

Williams Production Company
Rosa Unit #181C

slot #1
Mesaverde
Rio Arriba, New Mexico

SURVEY LISTING

by
Baker Hughes INTEQ

Your ref : MWD
Our ref : svy2681
License :

Date printed : 4-Apr-2005
Date created : 8-Nov-2004
Last revised : 23-Nov-2004

Field is centred on n36 59 2.000,w107 26 53
Structure is centred on 615164.300,2155080.700,999.00000,N

Slot location is n36 55 18.900,w107 26 21.692
Slot Grid coordinates are N 2155080.700, E 615164.300
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico West (3003), Spheroid: Clarke - 1866

Reference North is True North



30-039-27714

Surface 140/S 340/W Sec 2
Bld 220/N 1310/E Sec 10

MD 6700

TVD 6296.22

SA

8

Williams Production Company
Rosa Unit #181C, slot #1
Mesaverde, Rio Arriba, New Mexico

SURVEY LISTING Page 1
Your ref : MWD
Last revised : 23-Nov-2004

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	G R I D C O O R D S Easting Northing	
0.00	0.00	0.00	0.00	0.00N	0.00E	0.00	0.00	615164.30	2155080.70
95.00	0.25	300.00	95.00	0.10N	0.18W	0.26	0.14	615164.12	2155080.80
226.00	0.25	330.00	226.00	0.49N	0.57W	0.10	0.41	615163.73	2155081.19
285.00	0.75	20.00	285.00	0.97N	0.50W	1.05	0.22	615163.79	2155081.67
349.00	1.20	3.00	348.99	2.03N	0.32W	0.83	-0.25	615163.97	2155082.73
378.00	0.50	359.00	377.98	2.46N	0.31W	2.42	-0.38	615163.98	2155083.16
409.00	1.40	299.10	408.98	2.78N	0.64W	3.96	-0.15	615163.65	2155083.48
439.00	2.10	262.00	438.97	2.88N	1.51W	4.32	0.66	615162.78	2155083.58
469.00	3.30	254.00	468.93	2.57N	2.88W	4.18	2.06	615161.41	2155083.26
499.00	4.40	253.40	498.86	2.00N	4.82W	3.67	4.08	615159.48	2155082.68
528.00	5.30	249.90	527.76	1.22N	7.14W	3.27	6.53	615157.16	2155081.89
558.00	5.80	255.00	557.62	0.35N	9.90W	2.34	9.42	615154.39	2155081.01
588.00	6.80	252.40	587.44	0.58S	13.06W	3.47	12.71	615151.24	2155080.07
618.00	8.20	253.40	617.18	1.72S	16.81W	4.69	16.63	615147.50	2155078.91
648.00	9.40	256.90	646.83	2.89S	21.24W	4.38	21.22	615143.07	2155077.72
679.00	9.90	254.50	677.39	4.18S	26.28W	2.07	26.41	615138.04	2155076.42
709.00	10.40	255.40	706.92	5.55S	31.38W	1.75	31.70	615132.94	2155075.02
739.00	12.00	255.40	736.35	7.02S	37.02W	5.33	37.52	615127.31	2155073.53
769.00	12.80	255.80	765.65	8.62S	43.26W	2.68	43.96	615121.08	2155071.90
799.00	13.70	254.50	794.85	10.38S	49.90W	3.16	50.83	615114.44	2155070.11
