

**Slot: CANNON 36N-10HZ**  
Position:  
Offset is from Site centre  
+N/-S: -108.56USft Northing: 1301462.25USft Latitude: 40.158591°  
+E/-W: 179.72USft Easting: 3204580.36USft Longitude: -104.768046°  
Elevation Above VRD: 4949.00USft

**Plan Point Information:**

DogLeg Severity Unit: °/100.00ft		Position offsets from Slot centre					
MD	Inc	Az	TVD	+N/-S (USft)	+E/-W (USft)	VSec (DLSU)	DLS Toolface (°)
896.00	0.24	287.67	896.00	0.79	-0.90	-0.80	0.41
1100.00	0.24	287.67	1099.99	1.05	-1.72	-1.06	0.00
1909.44	16.00	70.53	1899.08	38.99	102.52	-38.38	2.00
5546.08	16.00	70.53	5394.90	373.03	1047.41	-366.81	0.00
6345.92	0.00	0.00	6184.39	410.00	1152.00	-403.16	2.00
6721.92	0.00	0.00	6560.39	410.00	1152.00	-403.16	0.00
7718.68	89.71	179.66	7197.00	-223.36	1155.77	230.22	9.00
11839.44	89.71	179.66	7218.00	-4344.01	1180.30	4350.93	0.00

**Plan Data for CANNON 36N-10HZ**

**Formation Point Information:**

Name	TVD Elevation (USft)	MD (USft)
PARKMAN	4002.00	963.00
SUSSEX	4409.00	556.00
SHARON SPRINGS	7061.00	-2096.00
NIOBRARA A	7137.00	-2172.00
NIOBRARA B CHALK	7197.00	-2232.00

**Plan Data for CANNON 36N-10HZ**

**Target Set Information:**

Name	TVD (USft)	Lat (°)	Long (°)	Shape
EBHL	7218.00	40.146666	-104.763824	Cuboid

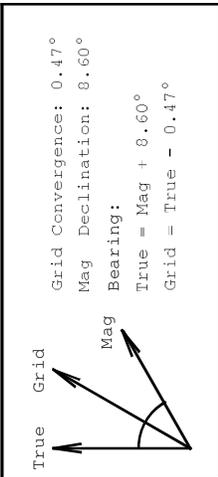
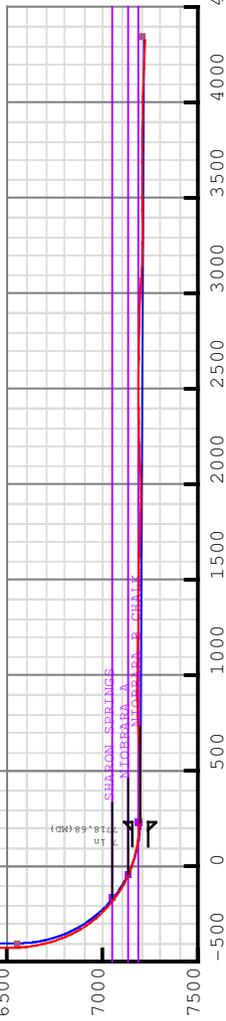
**Plan Data for CANNON 36N-10HZ**

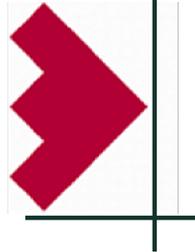
**Casing Point Information:**

Name	MD (USft)	TVD (USft)
9 5/8 in	970.00	970.00
7 in	7718.68	7197.00

**LINER TOP- 6621.92 MD**

KOP- 6721.92 MD





## FINAL SURVEYS





**5D Survey Report**

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**Anadarko Petroleum**

**Field Name:** WATTENBERG\_ANADARKO\_NAD 83  
**Site Name:** CANNON 29-10HZ  
**Well Name:** CANNON 36N-10HZ  
**Survey:** *Definitive Survey*

