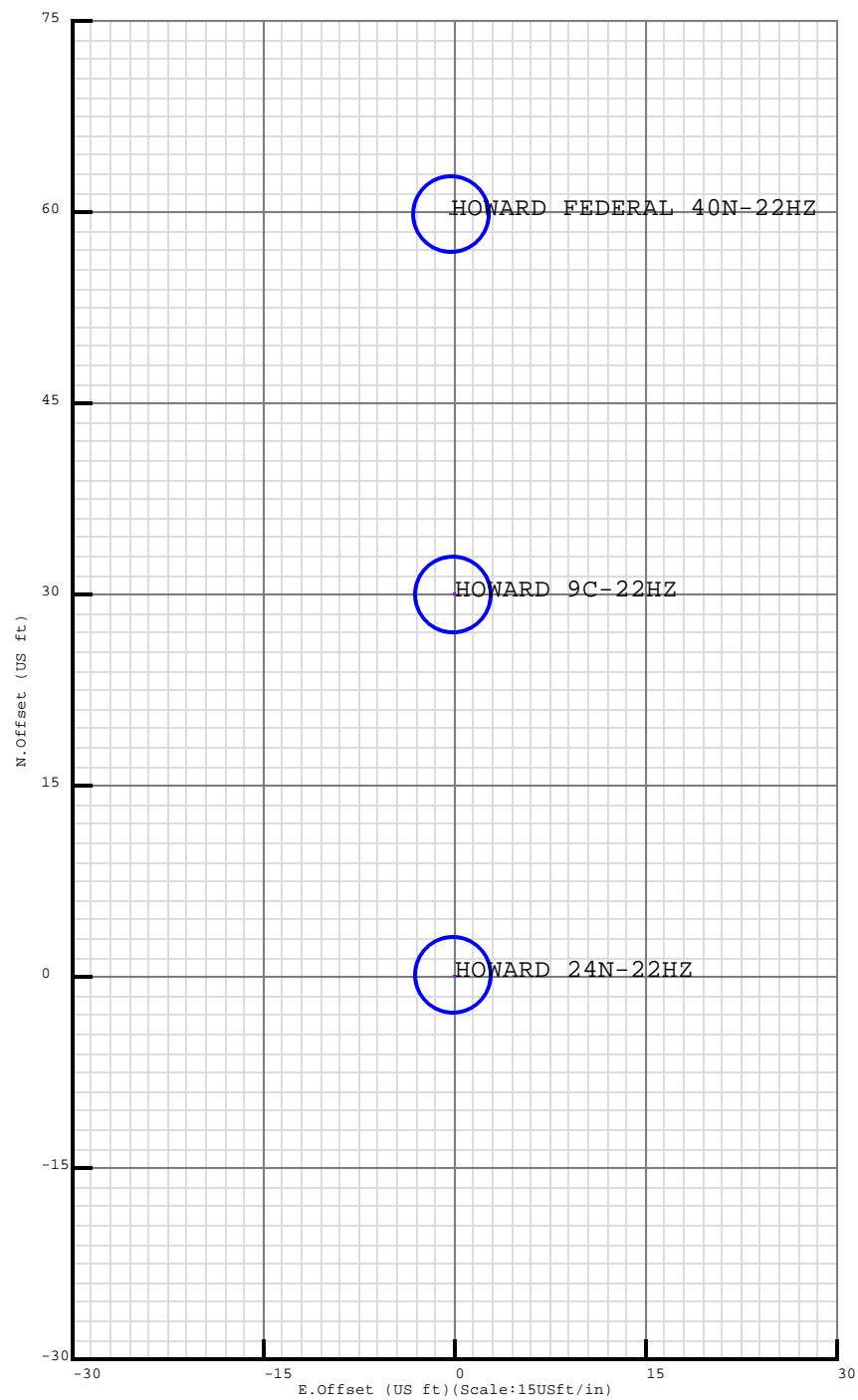


**5D Plan Report****ANADARKO**

Field Name: *WATTENBERG_ANADARKO_NAD83_HOWARD PAD - OFFICE VERSION*
Site Name: *HOWARD PAD*
Well Name: *HOWARD FEDERAL 40N-22HZ*
Plan: *PLAN 1*

