

SPERRY-SUN
DRILLING SERVICES

End of Well Report

30-039-29364

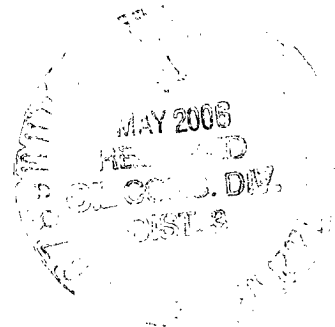
	Surface	1290/N	170/W	Sec 11	T31N	R5W
start	BHL 1	1019/N	437/E	Sec 10	"	"
end	BHL 2	791/N	1896/E	Sec 10	"	"

Rosa Unit # 350

Williams Production Company

HOLD G104 FOR NSL

11/19/2005



86

HALLIBURTON

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

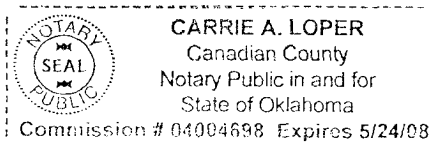
November 23, 2005

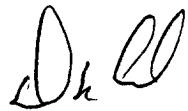
Re: Williams Production Co.
Rosa Unit #350
Sec. 11-T31N-R05W
Rio Arriba County, New Mexico

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

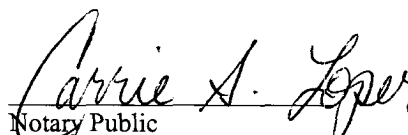
<u>Name & Title of Supervisor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Dennis Cook Directional Supervisor	Original	510' – 5,510'	11/01/05 – 11/16/05	MWD
Dennis Cook Directional Supervisor	Projection to TD	5,510' – 5,575'		MWD

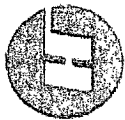
If any other information is required, please contact the undersigned at the letterhead address and phone number.




Dennis Cook
Directional Supervisor

My Commission Expires: 5/24/08


Notary Public



Williams Production Company
New Mexico
Rio Arriba County
Sec. 11-T31N-R05W
Rosa Unit #350 - MWD Survey

Haliburton Sperry-Drilling Survey Report

19 November, 2005

Surface Coordinates: 2153798.45 N, 644229.94 E (36° 55' 04.8840" N, 107° 20' 23.8265" W)
Grid Coordinate System: NAD27 New Mexico State Planes, Western Zone

Surface Coordinates relative to Global Coordinates: 648807.32 N, 346549.17 E (Grid)
Surface Coordinates relative to Structure: 1290.00 S, 170.00 E (True)
Kelly Bushing Elevation: 6840.00ft above Mean Sea Level
Kelly Bushing Elevation: 73.00ft above Structure