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**Weatherford®**



## Surveys for the CANNON 36N-10HZ

<b>Site Name</b> CANNON 29-10HZ	<p><b>Units :</b> US ft</p> <p><b>North Reference :</b> True</p> <p><b>Convergence Angle :</b> 0.47</p> <p><b>Position</b>  <b>Northing :</b> 1301569.32 US ft  <b>Latitude :</b> 40.158889  <b>Easting :</b> 3204399.75 US ft  <b>Longitude :</b> -104.768689</p> <p><b>Elevation above:</b> 4949.00 US ft</p> <p><b>Comment :</b></p>
<b>Slot Name</b> CANNON 36N-10HZ	<p><b>Position (Offsets relative to Site Centre)</b>  <b>Northing :</b> 1301462.25 US ft  <b>Latitude :</b> 40.158591  <b>Easting :</b> 3204580.36 US ft  <b>Longitude :</b> -104.768046</p> <p><b>Slot TVD Reference :</b> Ground Elevation</p> <p><b>Elevation above :</b> 4949.00 US ft</p> <p><b>Comment :</b></p>
<b>Well Name</b> CANNON 36N-10HZ	<p><b>Type :</b> Main well</p> <p><b>Rig Height</b> <i>Drill Floor</i> : 16.00 US ft</p> <p><b>Relative to :</b> 4965.00 US ft</p> <p><b>Closure Distance :</b> 4471.27 US ft</p> <p><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> 179.66°</p> <p><b>UWI :</b></p> <p><b>Comment :</b></p> <p><b>Closure Azimuth :</b> 165.007°</p>

5D Survey Report

**Target Set**

**Name :** 8      **Number of Targets :** 1

**Comment :**

<b>TargetName:</b> PBHL	<b>Position (Relative to centre)</b> Latitude : 40°8'47.997600" Longitude : -104°45'49.766400"
<b>Shape:</b> Cuboid	<b>Northing :</b> 1297128.13 US ft <b>Easting :</b> 3205796.44US ft
	<b>TVD (Drill Floor) :</b> 7218.00 US ft
<b>Orientation</b> <b>Dimensions</b>	<b>Azimuth :</b> 0.00° <b>Length :</b> 1.00 US ft
	<b>Inclination :</b> 0.00° <b>Breadth :</b> 1.00 US ft
	<b>Height :</b> 1.00 US ft

**Survey Name :** Definitive Survey

**Date :** 24/Jun/2013      **Survey Tool :**      **Comment :**      **Company :**

**Magnetic Model**

**Model Name:** Default      **Date:** 04/Apr/2013      **Field Strength:** 50000.0 nT      **Declination:** 0.00°      **Dip:** 0.00°

**Survey Tool Ranges**

Name	Start MD (us ft)	End MD (us ft)	Source Survey
NSG Static GMS	0.00	896.00	GYROS
MWD	896.00	11825.00	WFT MWD

**Casing Points (Relative to centre, TVD relative to Drill Floor )**

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	E. Offset (US ft)	N. Offset (US ft)	TVD (US ft)	Latitude (°)	Longitude (°)
7 in	7706.00	85.76	177.75	7194.15	1171.29	-203.59	7194.15	40.158032	-104.763855

**Well path created using minimum curvature**

**Survey 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)	Latitude (°)	Longitude (°)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	1301462.25	3204580.36	40.158591	-104.768046	-0.00	
16.00	0.00	0.00	16.00	0.00	0.00	1301462.25	3204580.36	40.158591	-104.768046	-0.00	
116.00	0.17	285.65	116.00	0.04	-0.14	1301462.29	3204580.22	40.158591	-104.768047	-0.04	
216.00	0.19	307.22	216.00	0.18	-0.42	1301462.43	3204579.94	40.158591	-104.768047	-0.18	
316.00	0.20	331.71	316.00	0.43	-0.63	1301462.68	3204579.72	40.158592	-104.768048	-0.44	
416.00	0.17	14.29	416.00	0.73	-0.68	1301462.98	3204579.68	40.158593	-104.768048	-0.74	
516.00	0.27	110.21	516.00	0.79	-0.42	1301463.04	3204579.93	40.158593	-104.768048	-0.80	
616.00	0.28	250.83	616.00	0.63	-0.43	1301462.88	3204579.92	40.158593	-104.768048	-0.64	

