

sperry-sun
DRILLING SERVICES

End of Well Report

30-039-29581

Rosa Unit #332A

Surface 1570/N 925/W
BHL 983/N 326/W

Williams Production Company

8/3/2005



HALLIBURTON

9800 W RENO • OKLA CITY, OK 73127
PHONE 405.324.2222 • FAX 405.324.1009

August 10, 2005

Re: Williams Production Co.
Rosa Unit #332-A
Sec. 22-T31N-R06W
Rio Arriba County, New Mexico

Enclosed please find the original and one copy of the surveys performed on the referenced well by Halliburton/Sperry Drilling Services.

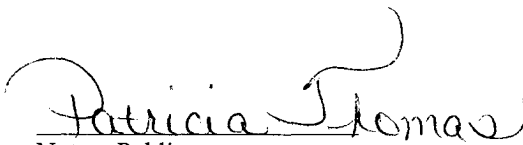
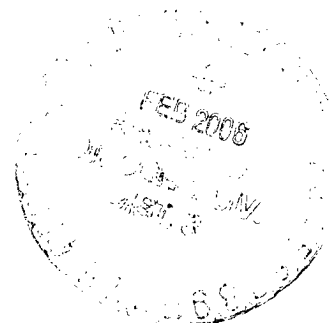
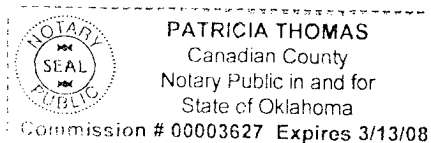
<u>Name & Title of Supervisor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Dennis Cook Field Supervisor	Original	352' – 3,074'	07/24/05 – 07/27/05	MWD
Dennis Cook Field Supervisor	Projection to TD	3,074' – 3,127'		MWD

If any other information is required, please contact the undersigned at the letterhead address and phone number.



Dennis Cook
Field Supervisor

My Commission Expires: March 13, 2008


Notary Public



**Williams Production Company
New Mexico
Rio Arriba County
Sec. 22-T31N-R06W
Rosa Unit #332A - MWD Survey**

Halliburton Sperry-Drilling Survey Report

3 August, 2005

Surface Coordinates: 2142734.48 N, 610559.83 E (36° 53' 17.0000" N, 107° 27' 19.0000" W)
Grid Coordinate System: NAD27 New Mexico State Planes, Western Zone

Surface Coordinates relative to Global Coordinates: 637743.36 N, 312879.07 E (Grid)
Surface Coordinates relative to NW Cor Sec 22: 1570.00 S, 925.00 E (True)
Kelly Bushing Elevation: 6278.00ft above Mean Sea Level
Kelly Bushing Elevation: 0.00ft above Structure

