

**5D Plan Report**

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**Anadarko Petroleum**

**Field Name:** *WATTENBERG\_ANADARKO\_NAD 83*  
**Site Name:** *NRC 3C-4HZ PAD*  
**Well Name:** *NRC 29C-4HZ*  
**Plan:** *WP01 PERMIT*

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**Plan Data for NRC 29C-4HZ**

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

Map Unit: USft Vertical Reference Datum (VRD): Mean Sea Level  
Projected Coordinate System: NAD83 / Colorado North (ftUS)

**Slot: NRC 29C-4HZ**

Position:

Offset is from Site centre

+N/-S: -0.00USft Northing: 1264993.64USft Latitude: 40.059228°

+E/-W: -0.00USft Easting: 3168439.20USft Longitude: -104.898234°

Elevation Above VRD: 5051.00USft

**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	0.00	0.0R
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	0.0R
1550.65	7.01	227.57	1549.78	-14.46	-15.82	-14.36	2.00	132.4L	
6820.58	7.01	227.57	6780.27	-448.56	-490.75	-445.38	0.00	0.0R	
7171.22	0.00	0.00	7130.04	-463.02	-506.57	-459.74	2.00	180.0R	
8071.28	90.01	359.63	7703.00	109.98	-510.27	113.28	10.00	0.4L	
17824.30	90.01	359.63	7702.00	9862.80	-573.30	9866.30	0.00	0.0R	

**Plan Data for NRC 29C-4HZ**

**Target Set Information:**

Name: 13

Name	TVD	Lat	Long	Shape
	(USft)	(°)	(°)	
HEEL	7703.00	40.059530	-104.900057	Cuboid
PBHL	7702.00	40.086303	-104.900283	Cuboid

**Plan Data for NRC 29C-4HZ**

**Casing Point Information:**

Name	MD	TVD
	(USft)	(USft)
9 5/8 in	681.00	681.00
7 in	8071.28	7703.00

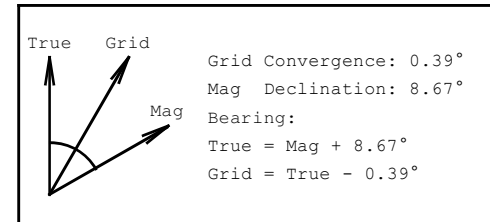
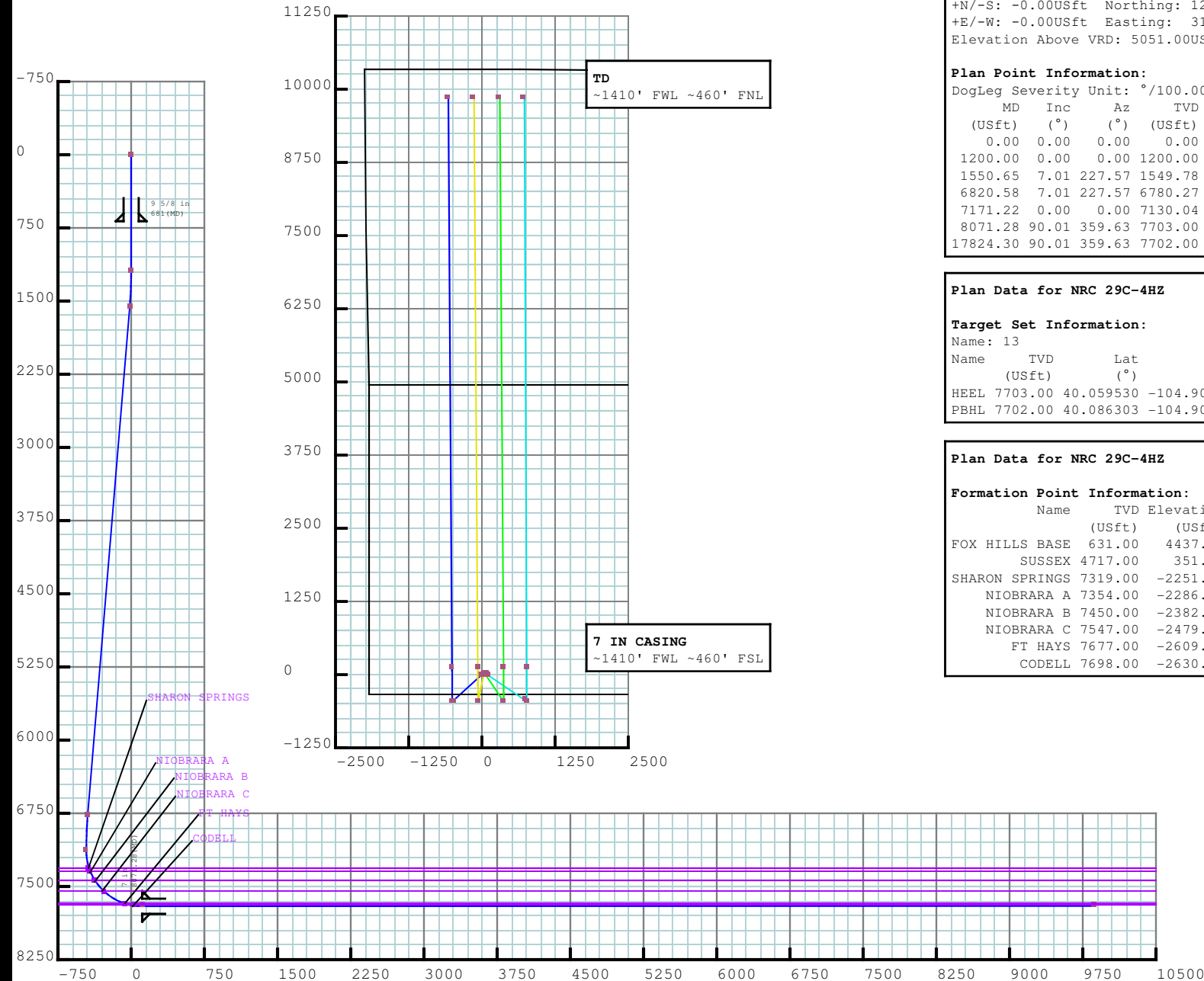
**Plan Data for NRC 29C-4HZ**

