sperry-sun
DRILLING SERVICES

End of Well Report

30-039-29501

Rosa Unit #233-A

Surface 1920/S 1530/E
BHL 1971/S 1008/E

Williams Production Company

5/20/2005

HALLIBURTON

9800 W RENO • OKLA CITY, OK 73127

PHONE 405.324.2222 • FAX 405.324.1009

June 03, 2005

Re: Williams Production Co.
Rosa Unit #233-A
Sec. 30-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.

Name & Title of Supervisor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Dennis Cook Field Supervisor	Original	349' – 3,097'	05/15/05 – 05/19/05	MWD
Dennis Cook Field Supervisor	Projection to TD	3,097' – 3,147'		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:

NOTARY SEAL

PATRICIA THOMAS
Canadian County
Notary Public in and for
State of Oklahoma
Commission # 00003627 Expires 3/13/08

Patricia Thomas
Notary Public

Williams Production Company
New Mexico
Rio Arriba County
Sec. 30-T31N-R05W
Rosa #233-A - MWD survey

Halliburton Sperry-Drilling Survey Report

20 May, 2005

Surface Coordinates: 2135442.68 N, 483100.08 E (36° 52' 07.0083" N, 107° 53' 27.9870" W)
Grid Coordinate System: NAD27 New Mexico State Planes, Western Zone

Surface Coordinates relative to Global Coordinates: 630451.56 N, 185419.31 E (Grid)
Surface Coordinates relative to SE corner of sec 30: 1920.00 N, 1530.00 W (True)
Kelly Bushing Elevation: 6410.00ft above Mean Sea Level
Kelly Bushing Elevation: 6410.00ft above Structure