Survey Ref: svy9115

HALLIBURTON

Sperry Drilling Services

HALLIBURTON

Sperry Drilling Services

Williams Production Company
New Mexico
Rio Arriba County

Survey Report for Sec. 22-T31N-R06W - Rosa Unit #332A - MWD Survey

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical		Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
			Depth	Section	N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
0.00	0.000	0.000	0.00	0.00	0.00 N	0.00 E		1570.00 FNL	925.00 FWL	2142734.48 N	610559.83 E
352.00	0.280	316.840	352.00	0.86	0.63 N	0.59 W	0.08	1569.38 FNL	924.41 FWL	2142735.11 N	610559.24 E
383.00	0.240	309.580	383.00	1.00	0.72 N	0.69 W	0.17	1569.28 FNL	924.31 FWL	2142735.20 N	610559.14 E
414.00	0.630	283.690	414.00	1.21	0.81 N	0.91 W	1.38	1569.20 FNL	924.10 FWL	2142735.28 N	610558.92 E
445.00	1.080	312.240	444.99	1.65	1.04 N	1.29 W	1.96	1568.96 FNL	923.72 FWL	2142735.52 N	610558.54 E
476.00	1.610	322.250	475.99	2.37	1.58 N	1.77 W	1.86	1568.42 FNL	923.23 FWL	2142736.06 N	610558.06 E
506.00	2.450	324.830	505.97	3.42	2.44 N	2.40 W	2.82	1567.56 FNL	922.61 FWL	2142736.91 N	610557.43 E
537.00	3.230	327.190	536.93	4.92	3.72 N	3.25 W	2.54	1566.29 FNL	921.75 FWL	2142738.18 N	610556.57 E
568.00	4.260	327.410	567.86	6.90	5.42 N	4.35 W	3.32	1564.58 FNL	920.66 FWL	2142739.88 N	610555.47 E
599.00	5.230	330.230	598.75	9.38	7.62 N	5.67 W	3.22	1562.39 FNL	919.33 FWL	2142742.08 N	610554.13 E
629.00	6.430	328.160	628.60	12.33	10.23 N	7.23 W	4.06	1559.77 FNL	917.77 FWL	2142744.68 N	610552.56 E
660.00	7.620	327.170	659.37	16.02	13.43 N	9.26 W	3.86	1556.57 FNL	915.74 FWL	2142747.88 N	610550.52 E
690.00	8.730	324.520	689.06	20.21	16.96 N	11.66 W	3.91	1553.05 FNL	913.34 FWL	2142751.39 N	610548.10 E
721.00	10.110	323.870	719.64	25.21	21.07 N	14.63 W	4.46	1548.93 FNL	910.37 FWL	2142755.49 N	610545.12 E
751.00	11.360	320.900	749.12	30.74	25.49 N	18.05 W	4.56	1544.51 FNL	906.95 FWL	2142759.90 N	610541.68 E
782.00	12.620	320.760	779.44	37.14	30.48 N	22.12 W	4.07	1539.52 FNL	902.89 FWL	2142764.88 N	610537.60 E
812.00	13.720	318.700	808.65	43.95	35.69 N	26.54 W	3.99	1534.31 FNL	898.46 FWL	2142770.07 N	610533.15 E
844.00	14.790	316.970	839.66	51.82	41.53 N	31.83 W	3.60	1528.47 FNL	893.17 FWL	2142775.89 N	610527.84 E
876.00	16.000	316.220	870.52	60.30	47.70 N	37.67 W	3.83	1522.30 FNL	887.33 FWL	2142782.03 N	610521.98 E
907.00	16.870	315.520	900.25	69.07	53.99 N	43.78 W	2.88	1516.01 FNL	881.22 FWL	2142788.30 N	610515.84 E
939.00	18.190	315.690	930.76	78.71	60.88 N	50.52 W	4.13	1509.12 FNL	874.48 FWL	2142795.16 N	610509.07 E
