



**Scientific
Drilling**

Directional Survey Certification

30-039-26741

SRP: 1585/S 2090/W
BNL 1932/N 840/W



RE: Williams Production Co. Operator
K-16-3/N-5W Rosa Unit #361 Well Name & No.
Rio Arriba County, NM Location
41DEF0702167 SDI Job No.

I, David Bible, having personal knowledge of all the facts, hereby
certify that the attached directional survey run from a measured depth of 2485 feet to a
measured depth of 5000 feet is true and correct as determined from all available records.

David Bible Signature Dir-Coordinator Title SDI Company

State of : Wyoming }
County of : Natrona } ss

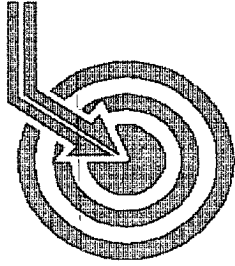
On this 22 day of August, 2002, before me personally appeared
David Bible to me known as the person described in and who executed the foregoing
instrument and acknowledged that (s)he executed the same as his/her free act and deed.

Seal

Judi Moore
Notary Public

June 26, 2003
My Commission Expires





**Scientific
Drilling**

DIRECTIONAL SURVEY REPORT

Prepared For

**WILLIAMS PRODUCTION CO.
Rosa Unit #361
Rio Arriba 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
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Scientific Drilling SURVEY REPORT

Company: Williams Production Co.	Date: 8/21/2002	Time: 09:20:49	Page: 1
Field: Rio Arriba County, NM	Co-ordinate(NE) Reference: Well: #361, True North		
Site: Rosa Unit #361	Vertical (TVD) Reference: SITE 0.0		
Well: #361	Section (VS) Reference: Well (0.00N,0.00E,325.50Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: Survey #1	Start Date: 7/28/2002
Company: Scientific Drilling	Engineer: D.Bayer
Tool: MWD,	Tied-to: User Defined