Survey Ref: svy8496

HALLIBURTON

Sperry Drilling Services

Survey Report for Sec. 30-T31N-R05W - Rosa #233-A - MWD survey

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates N-S (ft)	Local Coordinates E-W (ft)	Dogleg Severit (°/100ft)	Lease Calls FNL-FSL (ft)	Lease Calls FEL-FWL (ft)	Global Coordinates Grid Y (ft)	Global Coordinates Grid X (ft)
0.00	0.000	0.000	0.00	0.00	0.00 N	0.00 E		1920.00 FSL	1530.00 FEL	2135442.68 N	483100.08 E
349.00	0.320	6.230	349.00	0.22	0.97 N	0.11 E	0.09	1920.97 FSL	1529.89 FEL	2135443.65 N	483100.18 E
380.00	0.410	13.390	380.00	0.28	1.16 N	0.14 E	0.32	1921.16 FSL	1529.86 FEL	2135443.84 N	483100.22 E
410.00	0.780	63.870	410.00	0.51	1.36 N	0.35 E	2.03	1921.36 FSL	1529.65 FEL	2135444.04 N	483100.43 E
441.00	1.310	71.370	440.99	1.05	1.56 N	0.87 E	1.76	1921.56 FSL	1529.13 FEL	2135444.24 N	483100.95 E
472.00	2.210	85.450	471.98	2.00	1.72 N	1.81 E	3.20	1921.72 FSL	1528.19 FEL	2135444.40 N	483101.88 E
503.00	3.240	89.830	502.94	3.46	1.77 N	3.28 E	3.39	1921.77 FSL	1526.72 FEL	2135444.45 N	483103.36 E
534.00	4.050	87.460	533.88	5.43	1.82 N	5.25 E	2.66	1921.82 FSL	1524.75 FEL	2135444.50 N	483105.33 E
565.00	4.830	91.030	564.78	7.81	1.85 N	7.65 E	2.67	1921.85 FSL	1522.35 FEL	2135444.53 N	483107.72 E
596.00	5.520	89.560	595.66	10.59	1.84 N	10.44 E	2.27	1921.84 FSL	1519.56 FEL	2135444.51 N	483110.52 E
627.00	6.130	92.260	626.50	13.70	1.78 N	13.59 E	2.16	1921.78 FSL	1516.41 FEL	2135444.46 N	483113.66 E
657.00	7.210	89.030	656.29	17.16	1.75 N	17.07 E	3.81	1921.75 FSL	1512.93 FEL	2135444.42 N	483117.15 E
687.00	8.110	90.710	686.03	21.13	1.76 N	21.07 E	3.09	1921.76 FSL	1508.93 FEL	2135444.43 N	483121.15 E
719.00	8.800	87.590	717.68	25.81	1.83 N	25.77 E	2.59	1921.83 FSL	1504.23 FEL	2135444.50 N	483125.85 E
750.00	9.780	86.540	748.27	30.80	2.09 N	30.77 E	3.21	1922.09 FSL	1499.23 FEL	2135444.76 N	483130.85 E
781.00	10.940	84.710	778.77	36.37	2.52 N	36.33 E	3.89	1922.52 FSL	1493.67 FEL	2135445.18 N	483136.40 E
812.00	11.780	82.220	809.16	42.48	3.22 N	42.39 E	3.14	1923.22 FSL	1487.61 FEL	2135445.88 N	483142.47 E
874.00	13.460	79.570	869.66	56.01	5.38 N	55.76 E	2.87	1925.38 FSL	1474.24 FEL	2135448.03 N	483155.84 E
935.00	14.260	77.820	928.88	70.57	8.25 N	70.08 E	1.48	1928.25 FSL	1459.92 FEL	2135450.89 N	483170.17 E
966.00	14.410	76.920	958.92	78.20	9.93 N	77.57 E	0.87	1929.93 FSL	1452.43 FEL	2135452.57 N	483177.66 E
1028.00	14.300	75.960	1018.98	93.46	13.53 N	92.52 E	0.42	1933.53 FSL	1437.48 FEL	2135456.16 N	483192.60 E
1059.00	14.080	75.600	1049.04	101.00	15.40 N	99.88 E	0.76	1935.40 FSL	1430.12 FEL	2135458.03 N	483199.97 E
1090.00	13.540	78.370	1079.14	108.35	17.07 N	107.09 E	2.75	1937.07 FSL	1422.91 FEL	2135459.69 N	483207.18 E
1121.00	12.870	81.040	1109.32	115.42	18.34 N	114.06 E	2.92	1938.34 FSL	1415.94 FEL	2135460.96 N	483214.14 E
1183.00	12.570	87.740	1169.80	129.04	19.68 N	127.62 E	2.43	1939.68 FSL	1402.38 FEL	2135462.29 N	483227.71 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates N-S (ft)	Local Coordinates E-W (ft)	Dogleg Severit (°/100ft)	Lease Calls FNL-FSL (ft)	Lease Calls FEL-FWL (ft)	Global Coordinates Grid Y (ft)	Global Coordinates Grid X (ft)
