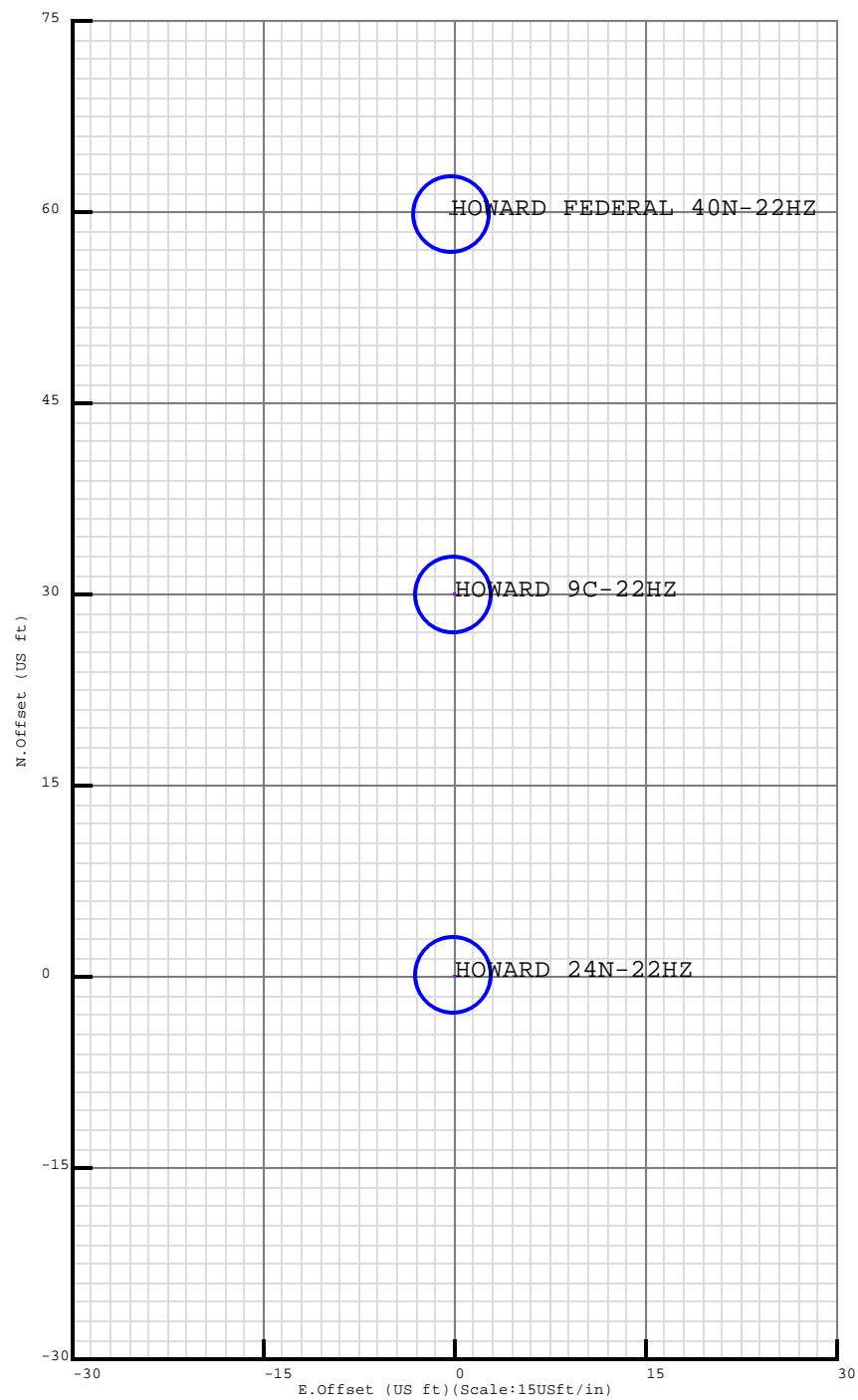


**5D Plan Report****ANADARKO**

Field Name: *WATTENBERG_ANADARKO_NAD83_HOWARD PAD - OFFICE VERSION*
Site Name: *HOWARD PAD*
Well Name: *HOWARD 24N-22HZ*
Plan: *PLAN 1*

