161.39	
3100.00	17.47	288.83	3076.08	64.58	-189.43		0.00		0.00	-189.87	
3200.00	17.47	288.83	3171.47	74.27	-217.85		0.00		0.00	-218.35	
3300.00	17.47	288.83	3266.85	83.96	-246.26		0.00		0.00	-246.83	

## 5D Plan Report

Interpolated Points (Relative to centre, TVD relative to Drill Floor )									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
3400.00	17.47	288.83	3362.24	93.64	-274.68	0.00	0.00	-275.31	
3500.00	17.47	288.83	3457.63	103.33	-303.09	0.00	0.00	-303.79	
3600.00	17.47	288.83	3553.02	113.02	-331.51	0.00	0.00	-332.27	
3700.00	17.47	288.83	3648.40	122.71	-359.92	0.00	0.00	-360.75	
3800.00	17.47	288.83	3743.79	132.39	-388.34	0.00	0.00	-389.23	
3900.00	17.47	288.83	3839.18	142.08	-416.75	0.00	0.00	-417.71	
4000.00	17.47	288.83	3934.57	151.77	-445.17	0.00	0.00	-446.19	
4100.00	17.47	288.83	4029.95	161.46	-473.58	0.00	0.00	-474.67	
4200.00	17.47	288.83	4125.34	171.14	-502.00	0.00	0.00	-503.15	
4300.00	17.47	288.83	4220.73	180.83	-530.41	0.00	0.00	-531.63	
4400.00	17.47	288.83	4316.11	190.52	-558.83	0.00	0.00	-560.11	
4500.00	17.47	288.83	4411.50	200.21	-587.24	0.00	0.00	-588.59	
4600.00	17.47	288.83	4506.89	209.89	-615.66	0.00	0.00	-617.07	
4700.00	17.47	288.83	4602.28	219.58	-644.07	0.00	0.00	-645.55	
4800.00	17.47	288.83	4697.66	229.27	-672.49	0.00	0.00	-674.04	
4900.00	17.47	288.83	4793.05	238.96	-700.91	0.00	0.00	-702.52	
5000.00	17.47	288.83	4888.44	248.64	-729.32	0.00	0.00	-731.00	
5100.00	17.47	288.83	4983.83	258.33	-757.74	0.00	0.00	-759.48	
5200.00	17.47	288.83	5079.21	268.02	-786.15	0.00	0.00	-787.96	
5300.00	17.47	288.83	5174.60	277.71	-814.57	0.00	0.00	-816.44	
5400.00	17.47	288.83	5269.99	287.39	-842.98	0.00	0.00	-844.92	
5500.00	17.47	288.83	5365.37	297.08	-871.40	0.00	0.00	-873.40	
5600.00	17.47	288.83	5460.76	306.77	-899.81	0.00	0.00	-901.88	
5700.00	17.47	288.83	5556.15	316.46	-928.23	0.00	0.00	-930.36	
5800.00	17.47	288.83	5651.54	326.14	-956.64	0.00	0.00	-958.84	
5872.82	17.47	288.83	5721.00	333.20	-977.33	0.00	0.00	-979.58	
5900.00	16.93	288.83	5746.96	335.79	-984.94	2.00	180.00	-987.20	
6000.00	14.93	288.83	5843.12	344.65	-1010.91	2.00	180.00	-1013.23	
6100.00	12.93	288.83	5940.17	352.41	-1033.69	2.00	180.00	-1036.07	
6200.00	10.93	288.83	6038.01	359.08	-1053.25	2.00	180.00	-1055.67	
6300.00	8.93	288.83	6136.51	364.64	-1069.57	2.00	180.00	-1072.02	
6400.00	6.93	288.83	6235.55	369.09	-1082.62	2.00	180.00	-1085.11	
6500.00	4.93	288.83	6335.01	372.42	-1092.39	2.00	180.00	-1094.90	
6600.00	2.93	288.83	6434.77	374.63	-1098.87	2.00	180.00	-1101.40	
6700.00	0.93	288.83	6534.71	375.72	-1102.06	2.00	180.00	-1104.59	
6746.34	0.00	0.00	6581.04	375.84	-1102.41	2.00	180.00	-1104.94	KOP
6800.00	5.37	90.39	6634.63	375.82	-1099.90	10.00	90.39	-1102.43	
6900.00	15.37	90.39	6732.87	375.70	-1081.93	10.00	0.00	-1084.46	
7000.00	25.37	90.39	6826.50	375.47	-1047.17	10.00	0.00	-1049.70	
7100.00	35.37	90.39	6912.67	375.13	-996.68	10.00	0.00	-999.21	
7200.00	45.37	90.39	6988.77	374.69	-932.00	10.00	0.00	-934.53	

