

TABULATION OF DEVIATION TESTS
CROSS TIMBERS OPERATING COMPANY

RECEIVED
DEC 20 1999
OIL CON. DIV.
DIST. 3

A F F I D A V I T

THIS IS TO CERTIFY that to the best of my knowledge the attached survey details the deviation tests taken on **CROSS TIMBERS OPERATING COMPANY'S** Mountain Ute Gas Com N #1, Section 10, T ³¹32 N, R 14 W, San Juan County, New Mexico.

A Signed

Printed Name Loren W. Fothergill

Title Operations Engineer

THE STATE OF NEW MEXICO)

) SS.

COUNTY OF SAN JUAN)

BEFORE ME, the undersigned authority, on this day personally Loren W Fothergill known to me to be Operations Engineer for Cross Timbers Operating Company and to be the person whose name is subscribed to the above statement, who, being by me duly sworn on oath, states that he has knowledge of the facts stated herein and that said statement is true and correct.

SUBSCRIBED AND SWORN to before me, a Notary Public in and for said County and State this 16th day of December, 19 99.

Notary Public

My Commission Expires:
S:\Forms\Deviation Tests

6/10/03

OCT - 4 1999



7424 W 6WN Road
Casper, Wyoming 82609
(307) 472-0001 Fax (307) 472-0161

INTEQ

Report of Sub-Surface Directional Survey

REC'D / SAN JUAN

OCT 07 1999

Cross Timbers

Company

Mte. Ute Gas Com N1
Ute Mtn Gas Com N1

Well Name

San Juan County, New Mexico

Location

Job Number

107627

Type of Survey

MWD

Date

September 22, 1999

Surveyed By

Scott Delaney

Office

Casper

OCT - 4 1999



7424 W 6WN Road
Casper, Wyoming 82609
(307) 472-0001 Fax (307) 472-0161

INTEQ

Survey Certification Sheet

Cross Timbers

Company

107627

Job Number

September 22, 1999

Date

Sec.10-T31N-R14W

Lease

Ute Mtn Gas Com N1

Well Name

San Juan County, New Mexico

County and State

Surveyed from a depth of 0 feet to 8,500 feet MDType of Survey MWDDirectional Supervisor/Surveyor Scott Delaney

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Baker Hughes INTEQ. This report represents a true and correct Directional Survey of this well based on the original data obtained at the well site. Wellbore Coordinates are calculated using minimum curvature.

Doug Hudson

District Engineer

This document has been subscribed and affirmed, or sworn to before me in the county of Natrona, state of Wyoming, this 27th day of September, 1999.

Barbara Jacobs My commission expires July 17, 2000

Certification Number: 1360Certification Date September 28, 1999

CROSS TIMBERS

Structure : SEC.10-T31N-R14W Well : UTE MTN GAS COM N1
Field : SAN JUAN COUNTY Location : NEW MEXICO.