1213.00	12.830	87.910	1199.07	135.62	19.93 N	134.21 E	0.88	1939.93 FSL	1395.79 FEL	2135462.53 N	483234.30 E
1275.00	13.520	86.180	1259.44	149.72	20.66 N	148.32 E	1.28	1940.66 FSL	1381.68 FEL	2135463.26 N	483248.41 E
1337.00	13.450	84.140	1319.73	164.17	21.88 N	162.72 E	0.78	1941.88 FSL	1367.28 FEL	2135464.47 N	483262.81 E
1400.00	12.520	83.860	1381.12	178.32	23.36 N	176.80 E	1.48	1943.36 FSL	1353.20 FEL	2135465.94 N	483276.89 E
1463.00	12.790	80.780	1442.59	192.12	25.20 N	190.48 E	1.15	1945.20 FSL	1339.52 FEL	2135467.78 N	483290.57 E
1557.00	12.260	81.050	1534.35	212.48	28.42 N	210.60 E	0.57	1948.42 FSL	1319.40 FEL	2135470.99 N	483310.70 E
1620.00	12.040	84.920	1595.94	225.74	30.04 N	223.76 E	1.34	1950.04 FSL	1306.24 FEL	2135472.60 N	483323.85 E
1683.00	12.570	84.750	1657.49	239.16	31.25 N	237.13 E	0.84	1951.25 FSL	1292.87 FEL	2135473.80 N	483337.22 E
1746.00	13.450	82.360	1718.87	253.34	32.85 N	251.22 E	1.64	1952.85 FSL	1278.78 FEL	2135475.40 N	483351.31 E
1808.00	13.500	80.750	1779.17	267.78	34.97 N	265.51 E	0.61	1954.97 FSL	1264.49 FEL	2135477.51 N	483365.60 E
1840.00	13.930	79.550	1810.25	275.35	36.27 N	272.98 E	1.61	1956.27 FSL	1257.02 FEL	2135478.80 N	483373.08 E
1872.00	13.200	79.730	1841.36	282.84	37.62 N	280.37 E	2.29	1957.62 FSL	1249.63 FEL	2135480.15 N	483380.46 E
1903.00	12.490	79.200	1871.59	289.72	38.88 N	287.14 E	2.32	1958.88 FSL	1242.86 FEL	2135481.40 N	483387.24 E
1935.00	11.850	81.570	1902.87	296.45	40.01 N	293.79 E	2.54	1960.01 FSL	1236.21 FEL	2135482.53 N	483393.89 E
1964.00	11.710	83.810	1931.26	302.37	40.76 N	299.66 E	1.65	1960.76 FSL	1230.34 FEL	2135483.28 N	483399.76 E
1995.00	11.480	86.050	1961.62	308.60	41.32 N	305.87 E	1.63	1961.32 FSL	1224.13 FEL	2135483.83 N	483405.97 E
2026.00	11.510	89.620	1992.00	314.76	41.55 N	312.04 E	2.30	1961.55 FSL	1217.96 FEL	2135484.06 N	483412.14 E
2058.00	11.850	91.610	2023.34	321.18	41.48 N	318.51 E	1.65	1961.48 FSL	1211.49 FEL	2135483.98 N	483418.61 E
2090.00	12.310	91.520	2054.63	327.81	41.29 N	325.21 E	1.44	1961.29 FSL	1204.79 FEL	2135483.80 N	483425.31 E
2122.00	12.760	91.770	2085.87	334.68	41.09 N	332.15 E	1.42	1961.09 FSL	1197.85 FEL	2135483.59 N	483432.25 E
2153.00	13.260	91.520	2116.07	341.58	40.89 N	339.13 E	1.62	1960.89 FSL	1190.87 FEL	2135483.39 N	483439.23 E
2185.00	13.340	90.370	2147.21	348.88	40.77 N	346.49 E	0.86	1960.77 FSL	1183.51 FEL	2135483.26 N	483446.59 E
2216.00	13.380	89.150	2177.37	355.99	40.80 N	353.65 E	0.92	1960.80 FSL	1176.35 FEL	2135483.29 N	483453.75 E
2247.00	13.300	86.290	2207.54	363.12	41.08 N	360.79 E	2.14	1961.08 FSL	1169.21 FEL	2135483.57 N	483460.89 E
2279.00	13.490	84.150	2238.67	370.53	41.70 N	368.18 E	1.66	1961.70 FSL	1161.82 FEL	2135484.18 N	483468.28 E
2310.00	13.800	83.480	2268.79	377.84	42.49 N	375.45 E	1.12	1962.49 FSL	1154.55 FEL	2135484.97 N	483475.55 E
2341.00	13.490	83.740	2298.92	385.16	43.30 N	382.72 E	1.02	1963.30 FSL	1147.28 FEL	2135485.78 N	483482.82 E
2373.00	12.970	85.770	2330.07	392.48	43.98 N	390.01 E	2.18	1963.98 FSL	1139.99 FEL	2135486.44 N	483490.11 E
2404.00	12.480	87.560	2360.31	399.29	44.37 N	396.83 E	2.03	1964.37 FSL	1133.17 FEL	2135486.84 N	483496.93 E
2436.00	12.390	88.970	2391.56	406.16	44.58 N	403.71 E	0.99	1964.58 FSL	1126.29 FEL	2135487.04 N	483503.81 E

