

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL ☒ DEEPEN ☐		1b. TYPE OF WELL OIL ☐ GAS ☒ OTHER ☐ SINGLE ☒ MULTIPLE ☐	
2. NAME OF OPERATOR Williams Production Company		9. WELL NO. 169A APD # 30-89-26149	
3. ADDRESS OF OPERATOR c/o Walsh Engineering 7415 E. Main St., Farmington, NM 87402		10. FIELD AND POOL OR WILDCAT Blanco Mesa Verde	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At Surface 2460' FSL and 1695' FEL At proposed Prod. Zone 1750' FSL and 1750' FWL		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA J Sec. 3, T31N, R6W	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 28 miles NE of Blanco, NM		12. COUNTY OR PARISH Rio Arriba	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 447		17. NO. OF ACRES ASSIGNED TO THIS WELL 352.87	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. 100'		20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6358' GR		22. APPROX. DATE WORK WILL START* May 1999	
23. PROPOSED CASING AND CEMENTING PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH
12-1/4"	9-5/8"	36#	500'
8-3/4"	7"	20#	3767'
6-1/4"	4-1/2"	10.5#	3667' - 6648'
QUANTITY OF CEMENT			
312 cu.ft. Cl "H" with 2% CaCl ₂			
885cu.ft.65/35 poz & 217cu.ft.50/50 poz			
130cu.ft.50/50 poz & 390cu.ft.50/50 poz			

Williams Production Company proposes to drill a directional well to develop the Mesa Verde formation at the above described location in accordance with the attached drilling and surface use plans.

This location has been archaeologically surveyed by Moore Anthropological Research. Copies of their report have been submitted directly to your office.

This APD also is serving as an application to obtain BLM road and pipeline right-of-ways. This well will be accessed by road as the Rosa #169, which crosses the SE/4 of Sec. 34, the SW/NW of Sec. 35, E2/NE of Sec. 34, the SE/SE of Sec. 27 the, S/2S/2 of Sec. 26, the S2/S2 of Sec. 25 all of T32N, R6W, the SW/SW of Sec. 30, W2/W2 and SE/SW of Sec. 32 all of T32N, R5W, the NW/SE and NE/se of Sec. 5, T31N, R5W, where it joins the main Rosa Road.

The Rosa Road continues SE for 19 miles where it joins the Sims Mesa Highway.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone.

If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED <u>Paul C. Thompson</u>		TITLE <u>Paul C. Thompson, Ager</u>		DATE <u>3/15/99</u>	
(This space for Federal or State office use)					
PERMIT NO.		APPROVAL DATE <u>APR 27 1999</u>			
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.					
CONDITIONS OF APPROVAL, IF ANY:					
APPROVED BY <u>/S/ Duane W. Spencer</u>		Team Lead, Petroleum Management		DATE <u>APR 27 1999</u>	

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

HOLD C104 FOR NSP

NMOC

District I
PO Box 1990, Hobbs, NM 88241-1980

District II
PO Drawer 00, 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

99 MAR 18 AM 7:51 ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-26149	*Pool Code 72319	*Pool Name Blanco Mesa Verde
*Property Code 008480	*Property Name ROSA UNIT COM	*Well Number 169A
*OGRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY	*Elevation 6358'

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	3	31N	6W		2460	SOUTH	1695	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
K	3	31N	6W		1750	SOUTH	1750	WEST	SAN JUAN