Created by doug

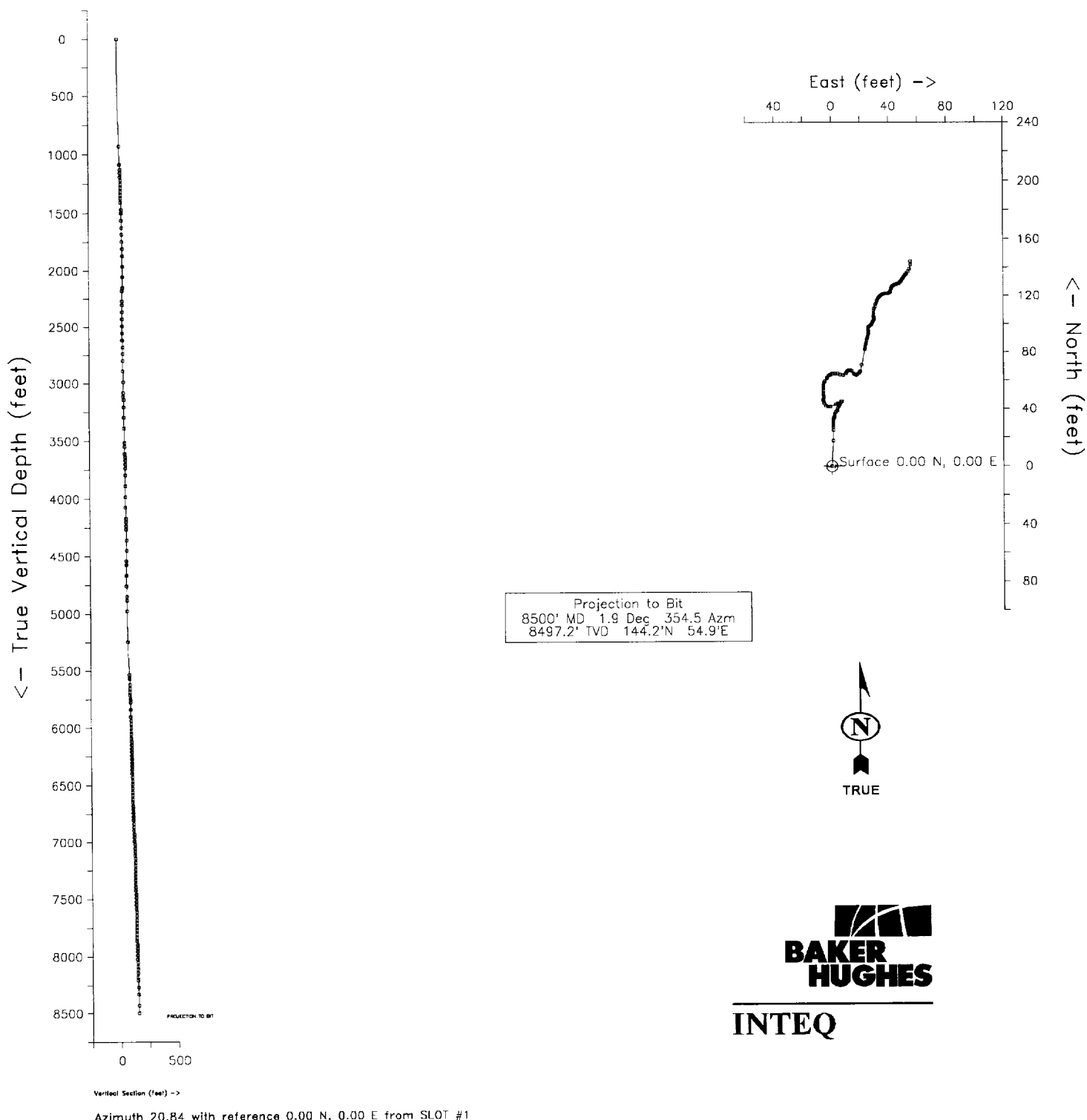
Date plotted : 28-Sep-99

Plot Reference is MWD SURVEY.

Coordinates are in feet reference SLOT #1.

True Vertical Depths are reference rotary table.

--- Baker Hughes INTEQ ---



CROSS TIMBERS
SEC.10-T31N-R14W

UTE MTN GAS COM N1
 SLOT #1
SAN JUAN COUNTY
 NEW MEXICO.