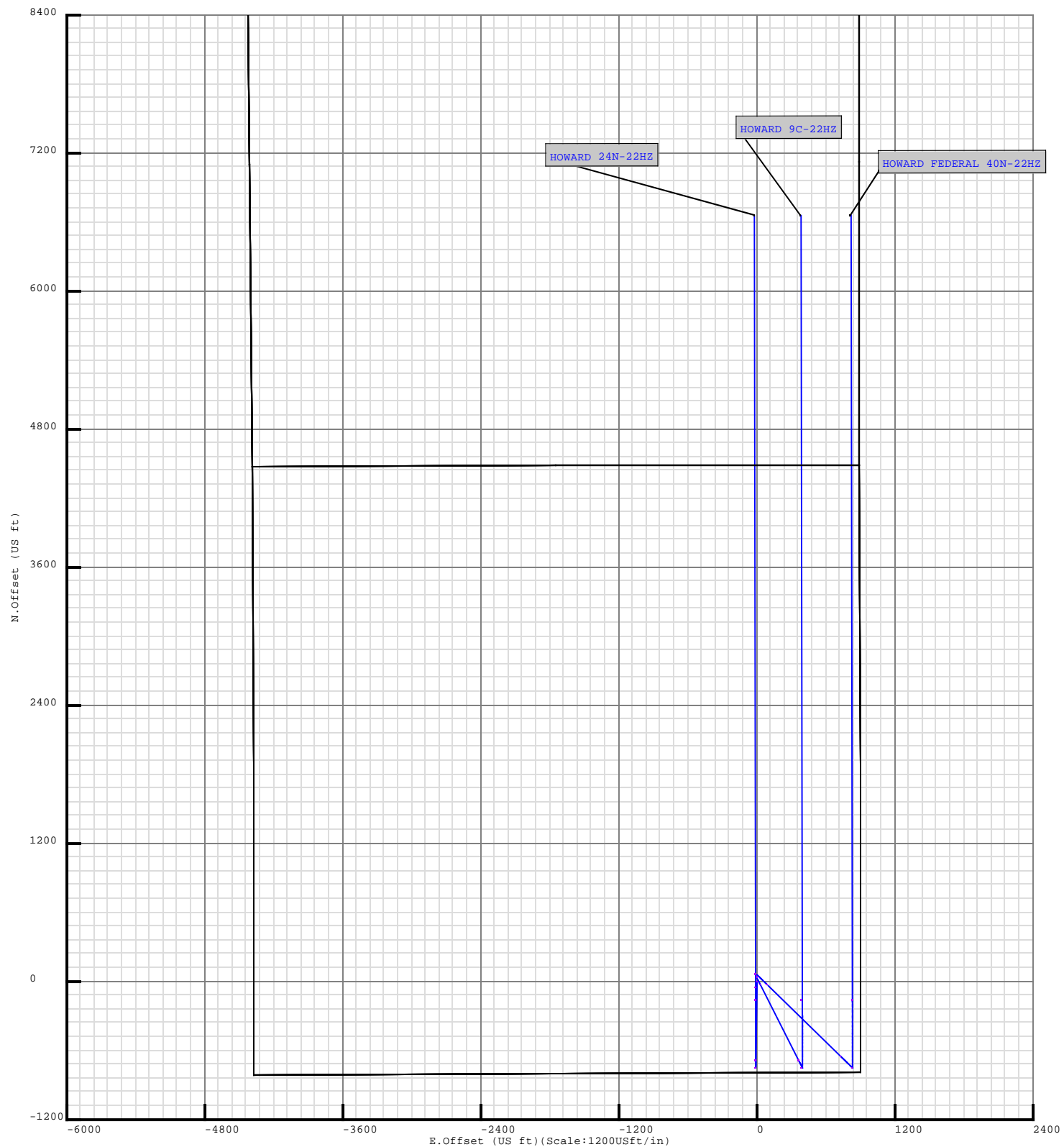
18 June 2013





Slot View

Site: HOWARD PAD



Site: HOWARD PAD

Spider Plot - Top Expanded



Weatherford®

Anadarko
Petroleum Corporation

Plan Data for HOWARD FEDERAL 40N-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 FEDERAL 40N-22HZ

