



**Scientific
Drilling**

Directional Survey Certification



RE:	<u>XTO Energy Inc.</u>	Operator
	<u>Carson Federal #1B</u>	Well Name & No.
	<u>Rio Arriba County, NM</u>	Location
	<u>41DMWD0503132</u>	SDI Job No.

I, Judi Moore, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 372 feet to a measured depth of 6870 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

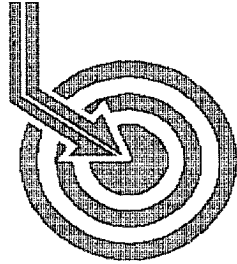
On this 23rd day of June, 2003, before me personally appeared Judi Moore to me known as the person described in and who executed the foregoing instrument and acknowledged that (s)he executed the same as his/her free act and deed.

Seal Summer J. Whitehouse
Notary Public

Aug. 18, 2004
My Commission Expires



JUN 24 2003



**Scientific
Drilling**

DIRECTIONAL SURVEY REPORT

Prepared For

**XTO ENERGY INC.
Carson Federal #1B
Rio Arriba County, NM**

SEC 34 T28N, R04W

API # 30-039-26909

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

Scientific Drilling International
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(307) 472-6621
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Scientific Drilling Survey Completion Report

Company: XTO Energy Inc.	Date: 6/23/2003	Time: 10:43:11	Page: 1
Field: Rio Arriba County, NM	Co-ordinate(NE) Reference:	Site: Carson Federal #1B, True North	
Site: Carson Federal #1B	Vertical (TVD) Reference:	SITE 0.0	
Well: #1B	Section (VS) Reference:	Well (0.00N,0.00E,66.90Azi)	
Wellpath: OH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: Survey #1	Start Date: 6/18/2003
Company: Scientific Drilling	Engineer: J.Willy
Tool: MWD,	Tied-to: From Surface

Field: Rio Arriba County, NM

Map System: US State Plane Coordinate System 1927	Map Zone: New Mexico, Central Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Site Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: igrf2000

Site: Carson Federal #1B
SHL SEC.34,T28N,R4W 1475'FNL & 545'FWL
PBHL 1075'FNL & 1485'FWL

Site Position:	Northing:	ft	Latitude:
From: Lease Line	Easting:	ft	Longitude:
Position Uncertainty: 0.00 ft			North Reference: True
Ground Level: 0.00 ft			Grid Convergence: -0.59 deg

Well: #1B	Slot Name:
Well Position: +N/-S 0.00 ft	Latitude: 36 37 0.120 N
+E/-W 0.00 ft	Longitude: 107 14 17.000 W
Position Uncertainty: 0.00 ft	

Wellpath: OH	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 5/27/2003	Above System Datum: Mean Sea Level
Field Strength: 51705 nT	Declination: 10.80 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 63.70 deg
ft	+E/-W
	ft
	Direction
	deg
6850.00	0.00
0.00	66.90

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
372.00	1.30	153.80	371.97	0.23	-3.79	1.86	0.35	372.00	4.22	153.80
394.00	1.70	132.30	393.96	0.38	-4.23	2.21	3.11	22.00	4.77	152.36
424.00	2.60	117.10	423.94	1.00	-4.84	3.15	3.53	30.00	5.77	146.94
454.00	3.20	111.90	453.90	2.03	-5.46	4.53	2.18	30.00	7.10	140.31
484.00	4.00	106.80	483.84	3.42	-6.08	6.31	2.87	30.00	8.76	133.92
514.00	4.40	106.90	513.76	5.11	-6.71	8.41	1.33	30.00	10.76	128.59
544.00	4.60	113.90	543.67	6.81	-7.54	10.61	1.95	30.00	13.02	125.37
574.00	5.40	108.20	573.55	8.69	-8.46	13.06	3.14	30.00	15.56	122.95
604.00	6.50	102.50	603.39	11.13	-9.27	16.05	4.16	30.00	18.54	120.01
664.00	8.00	99.70	662.91	17.40	-10.71	23.49	2.57	60.00	25.81	114.52
725.00	8.40	97.60	723.29	24.80	-12.02	32.09	0.82	61.00	34.26	110.53
756.00	8.60	94.20	753.95	28.81	-12.48	36.64	1.74	31.00	38.71	108.81
850.00	8.70	86.00	846.88	41.77	-12.50	50.74	1.32	94.00	52.26	103.84
912.00	8.90	84.50	908.15	50.77	-11.72	60.20	0.49	62.00	61.33	101.01
974.00	9.20	80.10	969.38	60.17	-10.40	69.85	1.22	62.00	70.62	98.47
1035.00	9.30	73.60	1029.59	69.81	-8.17	79.38	1.72	61.00	79.80	95.88
1098.00	9.00	70.80	1091.79	79.78	-5.12	88.92	0.85	63.00	89.07	93.29
1160.00	8.30	66.30	1153.08	89.10	-1.72	97.60	1.57	62.00	97.61	91.01
1223.00	8.20	60.00	1215.43	98.11	2.35	105.65	1.44	63.00	105.68	88.73
1318.00	8.90	52.10	1309.38	111.94	10.25	117.32	1.44	95.00	117.77	85.01
1410.00	9.40	51.00	1400.21	126.04	19.35	128.78	0.58	92.00	130.22	81.45
1534.00	10.40	50.20	1522.36	146.50	32.89	145.24	0.81	124.00	148.92	77.24
1629.00	10.00	54.40	1615.86	162.77	43.18	158.54	0.89	95.00	164.31	74.76