12 Dedicated Acres 352.87	13 Joint or Infill Y	14 Consolidation Code U	15 Order No.
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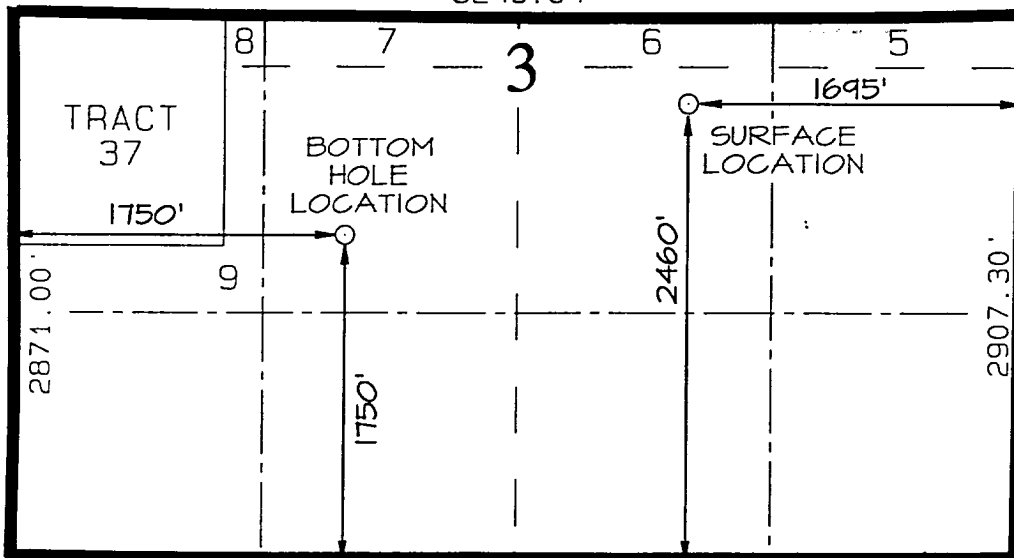
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

15

APR 29 1999

OIL CON. DIV.
DIST. 3

5249.64'



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Paul C. Thompson

Printed Name

Agent

Title

3/16/99

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.

FEBRUARY 3, 1999

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number 6857

1

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe.
2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self- fill insert float. Place float one(1) joint above the shoe and one centralizer, spaced every joint, starting with the float collar. Place turbulent centralizers, at 120' intervals, starting at 2625' to the surface. Total centralizers = 28 regular and 22 turbulent.

3. PRODUCTION CASING: 4-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place marker joint above 5700'. Place one positive standoff turbolizer every other joint. Total turbolizers is 36.

C. CEMENTING:

1. SURFACE: Use 260 sx (312 cu.ft.) of class "H" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.20 cu.ft./sk, Weight = 15.6 #/gal.). Use 100% excess to circulate the surface. WOC 12 hours. Test to 1500#.

2. INTERMEDIATE: Lead - 435 sx (885 cu.ft.) of class "H" 65/35 poz with 10% gel, 2% CaCl₂, and 1/4# cello-flake/sk (Yield = 2.04 cu.ft./sk, Weight = 12.3 #/gal.). Tail - 150sx (217 cu.ft.) of class "H" 50/50 Poz with 4% gel, 0.4% FL-52, 2% CaCl₂, 1/4# cello-flake/sk, (Yield = 1.45 cu.ft./sk, Weight = 13.2#/gal.). Use 100% excess in lead and 75% excess in tail to circulate to surface. Total volume = 1102 cu.ft. WOC 12 hours. Test to 1500#.

3. PRODUCTION LINER: Lead-90sx (130 cu.ft.) of class "H" 50/50 poz with 4% gel, 0.4% FL-52, 2% CaCl₂, (Yield = 1.45 cu.ft./sk, Weight = 13.2 #/gal.) Tail-270 sx (390 cu.ft.) of class "H" 50/50 poz with 4% gel, 0.4% FL-52, 2% CaCl₂, 1/4# celloflake/sk (Yield = 1.45 cu.ft./sk, Weight = 13.2 #/gal.) Displace cement at a minimum of 8 BPM. Use 70% excess in lead and tail to cover liner top. Total volume 520 cuft. WOC 12 hours.

IV COMPLETION

A. CBL

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings.

B. PRESSURE TEST

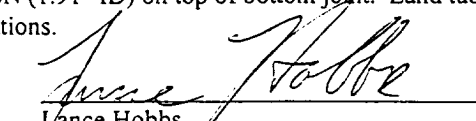
1. Pressure test 7" & 4-1/2" casing to 3300# for 15 minutes.

C. STIMULATION

1. Stimulate Point Lookout with approximately 80,000# of 20/40 sand in slick water.
2. Isolate Point Lookout with a RBP.
3. Perforate the Menefee/Cliff House as determined from the open hole logs.
4. Stimulate with approximately 80,000# of 20/40 sand in slick water.
5. Test each zone before removing bridge plugs.