Position:
Offset is from Site centre
+N/-S: 59.75USft Northing: 1249745.16USft Latitude: 40.017219°
+E/-W: -0.28USft Easting: 3176320.77USft Longitude: -104.870464°
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	40.017219	-104.870464	0.00	0.00	0.0R	0.00	0.00
2500.00	0.00	0.00	2500.00	40.017219	-104.870464	0.00	0.00	0.0R	0.00	0.00
3396.57	17.93	134.27	3382.00	40.016952	-104.870108	-84.26	2.00	134.3R	2.00	0.00
6261.84	17.93	134.27	6108.10	40.015262	-104.867853	-618.43	0.00	0.0R	0.00	0.00
7158.41	0.00	0.00	6990.10	40.014995	-104.867497	-702.69	2.00	180.0L	-2.00	0.00
8066.63	90.82	359.90	7563.00	40.016591	-104.867501	-125.96	10.00	0.1L	10.00	0.00
14895.74	90.82	359.90	7465.00	40.035336	-104.867542	6650.10	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	8066.63	7563.00

Target Set Information:

Name: 40N-22HZ			
Name	TVD	Lat	Long
	(USft)	(°)	(°)
PBHL	7465.00	40.035336	-104.867542

LINER - 7058.41' MD

KOP - 7158.41' MD

7" CASING - 8066.63' MD

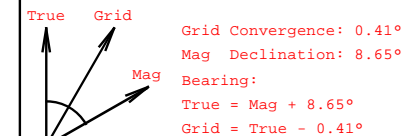
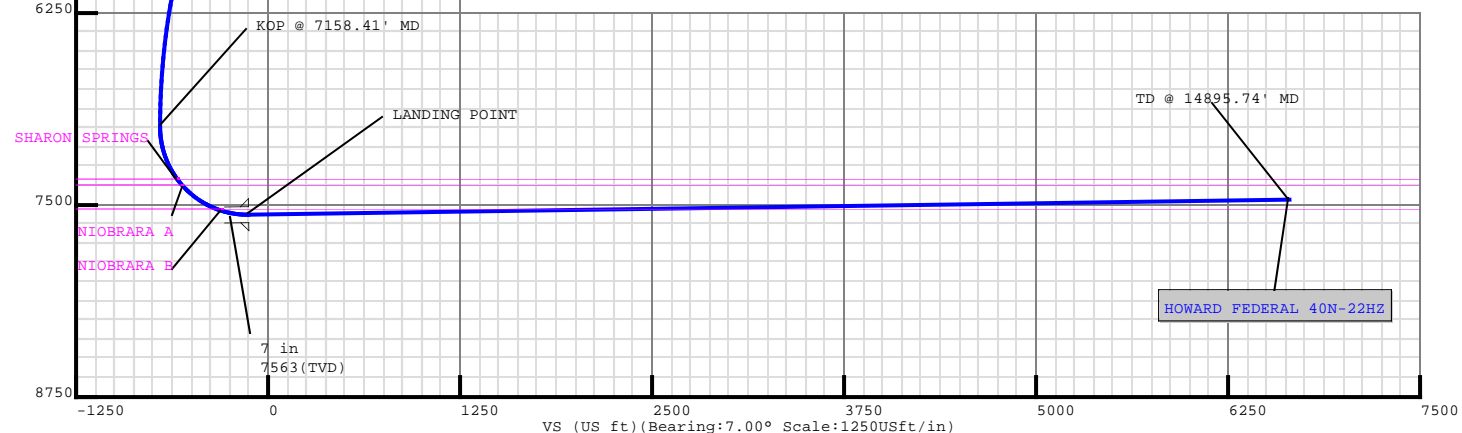
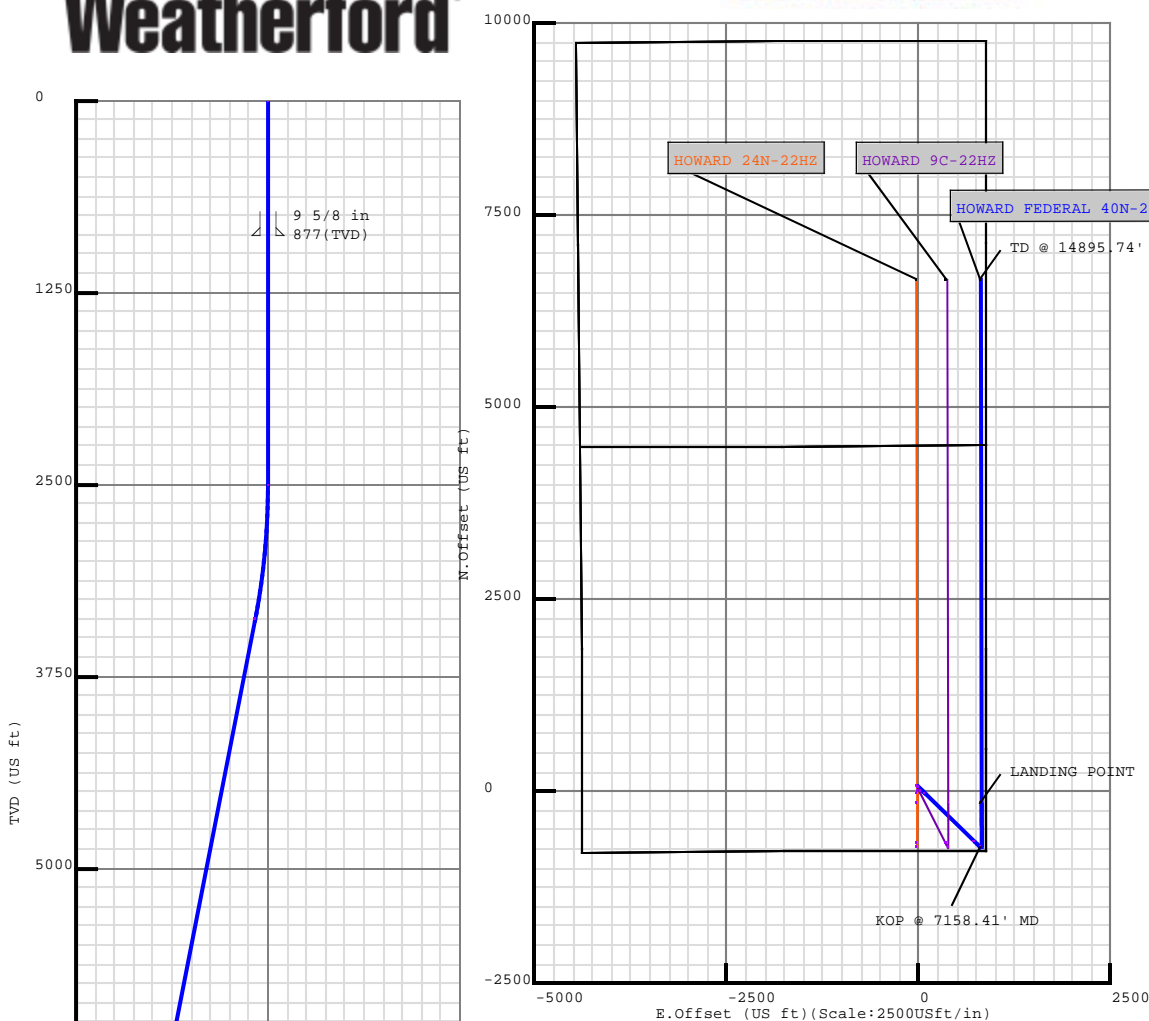