## 5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor )												
VD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (°)	Longitude (°)	V.S. (US ft)	Comment	
716.00	0.18	315.61	716.00	0.66	-0.77	1301462.91	3204579.58	40.158593	-104.768049	-0.67		
816.00	0.09	105.19	816.00	0.76	-0.81	1301463.00	3204579.55	40.158593	-104.768049	-0.76		
896.00	0.24	287.67	896.00	0.79	-0.90	1301463.03	3204579.45	40.158593	-104.768049	-0.80	TIE ON	
992.00	0.14	58.12	992.00	0.91	-1.00	1301463.16	3204579.36	40.158593	-104.768050	-0.92		
1072.00	2.66	89.45	1071.97	0.98	0.94	1301463.24	3204581.30	40.158594	-104.768043	-0.98		
1164.00	5.23	73.63	1163.74	2.19	7.10	1301464.49	3204587.44	40.158597	-104.768021	-2.14		
1254.00	6.51	81.44	1253.27	4.10	16.08	1301466.48	3204596.41	40.158602	-104.767988	-4.01		
1344.00	7.51	84.92	1342.60	5.38	26.99	1301467.85	3204607.30	40.158606	-104.767949	-5.22		
1435.00	9.47	88.17	1432.60	6.15	40.39	1301468.73	3204620.70	40.158608	-104.767901	-5.91		
1527.00	12.00	81.53	1522.98	7.80	57.42	1301470.52	3204637.72	40.158612	-104.767841	-7.46		
1617.00	13.14	81.86	1610.82	10.62	76.80	1301473.51	3204657.07	40.158620	-104.767771	-10.17		
1707.00	14.17	81.72	1698.28	13.66	97.83	1301476.72	3204678.08	40.158628	-104.767696	-13.08		
1798.00	15.96	76.80	1786.15	18.12	121.04	1301481.37	3204701.24	40.158641	-104.767613	-17.40		
1889.00	14.55	73.82	1873.94	24.16	144.20	1301487.60	3204724.35	40.158657	-104.767530	-23.31		
1979.00	14.44	82.23	1961.09	28.83	166.18	1301492.45	3204746.29	40.158670	-104.767451	-27.84		
2069.00	14.96	78.42	2048.14	32.68	188.68	1301496.49	3204768.76	40.158681	-104.767371	-31.56		
2159.00	16.13	74.86	2134.85	38.28	212.12	1301502.28	3204792.16	40.158696	-104.767287	-37.02		
2250.00	15.71	66.34	2222.37	46.52	235.61	1301510.72	3204815.58	40.158719	-104.767203	-45.13		
2341.00	14.58	65.51	2310.21	56.22	257.32	1301520.59	3204837.21	40.158745	-104.767125	-54.69		
2437.00	14.99	58.84	2403.04	67.65	278.94	1301532.20	3204858.74	40.158777	-104.767048	-65.99		
2529.00	12.72	58.42	2492.36	79.11	297.76	1301543.82	3204877.45	40.158808	-104.766981	-77.34		
2621.00	12.94	64.84	2582.07	88.80	315.71	1301553.65	3204895.33	40.158835	-104.766916	-86.92		
2715.00	13.14	60.19	2673.64	98.58	334.51	1301563.59	3204914.04	40.158862	-104.766849	-96.60		
2808.00	12.66	69.68	2764.31	107.38	353.24	1301574.54	3204932.70	40.158886	-104.766782	-105.28		
2900.00	15.35	68.53	2853.56	115.34	374.03	1301580.67	3204953.42	40.158908	-104.766708	-113.12		
2993.00	15.73	66.25	2943.17	124.92	397.02	1301590.44	3204976.34	40.158934	-104.766626	-122.56		
3087.00	15.72	64.01	3033.65	135.63	420.13	1301601.34	3204999.36	40.158963	-104.766543	-133.14		
3180.00	14.74	63.01	3123.38	146.52	442.00	1301612.41	3205021.14	40.158993	-104.766465	-143.90		
3272.00	14.19	63.60	3212.46	156.85	462.53	1301622.91	3205041.58	40.159022	-104.766391	-154.10		
3357.00	14.37	68.49	3294.84	165.35	481.68	1301631.57	3205060.66	40.159045	-104.766323	-162.49		
3443.00	16.64	76.99	3377.72	172.04	503.61	1301638.43	3205082.55	40.159063	-104.766244	-169.04		
3528.00	16.11	77.08	3459.27	177.41	526.96	1301644.00	3205105.84	40.159078	-104.766161	-174.28		
3614.00	16.12	71.21	3541.89	183.93	549.89	1301650.70	3205128.72	40.159096	-104.766079	-180.66		
3699.00	16.14	70.72	3623.55	191.63	572.22	1301658.59	3205150.98	40.159117	-104.765999	-188.23		
3784.00	15.83	67.80	3705.26	199.91	594.10	1301667.05	3205172.79	40.159140	-104.765920	-196.38		
3870.00	15.60	65.40	3788.05	209.15	615.48	1301676.47	3205194.09	40.159165	-104.765844	-205.50		
3955.00	13.72	67.37	3870.28	217.79	635.17	1301685.27	3205213.72	40.159189	-104.765773	-214.02		
4041.00	15.04	63.20	3953.58	226.75	654.55	1301694.39	3205233.02	40.159213	-104.765704	-222.86		
4126.00	17.91	58.35	4035.09	238.58	675.52	1301706.39	3205253.89	40.159246	-104.765629	-234.57		
4211.00	18.12	63.62	4115.93	251.31	698.49	1301719.32	3205276.76	40.159281	-104.765547	-247.16		
4297.00	17.46	63.00	4197.82	263.11	721.97	1301731.31	3205300.13	40.159313	-104.765463	-258.82		