969.00	19.340	315.170	959.17	88.36	67.76 N	57.29 W	3.87	1502.25 FNL	867.71 FWL	2142802.01 N	610502.27 E
1000.00	20.480	314.460	988.31	98.91	75.19 N	64.79 W	3.76	1494.81 FNL	860.22 FWL	2142809.42 N	610494.75 E
1032.00	21.450	313.410	1018.20	110.36	83.14 N	73.03 W	3.25	1486.87 FNL	851.97 FWL	2142817.33 N	610486.48 E
1063.00	22.760	313.760	1046.92	122.03	91.18 N	81.48 W	4.25	1478.83 FNL	843.52 FWL	2142825.34 N	610477.99 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
1095.00	23.730	313.230	1076.32	134.65	99.87 N	90.64 W	3.10	1470.13 FNL	834.36 FWL	2142833.99 N	610468.80 E
1127.00	25.050	313.580	1105.46	147.86	108.95 N	100.24 W	4.15	1461.05 FNL	824.76 FWL	2142843.04 N	610459.16 E
1158.00	26.370	313.760	1133.39	161.31	118.24 N	109.97 W	4.27	1451.77 FNL	815.03 FWL	2142852.29 N	610449.40 E
1189.00	27.600	313.940	1161.02	175.38	127.98 N	120.11 W	3.98	1442.02 FNL	804.89 FWL	2142861.99 N	610439.22 E
1251.00	29.270	313.060	1215.53	204.89	148.30 N	141.53 W	2.78	1421.71 FNL	783.47 FWL	2142882.22 N	610417.72 E
1313.00	30.590	313.410	1269.27	235.82	169.49 N	164.07 W	2.15	1400.52 FNL	760.93 FWL	2142903.32 N	610395.10 E
1378.00	30.760	311.650	1325.17	268.96	191.90 N	188.50 W	1.41	1378.11 FNL	736.50 FWL	2142925.64 N	610370.58 E
1409.00	31.030	310.770	1351.77	284.85	202.38 N	200.48 W	1.70	1367.62 FNL	724.52 FWL	2142936.08 N	610358.56 E
1440.00	30.590	310.070	1378.40	300.68	212.68 N	212.57 W	1.83	1357.33 FNL	712.44 FWL	2142946.32 N	610346.43 E
1472.00	29.790	309.720	1406.06	316.72	223.00 N	224.91 W	2.56	1347.00 FNL	700.09 FWL	2142956.60 N	610334.05 E
1503.00	29.090	310.420	1433.05	331.91	232.81 N	236.57 W	2.52	1337.20 FNL	688.43 FWL	2142966.36 N	610322.35 E
1535.00	28.040	311.480	1461.16	347.18	242.83 N	248.13 W	3.64	1327.17 FNL	676.87 FWL	2142976.34 N	610310.75 E
1566.00	27.250	312.000	1488.62	361.55	252.41 N	258.87 W	2.66	1317.60 FNL	666.14 FWL	2142985.87 N	610299.98 E
1598.00	26.720	313.060	1517.14	376.06	262.22 N	269.57 W	2.24	1307.78 FNL	655.44 FWL	2142995.64 N	610289.24 E
1629.00	26.980	313.760	1544.79	390.06	271.84 N	279.74 W	1.32	1298.16 FNL	645.27 FWL	2143005.22 N	610279.03 E
1661.00	27.330	313.580	1573.27	404.66	281.93 N	290.30 W	1.12	1288.08 FNL	634.70 FWL	2143015.27 N	610268.43 E
1692.00	27.250	314.820	1600.82	418.88	291.84 N	300.49 W	1.85	1278.17 FNL	624.51 FWL	2143025.13 N	610258.20 E
1724.00	26.320	316.400	1629.38	433.29	302.14 N	310.58 W	3.66	1267.87 FNL	614.42 FWL	2143035.40 N	610248.07 E