~628' FSL, ~76' FEL

TOTAL DEPTH - 14895.74' MD

~2177' FSL, ~75' FEL

Formation Point Information:

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
SUSSEX	4817.00	260.00	4904.83
SHANNON	5357.00	-280.00	5472.39
SHARON SPRINGS	7338.00	-2261.00	7532.28
NIOBRARA A	7380.00	-2303.00	7587.24
NIOBRARA B	7539.00	-2462.00	7891.78



HOWARD FEDERAL 40N-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 FEDERAL 40N- 22HZ	Position (Offsets relative to Site Centre)						
	+N / -S : 59.75 US ft		Northing :1249745.16 US ft		Latitude : 40.017219		
	+E / -W : -0.28 US ft		Easting :3176320.77 US ft		Longitude : -104.870464		
	Slot TVD Reference : Ground Elevation						
	Elevation above Mean Sea Level : 5052.00 US ft						
	Comment :						
Well Name HOWARD FEDERAL 40N- 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 : 6650.1 US ft		Closure Azimuth : 7.06716°				
	Vertical Section (Position of Origin Relative to Slot)						
	+N / -S : -59.75 US ft		+E / -W : 0.28 US ft		Az :7.00°		
	Magnetic Parameters						
	Model : BGGM		Field Strength : 52679.0nT		Dec : 8.65°		Dip : 66.65°