Measure Depth (ft)	Incl. Angle (Deg)	Drift Direction (Deg)	True Vertical Depth	Vertical Section (ft)	Local Coordinates N-S (ft)	Local Coordinates E-W (ft)	Dogleg Severit (°/100ft)	Lease Calls FNL-FSL (ft)	Lease Calls FEL-FWL (ft)	Global Coordinates Grid Y (ft)	Global Coordinates Grid X (ft)
2467.00	12.390	87.210	2421.84	412.78	44.80 N	410.36 E	1.22	1964.80 FSL	1119.64 FEL	2135487.26 N	483510.46 E
2499.00	12.740	85.980	2453.07	419.73	45.22 N	417.31 E	1.38	1965.22 FSL	1112.69 FEL	2135487.67 N	483517.41 E
2530.00	13.360	84.920	2483.27	426.73	45.77 N	424.29 E	2.14	1965.77 FSL	1105.71 FEL	2135488.22 N	483524.39 E
2562.00	13.450	84.220	2514.40	434.14	46.48 N	431.67 E	0.58	1966.48 FSL	1098.33 FEL	2135488.92 N	483531.77 E
2593.00	13.890	83.870	2544.52	441.47	47.24 N	438.96 E	1.44	1967.24 FSL	1091.04 FEL	2135489.68 N	483539.06 E
2625.00	13.970	83.870	2575.58	449.17	48.06 N	446.62 E	0.25	1968.06 FSL	1083.38 FEL	2135490.49 N	483546.72 E
2656.00	13.970	82.460	2605.66	456.66	48.95 N	454.05 E	1.10	1968.95 FSL	1075.95 FEL	2135491.38 N	483554.15 E
2687.00	13.800	80.880	2635.75	464.09	50.03 N	461.41 E	1.34	1970.03 FSL	1068.59 FEL	2135492.45 N	483561.51 E
2719.00	13.100	80.180	2666.88	471.53	51.25 N	468.75 E	2.25	1971.25 FSL	1061.25 FEL	2135493.67 N	483568.85 E
2751.00	12.740	80.880	2698.07	478.67	52.43 N	475.81 E	1.23	1972.43 FSL	1054.19 FEL	2135494.85 N	483575.91 E
2782.00	12.040	79.830	2728.34	485.32	53.54 N	482.36 E	2.37	1973.54 FSL	1047.64 FEL	2135495.95 N	483582.47 E
2814.00	10.990	81.580	2759.70	491.70	54.57 N	488.67 E	3.46	1974.57 FSL	1041.33 FEL	2135496.99 N	483588.77 E
2845.00	10.110	83.520	2790.18	497.37	55.31 N	494.29 E	3.06	1975.31 FSL	1035.71 FEL	2135497.72 N	483594.40 E
2877.00	8.790	86.150	2821.74	502.62	55.79 N	499.52 E	4.34	1975.79 FSL	1030.48 FEL	2135498.20 N	483599.63 E
2908.00	8.090	87.380	2852.40	507.16	56.05 N	504.07 E	2.33	1976.05 FSL	1025.93 FEL	2135498.46 N	483604.17 E
2938.00	7.560	88.090	2882.13	511.23	56.22 N	508.15 E	1.80	1976.22 FSL	1021.85 FEL	2135498.62 N	483608.25 E
2970.00	7.030	84.570	2913.87	515.29	56.47 N	512.20 E	2.17	1976.47 FSL	1017.80 FEL	2135498.87 N	483612.31 E
3002.00	6.420	82.990	2945.65	519.04	56.87 N	515.93 E	1.99	1976.87 FSL	1014.07 FEL	2135499.27 N	483616.03 E
3034.00	5.270	79.650	2977.48	522.29	57.36 N	519.15 E	3.75	1977.36 FSL	1010.85 FEL	2135499.75 N	483619.26 E
3066.00	4.450	77.030	3009.36	524.99	57.90 N	521.80 E	2.65	1977.90 FSL	1008.20 FEL	2135500.29 N	483621.91 E
last MWD survey											
3097.00	4.390	77.690	3040.27	527.37	58.42 N	524.13 E	0.25	1978.42 FSL	1005.87 FEL	2135500.81 N	483624.24 E
projection to bit											
3147.00	4.390	77.690	3090.13	531.18	59.24 N	527.87 E	0.00	1979.24 FSL	1002.13 FEL	2135501.63 N	483627.98 E