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor )												
VD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (°)	Longitude (°)	VS (US ft)	Comment	
4382.00	17.25	69.79	4278.95	273.26	745.16	1301741.64	3205323.24	40.159341	-104.765380	-268.83		
4468.00	17.16	71.06	4361.11	281.78	769.13	1301750.36	3205347.14	40.159364	-104.765294	-277.21		
4553.00	16.77	70.78	4442.41	289.89	792.57	1301758.66	3205370.51	40.159387	-104.765210	-285.18		
4639.00	18.34	74.85	4524.40	297.51	817.34	1301766.49	3205395.22	40.159408	-104.765122	-292.65		
4724.00	15.91	70.87	4605.63	304.82	841.26	1301774.00	3205419.08	40.159428	-104.765036	-299.82		
4809.00	17.10	69.51	4687.13	313.01	863.98	1301782.38	3205441.73	40.159450	-104.764955	-307.88		
4895.00	18.57	70.05	4768.99	322.11	888.69	1301791.68	3205466.37	40.159475	-104.764866	-316.83		
4980.00	17.55	68.36	4849.80	331.46	913.33	1301801.23	3205490.93	40.159501	-104.764778	-326.03		
5066.00	15.36	64.70	4932.28	341.11	935.66	1301811.06	3205513.20	40.159527	-104.764698	-335.55		
5151.00	16.16	64.79	5014.08	350.96	956.56	1301821.08	3205534.00	40.159554	-104.764624	-345.28		
5237.00	14.63	63.79	5097.00	360.85	977.14	1301831.15	3205554.49	40.159582	-104.764550	-355.05		
5322.00	13.65	61.79	5179.42	370.34	995.61	1301840.78	3205572.88	40.159608	-104.764484	-364.42		
5407.00	12.41	59.60	5262.23	379.70	1012.32	1301850.28	3205589.52	40.159633	-104.764424	-373.68		
5493.00	11.71	64.12	5346.33	388.18	1028.15	1301858.90	3205605.27	40.159657	-104.764367	-382.08		
5578.00	10.08	74.97	5429.81	393.88	1043.09	1301864.72	3205620.17	40.159672	-104.764314	-387.68		
5664.00	8.99	71.42	5514.62	397.97	1056.73	1301868.92	3205633.77	40.159683	-104.764265	-391.69		
5749.00	7.37	64.50	5598.75	402.44	1067.95	1301873.48	3205644.95	40.159696	-104.764225	-396.09		
5834.00	7.02	58.68	5683.08	407.48	1077.31	1301878.60	3205654.27	40.159710	-104.764192	-401.08		
5920.00	5.76	50.75	5768.55	412.95	1085.14	1301884.13	3205662.06	40.159724	-104.764164	-406.50		
6005.00	5.40	53.59	5853.15	418.02	1091.66	1301889.26	3205668.54	40.159738	-104.764140	-411.53		
6091.00	7.29	67.34	5938.62	422.52	1099.95	1301893.83	3205676.79	40.159751	-104.764111	-415.99		
6176.00	6.26	62.89	6023.03	426.71	1109.05	1301898.09	3205685.86	40.159762	-104.764078	-420.12		
6262.00	4.65	51.26	6108.64	431.03	1115.95	1301902.47	3205692.72	40.159774	-104.764053	-424.40		
6347.00	4.49	78.42	6193.38	433.86	1121.90	1301905.34	3205698.64	40.159782	-104.764032	-427.19		
6432.00	2.61	90.76	6278.21	434.50	1127.09	1301906.03	3205703.83	40.159784	-104.764013	-427.80		
6518.00	1.77	77.87	6364.15	434.75	1130.35	1301906.31	3205707.08	40.159784	-104.764002	-428.04		
6603.00	2.18	81.46	6449.10	435.27	1133.23	1301906.85	3205709.96	40.159786	-104.763991	-428.53		
6688.00	1.82	218.95	6534.08	434.46	1133.98	1301906.04	3205710.72	40.159784	-104.763989	-427.72		
6774.00	8.29	168.11	6619.72	427.32	1134.40	1301898.91	3205711.20	40.159764	-104.763987	-420.58		
6859.00	14.80	163.09	6702.96	410.92	1138.82	1301882.54	3205715.76	40.159719	-104.763971	-404.15		
6945.00	21.07	169.53	6784.75	385.18	1144.84	1301856.86	3205721.98	40.159648	-104.763950	-378.38		
7030.00	28.14	175.93	6861.99	350.11	1149.04	1301821.82	3205726.47	40.159552	-104.763935	-343.28		
7116.00	36.30	179.50	6934.69	304.34	1150.71	1301776.07	3205728.52	40.159426	-104.763929	-297.51		
7201.00	45.26	179.01	6998.99	248.89	1151.45	1301720.62	3205729.72	40.159274	-104.763926	-242.05		
7286.00	51.64	176.20	7055.35	185.38	1154.18	1301657.14	3205732.97	40.159100	-104.763917	-178.53		
7372.00	59.31	176.63	7104.05	114.72	1158.60	1301586.52	3205737.97	40.158906	-104.763901	-107.84		
7457.00	68.32	177.31	7141.52	38.62	1162.61	1301510.46	3205742.61	40.158697	-104.763886	-31.72		
7543.00	75.35	177.93	7168.32	-42.97	1165.99	1301428.90	3205746.66	40.158473	-104.763874	49.89		
7628.00	81.37	178.86	7185.46	-126.15	1168.31	1301345.74	3205749.67	40.158245	-104.763866	133.08		
7658.00	83.13	177.42	7189.51	-155.86	1169.28	1301316.04	3205750.88	40.158163	-104.763863	162.79		
7706.00	85.76	177.75	7194.15	-203.59	1171.29	1301268.33	3205753.29	40.158032	-104.763855	210.53	7 in	