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

Target Set

Name : 40N-22HZ

Number of Targets : 1

5D Plan Report

Target Set

Comment :

TargetName:	Position (Relative to Slot centre)			
PBHL	+N / -S : 6599.58US ft		Northing : 1256350.38 US ft	Latitude : 40°2'7.209600"
Shape:	+E / -W : 818.18 US ft		Easting : 3177092.08US ft	Longitude : -104°52'3.151200"
Cuboid	TVD (Drill Floor) : 7465.00 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	8066.63	90.82	359.90	7563.00	-228.82	829.99

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	
3396.57	17.93	134.27	3382.00	-97.13	99.65	2.00	
4904.83	17.93	134.27	4817.00	-421.25	432.17	0.00	SUSSEX :
5472.39	17.93	134.27	5357.00	-543.22	557.30	0.00	SHANNON :
6261.84	17.93	134.27	6108.10	-712.87	731.35	0.00	
7158.41	0.00	0.00	6990.10	-810.00	831.00	2.00	KOP @ 7158.41' MD
7532.28	37.39	359.90	7338.00	-692.29	830.80	10.00	SHARON SPRINGS :
7587.24	42.88	359.90	7380.00	-656.87	830.74	10.00	NIOBRARA A :
7891.78	73.34	359.90	7539.00	-401.33	830.29	10.00	NIOBRARA B :
8066.63	90.82	359.90	7563.00	-228.82	829.99	10.00	LANDING POINT; 7 in
14895.74	90.82	359.90	7465.00	6599.58	818.18	0.00	TD @ 14895.74' 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	134.27	2599.98	-1.22	1.25	2.00	
2700.00	4.00	134.27	2699.84	-4.87	5.00	2.00	
2800.00	6.00	134.27	2799.45	-10.95	11.24	2.00	
2900.00	8.00	134.27	2898.70	-19.46	19.96	2.00	
3000.00	10.00	134.27	2997.47	-30.38	31.17	2.00	
3100.00	12.00	134.27	3095.62	-43.70	44.83	2.00	
3200.00	14.00	134.27	3193.06	-59.40	60.94	2.00	
3300.00	16.00	134.27	3289.64	-77.46	79.47	2.00	
3396.57	17.93	134.27	3382.00	-97.13	99.65	2.00	
3400.00	17.93	134.27	3385.27	-97.87	100.40	0.00	
3500.00	17.93	134.27	3480.41	-119.36	122.45	0.00	
3600.00	17.93	134.27	3575.55	-140.85	144.50	0.00	
3700.00	17.93	134.27	3670.70	-162.34	166.55	0.00	
3800.00	17.93	134.27	3765.84	-183.83	188.59	0.00	
3900.00	17.93	134.27	3860.98	-205.32	210.64	0.00	
4000.00	17.93	134.27	3956.12	-226.81	232.69	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	17.93	134.27	4051.27	-248.30	254.73	0.00	
4200.00	17.93	134.27	4146.41	-269.79	276.78	0.00	
4300.00	17.93	134.27	4241.55	-291.28	298.83	0.00	
4400.00	17.93	134.27	4336.70	-312.77	320.87	0.00	
4500.00	17.93	134.27	4431.84	-334.26	342.92	0.00	
4600.00	17.93	134.27	4526.98	-355.74	364.97	0.00	
4700.00	17.93	134.27	4622.12	-377.23	387.01	0.00	
4800.00	17.93	134.27	4717.27	-398.72	409.06	0.00	
4900.00	17.93	134.27	4812.41	-420.21	431.11	0.00	
5000.00	17.93	134.27	4907.55	-441.70	453.16	0.00	
5100.00	17.93	134.27	5002.69	-463.19	475.20	0.00	
5200.00	17.93	134.27	5097.84	-484.68	497.25	0.00	
5300.00	17.93	134.27	5192.98	-506.17	519.30	0.00	
5400.00	17.93	134.27	5288.12	-527.66	541.34	0.00	