**Formation Point Information:**

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
FOX HILLS BASE	631.00	4437.00	631.00
SUSSEX	4717.00	351.00	4741.75
SHARON SPRINGS	7319.00	-2251.00	7363.78
NIOBRARA A	7354.00	-2286.00	7401.31
NIOBRARA B	7450.00	-2382.00	7510.69
NIOBRARA C	7547.00	-2479.00	7638.18
FT HAYS	7677.00	-2609.00	7897.96
CODELL	7698.00	-2630.00	7995.49

**LINER TOP- 7071.22' MD**

KOP- 7171.22' MD





# Weatherford®



## Plan Surveys for the NRC 29C-4HZ

Site Name  NRC 3C-4HZ PAD	Units : US ft	North Reference : True	Convergence Angle : 0.39	
	Position	Northing : 1264993.64 US ft	Latitude : 40.059228	
		Easting : 3168439.20 US ft	Longitude : -104.898234	
	Elevation above:5051.00 US ft			
Comment :				
Slot Name  NRC 29C-4HZ	Position (Offsets relative to Site Centre)			
	+N / -S : -0.00 US ft	Northing :1264993.64 US ft	Latitude : 40.059228	
	+E / -W : -0.00 US ft	Easting :3168439.20 US ft	Longitude : -104.898234	
	Slot TVD Reference : Ground Elevation			
	Elevation above : 5051.00 US ft			
	Comment :			
Well Name  NRC 29C-4HZ	Type : Main well		UWI :	Plan : WP01 PERMIT
	Rig Height <i>Drill Floor</i> : 17.00 US ft		Comment :	
	Relative to : 5068.00 US ft			
	Closure Distance : 9879.45 US ft		Closure Azimuth : 356.673°	
	Vertical Section (Position of Origin Relative to Slot )			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az :359.63°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 52684.0nT	Dec : 8.67°	Dip : 66.64°