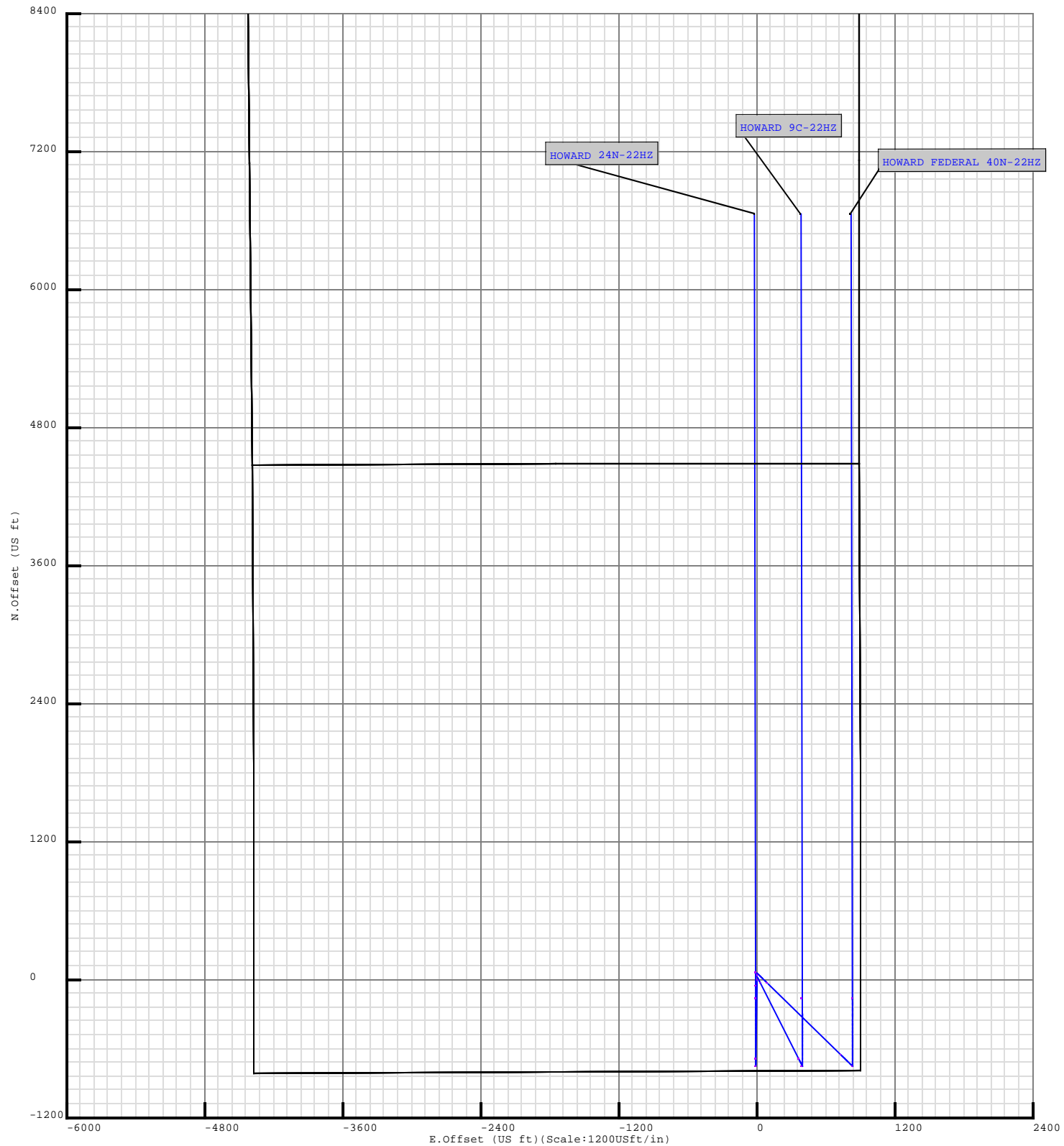
18 June 2013





Slot View

Site: HOWARD PAD



Spider Plot - Top Expanded



Plan Data for HOWARD 24N-22HZ

Field: WATTENBERG_ANADARKO_NAD83_HOWARD PAD - OFFICE VERSION

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

Site: HOWARD PAD

Unit: USFeet TVD Reference:
Company Name: ANADARKO
Position: Northing: 1249685.42USft Latitude: 40.017055°
Easting: 3176321.47USft Longitude: -104.870463°
North Reference: True Grid Convergence: 0.41°
Elevation Above VRD: 5052.00USft

Slot: HOWARD 24N-22HZ

Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 1249685.42USft Latitude: 40.017055°
+E/-W: 0.00USft Easting: 3176321.47USft Longitude: -104.870463°
Elevation Above VRD: 5052.00USft

Plan Point Information:

DogLeg Severity Unit: °/100.00ft