Survey

Meas Depth ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	ClsD ft	ClsA deg
2485.00	0.25	181.00	2484.98	1.37	-1.15	-4.10	0.00	0.00	4.26	254.33
2526.00	0.90	335.30	2525.98	1.62	-0.95	-4.24	2.76	41.00	4.34	257.40
2557.00	5.10	323.10	2556.93	3.24	0.38	-5.17	13.63	31.00	5.18	274.17
2589.00	10.70	320.30	2588.61	7.62	3.80	-7.92	17.54	32.00	8.78	295.65
2620.00	15.60	319.70	2618.79	14.64	9.20	-12.46	15.81	31.00	15.48	306.45
2652.00	18.50	320.40	2649.38	23.98	16.39	-18.48	9.09	32.00	24.70	311.58
2683.00	19.70	322.90	2678.67	34.09	24.35	-24.76	4.68	31.00	34.73	314.52
2715.00	21.70	325.90	2708.61	45.40	33.55	-31.33	7.07	32.00	45.91	316.96
2746.00	23.60	326.90	2737.22	57.34	43.50	-37.94	6.25	31.00	57.72	318.91
2778.00	26.30	326.40	2766.23	70.83	54.77	-45.36	8.46	32.00	71.12	320.37
2809.00	28.70	325.40	2793.72	85.14	66.62	-53.39	7.88	31.00	85.37	321.29
2841.00	30.20	325.30	2821.59	100.88	79.56	-62.33	4.69	32.00	101.07	321.92
2873.00	31.80	326.60	2849.02	117.35	93.22	-71.56	5.42	32.00	117.52	322.49
2904.00	33.00	327.50	2875.19	133.96	107.16	-80.59	4.17	31.00	134.08	323.05
2935.00	35.70	326.30	2900.78	151.44	121.81	-90.15	8.98	31.00	151.54	323.50
2967.00	40.30	324.70	2925.99	171.14	138.03	-101.31	14.70	32.00	171.22	323.72
2998.00	44.10	324.20	2948.95	191.95	154.97	-113.42	12.31	31.00	192.04	323.80
3030.00	48.60	324.60	2971.03	215.10	173.79	-126.89	14.09	32.00	215.18	323.86
3061.00	53.40	324.10	2990.54	239.18	193.36	-140.93	15.53	31.00	239.27	323.91
3093.00	59.20	325.50	3008.29	265.78	215.11	-156.26	18.49	32.00	265.88	324.00
3124.00	65.30	326.70	3022.71	293.20	237.87	-171.55	19.97	31.00	293.28	324.20
3156.00	71.20	327.50	3034.57	322.90	262.82	-187.68	18.58	32.00	322.95	324.47
3188.00	77.70	327.40	3043.14	353.69	288.79	-204.26	20.31	32.00	353.73	324.73
3259.00	84.00	326.20	3054.43	423.74	347.41	-242.63	9.03	71.00	423.75	325.07
3273.00	83.80	327.80	3055.91	437.65	359.09	-250.21	11.45	14.00	437.66	325.13
3305.00	83.40	328.50	3059.48	469.42	386.10	-266.99	2.51	32.00	469.42	325.34
3337.00	83.00	328.70	3063.27	501.15	413.22	-283.55	1.40	32.00	501.15	325.54
3369.00	87.10	328.80	3066.03	532.97	440.47	-300.08	12.82	32.00	532.97	325.73
3400.00	91.30	328.20	3066.46	563.92	466.89	-316.27	13.69	31.00	563.93	325.89
3432.00	91.90	328.20	3065.57	595.87	494.08	-333.13	1.87	32.00	595.89	326.01
3464.00	90.50	327.40	3064.90	627.84	521.15	-350.18	5.04	32.00	627.87	326.10
3496.00	86.10	325.00	3065.85	659.81	547.72	-367.97	15.66	32.00	659.85	326.11
3527.00	86.00	324.30	3067.98	690.73	572.94	-385.86	2.28	31.00	690.76	326.04
3559.00	88.40	324.60	3069.55	722.69	598.95	-404.44	7.56	32.00	722.71	325.97
3590.00	89.60	325.30	3070.09	753.68	624.32	-422.24	4.48	31.00	753.70	325.93
3622.00	88.90	325.30	3070.51	785.68	650.63	-440.45	2.19	32.00	785.69	325.90
3654.00	86.40	325.30	3071.82	817.65	676.91	-458.66	7.81	32.00	817.66	325.88
3685.00	86.70	325.00	3073.68	848.59	702.31	-476.34	1.37	31.00	848.60	325.85
3717.00	87.60	324.90	3075.28	880.55	728.47	-494.69	2.83	32.00	880.56	325.82
3749.00	87.80	324.80	3076.56	912.52	754.61	-513.10	0.70	32.00	912.53	325.79
3781.00	88.00	324.60	3077.73	944.49	780.71	-531.58	0.88	32.00	944.50	325.75
3813.00	88.10	323.10	3078.82	976.46	806.54	-550.44	4.70	32.00	976.47	325.69
3844.00	87.90	321.70	3079.90	1007.40	831.08	-569.35	4.56	31.00	1007.40	325.59
3876.00	86.10	321.70	3081.58	1039.28	856.16	-589.15	5.62	32.00	1039.28	325.47
3908.00	85.20	321.30	3084.00	1071.11	881.13	-609.01	3.08	32.00	1071.12	325.35
3939.00	85.40	321.10	3086.54	1101.92	905.21	-628.37	0.91	31.00	1101.93	325.23
3971.00	85.50	321.20	3089.08	1133.73	930.05	-648.38	0.44	32.00	1133.75	325.12
4003.00	85.70	321.40	3091.54	1165.55	954.95	-668.33	0.88	32.00	1165.59	325.01
4035.00	86.40	321.70	3093.74	1197.40	979.95	-688.18	2.38	32.00	1197.46	324.92



Scientific Drilling SURVEY REPORT

Company: Williams Production Co.
Field: Rio Arriba County, NM
Site: Rosa Unit #361
Well: #361
Wellpath: OH

Date: 8/21/2002 Time: 09:20:49 Page: 2
Co-ordinate(NE) Reference: Well: #361, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,325.50Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