All data is in Feet (US) unless otherwise stated. Directions and coordinates are relative to True North.
Vertical depths are relative to RKB(6398`+12`KB). Northings and Eastings are relative to Wellhead.

Based upon Minimum Curvature type calculations, at a Measured Depth of 3147.00ft.,
The Bottom Hole Displacement is 531.19ft., in the Direction of 83.594° (True).

Survey Report for Sec. 30-T31N-R05W - Rosa #233-A - MWD survey

Comments

Measured Depth (ft)	Station Coordinates TVD (ft)	Northings (ft)	Eastings (ft)	Comment
3097.00	3040.27	58.42 N	524.13 E	last MWD survey
3147.00	3090.13	59.24 N	527.87 E	projection to bit

North Reference Sheet for Sec. 30-T31N-R05W - Rosa #233-A

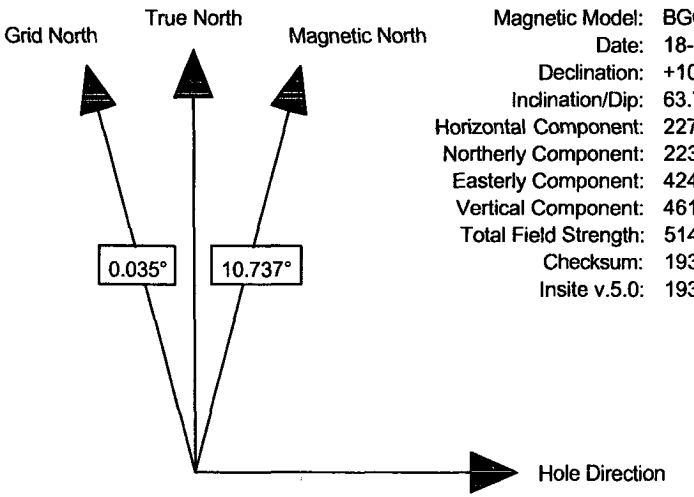
Coordinate System is NAD27 New Mexico State Planes, Western Zone, US Foot
Source: Snyder, J.P., 1987, Map Projections - A Working Manual

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: 2135442.68 N, 483100.08 E
Geographical Coordinates of Well: 36° 52' 07.0083" N, 107° 53' 27.9870" W
Surface Elevation of Well: 6410.00ft
Grid Convergence at Surface is -0.035°
Magnetic Declination at Surface is +10.737° (18 May, 2005)



Magnetic Model:	BGGM2005
Date:	18-May-05
Declination:	+10.737
Inclination/Dip:	63.726
Horizontal Component:	22760 nT
Northerly Component:	22361 nT
Easterly Component:	4240 nT
Vertical Component:	46103 nT
Total Field Strength:	51415 nT
Checksum:	1936239
Insite v.5.0:	1936239

Grid North is 0.035° West of True North (Grid Convergence)
Magnetic North is 10.737° East of True North (Magnetic Declination)
Magnetic North is 10.772° East of Grid North (Magnetic Convergence)

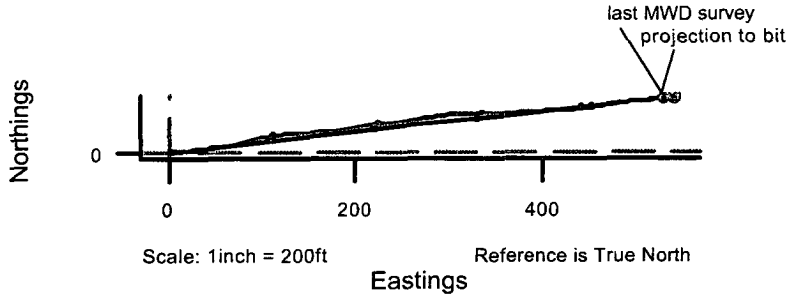
To convert a True Direction to a Grid Direction, Add 0.035 degrees
To convert a Magnetic Direction to a True Direction, Add 10.737 degrees
To convert a Magnetic Direction to a Grid Direction, Add 10.772 degrees