MD	Inc	Az	TVD	Lat	Long	VSec	DLS	Toolface	Build	Turn
(USft)	(°)	(°)	(USft)	(°)	(°)	(USft)	(DLSU)	(°)	(DLSU)	(DLSU)
0.00	0.00	0.00	0.00	40.017055	-104.870463	0.00	0.00	0.0R	0.00	0.00
2500.00	0.00	0.00	2500.00	40.017055	-104.870463	0.00	0.00	0.0R	0.00	0.00
3037.32	10.75	180.84	3034.17	40.016917	-104.870466	-50.24	2.00	179.2L	2.00	0.00
6521.17	10.75	180.84	6456.92	40.015134	-104.870500	-699.77	0.00	0.0R	0.00	0.00
7058.48	0.00	0.00	6991.09	40.014996	-104.870502	-750.00	2.00	180.0R	-2.00	0.00
7966.12	90.76	359.91	7564.00	40.016590	-104.870506	-169.41	10.00	0.1L	10.00	0.00
14791.44	90.76	359.91	7473.00	40.035325	-104.870546	6655.30	0.00	0.0R	0.00	0.00

Casing Point Information:

Name	MD	TVD
	(USft)	(USft)
9 5/8 in	877.00	877.00
7 in	7966.12	7564.00

Target Set Information:

Name	TVD	Lat	Long
	(USft)	(°)	(°)
PBHL 7473.00	40.035325	-104.870546	

LINER - 6958.48' MD

KOP - 7058.48' MD

7" CASING - 7966.12' MD

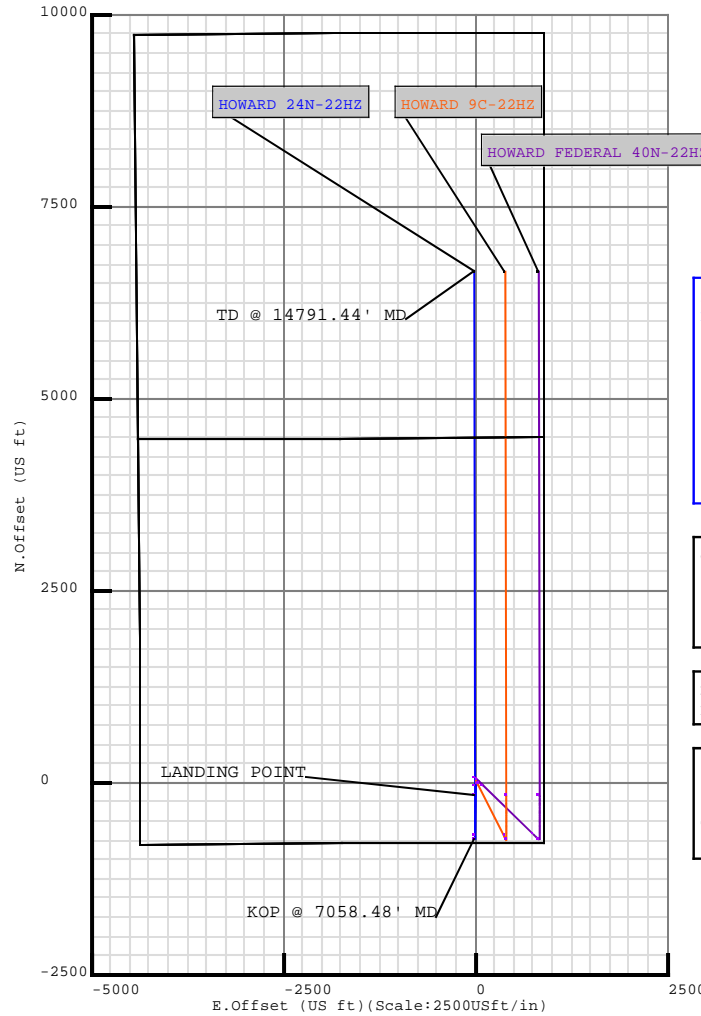
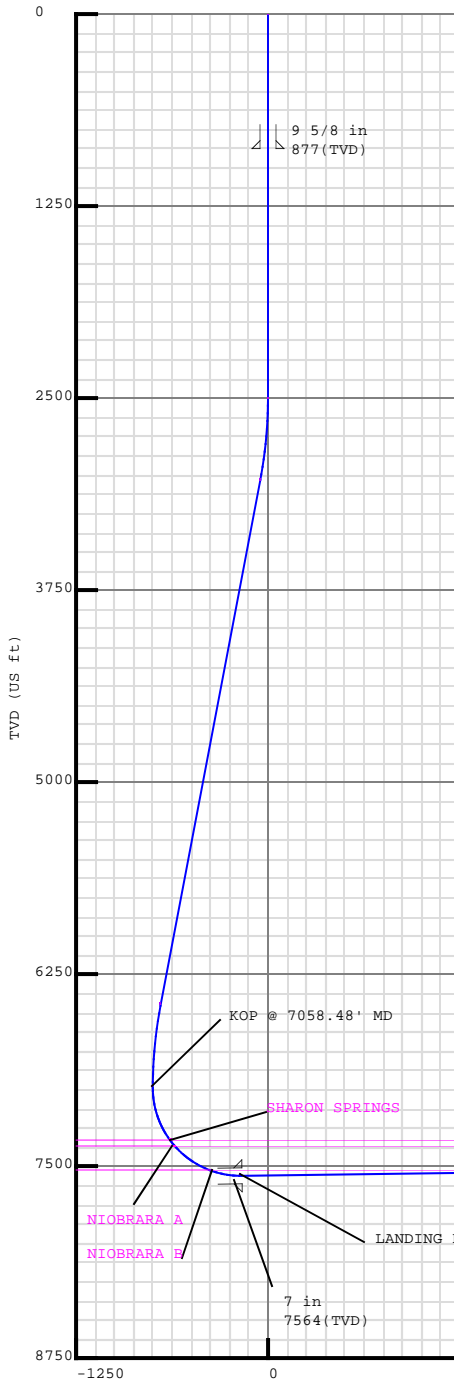
~631' FSL, ~918' FEL

TOTAL DEPTH - 14791.44' MD

~2175' FSL, ~916' FEL

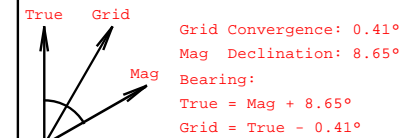
Formation Point Information:

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
SUSSEX	4817.00	260.00	4851.97
SHANNON	5357.00	-280.00	5401.61
SHARON SPRINGS	7334.00	-2257.00	7426.10
NIOBRARA A	7374.00	-2297.00	7477.84
NIOBRARA B	7534.00	-2457.00	7772.09



TD @ 14791.44' MD

HOWARD 24N-22HZ



HOWARD 24N-22HZ

Field Name WATTENBERG_ANADAR KO_NAD83_HOWARD PAD - OFFICE VERSION	Map Units : US ft		Company Name : ANADARKO				
	Vertical Reference Datum (VRD) : Mean Sea Level						
	Projected Coordinate System : NAD83 / Colorado North (ftUS)						
	Comment :						
Site Name HOWARD PAD	Units : US ft		North Reference : True		Convergence Angle : 0.41		
	Position	Northing : 1249685.42 US ft		Latitude : 40.017055			
		Easting : 3176321.47 US ft		Longitude : -104.870463			
	Elevation above Mean Sea Level:5052.00 US ft						
Comment :							
Slot Name HOWARD 24N-22HZ	Position (Offsets relative to Site Centre)						
	+N / -S : 0.00 US ft		Northing :1249685.42 US ft		Latitude : 40.017055		
	+E / -W : 0.00 US ft		Easting :3176321.47 US ft		Longitude : -104.870463		
	Slot TVD Reference : Ground Elevation						
	Elevation above Mean Sea Level : 5052.00 US ft						
	Comment :						
Well Name HOWARD 24N-22HZ	Type : Main well		UWI :		Plan : PLAN 1		
	Rig Height		Drill Floor : 25.00 US ft		Comment :		
	Relative to Mean Sea Level: 5077.00 US ft						
	Closure Distance : 6655.34 US ft		Closure Azimuth : 359.8°				
	Vertical Section (Position of Origin Relative to Slot)						
	+N / -S : -0.00 US ft		+E / -W : -0.00 US ft		Az :359.80°		
	Magnetic Parameters						
Model : BGGM		Field Strength : 52678.9nT		Dec : 8.65°		Dip : 66.65°	Date : 17/Jun/2013

Plan Archive				
Plan Folder	Date	Comment	Plans	
P1	17/Jun/2013		Plan PLAN 1	Date 17/Jun/2013 Comment

Target Set	
Name : 24N-22HZ	Number of Targets : 1

5D Plan Report

Target Set

Comment :

TargetName:	Position (Relative to Slot centre)			
PBHL	+N / -S : 6655.30US ft		Northing : 1256340.39 US ft	
Shape:	+E / -W : -23.24 US ft		Easting : 3176250.98US ft	
	Longitude : -104°52'13.965600"			
Cuboid	TVD (Drill Floor) : 7473.00 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 Slot centre, TVD relative to Drill Floor)

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)
9 5/8 in	877.00	0.00	0.00	877.00	0.00	0.00
7 in	7966.12	90.76	359.91	7564.00	-169.41	-11.96

Well path created using minimum curvature

Salient Points (Relative to Slot 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)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	
877.00	0.00	0.00	877.00	0.00	0.00	0.00	9 5/8 in
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	
3037.32	10.75	180.84	3034.17	-50.24	-0.74	2.00	
4851.97	10.75	180.84	4817.00	-388.56	-5.70	0.00	SUSSEX :
5401.61	10.75	180.84	5357.00	-491.04	-7.20	0.00	SHANNON :
6521.17	10.75	180.84	6456.92	-699.77	-10.26	0.00	
7058.48	0.00	0.00	6991.09	-750.00	-11.00	2.00	KOP @ 7058.48' MD
7426.10	36.76	359.91	7334.00	-636.06	-11.19	10.00	SHARON SPRINGS :
7477.84	41.94	359.91	7374.00	-603.27	-11.24	10.00	NIOBRARA A :
7772.09	71.36	359.91	7534.00	-360.17	-11.64	10.00	NIOBRARA B :
7966.12	90.76	359.91	7564.00	-169.41	-11.96	10.00	LANDING POINT; 7 in
14791.44	90.76	359.91	7473.00	6655.30	-23.24	0.00	TD @ 14791.44' MD