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : MWD SURVEY
Our ref : svy5217
License :

Date printed : 28-Sep-99
Date created : 28-Sep-99
Last revised : 28-Sep-99

Field is centred on n36 30 0.000,w107 40 0
Structure is centred on n36 30 0.000,w107 40 0.000,-105

Slot location is n36 30 0.000,w107 40 0.000
Slot Grid coordinates are N 4042781.005, E 261149.932
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - UTM, Spheroid: Hayford
Reference North is True North

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 E	0.00	0.00
932.00	2.20	2.70	931.77	17.87 N	0.24	17.00
1087.00	3.20	358.00	1086.60	25.17 N	0.66	23.82
1127.00	2.70	3.20	1126.54	27.22 N	1.42	25.74
1158.00	2.60	4.00	1157.51	28.65 N	0.34	27.11
1189.00	2.30	351.80	1188.48	29.97 N	1.94	28.33
1220.00	2.00	1.60	1219.46	31.13 N	1.53	29.38
1252.00	1.00	14.50	1251.45	31.96 N	3.28	30.19
1284.00	0.60	18.50	1283.45	32.38 N	1.26	30.63
1315.00	0.70	14.30	1314.44	32.72 N	0.36	30.98
1345.00	1.00	21.60	1344.44	33.14 N	1.06	31.43
1376.00	1.20	16.60	1375.44	33.71 N	0.72	32.02
1406.00	1.10	21.50	1405.43	34.27 N	0.47	32.62
1469.00	1.40	359.80	1468.41	35.61 N	0.88	33.95
1500.00	1.50	15.80	1499.40	36.38 N	1.34	34.70
1562.00	1.40	42.40	1561.39	37.72 N	1.09	36.22
1623.00	1.30	33.70	1622.37	38.84 N	0.37	37.58
1685.00	1.50	9.20	1684.35	40.23 N	1.01	39.06
1747.00	1.40	29.70	1746.33	41.69 N	0.85	40.61
1809.00	1.40	31.40	1808.31	42.99 N	0.07	42.10
1871.00	1.10	32.00	1870.30	44.14 N	0.48	43.43
1964.00	0.50	39.00	1963.29	45.22 N	0.65	44.69
2056.00	1.00	241.90	2055.28	45.15 N	1.60	44.47
2149.00	2.40	247.30	2148.24	44.02 N	1.51	42.51
2181.00	3.00	239.10	2180.21	43.33 N	2.23	41.39

All data is in feet unless otherwise stated.
Coordinates from SLOT #1 and TVD from rotary table.
Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.
Vertical section is from wellhead on azimuth 20.84 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

CROSS TIMBERS
SEC.10-T31N-R14W,UTE MTN GAS COM N1
SAN JUAN COUNTY,NEW MEXICO.

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
2274.00	2.40	257.40	2273.10	41.65 N 1.46 W	1.12	38.41
2305.00	1.90	266.20	2304.08	41.48 N 2.60 W	1.93	37.84
2368.00	1.90	315.32	2367.05	42.15 N 4.38 W	2.51	37.84
2431.00	1.60	348.90	2430.02	43.76 N 5.28 W	1.67	39.01
2494.00	1.30	325.50	2493.00	45.21 N 5.86 W	1.04	40.17
2554.00	0.70	348.70	2553.00	46.13 N 6.31 W	1.19	40.87
2617.00	0.90	37.80	2615.99	46.90 N 6.09 W	1.09	41.66
2680.00	0.90	0.90	2678.98	47.78 N 5.77 W	0.90	42.60
2740.00	0.80	350.00	2738.98	48.67 N 5.84 W	0.32	43.41
2802.00	0.90	3.30	2800.97	49.58 N 5.89 W	0.36	44.24
2896.00	0.90	348.00	2894.96	51.04 N 6.00 W	0.25	45.57
2990.00	1.00	6.90	2988.94	52.57 N 6.05 W	0.35	46.98
3083.00	1.60	0.80	3081.92	54.68 N 5.94 W	0.66	48.99
3114.00	1.10	353.30	3112.91	55.41 N 5.97 W	1.71	49.66
3145.00	0.90	7.80	3143.91	55.94 N 5.97 W	1.04	50.16
3207.00	1.00	359.00	3205.90	56.97 N 5.91 W	0.28	51.14
3299.00	0.60	23.50	3297.89	58.21 N 5.73 W	0.56	52.36
3392.00	1.00	38.60	3390.88	59.29 N 5.03 W	0.48	53.62
3517.00	1.30	31.90	3515.86	61.35 N 3.60 W	0.26	56.05
3548.00	1.10	24.80	3546.85	61.92 N 3.29 W	0.80	56.70
3610.00	1.60	42.70	3608.83	63.09 N 2.46 W	1.05	58.09
3641.00	1.40	58.10	3639.82	63.61 N 1.84 W	1.45	58.80
3672.00	1.90	65.10	3670.81	64.03 N 1.05 W	1.74	59.46
3704.00	1.80	72.00	3702.79	64.41 N 0.09 W	0.76	60.16
3736.00	1.50	80.60	3734.78	64.63 N 0.80 E	1.21	60.69