## 5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor )												
VD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (°)	Longitude (°)	VS (US ft)	Comment	
7770.00	89.26	178.19	7196.93	-267.47	1173.55	1301204.46	3205756.08	40.157657	-104.763847	274.43		
7855.00	89.12	177.67	7198.14	-352.41	1176.62	1301119.56	3205759.85	40.157623	-104.763836	359.39		
8026.00	92.28	180.96	7196.05	-523.34	1178.67	1300948.65	3205763.30	40.157154	-104.763829	530.33		
8112.00	92.10	180.59	7192.76	-609.27	1177.51	1300862.71	3205762.85	40.156918	-104.763833	616.25		
8197.00	92.53	180.09	7189.33	-694.20	1177.00	1300777.78	3205763.05	40.156685	-104.763835	701.17		
8282.00	92.78	179.91	7185.39	-779.11	1177.00	1300692.88	3205763.75	40.156452	-104.763835	786.08		
8368.00	91.11	179.42	7182.47	-865.05	1177.50	1300606.94	3205764.96	40.156216	-104.763833	872.02		
8453.00	89.38	179.42	7182.11	-950.04	1178.36	1300521.96	3205766.52	40.155983	-104.763830	957.02		
8539.00	86.50	179.96	7183.70	-1036.03	1178.83	1300435.98	3205767.69	40.155747	-104.763829	1043.00		
8624.00	89.38	182.05	7185.27	-1120.99	1177.34	1300351.00	3205766.90	40.155514	-104.763834	1127.96		
8710.00	89.45	183.21	7186.15	-1206.90	1173.39	1300265.07	3205763.67	40.155278	-104.763848	1213.84		
8795.00	89.32	184.28	7187.06	-1291.71	1167.84	1300180.22	3205758.81	40.155045	-104.763868	1298.62		
8881.00	89.26	183.36	7188.13	-1377.51	1162.11	1300094.37	3205753.79	40.154809	-104.763888	1384.38		
8966.00	89.20	182.97	7189.27	-1462.37	1157.42	1300009.47	3205749.80	40.154576	-104.763905	1469.22		
9051.00	88.89	181.69	7190.69	-1547.29	1153.97	1299924.53	3205747.05	40.154343	-104.763918	1554.11		
9137.00	88.27	179.45	7192.82	-1633.25	1153.11	1299838.56	3205746.90	40.154107	-104.763921	1640.07		
9222.00	88.15	181.11	7195.47	-1718.21	1152.69	1299753.61	3205747.19	40.153874	-104.763922	1725.02		
9308.00	88.03	182.67	7198.34	-1804.11	1149.86	1299667.68	3205745.06	40.153638	-104.763932	1810.90		
9393.00	88.89	183.05	7200.62	-1888.97	1145.62	1299582.79	3205741.52	40.153405	-104.763948	1895.74		
9478.00	91.11	181.91	7200.62	-1973.89	1141.94	1299497.85	3205738.54	40.153172	-104.763961	1980.63		