Meas Depth ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	CLsD ft	CLsA deg
4098.00	86.40	323.50	3097.70	1260.19	1029.90	-726.37	2.85	63.00	1260.28	324.81
4130.00	86.40	324.60	3099.71	1292.11	1055.75	-745.12	3.43	32.00	1292.21	324.79
4161.00	88.00	325.90	3101.22	1323.08	1081.19	-762.77	6.65	31.00	1323.17	324.80
4193.00	89.00	327.00	3102.06	1355.06	1107.85	-780.45	4.64	32.00	1355.15	324.84
4256.00	89.40	326.80	3102.94	1418.03	1160.62	-814.85	0.71	63.00	1418.10	324.93
4320.00	95.70	326.90	3100.09	1481.92	1214.13	-849.79	9.84	64.00	1481.97	325.01
4352.00	95.60	327.10	3096.94	1513.75	1240.83	-867.14	0.70	32.00	1513.80	325.05
4384.00	94.20	327.40	3094.21	1545.62	1267.65	-884.38	4.47	32.00	1545.66	325.10
4415.00	92.90	325.40	3092.29	1576.56	1293.42	-901.51	7.68	31.00	1576.59	325.12
4447.00	91.70	324.90	3091.01	1608.53	1319.65	-919.78	4.06	32.00	1608.56	325.12
4479.00	91.50	324.40	3090.11	1640.51	1345.74	-938.28	1.68	32.00	1640.55	325.11
4511.00	91.90	323.70	3089.16	1672.49	1371.64	-957.06	2.52	32.00	1672.53	325.09
4542.00	90.20	324.10	3088.60	1703.47	1396.68	-975.32	5.63	31.00	1703.52	325.07
4574.00	88.10	323.90	3089.07	1735.45	1422.56	-994.13	6.59	32.00	1735.51	325.05
4606.00	87.40	323.10	3090.33	1767.41	1448.27	-1013.15	3.32	32.00	1767.47	325.02
4638.00	89.30	323.50	3091.25	1799.37	1473.91	-1032.26	6.07	32.00	1799.44	324.99
4670.00	91.30	324.60	3091.08	1831.36	1499.82	-1051.05	7.13	32.00	1831.43	324.98
4701.00	90.40	324.30	3090.62	1862.35	1525.03	-1069.07	3.06	31.00	1862.43	324.97
4733.00	90.50	323.70	3090.37	1894.34	1550.92	-1087.88	1.90	32.00	1894.42	324.95
4764.00	91.40	323.30	3089.86	1925.31	1575.84	-1106.31	3.18	31.00	1925.41	324.93
4796.00	91.60	322.80	3089.02	1957.27	1601.40	-1125.54	1.68	32.00	1957.38	324.90
4828.00	91.50	322.60	3088.15	1989.22	1626.85	-1144.93	0.70	32.00	1989.35	324.86
4860.00	88.90	323.10	3088.04	2021.19	1652.35	-1164.25	8.27	32.00	2021.32	324.83
4891.00	88.40	322.90	3088.77	2052.15	1677.10	-1182.90	1.74	31.00	2052.30	324.80
4923.00	88.40	322.40	3089.66	2084.09	1702.53	-1202.31	1.56	32.00	2084.26	324.77
4955.00	88.20	321.90	3090.61	2116.03	1727.79	-1221.93	1.68	32.00	2116.22	324.73
5000.00	87.92	321.20	3092.14	2160.89	1763.01	-1249.90	1.67	45.00	2161.12	324.66

Annotation

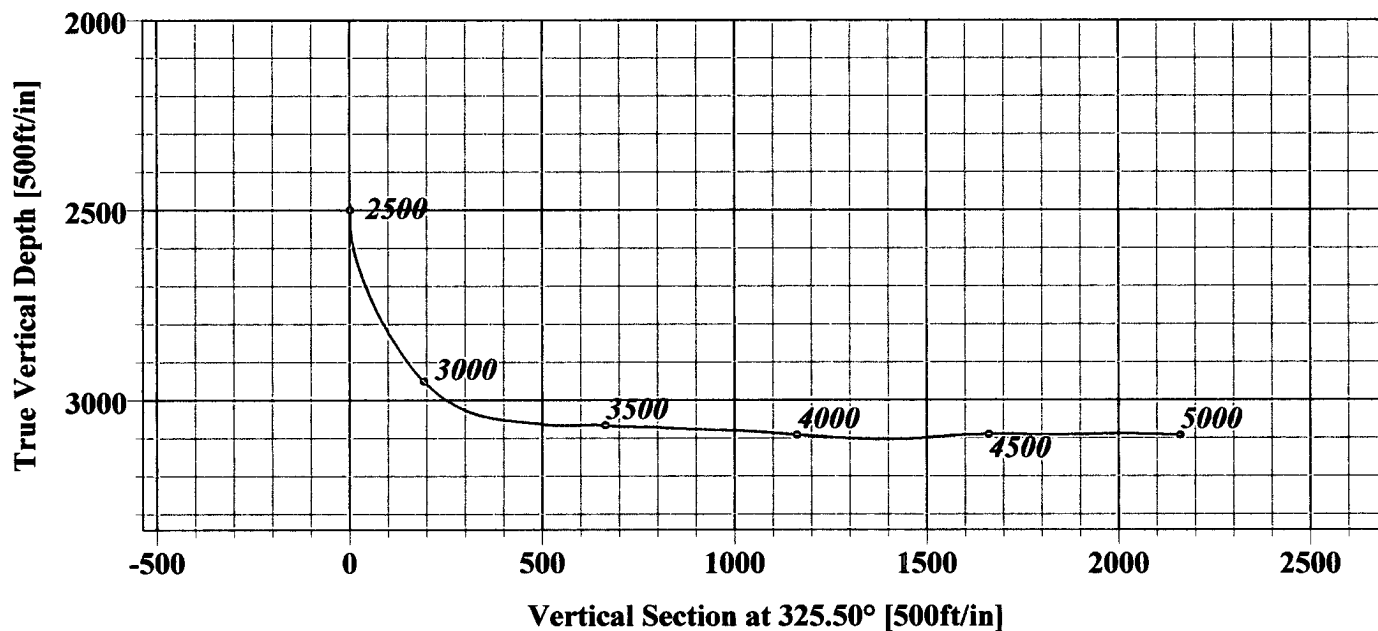
MD ft	TVD ft	
5000.00	3092.14	Survey is an extrapolation