All data is in feet unless otherwise stated.
Coordinates from SLOT #1 and TVD from rotary table.
Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.
Vertical section is from wellhead on azimuth 20.84 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
3797.00	1.10	94.90	3795.76	64.71 N 2.17 E	0.84	61.25
3888.00	1.10	103.10	3886.75	64.44 N 3.89 E	0.17	61.61
3982.00	1.30	107.90	3980.73	63.91 N 5.78 E	0.24	61.78
4077.00	1.20	81.80	4075.70	63.72 N 7.79 E	0.60	62.32
4170.00	1.80	38.70	4168.67	64.99 N 9.67 E	1.33	64.18
4201.00	1.80	36.60	4199.66	65.77 N 10.26 E	0.21	65.12
4233.00	1.60	58.10	4231.64	66.40 N 10.94 E	2.07	65.95
4263.00	1.10	69.40	4261.64	66.73 N 11.57 E	1.88	66.48
4359.00	0.60	104.60	4357.63	66.93 N 12.92 E	0.73	67.14
4452.00	1.00	130.60	4450.62	66.27 N 14.01 E	0.57	66.92
4544.00	1.80	144.60	4542.59	64.57 N 15.45 E	0.94	65.85
4576.00	1.20	139.60	4574.58	63.91 N 15.96 E	1.92	65.41
4668.00	0.80	55.60	4666.57	63.54 N 17.11 E	1.49	65.47
4760.00	0.70	53.30	4758.56	64.24 N 18.10 E	0.11	66.47
4853.00	1.00	48.30	4851.55	65.12 N 19.16 E	0.33	67.67
4885.00	0.50	15.00	4883.55	65.44 N 19.40 E	2.01	68.06
4977.00	0.40	29.30	4975.54	66.10 N 19.66 E	0.16	68.78
5247.00	1.70	10.30	5245.49	70.87 N 20.84 E	0.49	73.65
5536.00	2.70	11.70	5534.28	81.75 N 22.99 E	0.35	84.58
5564.00	2.70	14.90	5562.25	83.03 N 23.29 E	0.54	85.89
5576.00	2.10	15.20	5574.24	83.52 N 23.42 E	5.00	86.39
5626.00	2.40	8.20	5624.20	85.44 N 23.81 E	0.81	88.32
5657.00	2.30	12.70	5655.17	86.69 N 24.04 E	0.68	89.57
5687.00	1.90	11.90	5685.15	87.76 N 24.27 E	1.34	90.66
5718.00	1.50	14.70	5716.14	88.66 N 24.48 E	1.32	91.57

