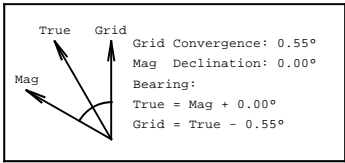


**5D Plan Report****ANADARKO**

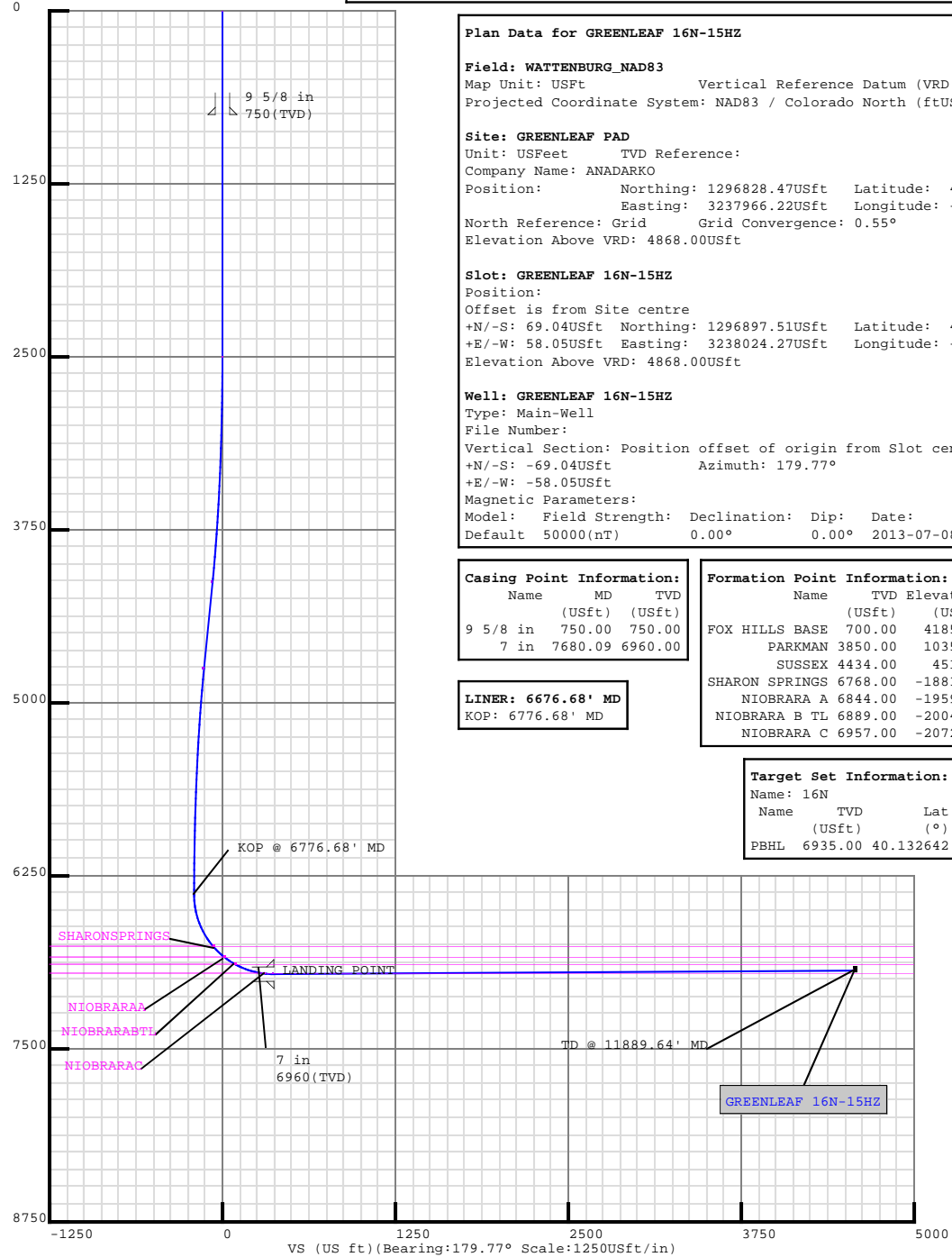
Field Name: *WATTENBURG_NAD83*
Site Name: *GREENLEAF PAD*
Well Name: *GREENLEAF 16N-15HZ*
Plan: *PLAN 1*