1755.00	26.160	317.370	1657.19	446.99	312.14 N	319.95 W	1.48	1257.86 FNL	605.05 FWL	2143045.36 N	610238.66 E
1786.00	26.480	317.410	1684.97	460.71	322.26 N	329.25 W	1.03	1247.75 FNL	595.75 FWL	2143055.44 N	610229.31 E
1817.00	26.770	317.440	1712.69	474.59	332.49 N	338.65 W	0.94	1237.52 FNL	586.35 FWL	2143065.64 N	610219.88 E
1849.00	27.480	318.110	1741.17	489.15	343.29 N	348.46 W	2.42	1226.71 FNL	576.54 FWL	2143076.40 N	610210.03 E
1880.00	27.750	317.240	1768.64	503.50	353.91 N	358.13 W	1.57	1216.09 FNL	566.87 FWL	2143086.99 N	610200.31 E
1911.00	28.510	316.150	1795.97	518.11	364.55 N	368.16 W	2.96	1205.46 FNL	556.84 FWL	2143097.58 N	610190.24 E
1942.00	28.930	314.610	1823.16	533.00	375.15 N	378.62 W	2.74	1194.86 FNL	546.38 FWL	2143108.14 N	610179.74 E
1973.00	28.930	313.260	1850.29	547.99	385.55 N	389.42 W	2.11	1184.45 FNL	535.58 FWL	2143118.50 N	610168.90 E
2004.00	28.500	312.340	1877.48	562.88	395.67 N	400.35 W	1.99	1174.33 FNL	524.65 FWL	2143128.58 N	610157.93 E
2036.00	28.070	311.830	1905.66	578.03	405.83 N	411.60 W	1.54	1164.17 FNL	513.40 FWL	2143138.70 N	610146.64 E
2065.00	27.550	311.780	1931.31	591.54	414.85 N	421.69 W	1.79	1155.15 FNL	503.31 FWL	2143147.68 N	610136.52 E
2097.00	26.700	312.540	1959.79	606.12	424.64 N	432.51 W	2.87	1145.36 FNL	492.50 FWL	2143157.42 N	610125.66 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Severit (°/100ft)	Lease Calls		Global Coordinates	
					N-S (ft)	E-W (ft)		FNL-FSL (ft)	FEL-FWL (ft)	Grid Y (ft)	Grid X (ft)
2128.00	25.530	313.690	1987.63	619.76	433.97 N	442.47 W	4.11	1136.04 FNL	482.54 FWL	2143166.71 N	610115.66 E
2160.00	24.410	314.120	2016.63	633.27	443.33 N	452.20 W	3.55	1126.67 FNL	472.80 FWL	2143176.04 N	610105.89 E
2192.00	23.470	314.460	2045.88	646.25	452.40 N	461.50 W	2.97	1117.60 FNL	463.51 FWL	2143185.07 N	610096.56 E
2224.00	22.680	314.110	2075.32	658.80	461.16 N	470.48 W	2.51	1108.85 FNL	454.53 FWL	2143193.79 N	610087.55 E
2256.00	21.880	314.460	2104.93	670.93	469.63 N	479.16 W	2.53	1100.38 FNL	445.84 FWL	2143202.22 N	610078.83 E
2287.00	20.740	315.170	2133.81	682.19	477.57 N	487.15 W	3.77	1092.44 FNL	437.85 FWL	2143210.13 N	610070.81 E
2319.00	19.510	316.570	2163.86	693.20	485.47 N	494.82 W	4.13	1084.54 FNL	430.18 FWL	2143218.00 N	610063.11 E
2350.00	18.540	316.750	2193.16	703.30	492.81 N	501.76 W	3.13	1077.19 FNL	423.24 FWL	2143225.32 N	610056.14 E
2381.00	17.490	316.400	2222.64	712.88	499.78 N	508.35 W	3.41	1070.23 FNL	416.65 FWL	2143232.26 N	610049.52 E