Survey Ref: svy9455

HALLIBURTON

Sperry Drilling Services

Survey Report for Sec. 11-T31N-R05W - Rosa Unit #350 - MWD Survey

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates		Dogleg Saverit (°/100ft)	Lease Calls		Global Coordinates	
					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		1290.00 FNL	170.00 FWL	2153798.45 N	644229.94 E
510.00	0.400	170.690	510.00	-0.71	1.76 S	0.29 E	0.08	1291.76 FNL	170.29 FWL	2153796.69 N	644230.24 E
1009.00	1.000	118.490	1008.96	-5.63	5.55 S	4.40 E	0.16	1295.55 FNL	174.40 FWL	2153792.92 N	644234.37 E
1513.00	1.880	51.560	1512.83	-14.90	2.51 S	14.74 E	0.35	1292.51 FNL	184.74 FWL	2153796.01 N	644244.69 E
2006.00	1.670	76.740	2005.60	-26.18	4.16 N	28.06 E	0.16	1285.84 FNL	198.06 FWL	2153802.76 N	644257.98 E
2508.00	0.570	103.350	2507.49	-35.16	5.27 N	37.61 E	0.24	1284.73 FNL	207.61 FWL	2153803.91 N	644267.53 E
3044.00	1.140	92.900	3043.43	-43.05	4.38 N	45.53 E	0.11	1285.62 FNL	215.53 FWL	2153803.06 N	644275.45 E
3077.00	0.620	106.340	3076.43	-43.55	4.31 N	46.03 E	1.68	1285.69 FNL	216.03 FWL	2153803.00 N	644275.95 E
3108.00	1.180	282.600	3107.43	-43.40	4.34 N	45.88 E	5.80	1285.66 FNL	215.88 FWL	2153803.02 N	644275.80 E
3140.00	3.790	281.590	3139.39	-42.02	4.62 N	44.52 E	8.16	1285.38 FNL	214.52 FWL	2153803.30 N	644274.44 E
3171.00	6.680	280.810	3170.26	-39.19	5.16 N	41.75 E	9.33	1284.84 FNL	211.75 FWL	2153803.83 N	644271.66 E
3203.00	10.020	282.210	3201.92	-34.55	6.10 N	37.20 E	10.46	1283.90 FNL	207.20 FWL	2153804.74 N	644267.11 E
3234.00	13.360	284.680	3232.27	-28.27	7.58 N	31.10 E	10.89	1282.42 FNL	201.10 FWL	2153806.19 N	644261.00 E
3266.00	16.700	286.960	3263.17	-19.98	9.86 N	23.12 E	10.60	1280.14 FNL	193.12 FWL	2153808.43 N	644253.01 E
3297.00	20.190	286.720	3292.58	-10.18	12.70 N	13.73 E	11.26	1277.30 FNL	183.73 FWL	2153811.22 N	644243.61 E
3328.00	23.190	286.470	3321.38	1.26	15.97 N	2.75 E	9.68	1274.03 FNL	172.75 FWL	2153814.43 N	644232.61 E
3359.00	26.540	285.730	3349.50	14.29	19.58 N	9.77 W	10.85	1270.42 FNL	160.23 FWL	2153817.98 N	644220.07 E
3391.00	29.620	283.090	3377.73	29.35	23.31 N	24.36 W	10.38	1266.69 FNL	145.64 FWL	2153821.63 N	644205.46 E
3423.00	32.960	282.390	3405.07	45.96	26.97 N	40.57 W	10.50	1263.03 FNL	129.43 FWL	2153825.21 N	644189.24 E
3455.00	36.030	282.390	3431.44	64.07	30.86 N	58.26 W	9.59	1259.14 FNL	111.74 FWL	2153829.00 N	644171.52 E
3486.00	39.810	282.040	3455.89	83.10	34.88 N	76.88 W	12.21	1255.12 FNL	93.12 FWL	2153832.93 N	644152.88 E
3518.00	43.590	281.690	3479.78	104.37	39.26 N	97.71 W	11.83	1250.74 FNL	72.29 FWL	2153837.20 N	644132.03 E
3550.00	47.110	281.510	3502.27	127.11	43.83 N	120.01 W	11.01	1246.17 FNL	49.99 FWL	2153841.66 N	644109.71 E
3581.00	50.710	282.740	3522.64	150.45	48.75 N	142.84 W	11.99	1241.25 FNL	27.16 FWL	2153846.46 N	644086.85 E
3612.00	56.070	283.270	3541.12	175.32	54.35 N	167.08 W	17.34	1235.65 FNL	2.92 FWL	2153851.93 N	644062.58 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)
3643.00	62.310	284.320	3556.99	201.93	60.70 N	192.92 W	20.34	1229.30 FNL	22.92 FEL	2153858.15 N	644036.71 E
3675.00	68.380	283.800	3570.33	231.00	67.76 N	221.12 W	19.03	1222.24 FNL	51.12 FEL	2153865.06 N	644008.47 E