Plan Point Information:
 DogLeg Severity Unit: %/100.00ft Position offsets from Slot centre

MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Toolface	Build	Turn
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(°)	(DLSU)	(DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0R	0.00	0.00
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.0R	0.00	0.00
4251.01	36.77	82.17	4133.26	73.93	537.80	-71.77	2.10	82.2R	2.10	0.00
5025.67	36.77	82.17	4753.79	137.08	997.21	-133.07	0.00	0.0R	0.00	0.00
6776.68	0.00	0.00	6387.05	211.00	1535.01	-204.84	2.10	180.0R	-2.10	0.00
7680.09	90.34	179.77	6960.00	-365.35	1537.35	371.52	10.00	179.8R	10.00	0.00
11889.64	90.34	179.77	6935.00	-4574.80	1554.44	4581.00	0.00	0.0R	0.00	0.00



Plan Data for GREENLEAF 16N-15HZ

Field: WATTENBURG_NAD83
 Map Unit: USFt Vertical Reference Datum (VRD):
 Projected Coordinate System: NAD83 / Colorado North (ftUS)

Site: GREENLEAF PAD
 Unit: USFeet TVD Reference:
 Company Name: ANADARKO
 Position: Northing: 1296828.47USft Latitude: 40.145053°
 Easting: 3237966.22USft Longitude: -104.648763°
 North Reference: Grid Grid Convergence: 0.55°
 Elevation Above VRD: 4868.00USft

Slot: GREENLEAF 16N-15HZ
 Position:
 Offset is from Site centre
 +N/-S: 69.04USft Northing: 1296897.51USft Latitude: 40.145241°
 +E/-W: 58.05USft Easting: 3238024.27USft Longitude: -104.648553°
 Elevation Above VRD: 4868.00USft

Well: GREENLEAF 16N-15HZ
 Type: Main-Well
 File Number:
 Vertical Section: Position offset of origin from Slot centre:
 +N/-S: -69.04USft Azimuth: 179.77°
 +E/-W: -58.05USft
 Magnetic Parameters:
 Model: Field Strength: Declination: Dip: Date:
 Default 50000(nT) 0.00° 0.00° 2013-07-08

Casing Point Information:

Name	MD	TVD
	(USft)	(USft)
9 5/8 in	750.00	750.00
7 in	7680.09	6960.00

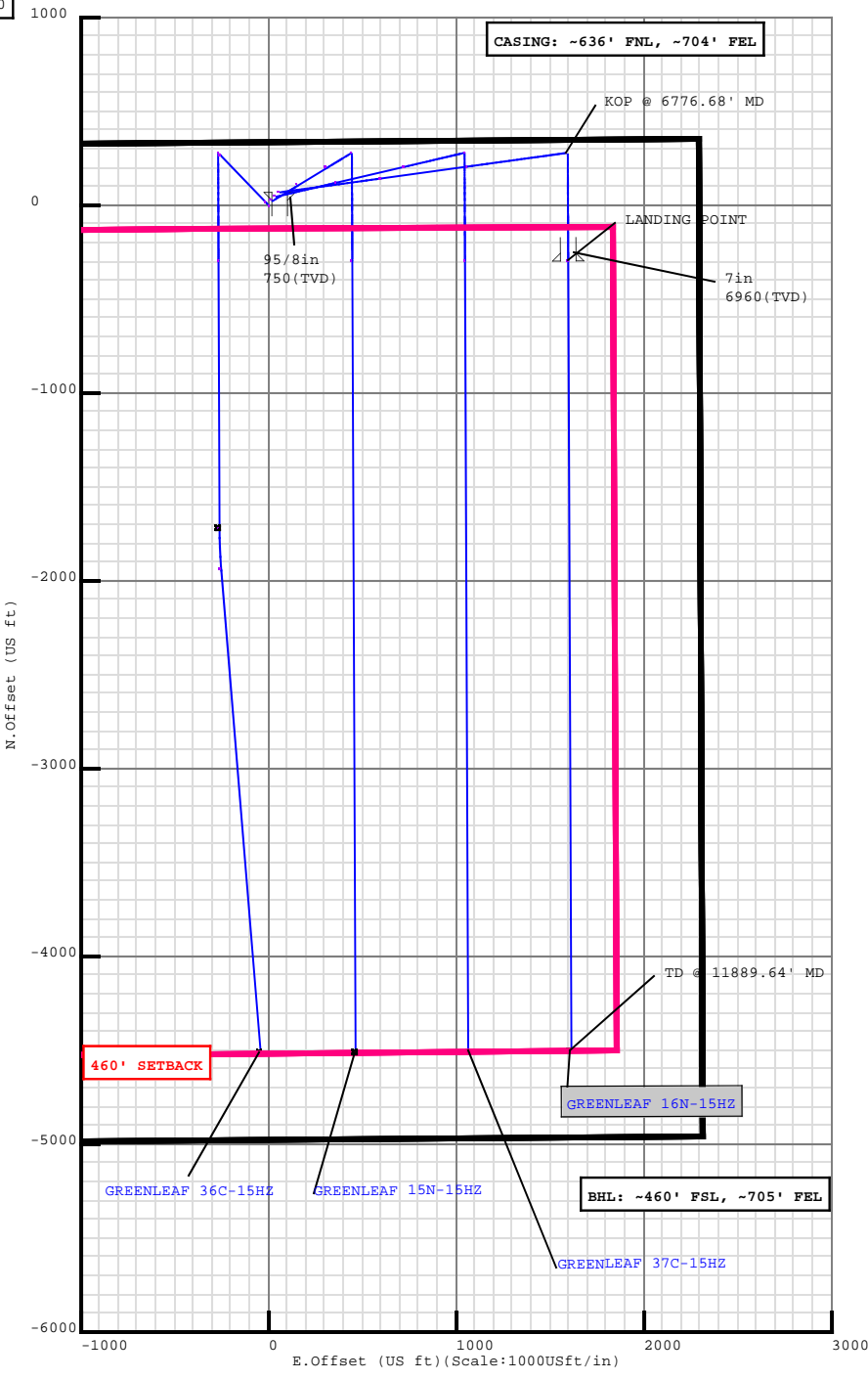
Formation Point Information:

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
FOX HILLS BASE	700.00	4185.00	700.00
PARKMAN	3850.00	1035.00	3912.22
SUSSEX	4434.00	451.00	4626.45
SHARON SPRINGS	6768.00	-1883.00	7193.42
NIOBRARA A	6844.00	-1959.00	7305.63
NIOBRARA B TL	6889.00	-2004.00	7388.40
NIOBRARA C	6957.00	-2072.00	7617.95

LINER: 6676.68' MD
 KOP: 6776.68' MD

Target Set Information:

Name	TVD	Lat	Long
	(USft)	(°)	(°)
PBHL	6935.00	40.132642	-104.643151



Plan Surveys for the GREENLEAF 16N-15HZ

Site Name GREENLEAF PAD	Units : US ft	North Reference : Grid	Convergence Angle : 0.55	
	Position	Northing : 1296828.47 US ft	Latitude : 40.145053	
		Easting : 3237966.22 US ft	Longitude : -104.648763	
	Elevation above: 4868.00 US ft			
	Comment :			
Slot Name GREENLEAF 16N-15HZ	Position (Offsets relative to Site Centre)			
	+N / -S : 69.04 US ft	Northing : 1296897.51 US ft	Latitude : 40.145241	
	+E / -W : 58.05 US ft	Easting : 3238024.27 US ft	Longitude : -104.648553	
	Slot TVD Reference : Ground Elevation			
	Elevation above : 4868.00 US ft			
	Comment :			
Well Name GREENLEAF 16N-15HZ	Type : Main well	UWI :	Plan : PLAN 1	
	Rig Height <i>Drill Floor</i> : 17.00 US ft	Comment :		
	Relative to : 4885.00 US ft	Closure Azimuth : 161.233°		
	Closure Distance : 4831.67 US ft	+E / -W : -58.05 US ft		
	Vertical Section (Position of Origin Relative to Slot)		Az : 179.77°	
		+N / -S : -69.04 US ft	Dip : 0.00°	
	Magnetic Parameters		Dec : 0.00°	Date : 08/Jul/2013
Model : Default	Field Strength : 50000.0nT			

5D Plan Report

Target Set

Name : 16N

Number of Targets : 1

Comment :

TargetName:	Position (Relative to centre)		
PBHL	+N / -S : -4574.80US ft	Northing : 1292322.71 US ft	Latitude : 40°7'57.511200"
Shape:	+E / -W : 1554.44 US ft	Easting : 3239578.71US ft	Longitude : -104°38'35.343600"
Cuboid	TVD (Drill Floor) : 6935.00 US ft		
Orientation	Azimuth : 0.00°	Inclination : 0.00°	
Dimensions	Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 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	750.00	0.00	0.00	750.00	0.00	0.00	40.145241	-104.648553
7 in	7680.09	90.34	179.77	6960.00	-365.36	1537.35	40.144197	-104.643067

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)	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	-68.81	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	-68.81	FOX HILLS BASE :
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	-68.81	9 5/8 in
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	-68.81	
3912.22	29.66	82.17	3850.00	48.67	354.07	2.10	82.17	-116.06	PARKMAN :
4251.01	36.77	82.17	4133.26	73.93	537.80	2.10	0.00	-140.57	
4626.45	36.77	82.17	4434.00	104.53	760.45	0.00	0.00	-170.28	SUSSEX :
5025.67	36.77	82.17	4753.79	137.08	997.21	0.00	0.00	-201.88	
6776.68	0.00	0.00	6387.05	211.00	1535.01	2.10	180.00	-273.64	KOP @ 6776.68' MD
7193.42	41.67	179.77	6768.00	66.01	1535.60	10.00	179.77	-128.66	SHARON SPRINGS :
7305.63	52.89	179.77	6844.00	-16.30	1535.94	10.00	0.00	-46.34	NIOBRARA A :
7388.40	61.17	179.77	6889.00	-85.68	1536.22	10.00	0.00	23.04	NIOBRARA B TL :
7617.95	84.13	179.77	6957.00	-303.32	1537.10	10.00	0.00	240.69	NIOBRARA C :
7680.09	90.34	179.77	6960.00	-365.35	1537.35	10.00	0.00	302.72	LANDING POINT
7680.09	90.34	179.77	6960.00	-365.36	1537.35	0.00	0.00	302.72	7 in
11889.64	90.34	179.77	6935.00	-4574.80	1554.44	0.00	0.00	4512.19	TD @ 11889.64' MD