9564.00	93.08	180.88	7197.48	-2059.80	1139.85	1299411.92	3205737.16	40.152936	-104.763968	2066.53		
9649.00	91.97	178.40	7193.73	-2144.71	1140.38	1299327.02	3205738.39	40.152703	-104.763966	2151.44		
9735.00	90.49	177.51	7191.89	-2230.63	1143.45	1299241.13	3205742.17	40.152468	-104.763955	2237.37		
9820.00	90.86	177.14	7190.89	-2315.53	1147.42	1299156.26	3205746.84	40.152234	-104.763941	2322.30		
9905.00	91.85	176.60	7188.88	-2400.38	1152.06	1299071.46	3205752.18	40.152002	-104.763925	2407.17		
9991.00	90.62	177.92	7187.02	-2486.26	1156.17	1298985.61	3205756.99	40.151766	-104.763910	2493.07		
10076.00	87.97	178.38	7188.07	-2571.20	1158.91	1298900.70	3205760.44	40.151533	-104.763900	2578.03		
10161.00	88.77	179.13	7190.49	-2656.14	1160.76	1298815.77	3205762.98	40.151299	-104.763894	2662.98		
10247.00	88.89	180.23	7192.24	-2742.12	1161.24	1298729.80	3205764.17	40.151063	-104.763892	2748.96		
10332.00	89.26	179.52	7193.62	-2827.11	1161.42	1298644.82	3205765.06	40.150830	-104.763891	2833.95		
10418.00	88.58	179.98	7195.24	-2913.09	1161.80	1298558.84	3205766.14	40.150594	-104.763890	2919.93		
10503.00	87.16	179.91	7198.40	-2998.03	1161.88	1298473.90	3205766.93	40.150361	-104.763890	3004.87		
10589.00	86.05	179.44	7203.49	-3083.88	1162.37	1298388.06	3205768.12	40.150125	-104.763888	3090.72		
10674.00	88.89	179.40	7207.24	-3168.78	1163.23	1298303.17	3205769.68	40.149892	-104.763885	3175.63		
10760.00	88.77	179.63	7209.00	-3254.76	1163.95	1298217.20	3205771.12	40.149656	-104.763882	3261.61		
10845.00	90.35	182.08	7209.65	-3339.74	1162.69	1298132.21	3205770.55	40.149423	-104.763887	3346.58		
10931.00	90.18	182.15	7209.25	-3425.68	1159.51	1298046.25	3205768.08	40.149187	-104.763898	3432.50		
11016.00	91.05	181.70	7208.34	-3510.63	1156.66	1297961.28	3205765.93	40.148954	-104.763908	3517.43		
11101.00	90.80	181.02	7206.97	-3595.59	1154.64	1297876.30	3205764.61	40.148721	-104.763916	3602.38		
11187.00	90.00	181.68	7206.37	-3681.56	1152.61	1297790.32	3205763.30	40.148485	-104.763923	3688.34		
11272.00	89.21	180.84	7206.95	-3766.54	1150.75	1297705.33	3205762.13	40.148251	-104.763930	3773.30		