3707.00	73.740	283.620	3580.72	261.25	74.93 N	250.52 W	16.76	1215.07 FNL	80.52 FEL	2153872.08 N	643979.04 E
3738.00	77.780	283.800	3588.34	291.29	82.05 N	279.70 W	13.04	1207.95 FNL	109.70 FEL	2153879.05 N	643949.82 E
3770.00	81.030	284.150	3594.22	322.74	89.65 N	310.22 W	10.21	1200.35 FNL	140.22 FEL	2153886.49 N	643919.26 E
3801.00	84.730	284.680	3598.06	353.50	97.30 N	340.01 W	12.06	1192.70 FNL	170.01 FEL	2153893.99 N	643889.43 E
3887.00	88.000	285.310	3603.52	439.31	119.51 N	422.90 W	3.87	1170.49 FNL	252.90 FEL	2153915.77 N	643806.43 E
3918.00	88.240	285.320	3604.53	470.28	127.69 N	452.78 W	0.77	1162.31 FNL	282.78 FEL	2153923.80 N	643776.50 E
3950.00	88.950	285.470	3605.32	502.27	136.18 N	483.63 W	2.27	1153.82 FNL	313.63 FEL	2153932.13 N	643745.62 E
3982.00	89.720	285.760	3605.69	534.26	144.79 N	514.44 W	2.57	1145.21 FNL	344.44 FEL	2153940.58 N	643714.76 E
4014.00	88.680	286.130	3606.14	566.24	153.58 N	545.21 W	3.45	1136.42 FNL	375.21 FEL	2153949.21 N	643683.95 E
4046.00	87.190	286.170	3607.29	598.20	162.48 N	575.92 W	4.66	1127.52 FNL	405.92 FEL	2153957.95 N	643653.18 E
4078.00	87.350	286.010	3608.81	630.15	171.34 N	606.64 W	0.71	1118.66 FNL	436.64 FEL	2153966.65 N	643622.43 E
4110.00	88.920	285.570	3609.85	662.12	180.04 N	637.41 W	5.10	1109.96 FNL	467.41 FEL	2153975.19 N	643591.61 E
4141.00	89.750	285.110	3610.21	693.11	188.24 N	667.30 W	3.06	1101.76 FNL	497.30 FEL	2153983.24 N	643561.67 E
4205.00	90.960	285.290	3609.82	757.10	205.02 N	729.06 W	1.91	1084.98 FNL	559.06 FEL	2153999.70 N	643499.83 E
4237.00	90.590	284.630	3609.38	789.09	213.28 N	759.98 W	2.36	1076.72 FNL	589.98 FEL	2154007.80 N	643468.87 E
4269.00	90.990	285.370	3608.94	821.09	221.56 N	790.88 W	2.63	1068.44 FNL	620.88 FEL	2154015.92 N	643437.92 E
4333.00	89.080	286.770	3608.90	885.05	239.27 N	852.38 W	3.70	1050.73 FNL	682.38 FEL	2154033.31 N	643376.34 E
4397.00	89.200	286.230	3609.86	948.99	257.45 N	913.73 W	0.86	1032.55 FNL	743.73 FEL	2154051.17 N	643314.89 E
4429.00	88.770	285.660	3610.43	980.97	266.24 N	944.50 W	2.23	1023.76 FNL	774.50 FEL	2154059.80 N	643284.08 E
4492.00	90.770	284.130	3610.68	1043.96	282.43 N	1005.38 W	4.00	1007.57 FNL	835.38 FEL	2154075.68 N	643223.12 E
4524.00	91.260	283.350	3610.12	1075.96	290.03 N	1036.46 W	2.88	999.97 FNL	866.46 FEL	2154083.12 N	643192.00 E
4556.00	89.780	282.760	3609.83	1107.95	297.26 N	1067.63 W	4.98	992.74 FNL	897.63 FEL	2154090.18 N	643160.79 E
4588.00	88.400	281.850	3610.34	1139.92	304.07 N	1098.89 W	5.17	985.93 FNL	928.89 FEL	2154096.84 N	643129.50 E
4652.00	90.180	282.280	3611.13	1203.87	317.45 N	1161.46 W	2.86	972.55 FNL	991.46 FEL	2154109.89 N	643066.85 E
4684.00	91.600	282.840	3610.63	1235.85	324.41 N	1192.69 W	4.77	965.59 FNL	1022.69 FEL	2154116.69 N	643035.59 E
4716.00	91.050	282.510	3609.89	1267.83	331.43 N	1223.91 W	2.00	958.57 FNL	1053.91 FEL	2154123.55 N	643004.34 E
4748.00	90.520	282.650	3609.45	1299.81	338.40 N	1255.13 W	1.71	951.60 FNL	1085.13 FEL	2154130.35 N	642973.07 E
4780.00	89.660	283.220	3609.40	1331.80	345.56 N	1286.32 W	3.22	944.44 FNL	1116.32 FEL	2154137.36 N	642941.85 E