Target Set				
Name : 13		Number of Targets : 2		
Comment :				
TargetName:	Position (Relative to centre)			
HEEL	+N / -S : 110.02US ft		Northing : 1265100.20 US ft	
Shape:	+E / -W : -510.27 US ft		Easting : 3167928.20US ft	
Cuboid	TVD (Drill Floor) : 7703.00 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	+N / -S : 9862.80US ft		Northing : 1274852.33 US ft	
Shape:	+E / -W : -573.30 US ft		Easting : 3167798.98US ft	
Cuboid	TVD (Drill Floor) : 7702.00 US ft			
	Orientation	Azimuth : 0.00°		Inclination : 0.00°
	Dimensions	Length : 10.00 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	681.00	0.00	0.00	681.00	0.00	0.00	40.059228	-104.898234
7 in	8071.28	90.01	359.63	7703.00	109.99	-510.27	40.059530	-104.900057

## 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	1264993.64	3168439.20	0.00	0.00	0.00	SURFACE
681.00	0.00	0.00	681.00	0.00	0.00	1264993.64	3168439.20	0.00	0.00	0.00	9 5/8 in
1200.00	0.00	0.00	1200.00	0.00	0.00	1264993.64	3168439.20	0.00	0.00	0.00	BEGIN NUDGE
1550.65	7.01	227.57	1549.78	-14.46	-15.82	1264979.07	3168423.48	2.00	227.57	-14.36	
6820.58	7.01	227.57	6780.27	-448.56	-490.75	1264541.76	3167951.50	0.00	0.00	-445.38	

## 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
7171.22	0.00	0.00	7130.04	-463.02	-506.57	1264527.19	3167935.78	2.00	180.00	-459.74	KOP
8071.28	90.01	359.63	7703.00	109.98	-510.27	1265100.16	3167928.19	10.00	359.63	113.28	
8071.28	90.01	359.63	7703.00	109.99	-510.27	1265100.16	3167928.19	0.00	0.00	113.28	7 in
17824.30	90.01	359.63	7702.00	9862.80	-573.30	1274852.33	3167798.98	0.00	0.00	9866.30	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	BEGIN NUDGE
1300.00	2.00	227.57	1299.98	-1.18	-1.29		2.00	227.57		-1.17	
1400.00	4.00	227.57	1399.84	-4.71	-5.15		2.00	0.00		-4.67	
1500.00	6.00	227.57	1499.45	-10.59	-11.58		2.00	0.00		-10.51	
1550.65	7.01	227.57	1549.78	-14.46	-15.82		2.00	0.00		-14.36	
1600.00	7.01	227.57	1598.76	-18.53	-20.27		0.00	0.00		-18.39	
1700.00	7.01	227.57	1698.01	-26.76	-29.28		0.00	0.00		-26.57	
1800.00	7.01	227.57	1797.26	-35.00	-38.29		0.00	0.00		-34.75	
1900.00	7.01	227.57	1896.51	-43.24	-47.30		0.00	0.00		-42.93	
2000.00	7.01	227.57	1995.76	-51.47	-56.32		0.00	0.00		-51.11	
2100.00	7.01	227.57	2095.02	-59.71	-65.33		0.00	0.00		-59.29	
2200.00	7.01	227.57	2194.27	-67.95	-74.34		0.00	0.00		-67.47	
2300.00	7.01	227.57	2293.52	-76.19	-83.35		0.00	0.00		-75.65	
2400.00	7.01	227.57	2392.77	-84.42	-92.36		0.00	0.00		-83.83	
2500.00	7.01	227.57	2492.02	-92.66	-101.38		0.00	0.00		-92.00	
2600.00	7.01	227.57	2591.27	-100.90	-110.39		0.00	0.00		-100.18	
2700.00	7.01	227.57	2690.53	-109.14	-119.40		0.00	0.00		-108.36	
2800.00	7.01	227.57	2789.78	-117.37	-128.41		0.00	0.00		-116.54	
2900.00	7.01	227.57	2889.03	-125.61	-137.43		0.00	0.00		-124.72	
3000.00	7.01	227.57	2988.28	-133.85	-146.44		0.00	0.00		-132.90	
3100.00	7.01	227.57	3087.53	-142.09	-155.45		0.00	0.00		-141.08	
3200.00	7.01	227.57	3186.79	-150.32	-164.46		0.00	0.00		-149.26	