Scientific
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Scientific Drilling Survey Completion Report

Company: XTO Energy Inc.
Field: Rio Arriba County, NM
Site: Carson Federal #1B
Well: #1B
Wellpath: OH

Date: 6/23/2003 Time: 10:43:11 Page: 2
Co-ordinate(NE) Reference: Site: Carson Federal #1B, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,66.90Azi)
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
1724.00	9.70	53.50	1709.46	178.61	52.74	171.68	0.35	95.00	179.60	72.92
1818.00	10.60	52.30	1801.99	194.68	62.74	184.89	0.98	94.00	195.24	71.26
1912.00	9.70	53.60	1894.52	210.75	72.73	198.10	0.99	94.00	211.03	69.84
2004.00	9.30	60.70	1985.26	225.68	80.96	210.82	1.34	92.00	225.83	68.99
2222.00	10.70	68.90	2199.95	263.43	96.87	245.07	0.91	218.00	263.52	68.43
2253.00	11.20	67.70	2230.39	269.31	99.05	250.54	1.77	31.00	269.41	68.43
2346.00	11.30	65.40	2321.60	287.45	106.27	267.18	0.49	93.00	287.54	68.31
2409.00	11.70	64.10	2383.34	300.00	111.63	278.54	0.76	63.00	300.07	68.16
2502.00	10.70	64.70	2474.56	318.05	119.44	294.83	1.08	93.00	318.10	67.95
2597.00	9.80	78.70	2568.06	334.78	124.79	310.73	2.78	95.00	334.85	68.12
2692.00	9.90	67.20	2661.67	350.86	129.54	326.19	2.07	95.00	350.97	68.34
2786.00	10.90	63.00	2754.12	367.81	136.71	341.56	1.33	94.00	367.90	68.19
2879.00	10.00	68.40	2845.58	384.65	143.67	356.90	1.43	93.00	384.73	68.07
2971.00	8.70	77.40	2936.36	399.48	148.13	371.12	2.12	92.00	399.59	68.24
3065.00	9.30	68.70	3029.21	414.06	152.44	385.13	1.58	94.00	414.21	68.41
3157.00	10.50	65.60	3119.84	429.87	158.61	399.69	1.43	92.00	430.01	68.36
3251.00	9.30	61.50	3212.44	446.00	165.77	414.17	1.48	94.00	446.11	68.19
3344.00	9.70	57.90	3304.17	461.22	173.52	427.41	0.77	93.00	461.29	67.90
3438.00	10.60	63.90	3396.70	477.68	181.53	441.88	1.48	94.00	477.72	67.67
3531.00	12.10	51.20	3487.89	495.61	191.40	457.17	3.12	93.00	495.62	67.28
3686.00	13.10	46.60	3639.16	527.72	213.65	482.59	0.91	155.00	527.77	66.12
3902.00	12.80	54.10	3849.68	574.01	244.50	519.76	0.79	216.00	574.40	64.81
4030.00	9.70	57.70	3975.21	598.49	258.58	540.37	2.48	128.00	599.05	64.43