status

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)
4812.00	89.480	283.170	3609.64	1363.80	352.86 N	1317.48 W	0.58	937.14 FNL	1147.48 FEL	2154144.50 N	642910.66 E
4844.00	89.080	283.700	3610.05	1395.79	360.30 N	1348.60 W	2.07	929.70 FNL	1178.60 FEL	2154151.77 N	642879.50 E
4876.00	89.540	283.930	3610.43	1427.79	367.94 N	1379.67 W	1.61	922.06 FNL	1209.67 FEL	2154159.25 N	642848.39 E
4908.00	89.750	283.570	3610.63	1459.79	375.54 N	1410.75 W	1.30	914.46 FNL	1240.75 FEL	2154166.70 N	642817.27 E
4971.00	91.200	283.550	3610.11	1522.78	390.31 N	1471.99 W	2.30	899.69 FNL	1301.99 FEL	2154181.15 N	642755.95 E
5036.00	91.540	282.880	3608.55	1587.75	405.17 N	1535.25 W	1.16	884.83 FNL	1365.25 FEL	2154195.68 N	642692.61 E
5067.00	91.290	281.890	3607.79	1618.72	411.81 N	1565.52 W	3.29	878.19 FNL	1395.52 FEL	2154202.17 N	642662.31 E
5131.00	90.960	282.010	3606.53	1682.66	425.06 N	1628.12 W	0.55	864.94 FNL	1458.12 FEL	2154215.09 N	642599.64 E
5195.00	90.340	282.360	3605.80	1746.61	438.57 N	1690.68 W	1.11	851.43 FNL	1520.68 FEL	2154228.28 N	642537.02 E
5259.00	90.090	281.290	3605.56	1810.55	451.68 N	1753.32 W	1.72	838.32 FNL	1583.32 FEL	2154241.07 N	642474.31 E
5322.00	90.060	280.260	3605.48	1873.44	463.46 N	1815.21 W	1.64	826.54 FNL	1645.21 FEL	2154252.52 N	642412.36 E
5386.00	87.410	277.910	3606.89	1937.15	473.56 N	1878.38 W	5.53	816.44 FNL	1708.38 FEL	2154262.30 N	642349.14 E
5418.00	88.670	278.000	3607.99	1968.94	477.99 N	1910.05 W	3.95	812.01 FNL	1740.05 FEL	2154266.56 N	642317.45 E
5450.00	89.880	277.960	3608.39	2000.74	482.43 N	1941.74 W	3.78	807.57 FNL	1771.74 FEL	2154270.84 N	642285.74 E
5482.00	90.060	277.450	3608.41	2032.53	486.72 N	1973.45 W	1.69	803.28 FNL	1803.45 FEL	2154274.97 N	642254.00 E

last MWD survey

5510.00	90.590	277.390	3608.25	2060.33	490.34 N	2001.21 W	1.90	799.66 FNL	1831.21 FEL	2154278.44 N	642226.22 E
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projection to TD

5575.00	90.590	277.390	3607.58	2124.87	498.70 N	2065.67 W	0.00	791.30 FNL	1895.67 FEL	2154286.47 N	642161.72 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(6825'±15' KB). Northings and Eastings are relative to Wellhead.

Based upon Minimum Curvature type calculations, at a Measured Depth of 5575.00ft.,
The Bottom Hole Displacement is 2125.02ft., in the Direction of 283.573° (True).

Survey Report for Sec. 11-T31N-R05W - Rosa Unit #350 - MWD Survey**Comments**

Measured Depth (ft)	Station Coordinates			Comment
	TVD (ft)	Northings (ft)	Eastings (ft)	
5510.00	3608.25	490.34 N	2001.21 W	last MWD survey projection to TD
5575.00	3607.58	498.70 N	2065.67 W	

North Reference Sheet for Sec. 11-T31N-R05W - Rosa Unit #350

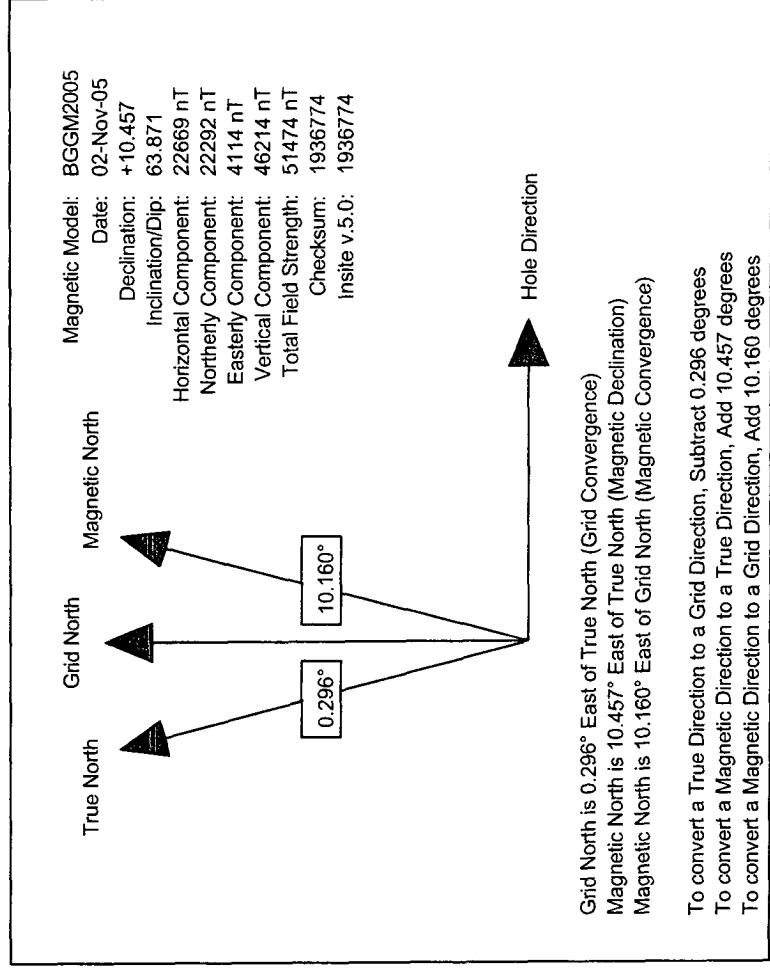
Coordinate System is NAD27 New Mexico State Planes, Western Zone, US Foot
Source: Snyder, J.P., 1987, Map Projections - A Working Manual