Interpolated Points (Relative to Slot 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)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	

5D Plan Report

Interpolated Points (Relative to Slot 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)	Comment
100.00	0.00	0.00	100.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	
2600.00	2.00	180.84	2599.98	-1.74	-0.03	2.00	
2700.00	4.00	180.84	2699.84	-6.98	-0.10	2.00	
2800.00	6.00	180.84	2799.45	-15.69	-0.23	2.00	
2900.00	8.00	180.84	2898.70	-27.88	-0.41	2.00	
3000.00	10.00	180.84	2997.47	-43.52	-0.64	2.00	
3037.32	10.75	180.84	3034.17	-50.24	-0.74	2.00	
3100.00	10.75	180.84	3095.76	-61.92	-0.91	0.00	
3200.00	10.75	180.84	3194.00	-80.57	-1.18	0.00	
3300.00	10.75	180.84	3292.25	-99.21	-1.46	0.00	
3400.00	10.75	180.84	3390.49	-117.86	-1.73	0.00	
3500.00	10.75	180.84	3488.74	-136.50	-2.00	0.00	
3600.00	10.75	180.84	3586.99	-155.14	-2.28	0.00	
3700.00	10.75	180.84	3685.23	-173.79	-2.55	0.00	
3800.00	10.75	180.84	3783.48	-192.43	-2.82	0.00	
3900.00	10.75	180.84	3881.73	-211.08	-3.10	0.00	
4000.00	10.75	180.84	3979.97	-229.72	-3.37	0.00	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)							Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	
4100.00	10.75	180.84	4078.22	-248.36	-3.64	0.00	
4200.00	10.75	180.84	4176.46	-267.01	-3.92	0.00	
4300.00	10.75	180.84	4274.71	-285.65	-4.19	0.00	
4400.00	10.75	180.84	4372.96	-304.30	-4.46	0.00	
4500.00	10.75	180.84	4471.20	-322.94	-4.74	0.00	
4600.00	10.75	180.84	4569.45	-341.58	-5.01	0.00	
4700.00	10.75	180.84	4667.70	-360.23	-5.28	0.00	
4800.00	10.75	180.84	4765.94	-378.87	-5.56	0.00	
4900.00	10.75	180.84	4864.19	-397.52	-5.83	0.00	
5000.00	10.75	180.84	4962.43	-416.16	-6.10	0.00	
5100.00	10.75	180.84	5060.68	-434.80	-6.38	0.00	
5200.00	10.75	180.84	5158.93	-453.45	-6.65	0.00	
5300.00	10.75	180.84	5257.17	-472.09	-6.92	0.00	
5400.00	10.75	180.84	5355.42	-490.74	-7.20	0.00	
5500.00	10.75	180.84	5453.67	-509.38	-7.47	0.00	
5600.00	10.75	180.84	5551.91	-528.02	-7.74	0.00	
5700.00	10.75	180.84	5650.16	-546.67	-8.02	0.00	
5800.00	10.75	180.84	5748.40	-565.31	-8.29	0.00	
5900.00	10.75	180.84	5846.65	-583.96	-8.56	0.00	
6000.00	10.75	180.84	5944.90	-602.60	-8.84	0.00	
6100.00	10.75	180.84	6043.14	-621.25	-9.11	0.00	
6200.00	10.75	180.84	6141.39	-639.89	-9.39	0.00	
6300.00	10.75	180.84	6239.64	-658.53	-9.66	0.00	
6400.00	10.75	180.84	6337.88	-677.18	-9.93	0.00	
6500.00	10.75	180.84	6436.13	-695.82	-10.21	0.00	
6521.17	10.75	180.84	6456.92	-699.77	-10.26	0.00	
6600.00	9.17	180.84	6534.57	-713.40	-10.46	2.00	
6700.00	7.17	180.84	6633.55	-727.61	-10.67	2.00	
6800.00	5.17	180.84	6732.96	-738.35	-10.83	2.00	
6900.00	3.17	180.84	6832.69	-745.62	-10.94	2.00	
7000.00	1.17	180.84	6932.62	-749.41	-10.99	2.00	
7058.48	0.00	0.00	6991.09	-750.00	-11.00	2.00	KOP @ 7058.48' MD
7100.00	4.15	359.91	7032.58	-748.50	-11.00	10.00	
7200.00	14.15	359.91	7131.18	-732.62	-11.03	10.00	
7300.00	24.15	359.91	7225.52	-699.85	-11.08	10.00	
7400.00	34.15	359.91	7312.75	-651.20	-11.16	10.00	
7500.00	44.15	359.91	7390.19	-588.14	-11.27	10.00	
7600.00	54.15	359.91	7455.52	-512.59	-11.39	10.00	
7700.00	64.15	359.91	7506.73	-426.85	-11.53	10.00	
7800.00	74.15	359.91	7542.27	-333.52	-11.69	10.00	
7900.00	84.15	359.91	7561.07	-235.43	-11.85	10.00	