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	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-68.81		
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	-68.81		
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	-68.81		
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	-68.81		
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	-68.81		
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	-68.81		
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	-68.81		
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	-68.81		
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	-68.81	FOX HILLS BASE :	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	-68.81	9 5/8 in	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	-68.81		
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	-68.81		
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	-68.81		
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	-68.81		
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	-68.81		
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	-68.81		
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	-68.81		
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	-68.81		
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	-68.81		
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	-68.81		
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	-68.81		
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	-68.81		
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	-68.81		
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	-68.81		
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	-68.81		
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	-68.81		
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	-68.81		
2600.00	2.10	82.17	2599.98	0.25	1.82	2.10	82.17	-69.05		
2700.00	4.20	82.17	2699.82	1.00	7.26	2.10	0.00	-69.78		
2800.00	6.30	82.17	2799.40	2.24	16.32	2.10	0.00	-70.98		
2900.00	8.40	82.17	2898.57	3.99	29.00	2.10	0.00	-72.68		
3000.00	10.50	82.17	2997.21	6.22	45.26	2.10	0.00	-74.85		
3100.00	12.60	82.17	3095.18	8.95	65.10	2.10	0.00	-77.49		
3200.00	14.70	82.17	3192.35	12.16	88.47	2.10	0.00	-80.61		
3300.00	16.80	82.17	3288.59	15.86	115.36	2.10	0.00	-84.20		
3400.00	18.90	82.17	3383.77	20.03	145.73	2.10	0.00	-88.25		
3500.00	21.00	82.17	3477.76	24.68	179.53	2.10	0.00	-92.76		
3600.00	23.10	82.17	3570.44	29.79	216.72	2.10	0.00	-97.73		
3700.00	25.20	82.17	3661.68	35.36	257.25	2.10	0.00	-103.13		
3800.00	27.30	82.17	3751.37	41.38	301.06	2.10	0.00	-108.98		

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	
3900.00	29.40	82.17	3839.37	47.85	348.10	2.10	0.00	-115.26		
3912.22	29.66	82.17	3850.00	48.67	354.07	2.10	0.00	-116.06	PARKMAN :	
4000.00	31.50	82.17	3925.57	54.75	398.31	2.10	0.00	-121.96		
4100.00	33.60	82.17	4009.86	62.08	451.61	2.10	0.00	-129.07		
4200.00	35.70	82.17	4092.12	69.82	507.93	2.10	0.00	-136.59		
4251.01	36.77	82.17	4133.26	73.93	537.80	2.10	0.00	-140.57		
4300.00	36.77	82.17	4172.50	77.92	566.85	0.00	0.00	-144.45		
4400.00	36.77	82.17	4252.61	86.07	626.16	0.00	0.00	-152.36		
4500.00	36.77	82.17	4332.71	94.22	685.46	0.00	0.00	-160.28		
4600.00	36.77	82.17	4412.81	102.38	744.77	0.00	0.00	-168.19		
4626.45	36.77	82.17	4434.00	104.53	760.45	0.00	0.00	-170.28	SUSSEX :	
4700.00	36.77	82.17	4492.92	110.53	804.07	0.00	0.00	-176.11		
4800.00	36.77	82.17	4573.02	118.68	863.38	0.00	0.00	-184.02		
4900.00	36.77	82.17	4653.12	126.83	922.68	0.00	0.00	-191.93		
5000.00	36.77	82.17	4733.23	134.98	981.99	0.00	0.00	-199.85		
5025.67	36.77	82.17	4753.79	137.08	997.21	0.00	0.00	-201.88		
5100.00	35.21	82.17	4813.93	143.02	1040.48	2.10	180.00	-207.65		
5200.00	33.11	82.17	4896.67	150.67	1096.11	2.10	180.00	-215.08		
5300.00	31.01	82.17	4981.41	157.90	1148.69	2.10	180.00	-222.09		
5400.00	28.91	82.17	5068.05	164.70	1198.16	2.10	180.00	-228.69		
5500.00	26.81	82.17	5156.45	171.06	1244.46	2.10	180.00	-234.87		
5600.00	24.71	82.17	5246.51	176.98	1287.51	2.10	180.00	-240.62		
5700.00	22.61	82.17	5338.10	182.44	1327.27	2.10	180.00	-245.92		
5800.00	20.51	82.17	5431.09	187.45	1363.67	2.10	180.00	-250.78		
5900.00	18.41	82.17	5525.37	191.99	1396.67	2.10	180.00	-255.18		
6000.00	16.31	82.17	5620.81	196.05	1426.23	2.10	180.00	-259.13		
6100.00	14.21	82.17	5717.28	199.63	1452.30	2.10	180.00	-262.61		
6200.00	12.11	82.17	5814.65	202.73	1474.86	2.10	180.00	-265.62		
6300.00	10.01	82.17	5912.79	205.35	1493.86	2.10	180.00	-268.15		
6400.00	7.91	82.17	6011.56	207.47	1509.29	2.10	180.00	-270.21		
6500.00	5.81	82.17	6110.84	209.09	1521.13	2.10	180.00	-271.79		
6600.00	3.71	82.17	6210.49	210.22	1529.35	2.10	180.00	-272.89		
6700.00	1.61	82.17	6310.38	210.85	1533.94	2.10	180.00	-273.50		
6776.68	0.00	0.00	6387.05	211.00	1535.01	2.10	180.00	-273.64	KOP @ 6776.68' MD	
6800.00	2.33	179.77	6410.36	210.53	1535.01	10.00	179.77	-273.17		
6900.00	12.33	179.77	6509.42	197.78	1535.07	10.00	0.00	-260.43		
7000.00	22.33	179.77	6604.76	168.03	1535.19	10.00	0.00	-230.67		
7100.00	32.33	179.77	6693.48	122.17	1535.37	10.00	0.00	-184.82		
7193.42	41.67	179.77	6768.00	66.01	1535.60	10.00	0.00	-128.66	SHARON SPRINGS :	
7200.00	42.33	179.77	6772.89	61.61	1535.62	10.00	0.00	-124.25		
7300.00	52.33	179.77	6840.58	-11.83	1535.92	10.00	0.00	-50.82		