## 5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor )													
VD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (°)	Longitude (°)	VS (US ft)	Comment		
11356.00	88.34	180.77	7208.79	-3852.51	1149.54	1297619.35	3205761.63	40.148015	-104.763934	3859.26			
11443.00	89.65	179.26	7210.28	-3937.49	1149.52	1297534.37	3205762.31	40.147782	-104.763934	3944.24			
11528.00	88.21	179.86	7211.87	-4022.47	1150.17	1297449.40	3205763.66	40.147549	-104.763932	4029.23			
11614.00	87.72	179.55	7214.92	-4108.42	1150.61	1297363.46	3205764.81	40.147313	-104.763930	4115.17			
11699.00	87.41	178.27	7218.53	-4193.32	1152.23	1297278.57	3205767.13	40.147080	-104.763924	4200.09			
11767.00	86.83	177.85	7221.95	-4261.20	1154.52	1297210.72	3205769.99	40.146893	-104.763916	4267.97	LAST WFT SVY		
11825.00	86.83	177.85	7225.16	-4319.07	1156.70	1297152.87	3205772.64	40.146734	-104.763908	4325.86	PROJ TO TD		
Formation Points (Relative to centre, TVD relative to Drill Floor )													
Name													
PARKMAN													
SUSSEX													
SHARON SPRINGS													
NIOBRARA A													
NIOBRARA B CHALK													
MC (US ft)													
4091.34													
TVD (US ft)													
4409.00													
7061.00													
7137.00													
7197.00													