D. RUNNING TUBING

1. Mesa Verde: Run 2-3/8", 2.9#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforations.


Lance Hobbs
Engineer, Production & Drilling

Sperry-Sun Drilling Services



Proposal Report for Rosa # 169A - Plan 3/3/99

Data Source: Information from Lance Hobbs

Williams Production Company
New Mexico

Rio Arriba County
Sec. 3-T31N-R06W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
800.00	0.000	0.000	800.00	0.00 N	0.00 E	0.00	0.000
900.00	2.000	250.253	899.98	0.59 S	1.64 W	1.75	2.000
1000.00	4.000	250.253	999.84	2.36 S	6.57 W	6.98	2.000
1100.00	6.000	250.253	1099.45	5.30 S	14.77 W	15.69	2.000
1200.00	8.000	250.253	1198.70	9.42 S	26.24 W	27.88	2.000
1300.00	10.000	250.253	1297.47	14.70 S	40.96 W	43.52	2.000
1400.00	12.000	250.253	1395.62	21.15 S	58.92 W	62.60	2.000
1500.00	14.000	250.253	1493.06	28.75 S	80.09 W	85.10	2.000
1600.00	16.000	250.253	1589.64	37.50 S	104.45 W	110.98	2.000
1700.00	18.000	250.253	1685.27	47.37 S	131.97 W	140.21	2.000
1800.00	20.000	250.253	1779.82	58.37 S	162.61 W	172.77	2.000
1900.00	22.000	250.253	1873.17	70.48 S	196.34 W	208.60	2.000
2000.00	24.000	250.253	1965.21	83.68 S	233.11 W	247.67	2.000
2100.00	26.000	250.253	2055.84	97.96 S	272.88 W	289.93	2.000
2200.00	28.000	250.253	2144.94	113.30 S	315.61 W	335.33	2.000
2300.00	30.000	250.253	2232.39	129.68 S	361.24 W	383.81	2.000
2312.28	30.246	250.253	2243.02	131.76 S	367.04 W	389.97	2.000
2400.00	30.246	250.253	2318.80	146.69 S	408.63 W	434.16	0.000
2500.00	30.246	250.253	2405.18	163.70 S	456.03 W	484.53	0.000
2600.00	30.246	250.253	2491.57	180.72 S	503.44 W	534.90	0.000
2700.00	30.246	250.253	2577.96	197.74 S	550.85 W	585.27	0.000
2800.00	30.246	250.253	2664.34	214.76 S	598.26 W	635.64	0.000
2900.00	30.246	250.253	2750.73	231.78 S	645.67 W	686.01	0.000
3000.00	30.246	250.253	2837.12	248.80 S	693.08 W	736.38	0.000
3100.00	30.246	250.253	2923.51	265.82 S	740.49 W	786.75	0.000
3200.00	30.246	250.253	3009.89	282.83 S	787.90 W	837.12	0.000
3300.00	30.246	250.253	3096.28	299.85 S	835.30 W	887.49	0.000
3400.00	30.246	250.253	3182.67	316.87 S	882.71 W	937.86	0.000
3500.00	30.246	250.253	3269.06	333.89 S	930.12 W	988.24	0.000
3600.00	30.246	250.253	3355.44	350.91 S	977.53 W	1038.61	0.000
3700.00	30.246	250.253	3441.83	367.93 S	1024.94 W	1088.98	0.000
3800.00	30.246	250.253	3528.22	384.95 S	1072.35 W	1139.35	0.000
3900.00	30.246	250.253	3614.61	401.96 S	1119.76 W	1189.72	0.000
4000.00	30.246	250.253	3700.99	418.98 S	1167.17 W	1240.09	0.000
4100.00	30.246	250.253	3787.38	436.00 S	1214.57 W	1290.46	0.000
4200.00	30.246	250.253	3873.77	453.02 S	1261.98 W	1340.83	0.000
4300.00	30.246	250.253	3960.16	470.04 S	1309.39 W	1391.20	0.000
4400.00	30.246	250.253	4046.54	487.06 S	1356.80 W	1441.57	0.000
4500.00	30.246	250.253	4132.93	504.08 S	1404.21 W	1491.94	0.000
4600.00	30.246	250.253	4219.32	521.09 S	1451.62 W	1542.31	0.000
4700.00	30.246	250.253	4305.71	538.11 S	1499.03 W	1592.68	0.000
4800.00	30.246	250.253	4392.09	555.13 S	1546.44 W	1643.06	0.000
4900.00	30.246	250.253	4478.48	572.15 S	1593.84 W	1693.43	0.000
4990.12	30.246	250.253	4556.34	587.49 S	1636.57 W	1738.82	0.000

Continued...