Scientific
Drilling

Williams Production Co.

Field: Rio Arriba County, NM
Site: Rosa Unit #361
Well: #361
Wellpath: OH
Survey: Survey #1

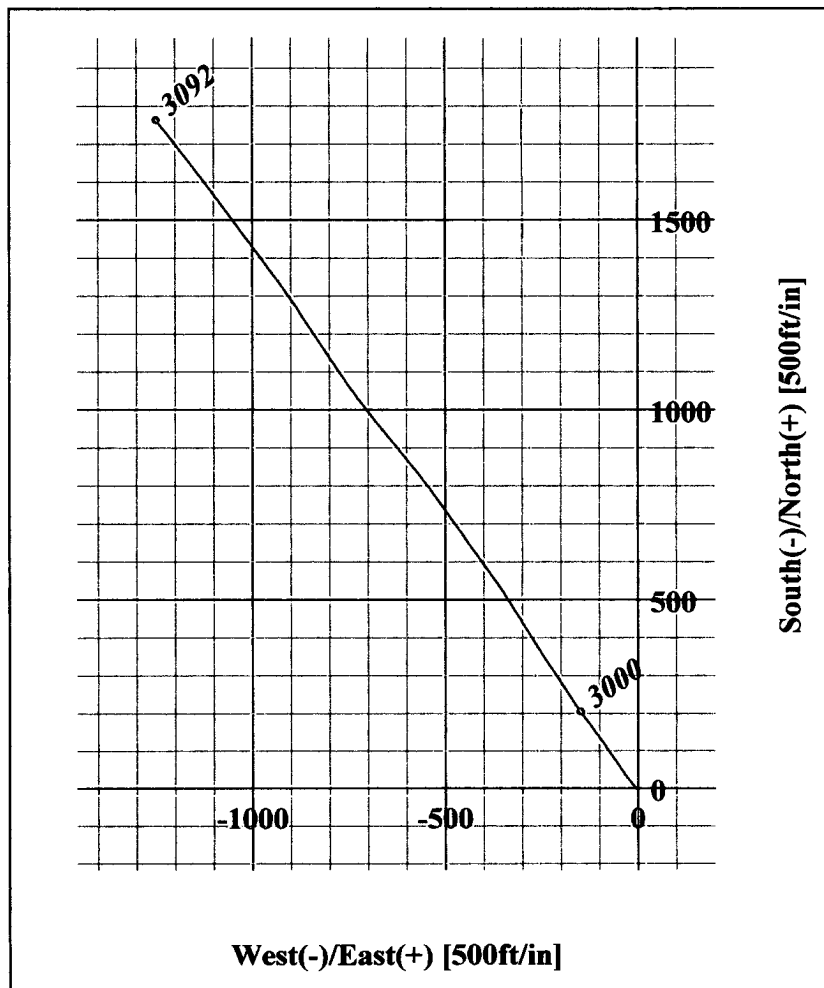


BOTTOM HOLE CLOSURE (Survey @ 5000' MD is an extrapolation)

2161.12 ft. 324.66° Azimuth

FINAL STATION (Survey @ 5000' MD is an extrapolation)

5000.0' MD 3092.14' TVD
87.92° Angle 321.2° Azimuth
North 1763.01 ft. West 1249.9 ft.
2160.89' Vert. Sec.



Survey: Survey #1 (#361/OH)

Created By: Judi Moore

Date: 8/21/2002