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		
7305.63	52.89	179.77	6844.00	-16.30	1535.94	10.00	0.00	-46.34	NIOBRARA A :		
7388.40	61.17	179.77	6889.00	-85.68	1536.22	10.00	0.00	23.04	NIOBRARA B TL :		
7400.00	62.33	179.77	6894.49	-95.90	1536.26	10.00	0.00	33.26			
7500.00	72.33	179.77	6932.98	-188.06	1536.63	10.00	0.00	125.42			
7600.00	82.33	179.77	6954.88	-285.50	1537.03	10.00	0.00	222.86			
7617.95	84.13	179.77	6957.00	-303.32	1537.10	10.00	0.00	240.69	NIOBRARA C :		
7680.09	90.34	179.77	6960.00	-365.35	1537.35	10.00	0.00	302.72	LANDING POINT		
7680.09	90.34	179.77	6960.00	-365.36	1537.35	0.00	0.00	302.72	7 in		
7700.00	90.34	179.77	6959.88	-385.27	1537.43	0.00	0.00	322.63			
7800.00	90.34	179.77	6959.29	-485.27	1537.84	0.00	0.00	422.63			
7900.00	90.34	179.77	6958.69	-585.26	1538.25	0.00	0.00	522.63			
8000.00	90.34	179.77	6958.10	-685.26	1538.65	0.00	0.00	622.62			
8100.00	90.34	179.77	6957.50	-785.26	1539.06	0.00	0.00	722.62			
8200.00	90.34	179.77	6956.91	-885.26	1539.46	0.00	0.00	822.62			
8300.00	90.34	179.77	6956.32	-985.25	1539.87	0.00	0.00	922.62			
8400.00	90.34	179.77	6955.72	-1085.25	1540.27	0.00	0.00	1022.62			
8500.00	90.34	179.77	6955.13	-1185.25	1540.68	0.00	0.00	1122.62			
8600.00	90.34	179.77	6954.53	-1285.24	1541.09	0.00	0.00	1222.61			
8700.00	90.34	179.77	6953.94	-1385.24	1541.49	0.00	0.00	1322.61			
8800.00	90.34	179.77	6953.35	-1485.24	1541.90	0.00	0.00	1422.61			
8900.00	90.34	179.77	6952.75	-1585.24	1542.30	0.00	0.00	1522.61			
9000.00	90.34	179.77	6952.16	-1685.23	1542.71	0.00	0.00	1622.61			
9100.00	90.34	179.77	6951.57	-1785.23	1543.12	0.00	0.00	1722.61			
9200.00	90.34	179.77	6950.97	-1885.23	1543.52	0.00	0.00	1822.60			
9300.00	90.34	179.77	6950.38	-1985.23	1543.93	0.00	0.00	1922.60			
9400.00	90.34	179.77	6949.78	-2085.22	1544.33	0.00	0.00	2022.60			
9500.00	90.34	179.77	6949.19	-2185.22	1544.74	0.00	0.00	2122.60			
9600.00	90.34	179.77	6948.60	-2285.22	1545.15	0.00	0.00	2222.60			
9700.00	90.34	179.77	6948.00	-2385.22	1545.55	0.00	0.00	2322.59			
9800.00	90.34	179.77	6947.41	-2485.21	1545.96	0.00	0.00	2422.59			
9900.00	90.34	179.77	6946.81	-2585.21	1546.36	0.00	0.00	2522.59			
10000.00	90.34	179.77	6946.22	-2685.21	1546.77	0.00	0.00	2622.59			
10100.00	90.34	179.77	6945.63	-2785.21	1547.18	0.00	0.00	2722.59			
10200.00	90.34	179.77	6945.03	-2885.20	1547.58	0.00	0.00	2822.59			
10300.00	90.34	179.77	6944.44	-2985.20	1547.99	0.00	0.00	2922.58			
10400.00	90.34	179.77	6943.85	-3085.20	1548.39	0.00	0.00	3022.58			
10500.00	90.34	179.77	6943.25	-3185.20	1548.80	0.00	0.00	3122.58			
10600.00	90.34	179.77	6942.66	-3285.19	1549.21	0.00	0.00	3222.58			
10700.00	90.34	179.77	6942.06	-3385.19	1549.61	0.00	0.00	3322.58			
10800.00	90.34	179.77	6941.47	-3485.19	1550.02	0.00	0.00	3422.58			
10900.00	90.34	179.77	6940.88	-3585.19	1550.42	0.00	0.00	3522.57			

