

30-045-3115



**Scientific  
Drilling**

**Directional Survey Certification**

RE: _____	<b>XTO Energy Inc.</b>	<b>Operator</b>
_____	<b>Bolack "C" #9B</b>	<b>Well Name &amp; No.</b>
_____	<b>San Juan County, NM</b>	<b>Location</b>
_____	<b>41DMWD0103001</b>	<b>SDI Job No.</b>

I, Judi Moore, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 299 feet to a measured depth of 4123 feet is true and correct as determined from all available records.

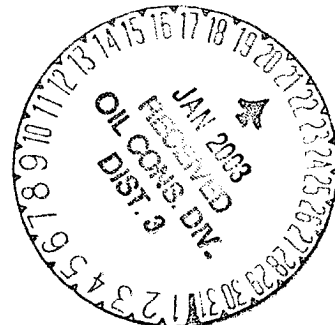
<u>Judi Moore</u>	<u>Well Planner</u>	<u>SDI</u>
Signature	Title	Company

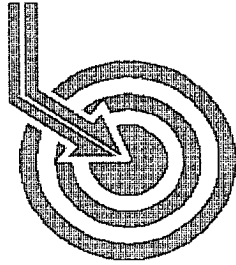
State of : Wyoming }  
 County of : Natrona } ss

On this 16<sup>th</sup> day of January, 2003, before me personally appeared Judi Moore to me known as the person described in and who executed the foregoing instrument and acknowledged that (s)he executed the same as his/her free act and deed.

Seal Summer J. Whitehouse  
Notary Public

Aug. 18, 2004  
My Commission Expires





**Scientific  
Drilling**

**DIRECTIONAL SURVEY REPORT**

**Prepared For**

**XTO ENERGY INC.  
Bolack "C" #9B  
San Juan County, NM**

***Prepared By:  
Judi Moore - Well Planner  
Scientific Drilling International  
Rocky Mountain District***

Scientific Drilling International  
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P.O. Box 1600, Mills, WY 82644  
(307) 472-6621  
judimoore\_sdi@attbi.com



# Scientific Drilling Survey Completion Report

<b>Company:</b> XTO Energy Inc. <b>Field:</b> San Juan County, NM <b>Site:</b> Bolack "C" #9B <b>Well:</b> #9B <b>Wellpath:</b> OH	<b>Date:</b> 1/14/2003 <b>Co-ordinate(NE) Reference:</b> <b>Vertical (TVD) Reference:</b> <b>Section (VS) Reference:</b> <b>Survey Calculation Method:</b>	<b>Time:</b> 14:04:10 <b>Site:</b> Bolack "C" #9B, True North <b>SITE:</b> 0.0 <b>Well (0.00N,0.00E,101.31Azi)</b> <b>Minimum Curvature</b>	<b>Page:</b> 1 <b>Db:</b> Sybase
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<b>Survey:</b> Survey #1  <b>Company:</b> Scientific Drilling <b>Tool:</b> MWD,	<b>Start Date:</b> 1/14/2003  <b>Engineer:</b> D.Bayer/J.Willy <b>Tied-to:</b> From Surface
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**Field:** San Juan County, NM

<b>Map System:</b> US State Plane Coordinate System 1927 <b>Geo Datum:</b> NAD27 (Clarke 1866) <b>Sys Datum:</b> Mean Sea Level	<b>Map Zone:</b> New Mexico, Western Zone <b>Coordinate System:</b> Site Centre <b>Geomagnetic Model:</b> igrf2000
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**Site:** Bolack "C" #9B  
 SHL SEC.31,T27N,R08W 660'FNL & 2100'FEL  
 PBHL SEC.31,T27N,RR08W 660'FNL & 1915'FEL

<b>Site Position:</b> <b>From:</b> Lease Line <b>Position Uncertainty:</b> 0.00 ft <b>Ground Level:</b> 0.00 ft	<b>Northing:</b> ft <b>Easting:</b> ft	<b>Latitude:</b> <b>Longitude:</b> <b>North Reference:</b> True <b>Grid Convergence:</b> 0.08 deg
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**Well:** #9B **Slot Name:**

<b>Well Position:</b> +N/-S 0.00 ft +E/-W 0.00 ft <b>Position Uncertainty:</b> 0.00 ft	<b>Northing:</b> 2030701.14 ft <b>Easting :</b> 539718.95 ft	<b>Latitude:</b> 36 34 51.000 N <b>Longitude:</b> 107 41 53.000 W
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**Wellpath:** OH