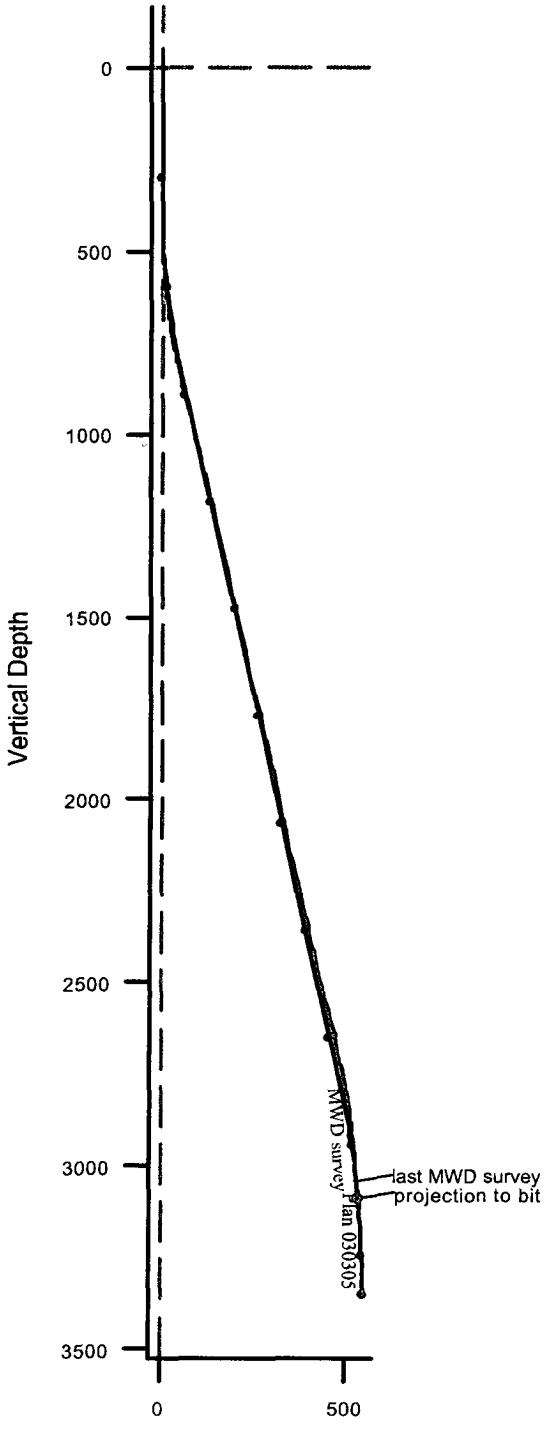
HALLIBURTON
Sperry Drilling Services

Williams Production Company

DrillQuest
Sperry-Sun

New Mexico
Rio Arriba County
Sec. 30-T31N-R05W
Rosa #233-A





Prepared by:	Date/Time:	Checked:	Approved:
Dennis Cook	20 May, 2005 - 8:07		

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

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

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
	71629	Basin Fruitland Coal

[4] Property Code	[5] Property Name	[6] Well Number
17033	ROSA UNIT	233A

[7] OGRID No.	[8] Operator Name	[9] Elevation
120782	WILLIAMS PRODUCTION COMPANY	6398'

[10] Surface Location

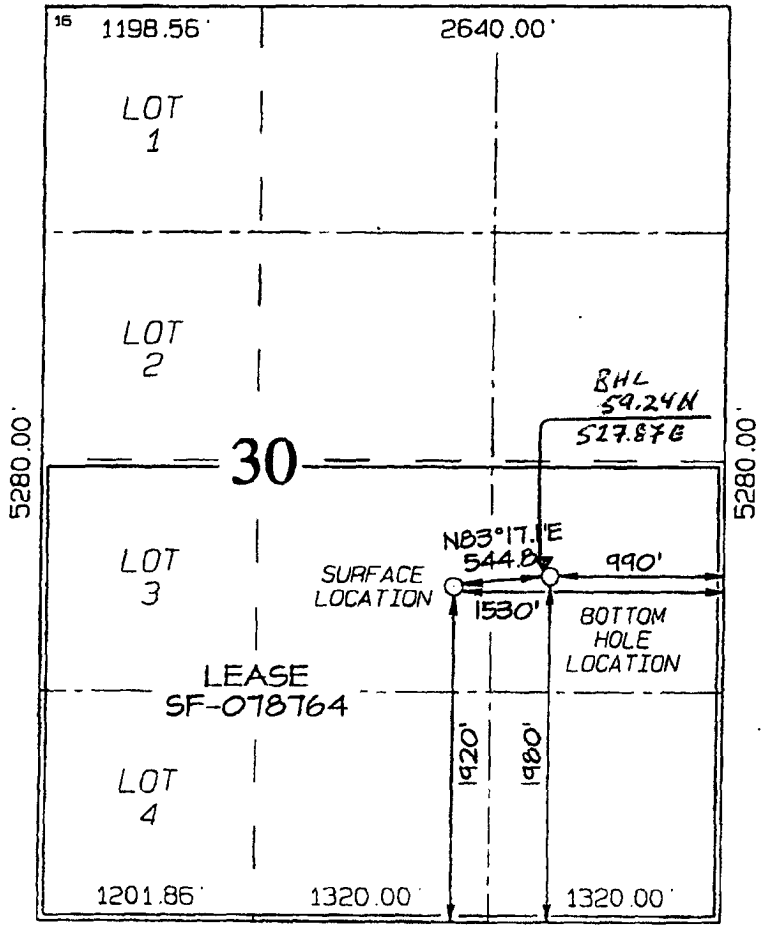
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	30	31N	5W		1920	SOUTH	1530	EAST	RIO ARRIBA

[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
I	30	31N	5W		1980	SOUTH	990	EAST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
232.79 Acres - (S/2)			

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: NOVEMBER 3, 2004
Survey Date: NOVEMBER 5, 2002

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269