All data is in feet unless otherwise stated.
Coordinates from SLOT #1 and TVD from rotary table.
Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.
Vertical section is from wellhead on azimuth 20.84 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
5749.00	1.40	1.60	5747.13	89.43 N	1.11	92.33
5780.00	1.00	9.00	5778.12	90.07 N	1.38	92.95
5840.00	0.90	17.00	5838.11	91.04 N	0.28	93.93
5905.00	1.80	20.90	5903.09	92.48 N	1.39	95.46
5937.00	1.50	4.80	5935.08	93.37 N	1.72	96.37
5967.00	1.20	0.40	5965.07	94.08 N	1.06	97.04
5998.00	1.40	352.40	5996.06	94.78 N	0.87	97.68
6029.00	1.20	350.70	6027.06	95.47 N	0.66	98.29
6060.00	1.50	3.60	6058.05	96.20 N	1.37	98.96
6090.00	1.30	0.40	6088.04	96.93 N	0.72	99.65
6122.00	0.80	7.50	6120.03	97.51 N	1.61	100.21
6152.00	0.70	72.90	6150.03	97.78 N	2.72	100.53
6183.00	0.80	40.40	6181.03	98.00 N	1.39	100.85
6214.00	1.30	47.30	6212.02	98.40 N	1.66	101.37
6246.00	1.20	31.80	6244.02	98.93 N	1.10	102.02
6276.00	0.90	54.20	6274.01	99.34 N	1.68	102.53
6307.00	0.50	44.70	6305.01	99.57 N	1.34	102.85
6338.00	0.40	45.60	6336.01	99.75 N	0.32	103.08
6369.00	0.60	33.80	6367.01	99.96 N	0.72	103.33
6401.00	1.40	33.10	6399.00	100.42 N	2.50	103.88
6431.00	1.00	19.20	6428.99	100.98 N	1.64	104.50
6462.00	1.30	24.80	6459.99	101.55 N	1.03	105.12
6493.00	1.30	25.30	6490.98	102.19 N	0.04	105.82
6527.00	1.30	25.60	6524.97	102.89 N	0.02	106.59
6559.00	0.60	22.80	6556.97	103.37 N	2.19	107.12

All data is in feet unless otherwise stated.
Coordinates from SLOT #1 and TVD from rotary table.
Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.
Vertical section is from wellhead on azimuth 20.84 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
6589.00	0.80	7.60	6586.96	103.72 N	0.90	107.48
6620.00	0.90	336.80	6617.96	104.16 N	1.49	107.86
6652.00	0.90	325.00	6649.96	104.60 N	0.58	108.19
6683.00	1.30	359.50	6680.95	105.15 N	2.44	108.65
6715.00	1.00	8.90	6712.95	105.78 N	1.10	109.26
6745.00	1.00	2.20	6742.94	106.31 N	0.39	109.77
6776.00	1.60	7.70	6773.93	107.00 N	1.97	110.44
6807.00	2.20	355.00	6804.92	108.03 N	2.35	111.40
6838.00	2.70	8.10	6835.89	109.34 N	2.41	112.65
6870.00	3.20	17.50	6867.84	110.94 N	2.17	114.28
6899.00	3.10	15.90	6896.80	112.47 N	0.46	115.86
6929.00	2.70	17.50	6926.76	113.92 N	1.36	117.38
6961.00	2.80	22.80	6958.73	115.36 N	0.85	118.91
6993.00	2.70	21.30	6990.69	116.78 N	0.38	120.45
7024.00	2.50	33.00	7021.66	118.03 N	1.83	121.84
7056.00	1.80	44.60	7053.63	118.97 N	2.57	122.98
7087.00	1.60	44.90	7084.62	119.63 N	0.65	123.82
7119.00	1.80	47.00	7116.61	120.28 N	0.65	124.68
7150.00	2.00	55.90	7147.59	120.92 N	1.15	125.56
7181.00	1.40	71.90	7178.58	121.34 N	2.45	126.24
7212.00	1.10	89.60	7209.57	121.46 N	1.57	126.59
7244.00	1.30	77.40	7241.56	121.54 N	1.01	126.90
7276.00	1.10	86.50	7273.55	121.64 N	0.86	127.22
7307.00	1.10	87.60	7304.55	121.67 N	0.07	127.46
7336.00	1.30	81.80	7333.54	121.73 N	0.81	127.73