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Interpolated Points (Relative to centre, TVD relative to Drill Floor )									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
7300.00	55.37	90.39	7052.47	374.17	-855.08	10.00	0.00	-857.61	
7400.00	65.37	90.39	7101.85	373.59	-768.28	10.00	0.00	-770.80	
7500.00	75.37	90.39	7135.41	372.95	-674.21	10.00	0.00	-676.74	
7600.00	85.37	90.39	7152.13	372.29	-575.75	10.00	0.00	-578.27	
7646.45	90.01	90.39	7154.00	371.98	-529.35	10.00	0.00	-531.87	
7700.00	90.01	90.39	7153.99	371.62	-475.80	0.00	0.00	-478.32	
7800.00	90.01	90.39	7153.97	370.94	-375.80	0.00	0.00	-378.32	
7900.00	90.01	90.39	7153.95	370.27	-275.81	0.00	0.00	-278.32	
8000.00	90.01	90.39	7153.93	369.59	-175.81	0.00	0.00	-178.32	
8100.00	90.01	90.39	7153.91	368.92	-75.81	0.00	0.00	-78.32	
8200.00	90.01	90.39	7153.89	368.24	24.19	0.00	0.00	21.68	
8300.00	90.01	90.39	7153.87	367.57	124.18	0.00	0.00	121.68	
8400.00	90.01	90.39	7153.85	366.90	224.18	0.00	0.00	221.68	
8500.00	90.01	90.39	7153.82	366.22	324.18	0.00	0.00	321.68	
8600.00	90.01	90.39	7153.80	365.55	424.18	0.00	0.00	421.68	
8700.00	90.01	90.39	7153.78	364.87	524.17	0.00	0.00	521.68	
8800.00	90.01	90.39	7153.76	364.20	624.17	0.00	0.00	621.68	
8900.00	90.01	90.39	7153.74	363.53	724.17	0.00	0.00	721.68	
9000.00	90.01	90.39	7153.72	362.85	824.17	0.00	0.00	821.68	
9100.00	90.01	90.39	7153.70	362.18	924.17	0.00	0.00	921.68	
9200.00	90.01	90.39	7153.68	361.50	1024.16	0.00	0.00	1021.68	
9300.00	90.01	90.39	7153.66	360.83	1124.16	0.00	0.00	1121.68	
9400.00	90.01	90.39	7153.64	360.16	1224.16	0.00	0.00	1221.68	
9500.00	90.01	90.39	7153.62	359.48	1324.16	0.00	0.00	1321.68	
9600.00	90.01	90.39	7153.60	358.81	1424.15	0.00	0.00	1421.68	
9700.00	90.01	90.39	7153.58	358.13	1524.15	0.00	0.00	1521.68	
9800.00	90.01	90.39	7153.56	357.46	1624.15	0.00	0.00	1621.68	
9900.00	90.01	90.39	7153.54	356.78	1724.15	0.00	0.00	1721.68	
10000.00	90.01	90.39	7153.52	356.11	1824.15	0.00	0.00	1821.68	
10100.00	90.01	90.39	7153.50	355.44	1924.14	0.00	0.00	1921.68	
10200.00	90.01	90.39	7153.48	354.76	2024.14	0.00	0.00	2021.68	
10300.00	90.01	90.39	7153.46	354.09	2124.14	0.00	0.00	2121.68	
10400.00	90.01	90.39	7153.44	353.41	2224.14	0.00	0.00	2221.68	
10500.00	90.01	90.39	7153.42	352.74	2324.13	0.00	0.00	2321.68	
10600.00	90.01	90.39	7153.40	352.07	2424.13	0.00	0.00	2421.68	
10700.00	90.01	90.39	7153.38	351.39	2524.13	0.00	0.00	2521.68	
10800.00	90.01	90.39	7153.36	350.72	2624.13	0.00	0.00	2621.68	
10900.00	90.01	90.39	7153.34	350.04	2724.12	0.00	0.00	2721.68	
11000.00	90.01	90.39	7153.32	349.37	2824.12	0.00	0.00	2821.68	
11100.00	90.01	90.39	7153.30	348.69	2924.12	0.00	0.00	2921.68	
11200.00	90.01	90.39	7153.28	348.02	3024.12	0.00	0.00	3021.68	

## 5D Plan Report

Interpolated Points (Relative to centre, TVD relative to Drill Floor )									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
11300.00	90.01	90.39	7153.26	347.35	3124.12	0.00	0.00	3121.68	
11400.00	90.01	90.39	7153.24	346.67	3224.11	0.00	0.00	3221.68	
11500.00	90.01	90.39	7153.22	346.00	3324.11	0.00	0.00	3321.68	
11600.00	90.01	90.39	7153.20	345.32	3424.11	0.00	0.00	3421.68	
11700.00	90.01	90.39	7153.18	344.65	3524.11	0.00	0.00	3521.68	
11800.00	90.01	90.39	7153.16	343.98	3624.10	0.00	0.00	3621.68	
11900.00	90.01	90.39	7153.14	343.30	3724.10	0.00	0.00	3721.68	
12000.00	90.01	90.39	7153.11	342.63	3824.10	0.00	0.00	3821.68	
12100.00	90.01	90.39	7153.09	341.95	3924.10	0.00	0.00	3921.68	
12200.00	90.01	90.39	7153.07	341.28	4024.10	0.00	0.00	4021.68	
12300.00	90.01	90.39	7153.05	340.60	4124.09	0.00	0.00	4121.68	
12400.00	90.01	90.39	7153.03	339.93	4224.09	0.00	0.00	4221.68	
12500.00	90.01	90.39	7153.01	339.26	4324.09	0.00	0.00	4321.68	
12566.86	90.01	90.39	7153.00	338.81	4390.94	0.00	0.00	4388.54	TD

Formation Points (Relative to centre, TVD relative to Drill Floor )			
Name	MD (US ft)	TVD (US ft)	
FOX HILLS BASE	750.00	750.00	
PARKMAN	3592.64	3546.00	
SUSSEX	4078.03	4009.00	
SHARON SPRINGS	6996.13	6823.00	
NIOBRARA A	7063.20	6882.00	
NIOBRARA B	7120.28	6929.00	
NIOBRARA C	7214.76	6999.00	
FORT HAYS	7476.46	7129.00	
CODELL	7570.60	7149.00	