5D Plan Report

Interpolated Points (Relative to Slot 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)	Comment
7966.12	90.76	359.91	7564.00	-169.41	-11.96	10.00	LANDING POINT
8000.00	90.76	359.91	7563.55	-135.53	-12.02	0.00	
8100.00	90.76	359.91	7562.22	-35.54	-12.18	0.00	
8200.00	90.76	359.91	7560.88	64.45	-12.35	0.00	
8300.00	90.76	359.91	7559.55	164.44	-12.51	0.00	
8400.00	90.76	359.91	7558.22	264.43	-12.68	0.00	
8500.00	90.76	359.91	7556.88	364.42	-12.84	0.00	
8600.00	90.76	359.91	7555.55	464.41	-13.01	0.00	
8700.00	90.76	359.91	7554.22	564.40	-13.17	0.00	
8800.00	90.76	359.91	7552.88	664.39	-13.34	0.00	
8900.00	90.76	359.91	7551.55	764.39	-13.50	0.00	
9000.00	90.76	359.91	7550.22	864.38	-13.67	0.00	
9100.00	90.76	359.91	7548.88	964.37	-13.83	0.00	
9200.00	90.76	359.91	7547.55	1064.36	-14.00	0.00	
9300.00	90.76	359.91	7546.22	1164.35	-14.16	0.00	
9400.00	90.76	359.91	7544.88	1264.34	-14.33	0.00	
9500.00	90.76	359.91	7543.55	1364.33	-14.50	0.00	
9600.00	90.76	359.91	7542.22	1464.32	-14.66	0.00	
9700.00	90.76	359.91	7540.89	1564.31	-14.83	0.00	
9800.00	90.76	359.91	7539.55	1664.30	-14.99	0.00	
9900.00	90.76	359.91	7538.22	1764.30	-15.16	0.00	
10000.00	90.76	359.91	7536.89	1864.29	-15.32	0.00	
10100.00	90.76	359.91	7535.55	1964.28	-15.49	0.00	
10200.00	90.76	359.91	7534.22	2064.27	-15.65	0.00	
10300.00	90.76	359.91	7532.89	2164.26	-15.82	0.00	
10400.00	90.76	359.91	7531.55	2264.25	-15.98	0.00	
10500.00	90.76	359.91	7530.22	2364.24	-16.15	0.00	
10600.00	90.76	359.91	7528.89	2464.23	-16.31	0.00	
10700.00	90.76	359.91	7527.55	2564.22	-16.48	0.00	
10800.00	90.76	359.91	7526.22	2664.21	-16.64	0.00	
10900.00	90.76	359.91	7524.89	2764.21	-16.81	0.00	
11000.00	90.76	359.91	7523.55	2864.20	-16.97	0.00	
11100.00	90.76	359.91	7522.22	2964.19	-17.14	0.00	
11200.00	90.76	359.91	7520.89	3064.18	-17.30	0.00	
11300.00	90.76	359.91	7519.55	3164.17	-17.47	0.00	
11400.00	90.76	359.91	7518.22	3264.16	-17.64	0.00	
11500.00	90.76	359.91	7516.89	3364.15	-17.80	0.00	
11600.00	90.76	359.91	7515.55	3464.14	-17.97	0.00	
11700.00	90.76	359.91	7514.22	3564.13	-18.13	0.00	
11800.00	90.76	359.91	7512.89	3664.12	-18.30	0.00	