All data is in feet unless otherwise stated.
Coordinates from SLOT #1 and TVD from rotary table.
Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.
Vertical section is from wellhead on azimuth 20.84 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
7368.00	1.30	66.60	7365.53	121.93 N	1.07	128.16
7398.00	0.60	51.30	7395.53	122.16 N	2.46	128.54
7429.00	0.80	44.20	7426.53	122.42 N	0.70	128.87
7460.00	1.40	17.52	7457.52	122.93 N	2.50	129.45
7491.00	1.60	18.80	7488.51	123.70 N	0.65	130.26
7522.00	1.60	12.30	7519.50	124.53 N	0.59	131.12
7554.00	1.90	23.10	7551.48	125.46 N	1.39	132.09
7586.00	1.60	34.00	7583.47	126.32 N	1.40	133.06
7617.00	1.20	56.20	7614.46	126.86 N	2.15	133.74
7649.00	1.30	54.50	7646.45	127.25 N	0.33	134.32
7681.00	1.00	62.20	7678.45	127.60 N	1.05	134.83
7712.00	1.10	64.70	7709.44	127.85 N	0.35	135.25
7744.00	1.20	78.80	7741.44	128.04 N	0.94	135.65
7776.00	1.10	61.90	7773.43	128.25 N	1.10	136.06
7807.00	1.20	70.90	7804.42	128.50 N	0.67	136.49
7837.00	1.20	63.40	7834.42	128.74 N	0.52	136.92
7868.00	1.20	51.50	7865.41	129.09 N	0.80	137.44
7899.00	1.30	43.70	7896.40	129.55 N	0.64	138.05
7929.00	1.50	36.30	7926.39	130.11 N	0.90	138.74
7960.00	1.70	34.90	7957.38	130.81 N	0.66	139.57
7992.00	1.60	32.40	7989.37	131.58 N	0.38	140.47
8023.00	1.30	35.10	8020.36	132.23 N	0.99	141.24
8054.00	1.50	25.12	8051.35	132.89 N	1.01	141.98
8086.00	1.60	42.10	8083.34	133.60 N	1.46	142.82
8116.00	1.70	35.10	8113.32	134.28 N	0.75	143.64

All data is in feet unless otherwise stated.
Coordinates from SLOT #1 and TVD from rotary table.
Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.
Vertical section is from wellhead on azimuth 20.84 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

CROSS TIMBERS

SEC. 10-T31N-R14W, UTE MTN GAS COM N1
SAN JUAN COUNTY, NEW MEXICO.

SURVEY LISTING Page 7
Your ref : MWD SURVEY
Last revised : 28-Sep-99

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
8147.00	1.30	43.90	8144.31	134.90 N	1.49	144.41
8179.00	1.40	33.90	8176.31	135.49 N	0.80	145.12
8210.00	1.40	43.40	8207.30	136.08 N	0.75	145.84
8272.00	1.70	31.90	8269.27	137.41 N	0.69	147.44
8332.00	1.70	22.40	8329.25	138.99 N	0.47	149.21
8436.00	1.90	2.90	8433.20	142.14 N	0.62	152.39
8500.00	1.90	354.50	8497.16	144.25 N	0.43	154.35

PROJECTION TO BIT

All data is in feet unless otherwise stated.

Coordinates from SLOT #1 and TVD from rotary table.

Bottom hole distance is 154.35 on azimuth 20.84 degrees from wellhead.

Vertical section is from wellhead on azimuth 20.84 degrees.

Calculation uses the minimum curvature method.

Presented by Baker Hughes INTEQ

CROSS TIMBERS
SEC.10-T31N-R14W,UTE MTN GAS COM N1
SAN JUAN COUNTY,NEW MEXICO.

SURVEY LISTING Page 8
Your ref : MWD SURVEY
Last revised : 28-Sep-99

Comments in wellpath

=====

Comment

MD TVD Rectangular Coords.

8500.00 8497.16 144.25 N 54.90 E PROJECTION TO BIT

NO PROPOSAL