## 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
3300.00	7.01	227.57	3286.04	-158.56	-173.47	0.00	0.00	-157.44	
3400.00	7.01	227.57	3385.29	-166.80	-182.49	0.00	0.00	-165.62	
3500.00	7.01	227.57	3484.54	-175.03	-191.50	0.00	0.00	-173.79	
3600.00	7.01	227.57	3583.79	-183.27	-200.51	0.00	0.00	-181.97	
3700.00	7.01	227.57	3683.04	-191.51	-209.52	0.00	0.00	-190.15	
3800.00	7.01	227.57	3782.30	-199.75	-218.53	0.00	0.00	-198.33	
3900.00	7.01	227.57	3881.55	-207.98	-227.55	0.00	0.00	-206.51	
4000.00	7.01	227.57	3980.80	-216.22	-236.56	0.00	0.00	-214.69	
4100.00	7.01	227.57	4080.05	-224.46	-245.57	0.00	0.00	-222.87	
4200.00	7.01	227.57	4179.30	-232.70	-254.58	0.00	0.00	-231.05	
4300.00	7.01	227.57	4278.56	-240.93	-263.59	0.00	0.00	-239.23	
4400.00	7.01	227.57	4377.81	-249.17	-272.61	0.00	0.00	-247.41	
4500.00	7.01	227.57	4477.06	-257.41	-281.62	0.00	0.00	-255.58	
4600.00	7.01	227.57	4576.31	-265.65	-290.63	0.00	0.00	-263.76	
4700.00	7.01	227.57	4675.56	-273.88	-299.64	0.00	0.00	-271.94	
4800.00	7.01	227.57	4774.81	-282.12	-308.66	0.00	0.00	-280.12	
4900.00	7.01	227.57	4874.07	-290.36	-317.67	0.00	0.00	-288.30	
5000.00	7.01	227.57	4973.32	-298.59	-326.68	0.00	0.00	-296.48	
5100.00	7.01	227.57	5072.57	-306.83	-335.69	0.00	0.00	-304.66	
5200.00	7.01	227.57	5171.82	-315.07	-344.70	0.00	0.00	-312.84	
5300.00	7.01	227.57	5271.07	-323.31	-353.72	0.00	0.00	-321.02	
5400.00	7.01	227.57	5370.33	-331.54	-362.73	0.00	0.00	-329.19	
5500.00	7.01	227.57	5469.58	-339.78	-371.74	0.00	0.00	-337.37	
5600.00	7.01	227.57	5568.83	-348.02	-380.75	0.00	0.00	-345.55	
5700.00	7.01	227.57	5668.08	-356.26	-389.76	0.00	0.00	-353.73	
5800.00	7.01	227.57	5767.33	-364.49	-398.78	0.00	0.00	-361.91	
5900.00	7.01	227.57	5866.59	-372.73	-407.79	0.00	0.00	-370.09	
6000.00	7.01	227.57	5965.84	-380.97	-416.80	0.00	0.00	-378.27	
6100.00	7.01	227.57	6065.09	-389.21	-425.81	0.00	0.00	-386.45	
6200.00	7.01	227.57	6164.34	-397.44	-434.82	0.00	0.00	-394.63	
6300.00	7.01	227.57	6263.59	-405.68	-443.84	0.00	0.00	-402.81	
6400.00	7.01	227.57	6362.84	-413.92	-452.85	0.00	0.00	-410.98	
6500.00	7.01	227.57	6462.10	-422.15	-461.86	0.00	0.00	-419.16	
6600.00	7.01	227.57	6561.35	-430.39	-470.87	0.00	0.00	-427.34	
6700.00	7.01	227.57	6660.60	-438.63	-479.89	0.00	0.00	-435.52	
6800.00	7.01	227.57	6759.85	-446.87	-488.90	0.00	0.00	-443.70	
6820.58	7.01	227.57	6780.27	-448.56	-490.75	0.00	0.00	-445.38	
6900.00	5.42	227.57	6859.23	-454.37	-497.10	2.00	180.00	-451.15	
7000.00	3.42	227.57	6958.92	-459.57	-502.80	2.00	180.00	-456.31	
7100.00	1.42	227.57	7058.83	-462.42	-505.92	2.00	180.00	-459.15	
7171.22	0.00	0.00	7130.04	-463.02	-506.57	2.00	180.00	-459.74	KOP