11900.00	90.76	359.91	7511.55	3764.12	-18.46	0.00	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)							Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	
12000.00	90.76	359.91	7510.22	3864.11	-18.63	0.00	
12100.00	90.76	359.91	7508.89	3964.10	-18.79	0.00	
12200.00	90.76	359.91	7507.55	4064.09	-18.96	0.00	
12300.00	90.76	359.91	7506.22	4164.08	-19.12	0.00	
12400.00	90.76	359.91	7504.89	4264.07	-19.29	0.00	
12500.00	90.76	359.91	7503.55	4364.06	-19.45	0.00	
12600.00	90.76	359.91	7502.22	4464.05	-19.62	0.00	
12700.00	90.76	359.91	7500.89	4564.04	-19.78	0.00	
12800.00	90.76	359.91	7499.56	4664.03	-19.95	0.00	
12900.00	90.76	359.91	7498.22	4764.02	-20.11	0.00	
13000.00	90.76	359.91	7496.89	4864.02	-20.28	0.00	
13100.00	90.76	359.91	7495.56	4964.01	-20.45	0.00	
13200.00	90.76	359.91	7494.22	5064.00	-20.61	0.00	
13300.00	90.76	359.91	7492.89	5163.99	-20.78	0.00	
13400.00	90.76	359.91	7491.56	5263.98	-20.94	0.00	
13500.00	90.76	359.91	7490.22	5363.97	-21.11	0.00	
13600.00	90.76	359.91	7488.89	5463.96	-21.27	0.00	
13700.00	90.76	359.91	7487.56	5563.95	-21.44	0.00	
13800.00	90.76	359.91	7486.22	5663.94	-21.60	0.00	
13900.00	90.76	359.91	7484.89	5763.93	-21.77	0.00	
14000.00	90.76	359.91	7483.56	5863.93	-21.93	0.00	
14100.00	90.76	359.91	7482.22	5963.92	-22.10	0.00	
14200.00	90.76	359.91	7480.89	6063.91	-22.26	0.00	
14300.00	90.76	359.91	7479.56	6163.90	-22.43	0.00	
14400.00	90.76	359.91	7478.22	6263.89	-22.59	0.00	
14500.00	90.76	359.91	7476.89	6363.88	-22.76	0.00	
14600.00	90.76	359.91	7475.56	6463.87	-22.92	0.00	
14700.00	90.76	359.91	7474.22	6563.86	-23.09	0.00	
14791.44	90.76	359.91	7473.00	6655.30	-23.24	0.00	TD @ 14791.44' MD

Formation Points (Relative to Slot centre, TVD relative to Drill Floor)								
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	F.Dip (°)	F.Dir (°)
SUSSEX	4851.97	10.75	180.84	4817.00	-388.56	-5.70	0	0
SHANNON	5401.61	10.75	180.84	5357.00	-491.04	-7.20	0	0
SHARON SPRINGS	7426.10	36.76	359.91	7334.00	-636.06	-11.19	0	0
NIOBRARA A	7477.84	41.94	359.91	7374.00	-603.27	-11.24	0	0
NIOBRARA B	7772.09	71.36	359.91	7534.00	-360.17	-11.64	0	0