828.00	14.70	250.80	822.96	12.51S	56.69W	4.66	57.94	615107.67	2155067.96
859.00	15.70	249.80	852.88	15.25S	64.34W	3.33	66.05	615100.03	2155065.18
889.00	17.00	251.90	881.66	18.02S	72.32W	4.76	74.48	615092.06	2155062.39
919.00	18.00	252.50	910.27	20.77S	80.91W	3.39	83.50	615083.48	2155059.59
949.00	19.10	252.90	938.72	23.61S	90.02W	3.69	93.04	615074.38	2155056.72
978.00	20.10	252.20	966.04	26.53S	99.30W	3.54	102.77	615065.12	2155053.76
1008.00	21.00	254.00	994.13	29.59S	109.38W	3.67	113.29	615055.06	2155050.66
1038.00	22.00	252.10	1022.04	32.79S	119.89W	4.06	124.29	615044.55	2155047.41
1069.00	23.20	251.90	1050.66	36.48S	131.22W	3.88	136.19	615033.24	2155043.68
1100.00	24.30	252.60	1079.03	40.28S	143.11W	3.66	148.67	615021.37	2155039.83
1131.00	25.10	252.70	1107.20	44.14S	155.48W	2.58	161.62	615009.02	2155035.92
1162.00	26.20	253.90	1135.14	48.00S	168.33W	3.92	175.04	614996.18	2155032.01
1193.00	27.10	254.40	1162.85	51.79S	181.70W	2.99	188.94	614982.82	2155028.16
1225.00	28.20	255.90	1191.19	55.60S	196.06W	4.07	203.79	614968.49	2155024.30
1256.00	29.20	256.40	1218.38	59.16S	210.51W	3.32	218.66	614954.05	2155020.68
1318.00	32.00	254.70	1271.75	67.05S	241.06W	4.73	250.21	614923.53	2155012.66
1380.00	32.40	254.90	1324.21	75.71S	272.95W	0.67	283.24	614891.69	2155003.87
1442.00	32.20	255.80	1376.62	84.09S	305.00W	0.84	316.36	614859.67	2154995.35
1504.00	31.20	254.70	1429.37	92.38S	336.50W	1.86	348.93	614828.20	2154986.93
1566.00	31.10	253.20	1482.43	101.25S	367.32W	1.26	381.00	614797.42	2154977.94
1629.00	31.30	254.00	1536.32	110.46S	398.63W	0.73	413.64	614766.16	2154968.60
1690.00	31.60	253.20	1588.35	119.45S	429.16W	0.84	445.46	614735.67	2154959.49
1751.00	31.30	254.60	1640.39	128.28S	459.74W	1.29	477.29	614705.13	2154950.53
1813.00	31.90	252.80	1693.20	137.40S	490.91W	1.80	509.77	614673.99	2154941.29
1875.00	30.20	252.30	1746.32	146.98S	521.42W	2.77	541.74	614643.53	2154931.57
1938.00	30.80	251.90	1800.60	156.81S	551.85W	1.01	573.69	614613.14	2154921.62
1999.00	31.00	252.20	1852.94	166.47S	581.65W	0.41	605.00	614583.38	2154911.84
2062.00	30.70	253.90	1907.03	175.89S	612.55W	1.46	637.30	614552.53	2154902.30
2125.00	30.90	252.50	1961.14	185.21S	643.43W	1.18	669.55	614521.69	2154892.85
2188.00	31.00	252.60	2015.17	194.93S	674.34W	0.18	701.94	614490.82	2154883.00