Sperry-Sun Drilling Services



Proposal Report for Rosa # 169A - Plan 3/3/99

Data Source: Information from Lance Hobbs

Williams Production Company
New Mexico

Rio Arriba County
Sec. 3-T31N-R06W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5000.00	30.097	250.253	4564.87	589.16 S	1641.24 W	1743.79	1.500
5100.00	28.597	250.253	4652.04	605.72 S	1687.37 W	1792.80	1.500
5200.00	27.097	250.253	4740.45	621.50 S	1731.33 W	1839.51	1.500
5300.00	25.597	250.253	4830.06	636.50 S	1773.10 W	1883.89	1.500
5400.00	24.097	250.253	4920.80	650.70 S	1812.65 W	1925.91	1.500
5500.00	22.597	250.253	5012.61	664.08 S	1849.95 W	1965.53	1.500
5600.00	21.097	250.253	5105.43	676.66 S	1884.98 W	2002.75	1.500
5700.00	19.597	250.253	5199.19	688.41 S	1917.70 W	2037.52	1.500
5800.00	18.097	250.253	5293.82	699.32 S	1948.11 W	2069.82	1.500
5806.50	18.000	250.253	5300.00	700.00 S	1950.00 W	2071.83	1.500
5900.00	18.000	250.253	5388.93	709.76 S	1977.19 W	2100.73	0.000
6000.00	18.000	250.253	5484.03	720.20 S	2006.28 W	2131.63	0.000
6100.00	18.000	250.253	5579.14	730.64 S	2035.36 W	2162.53	0.000
6200.00	18.000	250.253	5674.24	741.08 S	2064.45 W	2193.43	0.000
6300.00	18.000	250.253	5769.35	751.52 S	2093.53 W	2224.34	0.000
6400.00	18.000	250.253	5864.45	761.97 S	2122.62 W	2255.24	0.000
6500.00	18.000	250.253	5959.56	772.41 S	2151.70 W	2286.14	0.000
6600.00	18.000	250.253	6054.67	782.85 S	2180.79 W	2317.04	0.000
6647.67	18.000	250.253	6100.00	787.82 S	2194.65 W	2331.77	0.000

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North.
Vertical depths are relative to RKB. Northings and Eastings are relative to Wellhead.

The Dogleg Severity is in Degrees per 100ft.

Vertical Section is from Wellhead and calculated along an Azimuth of 250.253° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 6647.67ft.,
The Bottom Hole Displacement is 2331.77ft., in the Direction of 250.253° (True).

Comments

Measured Depth (ft)	Station TVD (ft)	Northings (ft)	Eastings (ft)	Comment
800.00	800.00	0.00 N	0.00 E	Kick-Off Point - 800.00ft
800.01	800.01	0.00 N	0.00 E	Build 2.0°/100' to 30.246° Inc & 250.253° Azm to 2312.28' md
2312.28	2243.02	131.76 S	367.04 W	Hold 30.246° Inc & 250.253° Azm to 4990.12' md
4990.12	4556.33	587.49 S	1636.57 W	Drop 1.5°/100' & to 18.0° Inc & 250.253° Azm to 5806.50' md
5806.50	5300.00	700.00 S	1950.00 W	Target Intersection Point @ 5806.50' md & 5300' TVD

Continued...

Sperry-Sun Drilling Services



Proposal Report for Rosa # 169A - Plan 3/3/99
Data Source: Information from Lance Hobbs

Williams Production Company
New Mexico

Rio Arriba County
Sec. 3-T31N-R06W

Measured Depth (ft)	TVD (ft)	Station Coordinates		Comment
		Northings (ft)	Eastings (ft)	

Comments (Continued)

5806.51	5300.01	700.00 S	1950.00 W	Hold 18° Inc & 250.253° Azm to 6647.67' md TD of Well @ 6647.67' md & 6100' TVD
6647.67	6100.00	787.82 S	2194.65 W	