2413.00	17.050	316.050	2253.20	722.37	506.64 N	514.92 W	1.41	1063.37 FNL	410.08 FWL	2143239.09 N	610042.93 E
2444.00	16.440	314.640	2282.89	731.30	512.99 N	521.20 W	2.36	1057.01 FNL	403.81 FWL	2143245.42 N	610036.63 E
2476.00	16.170	314.640	2313.60	740.29	519.30 N	527.59 W	0.84	1050.70 FNL	397.41 FWL	2143251.71 N	610030.21 E
2508.00	15.820	314.290	2344.36	749.11	525.48 N	533.88 W	1.13	1044.52 FNL	391.12 FWL	2143257.86 N	610023.89 E
2540.00	14.940	313.580	2375.21	757.59	531.37 N	539.99 W	2.81	1038.63 FNL	385.01 FWL	2143263.73 N	610017.76 E
2570.00	14.410	312.180	2404.23	765.19	536.54 N	545.56 W	2.13	1033.46 FNL	379.44 FWL	2143268.88 N	610012.17 E
2601.00	13.450	312.880	2434.32	772.65	541.59 N	551.06 W	3.14	1028.42 FNL	373.94 FWL	2143273.90 N	610006.65 E
2634.00	13.540	314.290	2466.41	780.35	546.89 N	556.64 W	1.03	1023.11 FNL	368.36 FWL	2143279.18 N	610001.05 E
2665.00	13.180	314.640	2496.57	787.51	551.91 N	561.75 W	1.19	1018.09 FNL	363.25 FWL	2143284.18 N	609995.92 E
2697.00	12.130	313.940	2527.79	794.52	556.81 N	566.77 W	3.32	1013.20 FNL	358.23 FWL	2143289.06 N	609990.88 E
2728.00	11.410	313.070	2558.14	800.84	561.16 N	571.35 W	2.39	1008.84 FNL	353.65 FWL	2143293.39 N	609986.28 E
2760.00	10.720	312.000	2589.55	806.98	565.31 N	575.88 W	2.25	1004.69 FNL	349.12 FWL	2143297.53 N	609981.74 E
2791.00	9.760	310.420	2620.05	812.48	568.95 N	580.02 W	3.23	1001.06 FNL	344.98 FWL	2143301.15 N	609977.58 E
2823.00	8.530	310.770	2651.65	817.55	572.26 N	583.88 W	3.85	997.75 FNL	341.12 FWL	2143304.44 N	609973.71 E
2854.00	7.470	315.170	2682.34	821.86	575.19 N	587.05 W	3.95	994.82 FNL	337.96 FWL	2143307.36 N	609970.53 E
2886.00	6.770	320.970	2714.10	825.82	578.13 N	589.70 W	3.13	991.88 FNL	335.30 FWL	2143310.29 N	609967.87 E
2916.00	5.980	326.070	2743.91	829.11	580.80 N	591.69 W	3.24	989.21 FNL	333.32 FWL	2143312.95 N	609965.87 E
2947.00	4.920	327.650	2774.77	831.98	583.26 N	593.30 W	3.45	986.74 FNL	331.70 FWL	2143315.41 N	609964.25 E
2979.00	3.520	325.360	2806.68	834.28	585.23 N	594.59 W	4.41	984.78 FNL	330.41 FWL	2143317.37 N	609962.95 E
3010.00	2.560	309.840	2837.64	835.91	586.45 N	595.66 W	4.05	983.55 FNL	329.34 FWL	2143318.59 N	609961.87 E
3041.00	1.800	287.320	2868.62	837.03	587.04 N	596.66 W	3.65	982.96 FNL	328.34 FWL	2143319.18 N	609960.87 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates N-S (ft)	E-W (ft)	Dogleg Severit (°/100ft)	Lease Calls FNL-FSL (ft)	FEL-FWL (ft)	Global Coordinates Grid Y (ft)	Grid X (ft)
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last MWD survey