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 1713.83 on azimuth 254.45 degrees from wellhead.

Vertical section is from N 0.00 E 0.00 on azimuth 254.01 degrees.

Grid is mercator - New Mexico West (3003).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Williams Production Company
Rosa Unit #181C, slot #1
Mesaverde, Rio Arriba, New Mexico

SURVEY LISTING Page 3
Your ref : MWD
Last revised : 23-Nov-2004

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	G R I D Easting	C O O R D S Northing
2250.00	31.00	253.30	2068.32	204.29S	704.87W	0.58	733.87	614460.33	2154873.52
2312.00	31.00	252.00	2121.46	213.81S	735.34W	1.08	765.79	614429.90	2154863.87
2374.00	30.60	252.60	2174.72	223.46S	765.59W	0.81	797.52	614399.70	2154854.09
2437.00	30.60	255.00	2228.95	232.41S	796.38W	1.94	829.59	614368.94	2154845.02
2500.00	30.40	254.90	2283.23	240.71S	827.26W	0.33	861.56	614338.10	2154836.59
2563.00	31.10	254.50	2337.37	249.21S	858.32W	1.16	893.77	614307.07	2154827.96
2626.00	30.30	255.70	2391.54	257.49S	889.40W	1.60	925.92	614276.03	2154819.56
2687.00	30.80	254.90	2444.08	265.36S	919.39W	1.06	956.92	614246.07	2154811.57
2750.00	31.10	253.90	2498.11	274.07S	950.60W	0.95	989.32	614214.91	2154802.73
2812.00	30.70	255.60	2551.31	282.45S	981.31W	1.55	1021.15	614184.23	2154794.22
2873.00	31.60	254.20	2603.51	290.67S	1011.78W	1.89	1052.70	614153.80	2154785.87
2936.00	31.70	254.70	2657.14	299.53S	1043.62W	0.45	1085.76	614121.99	2154776.88
2998.00	30.80	256.40	2710.15	307.56S	1074.76W	2.03	1117.91	614090.89	2154768.72
3060.00	30.50	257.80	2763.49	314.62S	1105.57W	1.25	1149.47	614060.11	2154761.54
3121.00	30.80	258.00	2815.96	321.14S	1135.98W	0.52	1180.49	614029.74	2154754.89
3184.00	30.70	256.30	2870.11	328.30S	1167.38W	1.39	1212.65	613998.37	2154747.60
3250.00	29.70	257.44	2927.15	335.85S	1199.71W	1.75	1245.81	613966.07	2154739.92
3313.00	27.90	257.00	2982.35	342.56S	1229.31W	2.88	1276.11	613936.50	2154733.09
3376.00	26.00	257.10	3038.51	348.96S	1257.13W	3.02	1304.62	613908.71	2154726.58
3439.00	25.30	255.10	3095.30	355.50S	1283.60W	1.77	1331.87	613882.27	2154719.92
3502.00	25.00	254.00	3152.33	362.63S	1309.41W	0.88	1358.64	613856.49	2154712.69
3564.00	24.70	253.50	3208.59	369.92S	1334.42W	0.59	1384.70	613831.51	2154705.29
3595.00	25.60	252.00	3236.65	373.83S	1347.00W	3.56	1397.87	613818.95	2154701.33
3625.00	25.30	252.00	3263.74	377.82S	1359.26W	1.00	1410.75	613806.70	2154697.30
3655.00	25.70	250.70	3290.82	381.95S	1371.50W	2.29	1423.65	613794.48	2154693.12
3684.00	24.80	250.60	3317.05	386.04S	1383.17W	3.11	1436.00	613782.83	2154688.97
3716.00	23.90	250.00	3346.20	390.49S	1395.59W	2.92	1449.17	613770.43	2154684.47
3747.00	23.10	248.40	3374.63	394.88S	1407.15W	3.30	1461.48	613758.89	2154680.04
3779.00	22.40	250.60	3404.14	399.21S	1418.74W	3.44	1473.82	613747.32	2154675.66
3810.00	22.60	250.50	3432.78	403.16S	1429.92W	0.66	1485.66	613736.15	2154671.66
3841.00	22.30	250.40	3461.43	407.13S	1441.08W	0.98	1497.47	613725.01	2154667.65
3872.00	22.60	250.10	3490.08	411.13S	1452.22W	1.04	1509.29	613713.89	2154663.61
3904.00	21.10	251.40	3519.78	415.06S	1463.46W	4.93	1521.17	613702.67	2154659.63
3935.00	20.70	252.90	3548.74	418.45S	1473.99W	2.16	1532.23	613692.16	2154656.20
3997.00	18.70	255.30	3607.11	424.19S	1494.08W	3.48	1553.12	613672.09	2154650.37
4028.00	17.80	256.90	3636.55	426.53S	1503.50W	3.32	1562.82	613662.68	2154648.00
4060.00	17.30	257.10	3667.06	428.70S	1512.90W	1.57	1572.46	613653.29	2154645.79
4091.00	16.80	261.00	3696.70	430.43S	1521.82W	4.02	1581.51	613644.38	2154644.02
4122.00	16.20	262.00	3726.42	431.73S	1530.52W	2.14	1590.24	613635.68	2154642.68
4156.00	15.00	262.30	3759.17	432.98S	1539.58W	3.54	1599.29	613626.62	2154641.39
4185.00	14.50	261.10	3787.21	434.04S	1546.89W	2.02	1606.60	613619.32	2154640.30
4216.00	13.50	259.60	3817.29	435.30S	1554.28W	3.43	1614.06	613611.94	2154639.02
4248.00	12.60	257.40	3848.47	436.73S	1561.36W	3.21	1621.26	613604.86	2154637.55
4279.00	11.40	259.30	3878.79	438.04S	1567.67W	4.07	1627.68	613598.56	2154636.22
4310.00	10.50	259.80	3909.22	439.11S	1573.46W	2.92	1633.55	613592.77	2154635.12
4341.00	10.30	260.60	3939.71	440.06S	1578.98W	0.80	1639.11	613587.26	2154634.15
4373.00	9.50	257.50	3971.24	441.10S	1584.38W	3.00	1644.59	613581.87	2154633.09
4405.00	8.50	254.10	4002.84	442.32S	1589.23W	3.54	1649.59	613577.02	2154631.85
4435.00	7.40	251.80	4032.56	443.53S	1593.20W	3.82	1653.74	613573.06	2154630.62
4467.00	6.60	248.00	4064.32	444.86S	1596.86W	2.89	1657.62	613569.40	2154629.27