## 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
7200.00	2.88	359.63	7158.81	-462.30	-506.58	10.00	359.63	-459.02	
7300.00	12.88	359.63	7257.74	-448.61	-506.66	10.00	0.00	-445.33	
7400.00	22.88	359.63	7352.79	-417.95	-506.86	10.00	0.00	-414.67	
7500.00	32.88	359.63	7441.07	-371.25	-507.16	10.00	0.00	-367.97	
7600.00	42.88	359.63	7519.91	-309.93	-507.56	10.00	0.00	-306.65	
7700.00	52.88	359.63	7586.89	-235.85	-508.04	10.00	0.00	-232.57	
7800.00	62.88	359.63	7640.00	-151.27	-508.59	10.00	0.00	-147.98	
7900.00	72.88	359.63	7677.61	-58.75	-509.18	10.00	0.00	-55.46	
8000.00	82.88	359.63	7698.58	38.89	-509.82	10.00	0.00	42.18	
8071.28	90.01	359.63	7703.00	109.98	-510.27	10.00	0.00	113.28	
8100.00	90.01	359.63	7702.99	138.71	-510.46	0.00	0.00	142.00	
8200.00	90.01	359.63	7702.98	238.70	-511.11	0.00	0.00	242.00	
8300.00	90.01	359.63	7702.97	338.70	-511.75	0.00	0.00	342.00	
8400.00	90.01	359.63	7702.96	438.70	-512.40	0.00	0.00	442.00	
8500.00	90.01	359.63	7702.95	538.70	-513.05	0.00	0.00	542.00	
8600.00	90.01	359.63	7702.94	638.70	-513.69	0.00	0.00	642.00	
8700.00	90.01	359.63	7702.93	738.69	-514.34	0.00	0.00	742.00	
8800.00	90.01	359.63	7702.92	838.69	-514.98	0.00	0.00	842.00	
8900.00	90.01	359.63	7702.91	938.69	-515.63	0.00	0.00	942.00	
9000.00	90.01	359.63	7702.90	1038.69	-516.28	0.00	0.00	1042.00	
9100.00	90.01	359.63	7702.89	1138.69	-516.92	0.00	0.00	1142.00	
9200.00	90.01	359.63	7702.88	1238.68	-517.57	0.00	0.00	1242.00	
9300.00	90.01	359.63	7702.87	1338.68	-518.22	0.00	0.00	1342.00	
9400.00	90.01	359.63	7702.86	1438.68	-518.86	0.00	0.00	1442.00	
9500.00	90.01	359.63	7702.85	1538.68	-519.51	0.00	0.00	1542.00	
9600.00	90.01	359.63	7702.84	1638.68	-520.15	0.00	0.00	1642.00	
9700.00	90.01	359.63	7702.83	1738.67	-520.80	0.00	0.00	1742.00	
9800.00	90.01	359.63	7702.82	1838.67	-521.45	0.00	0.00	1842.00	
9900.00	90.01	359.63	7702.81	1938.67	-522.09	0.00	0.00	1942.00	
10000.00	90.01	359.63	7702.80	2038.67	-522.74	0.00	0.00	2042.00	
10100.00	90.01	359.63	7702.79	2138.66	-523.39	0.00	0.00	2142.00	
10200.00	90.01	359.63	7702.78	2238.66	-524.03	0.00	0.00	2242.00	
10300.00	90.01	359.63	7702.77	2338.66	-524.68	0.00	0.00	2342.00	
10400.00	90.01	359.63	7702.76	2438.66	-525.32	0.00	0.00	2442.00	
10500.00	90.01	359.63	7702.75	2538.66	-525.97	0.00	0.00	2542.00	
10600.00	90.01	359.63	7702.74	2638.65	-526.62	0.00	0.00	2642.00	
10700.00	90.01	359.63	7702.73	2738.65	-527.26	0.00	0.00	2742.00	
10800.00	90.01	359.63	7702.72	2838.65	-527.91	0.00	0.00	2842.00	
10900.00	90.01	359.63	7702.71	2938.65	-528.56	0.00	0.00	2942.00	
11000.00	90.01	359.63	7702.70	3038.65	-529.20	0.00	0.00	3042.00	
11100.00	90.01	359.63	7702.69	3138.64	-529.85	0.00	0.00	3142.00	