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

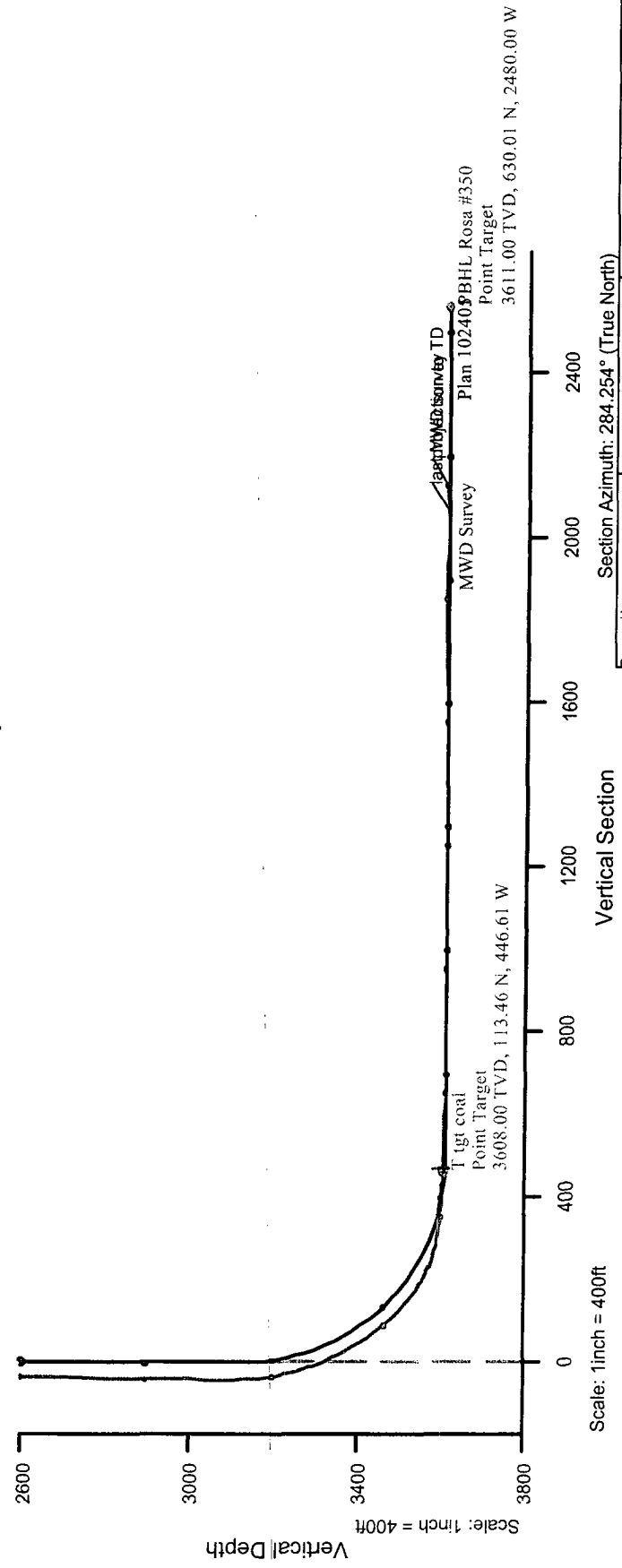
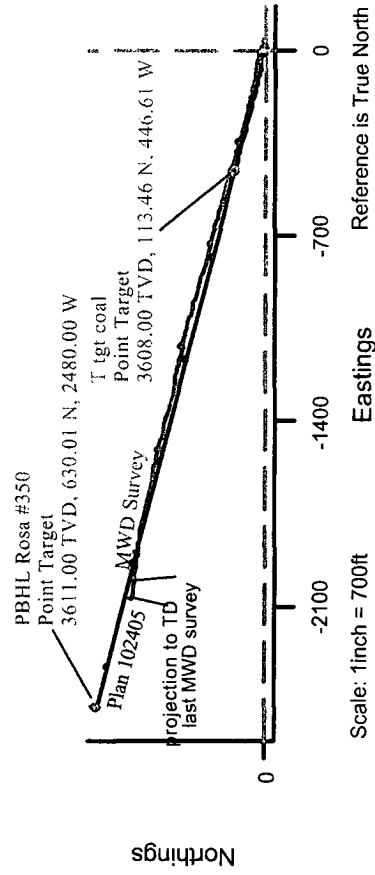
Spheroid is Clarke - 1866
Equatorial Radius: 6378206.400m.
Polar Radius: 6356583.800m.
Inverse Flattening: 294.978698213901