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 1713.83 on azimuth 254.45 degrees from wellhead.

Vertical section is from N 0.00 E 0.00 on azimuth 254.01 degrees.

Grid is mercator - New Mexico West (3003).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Williams Production Company
 Rosa Unit #181C, slot #1
 Mesaverde, Rio Arriba, New Mexico

SURVEY LISTING Page 5
 Your ref : MWD
 Last revised : 23-Nov-2004

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	G R I D Easting	C O O R D S Northing
4498.00	5.40	245.10	4095.15	446.15S	1599.84W	3.99	1660.84	613566.43
4530.00	4.50	238.70	4127.03	447.43S	1602.27W	3.30	1663.54	613564.00
4561.00	3.40	237.00	4157.95	448.56S	1604.08W	3.57	1665.59	613562.19
4761.00	2.75	255.00	4357.67	453.04S	1613.69W	0.58	1676.06	613552.60
5166.00	1.00	280.00	4762.44	454.94S	1626.56W	0.47	1688.95	613539.75
5561.00	1.25	235.00	5157.37	456.81S	1633.48W	0.23	1696.12	613532.83
5967.00	1.00	260.00	5563.30	459.97S	1640.60W	0.13	1703.83	613525.73
6441.00	0.75	280.00	6037.24	460.15S	1647.73W	0.08	1710.73	613518.60
6700.00	0.75	280.00	6296.22	459.56S	1651.07W	0.00	1713.78	613515.26

All data in feet unless otherwise stated. Calculation uses minimum curvature method.
 Coordinates from slot #1 and TVD from rotary table.
 Bottom hole distance is 1713.83 on azimuth 254.45 degrees from wellhead.
 Vertical section is from N 0.00 E 0.00 on azimuth 254.01 degrees.
 Grid is mercator - New Mexico West (3003).
 Grid coordinates in FEET and computed using the Clarke - 1866 spheroid
 Presented by Baker Hughes INTEQ

Williams Production Company

Structure : Rosa Unit #181C

Slot : slot #1

Field : Mesaverde

Location : Rio Arriba, New Mexico

Created by planner

Date plotted : 4-Apr-2005

Plot Reference is Plot2

Coordinates are in feet reference slot #1

True Vertical Depths are reference rotary table

--- Baker Hughes INTEQ ---

WELL PROFILE DATA

Point	MD	Inc	Dir	TVD	North	East	V. Sect	Deg/100
Tie on	0.00	0.00	254.01	0.00	0.00	0.00	0.00	0.00
KOP	400.00	0.00	254.01	400.00	0.00	0.00	0.00	0.00
End of Build/Turn	1291.57	31.21	254.01	1248.15	-65.25	-227.68	236.85	3.50
End of Hold	3357.53	31.21	254.01	3015.19	-360.14	-1256.64	1307.23	0.00
Target Tgt 1	4617.79	6.00	254.01	4200.00	-470.00	-1640.00	1706.02	2.00
KOP	4917.79	0.00	254.01	4499.45	-474.32	-1655.09	1721.71	2.00
T.D. & Target BHL	6596.33	0.00	311.05	6178.00	-474.32	-1655.09	1721.71	0.00