4156.00	8.30	76.50	4099.68	617.94	266.38	558.19	2.57	126.00	618.49	64.49
4250.00	8.20	84.30	4192.71	631.03	268.63	571.45	1.19	94.00	631.45	64.82
4384.00	7.30	72.50	4325.49	648.62	272.14	589.08	1.36	134.00	648.91	65.20
4530.00	6.60	72.10	4470.42	666.21	277.51	605.92	0.48	146.00	666.44	65.39
4872.00	16.80	33.40	4805.28	727.23	324.99	652.00	3.61	342.00	728.51	63.51
4961.00	16.00	32.00	4890.66	748.02	346.14	665.58	1.00	89.00	750.21	62.52
5117.00	8.00	30.60	5043.13	774.44	373.76	682.53	5.13	156.00	778.17	61.29
5180.00	6.30	33.70	5105.64	780.87	380.41	686.68	2.77	63.00	785.01	61.01
5243.00	6.00	33.70	5168.27	786.52	386.02	690.43	0.48	63.00	791.01	60.79
5274.00	4.70	35.60	5199.14	788.96	388.40	692.06	4.23	31.00	793.60	60.70
5305.00	4.30	39.80	5230.04	791.08	390.33	693.55	1.67	31.00	795.84	60.63
5336.00	4.20	42.90	5260.96	793.15	392.05	695.06	0.81	31.00	798.01	60.57
5368.00	4.60	44.00	5292.86	795.40	393.83	696.75	1.28	32.00	800.36	60.52
5400.00	4.70	47.00	5324.76	797.82	395.65	698.60	0.82	32.00	802.86	60.48
5431.00	5.20	53.30	5355.64	800.38	397.36	700.66	2.38	31.00	805.49	60.44
5464.00	5.60	57.90	5388.49	803.42	399.11	703.22	1.79	33.00	808.58	60.42
5494.00	6.00	65.70	5418.34	806.44	400.53	705.89	2.94	30.00	811.61	60.43
5524.00	6.10	76.60	5448.18	809.57	401.54	708.87	3.84	30.00	814.70	60.47
5556.00	6.10	89.40	5480.00	812.82	401.96	712.22	4.24	32.00	817.82	60.56
5588.00	6.50	98.90	5511.80	815.93	401.69	715.71	3.48	32.00	820.73	60.70
5619.00	7.20	100.40	5542.58	819.04	401.07	719.36	2.33	31.00	823.61	60.86
5650.00	7.60	99.60	5573.32	822.38	400.38	723.29	1.33	31.00	826.71	61.03
5677.00	7.70	97.40	5600.08	825.44	399.85	726.84	1.15	27.00	829.57	61.18
5739.00	9.50	93.40	5661.38	833.60	399.01	736.07	3.06	62.00	837.26	61.54
5773.00	9.90	90.30	5694.90	838.79	398.83	741.80	1.93	34.00	842.21	61.74
5804.00	10.10	87.40	5725.43	843.79	398.94	747.18	1.75	31.00	847.01	61.90
5833.00	9.80	86.10	5753.99	848.50	399.22	752.18	1.29	29.00	851.56	62.04
5893.00	9.80	84.20	5813.12	858.20	400.08	762.35	0.54	60.00	860.96	62.31
5985.00	9.50	86.60	5903.81	872.82	401.32	777.72	0.55	92.00	875.16	62.71