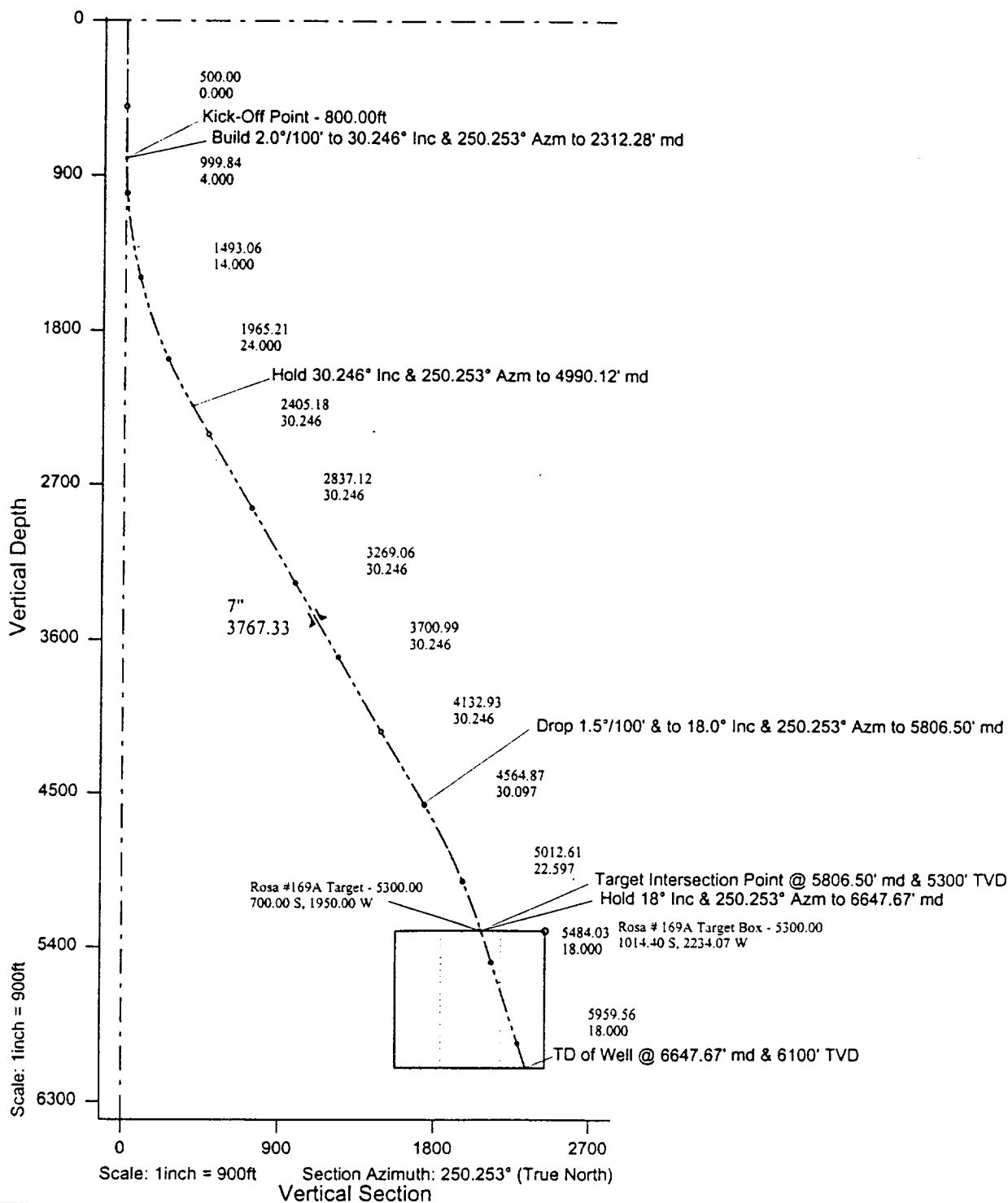
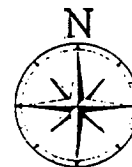
Casing details

From		To		Casing Detail
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	
<Surface>	<Surface>	3767.33	3500.00	7" Casing