## 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
11200.00	90.01	359.63	7702.68	3238.64	-530.49	0.00	0.00	3242.00	
11300.00	90.01	359.63	7702.67	3338.64	-531.14	0.00	0.00	3342.00	
11400.00	90.01	359.63	7702.66	3438.64	-531.79	0.00	0.00	3442.00	
11500.00	90.01	359.63	7702.65	3538.64	-532.43	0.00	0.00	3542.00	
11600.00	90.01	359.63	7702.64	3638.63	-533.08	0.00	0.00	3642.00	
11700.00	90.01	359.63	7702.63	3738.63	-533.73	0.00	0.00	3742.00	
11800.00	90.01	359.63	7702.62	3838.63	-534.37	0.00	0.00	3842.00	
11900.00	90.01	359.63	7702.61	3938.63	-535.02	0.00	0.00	3942.00	
12000.00	90.01	359.63	7702.60	4038.63	-535.66	0.00	0.00	4042.00	
12100.00	90.01	359.63	7702.59	4138.62	-536.31	0.00	0.00	4142.00	
12200.00	90.01	359.63	7702.58	4238.62	-536.96	0.00	0.00	4242.00	
12300.00	90.01	359.63	7702.57	4338.62	-537.60	0.00	0.00	4342.00	
12400.00	90.01	359.63	7702.55	4438.62	-538.25	0.00	0.00	4442.00	
12500.00	90.01	359.63	7702.54	4538.61	-538.90	0.00	0.00	4542.00	
12600.00	90.01	359.63	7702.53	4638.61	-539.54	0.00	0.00	4642.00	
12700.00	90.01	359.63	7702.52	4738.61	-540.19	0.00	0.00	4742.00	
12800.00	90.01	359.63	7702.51	4838.61	-540.83	0.00	0.00	4842.00	
12900.00	90.01	359.63	7702.50	4938.61	-541.48	0.00	0.00	4942.00	
13000.00	90.01	359.63	7702.49	5038.60	-542.13	0.00	0.00	5042.00	
13100.00	90.01	359.63	7702.48	5138.60	-542.77	0.00	0.00	5142.00	
13200.00	90.01	359.63	7702.47	5238.60	-543.42	0.00	0.00	5242.00	
13300.00	90.01	359.63	7702.46	5338.60	-544.07	0.00	0.00	5342.00	
13400.00	90.01	359.63	7702.45	5438.60	-544.71	0.00	0.00	5442.00	
13500.00	90.01	359.63	7702.44	5538.59	-545.36	0.00	0.00	5542.00	
13600.00	90.01	359.63	7702.43	5638.59	-546.00	0.00	0.00	5642.00	
13700.00	90.01	359.63	7702.42	5738.59	-546.65	0.00	0.00	5742.00	
13800.00	90.01	359.63	7702.41	5838.59	-547.30	0.00	0.00	5842.00	
13900.00	90.01	359.63	7702.40	5938.59	-547.94	0.00	0.00	5942.00	
14000.00	90.01	359.63	7702.39	6038.58	-548.59	0.00	0.00	6042.00	
14100.00	90.01	359.63	7702.38	6138.58	-549.24	0.00	0.00	6142.00	
14200.00	90.01	359.63	7702.37	6238.58	-549.88	0.00	0.00	6242.00	
14300.00	90.01	359.63	7702.36	6338.58	-550.53	0.00	0.00	6342.00	
14400.00	90.01	359.63	7702.35	6438.58	-551.17	0.00	0.00	6442.00	
14500.00	90.01	359.63	7702.34	6538.57	-551.82	0.00	0.00	6542.00	
14600.00	90.01	359.63	7702.33	6638.57	-552.47	0.00	0.00	6642.00	
14700.00	90.01	359.63	7702.32	6738.57	-553.11	0.00	0.00	6742.00	
14800.00	90.01	359.63	7702.31	6838.57	-553.76	0.00	0.00	6842.00	
14900.00	90.01	359.63	7702.30	6938.56	-554.41	0.00	0.00	6942.00	
15000.00	90.01	359.63	7702.29	7038.56	-555.05	0.00	0.00	7042.00	
15100.00	90.01	359.63	7702.28	7138.56	-555.70	0.00	0.00	7142.00	
15200.00	90.01	359.63	7702.27	7238.56	-556.34	0.00	0.00	7242.00	