<b>Current Datum:</b> SITE <b>Magnetic Data:</b> 12/11/2002 <b>Field Strength:</b> 51652 nT <b>Vertical Section:</b> Depth From (TVD) ft	<b>Height</b> 0.00 ft +N/-S ft 4775.00	<b>Drilled From:</b> Surface <b>Tie-on Depth:</b> 0.00 ft <b>Above System Datum:</b> Mean Sea Level <b>Declination:</b> 11.02 deg <b>Mag Dip Angle:</b> 63.58 deg +E/-W ft 0.00 Direction deg 101.31
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**Survey**

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	ClsD ft	ClsA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299.00	0.40	252.60	299.00	-0.92	-0.31	-1.00	0.13	299.00	1.04	252.60
330.00	0.40	190.30	330.00	-1.01	-0.45	-1.12	1.33	31.00	1.21	248.04
455.00	1.10	171.00	454.99	-0.58	-2.07	-1.01	0.59	125.00	2.30	206.03
578.00	1.50	133.90	577.96	1.18	-4.35	0.34	0.74	123.00	4.36	175.58
670.00	3.30	114.10	669.87	4.78	-6.26	3.62	2.13	92.00	7.24	149.97
760.00	4.10	110.50	759.68	10.48	-8.45	9.00	0.93	90.00	12.34	133.19
852.00	5.80	101.50	851.34	18.38	-10.53	16.64	2.03	92.00	19.69	122.33
943.00	6.50	97.10	941.82	28.11	-12.08	26.25	0.93	91.00	28.90	114.71
1037.00	7.10	93.90	1035.15	39.18	-13.13	37.33	0.75	94.00	39.57	109.38
1160.00	8.10	103.30	1157.08	55.38	-15.64	53.35	1.29	123.00	55.59	106.34
1283.00	8.50	96.50	1278.79	73.10	-18.67	70.81	0.86	123.00	73.23	104.77
1376.00	9.30	96.90	1370.67	87.44	-20.35	85.10	0.86	93.00	87.50	103.45
1470.00	10.00	99.70	1463.34	103.17	-22.64	100.69	0.90	94.00	103.20	102.67
1562.00	9.80	100.70	1553.97	118.98	-25.43	116.25	0.29	92.00	119.00	102.34
1688.00	7.60	103.90	1678.51	138.03	-29.43	134.88	1.79	126.00	138.05	102.31
1752.00	6.50	99.30	1742.03	145.88	-31.03	142.56	1.93	64.00	145.90	102.28
1813.00	6.90	96.70	1802.61	152.98	-32.02	149.61	0.82	61.00	153.00	102.08
1872.00	7.50	97.20	1861.15	160.36	-32.91	156.95	1.02	59.00	160.36	101.84
1904.00	7.50	96.20	1892.87	164.52	-33.40	161.10	0.41	32.00	164.53	101.71
1967.00	7.80	97.20	1955.31	172.88	-34.38	169.43	0.52	63.00	172.88	101.47
2030.00	4.70	97.50	2017.93	179.72	-35.25	176.23	4.92	63.00	179.72	101.31
2093.00	4.00	95.80	2080.75	184.48	-35.81	180.98	1.13	63.00	184.48	101.19
2156.00	4.60	97.60	2143.57	189.19	-36.37	185.67	0.98	63.00	189.19	101.08



# Scientific Drilling Survey Completion Report

**Company:** XTO Energy Inc.  
**Field:** San Juan County, NM  
**Site:** Bolack "C" #9B  
**Well:** #9B  
**Wellpath:** OH

**Date:** 1/14/2003      **Time:** 14:04:10      **Page:** 2  
**Co-ordinate(NE) Reference:** Site: Bolack "C" #9B, True North  
**Vertical (TVD) Reference:** SITE 0.0  
**Section (VS) Reference:** Well (0.00N,0.00E,101.31Azi)  
**Survey Calculation Method:** Minimum Curvature      **Db:** Sybase