3074.00	1.670	265.150	2901.60	837.81	587.16 N	597.64 W	2.06	982.85 FNL	327.37 FWL	2143319.28 N	609959.90 E
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Projection to end run

3127.00	1.670	265.150	2954.58	838.81	587.03 N	599.17 W	0.00	982.98 FNL	325.83 FWL	2143319.15 N	609958.36 E
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All data is in Feet (US) unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to RKB(6266 +12'KB). Northings and Eastings are relative to Wellhead.

Based upon Minimum Curvature type calculations, at a Measured Depth of 3127.00ft., The Bottom Hole Displacement is 838.81ft., in the Direction of 314.415° (True).

Survey Report for Sec. 22-T31N-R06W - Rosa Unit #332A - MWD Survey**Comments**

Measured Depth (ft)	Station Coordinates		Comment
	TVD (ft)	Northings (ft) Eastings (ft)	
3074.00	2901.60	587.16 N	last MWD survey Projection to end run
3127.00	2954.58	587.03 N	

North Reference Sheet for Sec. 22-T31N-R06W - Rosa Unit #332A

Coordinate System is NAD27 New Mexico State Planes, Western Zone, US Foot
Source: Snyder, J.P., 1987, Map Projections - A Working Manual

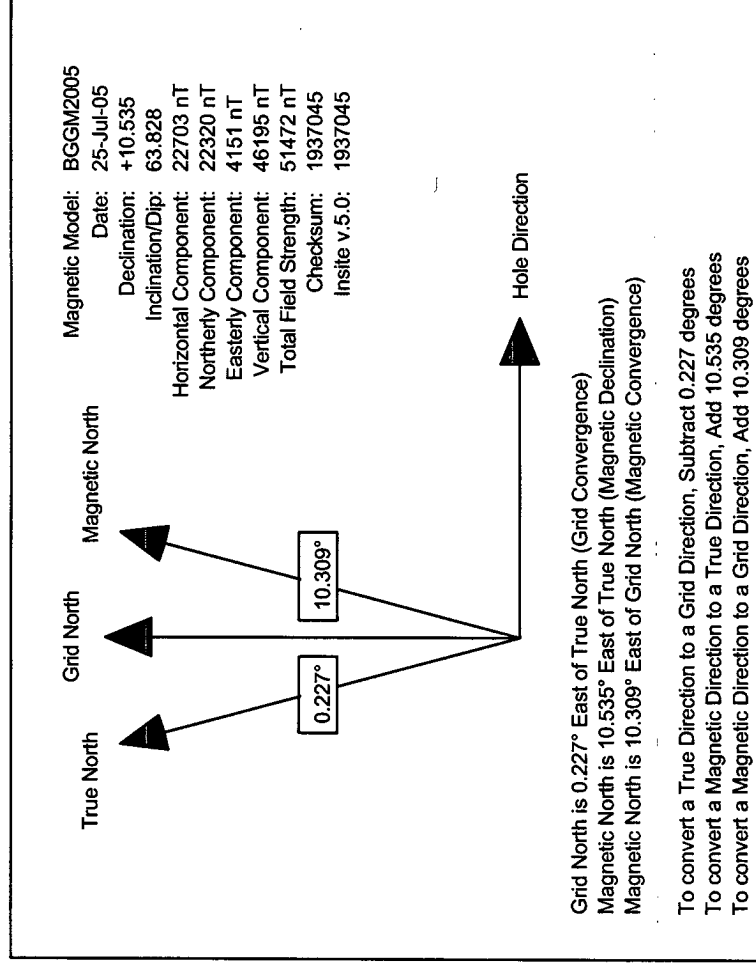
Datum is North American Datum of 1927 (US48, AK, HI, and Canada)

Spheroid is Clarke - 1866
Equatorial Radius: 6378206.400m.
Polar Radius: 6356583.800m.
Inverse Flattening: 294.978698213901