5500.00	17.93	134.27	5383.26	-549.15	563.39	0.00	
5600.00	17.93	134.27	5478.41	-570.64	585.44	0.00	
5700.00	17.93	134.27	5573.55	-592.13	607.48	0.00	
5800.00	17.93	134.27	5668.69	-613.62	629.53	0.00	
5900.00	17.93	134.27	5763.83	-635.11	651.58	0.00	
6000.00	17.93	134.27	5858.98	-656.60	673.63	0.00	
6100.00	17.93	134.27	5954.12	-678.09	695.67	0.00	
6200.00	17.93	134.27	6049.26	-699.58	717.72	0.00	
6261.84	17.93	134.27	6108.10	-712.87	731.35	0.00	
6300.00	17.17	134.27	6144.48	-720.90	739.59	2.00	
6400.00	15.17	134.27	6240.52	-740.34	759.53	2.00	
6500.00	13.17	134.27	6337.48	-757.42	777.06	2.00	
6600.00	11.17	134.27	6435.22	-772.13	792.15	2.00	
6700.00	9.17	134.27	6533.65	-784.46	804.79	2.00	
6800.00	7.17	134.27	6632.63	-794.37	814.97	2.00	
6900.00	5.17	134.27	6732.05	-801.87	822.66	2.00	
7000.00	3.17	134.27	6831.78	-806.94	827.87	2.00	
7100.00	1.17	134.27	6931.70	-809.58	830.57	2.00	
7158.41	0.00	0.00	6990.10	-810.00	831.00	2.00	KOP @ 7158.41' MD
7200.00	4.16	359.90	7031.66	-808.49	831.00	10.00	
7300.00	14.16	359.90	7130.26	-792.59	830.97	10.00	
7400.00	24.16	359.90	7224.60	-759.81	830.91	10.00	
7500.00	34.16	359.90	7311.81	-711.15	830.83	10.00	
7600.00	44.16	359.90	7389.26	-648.08	830.72	10.00	
7700.00	54.16	359.90	7454.57	-572.53	830.59	10.00	
7800.00	64.16	359.90	7505.77	-486.78	830.44	10.00	
7900.00	74.16	359.90	7541.30	-393.44	830.28	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
8000.00	84.16	359.90	7560.08	-295.35	830.11	10.00	
8066.63	90.82	359.90	7563.00	-228.82	829.99	10.00	LANDING POINT
8100.00	90.82	359.90	7562.52	-195.45	829.94	0.00	
8200.00	90.82	359.90	7561.08	-95.46	829.76	0.00	
8300.00	90.82	359.90	7559.65	4.53	829.59	0.00	
8400.00	90.82	359.90	7558.21	104.52	829.42	0.00	
8500.00	90.82	359.90	7556.78	204.51	829.24	0.00	
8600.00	90.82	359.90	7555.34	304.50	829.07	0.00	
8700.00	90.82	359.90	7553.91	404.49	828.90	0.00	
8800.00	90.82	359.90	7552.47	504.47	828.73	0.00	
8900.00	90.82	359.90	7551.04	604.46	828.55	0.00	
9000.00	90.82	359.90	7549.60	704.45	828.38	0.00	
9100.00	90.82	359.90	7548.17	804.44	828.21	0.00	
9200.00	90.82	359.90	7546.73	904.43	828.03	0.00	
9300.00	90.82	359.90	7545.30	1004.42	827.86	0.00	
9400.00	90.82	359.90	7543.86	1104.41	827.69	0.00	
9500.00	90.82	359.90	7542.43	1204.40	827.51	0.00	
9600.00	90.82	359.90	7540.99	1304.39	827.34	0.00	
9700.00	90.82	359.90	7539.56	1404.38	827.17	0.00	
9800.00	90.82	359.90	7538.12	1504.37	827.00	0.00	
9900.00	90.82	359.90	7536.69	1604.36	826.82	0.00	
10000.00	90.82	359.90	7535.25	1704.35	826.65	0.00	
10100.00	90.82	359.90	7533.82	1804.34	826.48	0.00	
10200.00	90.82	359.90	7532.38	1904.33	826.30	0.00	
10300.00	90.82	359.90	7530.95	2004.32	826.13	0.00	
10400.00	90.82	359.90	7529.51	2104.31	825.96	0.00	