**Survey**

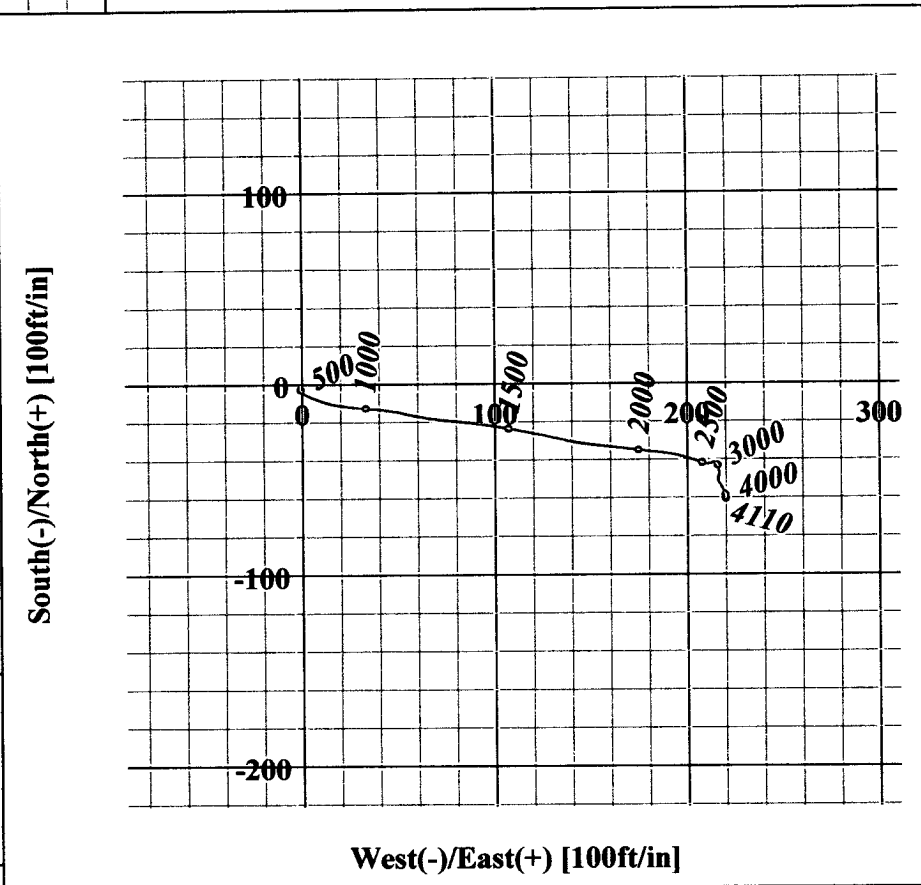
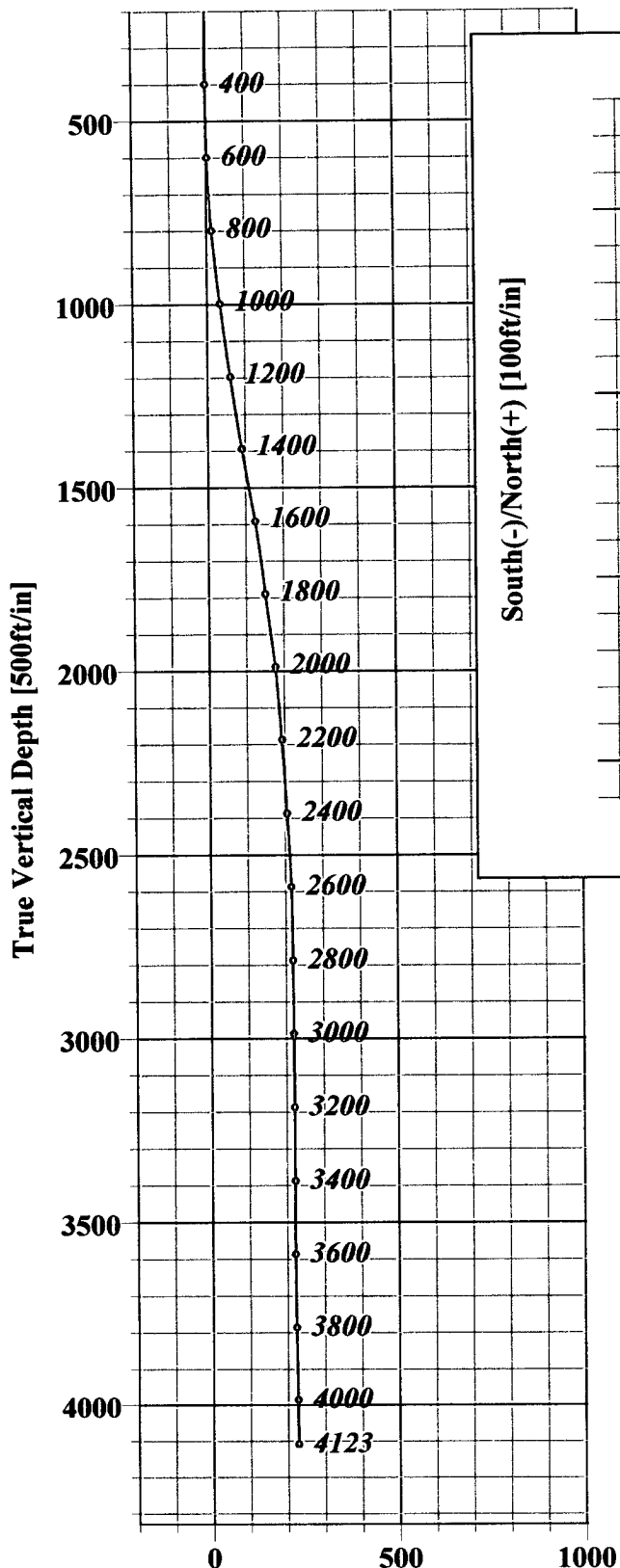
Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	ClSD ft	ClSA deg
2187.00	4.40	97.60	2174.48	191.62	-36.69	188.08	0.65	31.00	191.62	101.04
2217.00	4.10	98.30	2204.39	193.84	-37.00	190.28	1.01	30.00	193.84	101.00
2286.00	3.60	105.30	2273.24	198.46	-37.92	194.81	0.99	69.00	198.47	101.02
2341.00	3.70	103.40	2328.13	201.96	-38.79	198.20	0.29	55.00	201.96	101.07
2401.00	3.60	107.50	2388.00	205.77	-39.81	201.88	0.47	60.00	205.77	101.15
2464.00	3.20	111.70	2450.89	209.46	-41.05	205.40	0.75	63.00	209.46	101.30
2525.00	2.60	104.10	2511.82	212.52	-42.02	208.32	1.17	61.00	212.52	101.40
2587.00	2.20	92.40	2573.76	215.10	-42.41	210.88	1.02	62.00	215.10	101.37
2649.00	1.20	56.50	2635.74	216.74	-42.10	212.61	2.28	62.00	216.74	101.20
2711.00	0.80	65.80	2697.73	217.55	-41.57	213.54	0.69	62.00	217.55	101.01
2804.00	0.50	129.30	2790.72	218.44	-41.56	214.45	0.79	93.00	218.44	100.97
2926.00	0.60	141.70	2912.71	219.39	-42.39	215.26	0.13	122.00	219.39	101.14