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	
11000.00	90.34	179.77	6940.28	-3685.18	1550.83	0.00	0.00	3622.57		
11100.00	90.34	179.77	6939.69	-3785.18	1551.24	0.00	0.00	3722.57		
11200.00	90.34	179.77	6939.09	-3885.18	1551.64	0.00	0.00	3822.57		
11300.00	90.34	179.77	6938.50	-3985.17	1552.05	0.00	0.00	3922.57		
11400.00	90.34	179.77	6937.91	-4085.17	1552.45	0.00	0.00	4022.56		
11500.00	90.34	179.77	6937.31	-4185.17	1552.86	0.00	0.00	4122.56		
11600.00	90.34	179.77	6936.72	-4285.17	1553.27	0.00	0.00	4222.56		
11700.00	90.34	179.77	6936.13	-4385.16	1553.67	0.00	0.00	4322.56		
11800.00	90.34	179.77	6935.53	-4485.16	1554.08	0.00	0.00	4422.56		
11889.64	90.34	179.77	6935.00	-4574.80	1554.44	0.00	0.00	4512.19	TD @ 11889.64' MD	

Formation Points (Relative to centre, TVD relative to Drill Floor)			
Name	MD (US ft)	TVD (US ft)	
FOX HILLS BASE	700.00	700.00	
PARKMAN	3912.22	3850.00	
SUSSEX	4626.45	4434.00	
SHARON SPRINGS	7193.42	6768.00	
NIOBRARA A	7305.63	6844.00	
NIOBRARA B TL	7388.40	6889.00	
NIOBRARA C	7617.95	6957.00	