Scientific Drilling Survey Completion Report

Company: XTO Energy Inc.
Field: Rio Arriba County, NM
Site: Carson Federal #1B
Well: #1B
Wellpath: OH

Date: 6/23/2003 Time: 10:43:11 Page: 3
Co-ordinate(NE) Reference: Site: Carson Federal #1B, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,66.90Azi)
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
6057.00	9.60	87.70	5974.82	884.03	401.92	789.65	0.29	72.00	886.05	63.02
6281.00	10.00	91.00	6195.55	919.24	402.33	827.76	0.31	224.00	920.36	64.08
6483.00	5.00	111.00	6395.79	941.59	398.86	853.53	2.76	202.00	942.13	64.95
6720.00	2.50	113.00	6632.26	952.59	393.14	867.94	1.06	237.00	952.83	65.63
6839.00	2.00	91.00	6751.17	956.29	392.09	872.40	0.83	119.00	956.46	65.80
6870.00	2.00	91.00	6782.15	957.27	392.07	873.48	0.00	31.00	957.44	65.83

Annotation

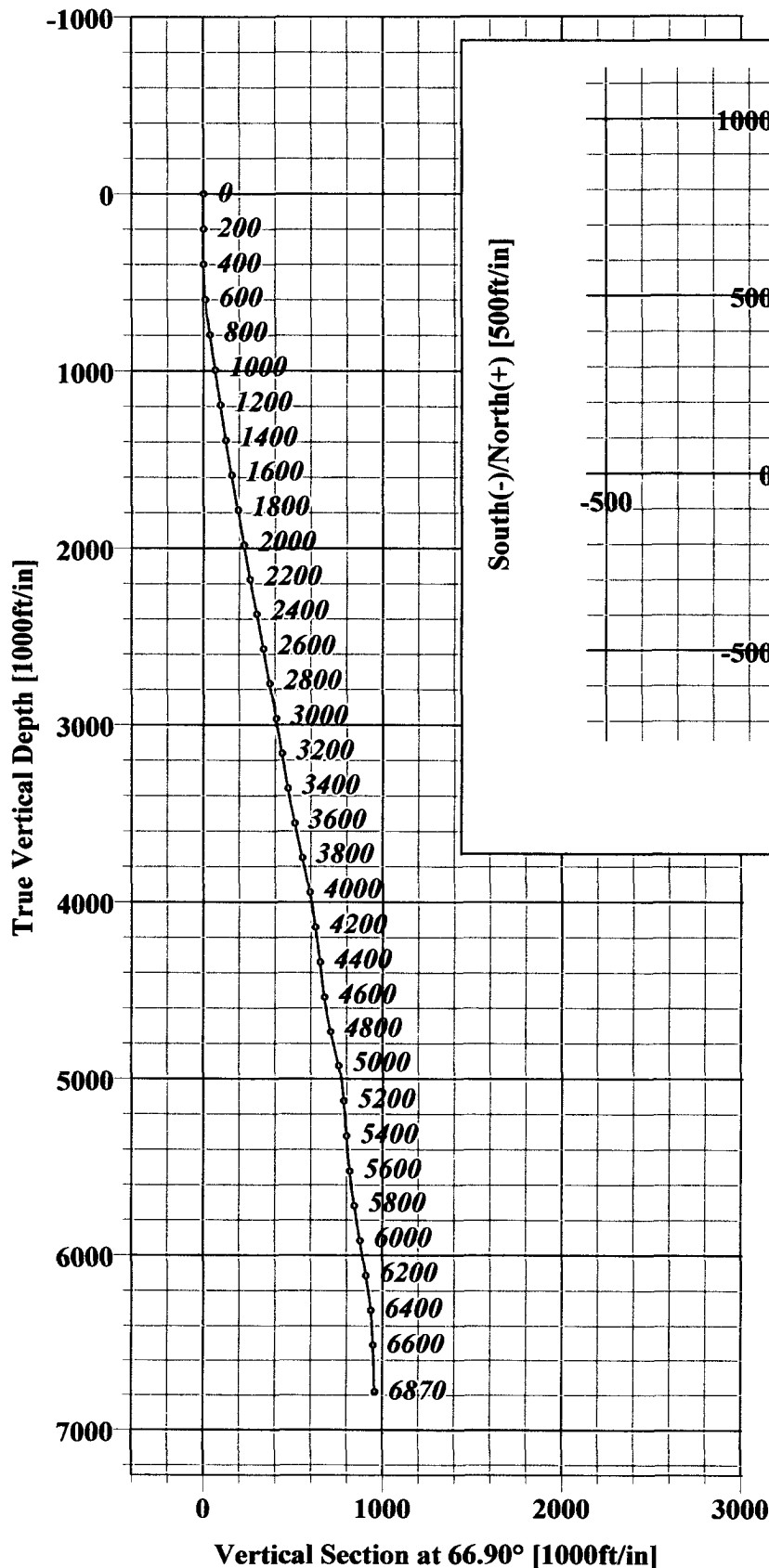
MD ft	TVD ft	
6870.00	6782.15	Survey is a projection to TD



Scientific
Drilling

XTO Energy Inc.

Field: Rio Arriba County, NM
Site: Carson Federal #1B
Well: #1B
Wellpath: OH
Survey: Survey #1



BOTTOM HOLE CLOSURE
(Survey @ 6870'MD is a projection)

957.44 ft. 65.83° Azimuth

FINAL STATION
(Survey @ 6870'MD is a projection)

6870.0' MD 6782.15' TVD
2.0° Angle 91.0° Azimuth
North 392.07 ft. East 873.48 ft.
957.27' Vert. Sec.

Survey: Survey #1 (#1B/OH)
Created By: Judi Moore Date: 6/23/2003