3163.00	0.75	171.00	3149.70	220.88	-44.90	216.27	0.16	237.00	220.88	101.73
3320.00	0.75	169.00	3306.69	221.62	-46.92	216.63	0.02	157.00	221.65	102.22
3412.00	1.00	196.00	3398.68	221.79	-48.29	216.52	0.52	92.00	221.84	102.57
3508.00	0.50	203.00	3494.67	221.63	-49.48	216.13	0.53	96.00	221.72	102.89
3633.00	0.75	181.00	3619.66	221.67	-50.80	215.90	0.27	125.00	221.79	103.24
3724.00	1.50	141.00	3710.64	222.69	-52.32	216.64	1.15	91.00	222.87	103.58
3818.00	1.00	161.00	3804.62	224.05	-54.05	217.68	0.70	94.00	224.29	103.94
3912.00	1.75	149.00	3898.59	225.43	-56.06	218.68	0.85	94.00	225.76	104.38
4123.00	1.00	194.00	4109.54	227.51	-60.60	219.90	0.60	211.00	228.10	105.41



Scientific  
Drilling

# XTO Energy Inc.

Field: San Juan County, NM  
Site: Bolack "C" #9B  
Well: #9B  
Wellpath: OH  
Survey: Survey #1



### BOTTOM HOLE CLOSURE

228.1 ft. 105.41° Azimuth

### FINAL STATION

4123.0' MD      4109.54' TVD  
1.0° Angle      194.0° Azimuth  
South 60.6 ft. East 219.9 ft.  
227.51' Vert. Sec.

Survey: Survey #1 (#9B/OH)

Created By: Judi Moore

Date: 1/14/2003

Vertical Section at 101.31° [500ft/in]