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: 2153798.45 N, 644229.94 E
Geographical Coordinates of Well: 36° 55' 04.8840" N, 107° 20' 23.8265" W
Surface Elevation of Well: 6840.00ft
Grid Convergence at Surface is +0.296°
Magnetic Declination at Surface is +10.457° (2 November, 2005)



New Mexico
Rio Arriba County
Sec. 11-T31N-R05W
Rosa Unit #350



Prepared by: Dennis Cook
Date/Time: 19 November, 2005 - 12:53
Checked: Approved:

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

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

District IV
PO Box 2068, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Dennis Cook

☐ AMENDED REPORT

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 350
'OGRID No. 120782	'Operator Name WILLIAMS PRODUCTION COMPANY	'Elevation 5826'

¹⁰ Surface Location

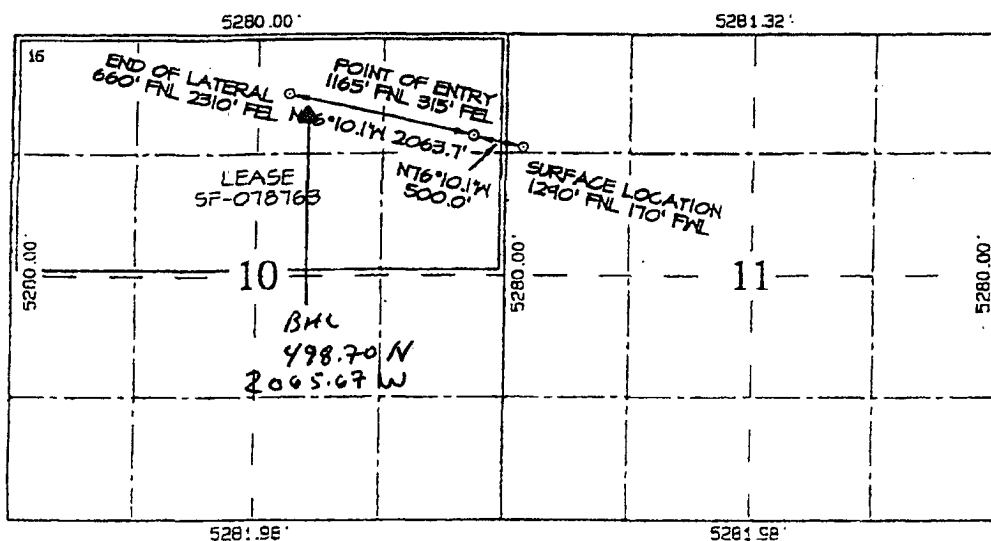
U. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	11	31N	SW		1290	NORTH	170	WEST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

U. or lot no.	Section	Township	Range	Lat. Ion	Feet from the	North/South line	Feet from the	East/West line	County
B	10	31N	5W		660	NORTH	2310	EAST	RIO ARRIBA

12 Dedicated Acres	320.0 Acres - (N/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

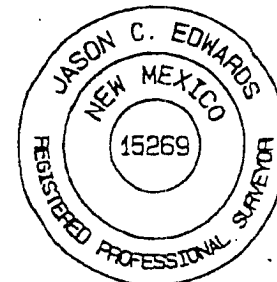
Date _____

¹⁶ 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 of Survey: JUNE 8, 2004

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269