## 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
15300.00	90.01	359.63	7702.26	7338.56	-556.99	0.00	0.00	7342.00	
15400.00	90.01	359.63	7702.25	7438.55	-557.64	0.00	0.00	7442.00	
15500.00	90.01	359.63	7702.24	7538.55	-558.28	0.00	0.00	7542.00	
15600.00	90.01	359.63	7702.23	7638.55	-558.93	0.00	0.00	7642.00	
15700.00	90.01	359.63	7702.22	7738.55	-559.58	0.00	0.00	7742.00	
15800.00	90.01	359.63	7702.21	7838.55	-560.22	0.00	0.00	7842.00	
15900.00	90.01	359.63	7702.20	7938.54	-560.87	0.00	0.00	7942.00	
16000.00	90.01	359.63	7702.19	8038.54	-561.51	0.00	0.00	8042.00	
16100.00	90.01	359.63	7702.18	8138.54	-562.16	0.00	0.00	8142.00	
16200.00	90.01	359.63	7702.17	8238.54	-562.81	0.00	0.00	8242.00	
16300.00	90.01	359.63	7702.16	8338.54	-563.45	0.00	0.00	8342.00	
16400.00	90.01	359.63	7702.15	8438.53	-564.10	0.00	0.00	8442.00	
16500.00	90.01	359.63	7702.14	8538.53	-564.75	0.00	0.00	8542.00	
16600.00	90.01	359.63	7702.13	8638.53	-565.39	0.00	0.00	8642.00	
16700.00	90.01	359.63	7702.11	8738.53	-566.04	0.00	0.00	8742.00	
16800.00	90.01	359.63	7702.10	8838.53	-566.68	0.00	0.00	8842.00	
16900.00	90.01	359.63	7702.09	8938.52	-567.33	0.00	0.00	8942.00	
17000.00	90.01	359.63	7702.08	9038.52	-567.98	0.00	0.00	9042.00	
17100.00	90.01	359.63	7702.07	9138.52	-568.62	0.00	0.00	9142.00	
17200.00	90.01	359.63	7702.06	9238.52	-569.27	0.00	0.00	9242.00	
17300.00	90.01	359.63	7702.05	9338.51	-569.92	0.00	0.00	9342.00	
17400.00	90.01	359.63	7702.04	9438.51	-570.56	0.00	0.00	9442.00	
17500.00	90.01	359.63	7702.03	9538.51	-571.21	0.00	0.00	9542.00	
17600.00	90.01	359.63	7702.02	9638.51	-571.85	0.00	0.00	9642.00	
17700.00	90.01	359.63	7702.01	9738.51	-572.50	0.00	0.00	9742.00	
17800.00	90.01	359.63	7702.00	9838.50	-573.15	0.00	0.00	9842.00	
17824.30	90.01	359.63	7702.00	9862.80	-573.30	0.00	0.00	9866.30	TD

Formation Points (Relative to centre, TVD relative to Drill Floor )		
Name	MD (US ft)	TVD (US ft)
FOX HILLS BASE	631.00	631.00
SUSSEX	4741.75	4717.00
SHARON SPRINGS	7363.78	7319.00
NIOBRARA A	7401.31	7354.00
NIOBRARA B	7510.69	7450.00
NIOBRARA C	7638.18	7547.00
FT HAYS	7897.96	7677.00
CODELL	7995.49	7698.00