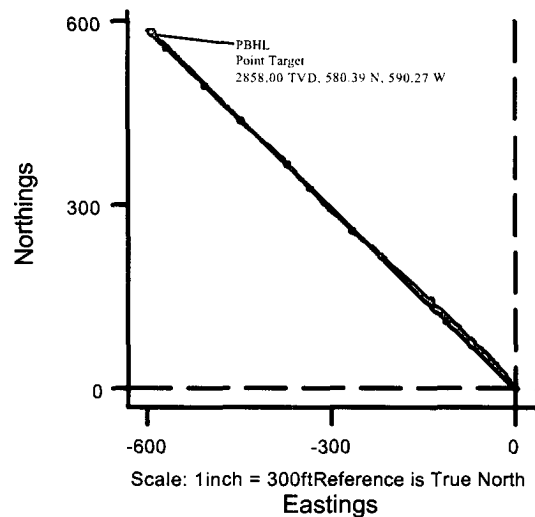
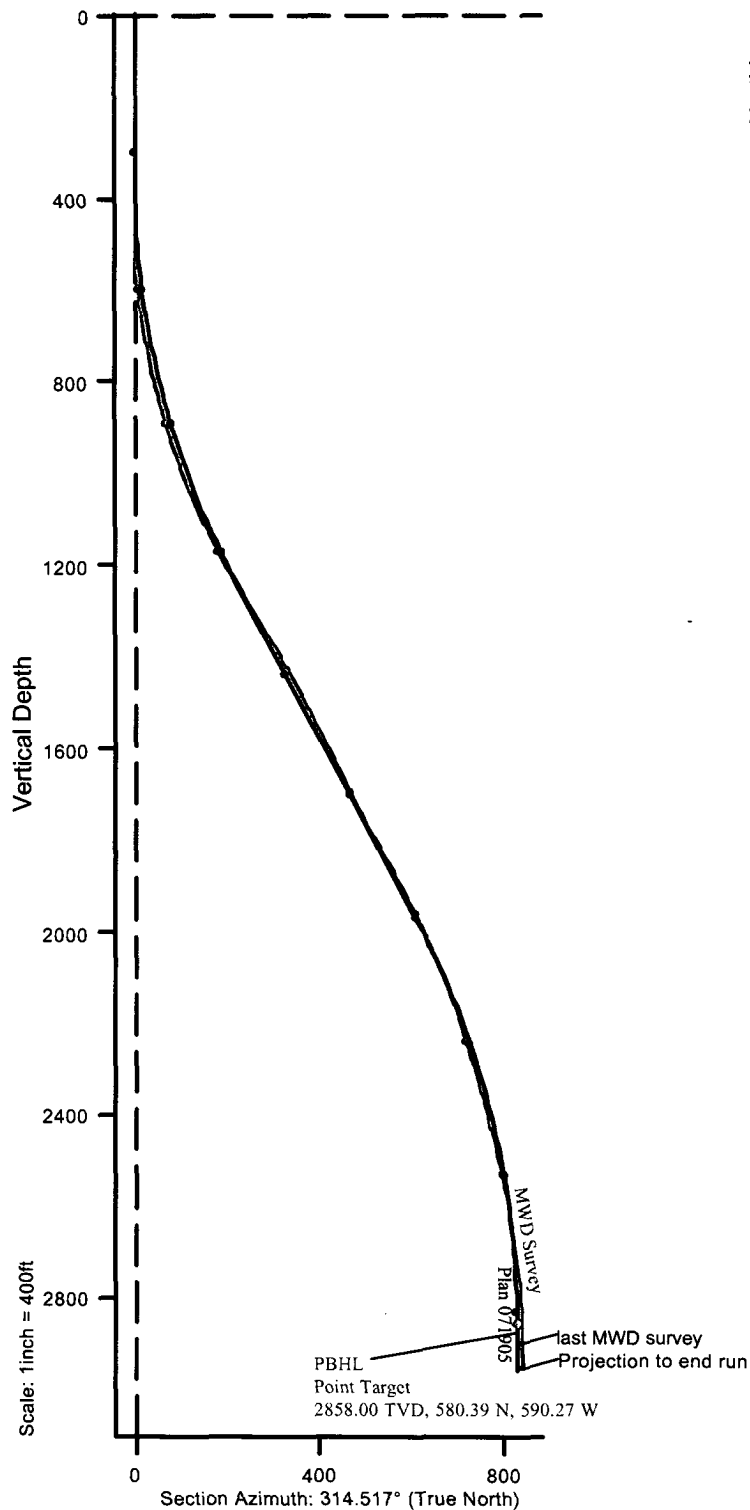
Projection method is Transverse Mercator or Gauss Kruger Projection

Central Meridian is -107.833°
Longitude Origin: 0.000°
Latitude Origin: 31.000°
False Easting: 152400.00m
False Northing: 0.00m
Scale Reduction: 0.99991667

Grid Coordinates of Well: 2142734.48 N, 610559.83 E
Geographical Coordinates of Well: 36° 53' 17.0000" N, 107° 27' 19.0000" W
Surface Elevation of Well: 6278.00ft
Grid Convergence at Surface is +0.227°
Magnetic Declination at Surface is +10.535° (25 July, 2005)



New Mexico
Rio Arriba County
Sec. 22-T31N-R06W
Rosa Unit #332A



District I
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994

District II
PO Drawer 00, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

District III
1000 Rio Brazos Rd., Aztec, NM 87410

PO Box 2088
Santa Fe, NM 87504-2088

☐ AMENDED REPORT

District IV
PO Box 2088, Santa Fe, NM 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 332A
*OSRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6266

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	22	31N	6W		1570	NORTH	925	WEST	RIO ARriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
()	22	31N	6W		990	NORTH	330	WEST	RIO ARriba

12 Dedicated Acres 320.0 Acres - (W/2)	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature _____ Printed Name _____ Title _____ Date _____
18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date Revised: MARCH 9, 2005 Survey Date: OCTOBER 21, 2004 Signature and Seal of Professional Surveyor JASON C. EDWARDS Certificate Number 15269		

NW 66 2144304.48 N
611484.83 E

-1.38
-6.17