10500.00	90.82	359.90	7528.08	2204.30	825.78	0.00	
10600.00	90.82	359.90	7526.64	2304.29	825.61	0.00	
10700.00	90.82	359.90	7525.21	2404.28	825.44	0.00	
10800.00	90.82	359.90	7523.77	2504.27	825.27	0.00	
10900.00	90.82	359.90	7522.34	2604.26	825.09	0.00	
11000.00	90.82	359.90	7520.90	2704.24	824.92	0.00	
11100.00	90.82	359.90	7519.47	2804.23	824.75	0.00	
11200.00	90.82	359.90	7518.03	2904.22	824.57	0.00	
11300.00	90.82	359.90	7516.60	3004.21	824.40	0.00	
11400.00	90.82	359.90	7515.16	3104.20	824.23	0.00	
11500.00	90.82	359.90	7513.73	3204.19	824.05	0.00	
11600.00	90.82	359.90	7512.29	3304.18	823.88	0.00	
11700.00	90.82	359.90	7510.86	3404.17	823.71	0.00	
11800.00	90.82	359.90	7509.42	3504.16	823.54	0.00	
11900.00	90.82	359.90	7507.99	3604.15	823.36	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	
12000.00	90.82	359.90	7506.55	3704.14	823.19	0.00		
12100.00	90.82	359.90	7505.12	3804.13	823.02	0.00		
12200.00	90.82	359.90	7503.68	3904.12	822.84	0.00		
12300.00	90.82	359.90	7502.25	4004.11	822.67	0.00		
12400.00	90.82	359.90	7500.81	4104.10	822.50	0.00		
12500.00	90.82	359.90	7499.38	4204.09	822.32	0.00		
12600.00	90.82	359.90	7497.94	4304.08	822.15	0.00		
12700.00	90.82	359.90	7496.51	4404.07	821.98	0.00		
12800.00	90.82	359.90	7495.07	4504.06	821.81	0.00		
12900.00	90.82	359.90	7493.64	4604.05	821.63	0.00		
13000.00	90.82	359.90	7492.20	4704.04	821.46	0.00		
13100.00	90.82	359.90	7490.77	4804.03	821.29	0.00		
13200.00	90.82	359.90	7489.33	4904.02	821.11	0.00		
13300.00	90.82	359.90	7487.90	5004.00	820.94	0.00		
13400.00	90.82	359.90	7486.46	5103.99	820.77	0.00		
13500.00	90.82	359.90	7485.03	5203.98	820.59	0.00		
13600.00	90.82	359.90	7483.59	5303.97	820.42	0.00		
13700.00	90.82	359.90	7482.16	5403.96	820.25	0.00		
13800.00	90.82	359.90	7480.72	5503.95	820.08	0.00		
13900.00	90.82	359.90	7479.29	5603.94	819.90	0.00		
14000.00	90.82	359.90	7477.85	5703.93	819.73	0.00		
14100.00	90.82	359.90	7476.42	5803.92	819.56	0.00		
14200.00	90.82	359.90	7474.98	5903.91	819.38	0.00		
14300.00	90.82	359.90	7473.55	6003.90	819.21	0.00		
14400.00	90.82	359.90	7472.11	6103.89	819.04	0.00		
14500.00	90.82	359.90	7470.68	6203.88	818.86	0.00		
14600.00	90.82	359.90	7469.24	6303.87	818.69	0.00		
14700.00	90.82	359.90	7467.81	6403.86	818.52	0.00		
14800.00	90.82	359.90	7466.37	6503.85	818.35	0.00		
14895.74	90.82	359.90	7465.00	6599.58	818.18	0.00	TD @ 14895.74' 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	4904.83	17.93	134.27	4817.00	-421.25	432.17	0	0
SHANNON	5472.39	17.93	134.27	5357.00	-543.22	557.30	0	0
SHARON SPRINGS	7532.28	37.39	359.90	7338.00	-692.29	830.80	0	0
NIOBRARA A	7587.24	42.88	359.90	7380.00	-656.87	830.74	0	0
NIOBRARA B	7891.78	73.34	359.90	7539.00	-401.33	830.29	0	0