Targets associated with this wellpath

Target Name	Target Entry Coordinates			Target Shape	Target Type
	TVD (ft)	Northings (ft)	Eastings (ft)		
Rosa # 169A Target Box	5300.00	1014.40 S	2234.07 W	Polygon	
Rosa #169A Target	5300.00	700.00 S	1950.00 W	Point	

New Mexico
Rio Arriba County
Sec. 3-T31N-R06W
Rosa # 169A

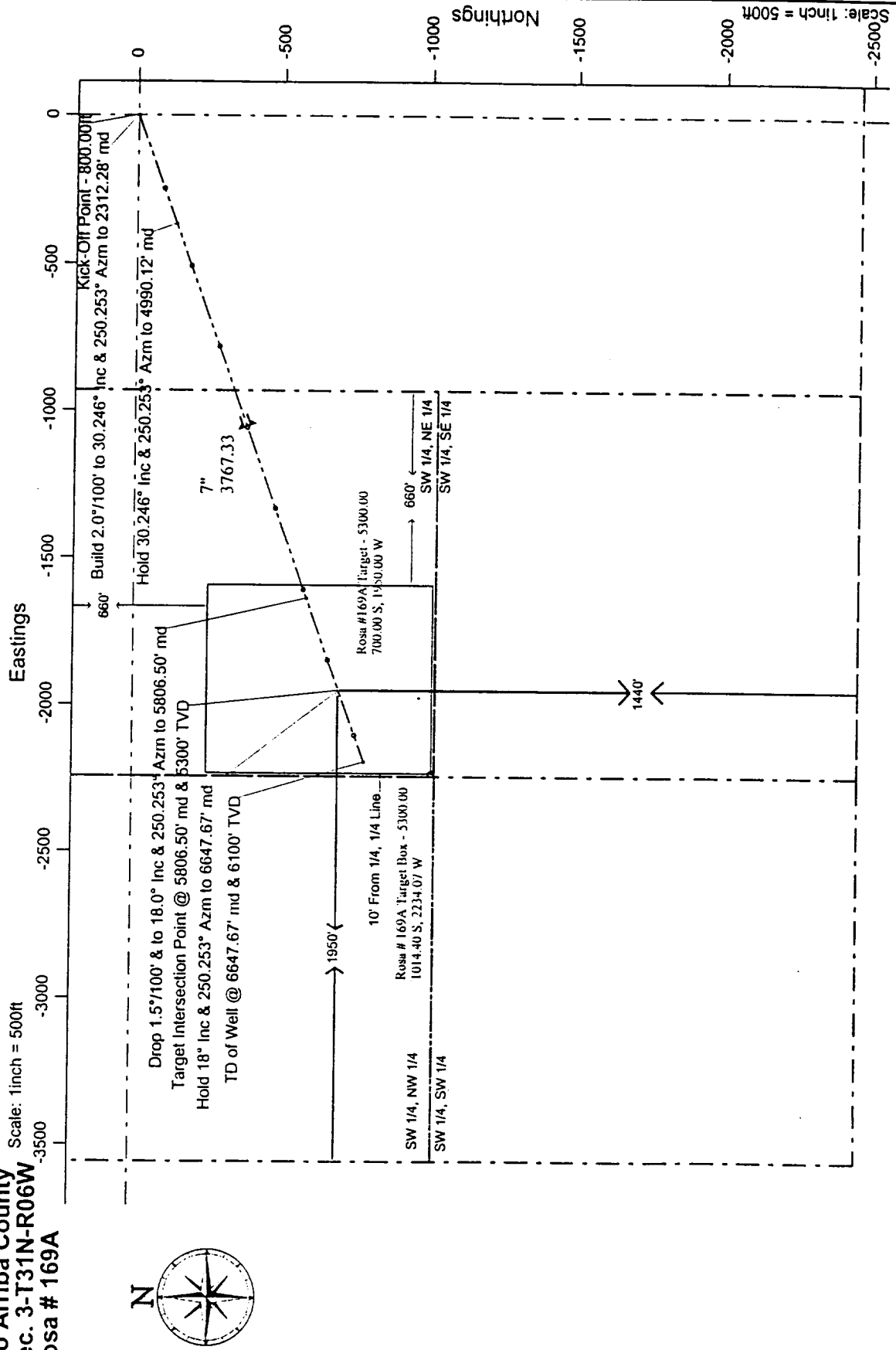


New Mexico

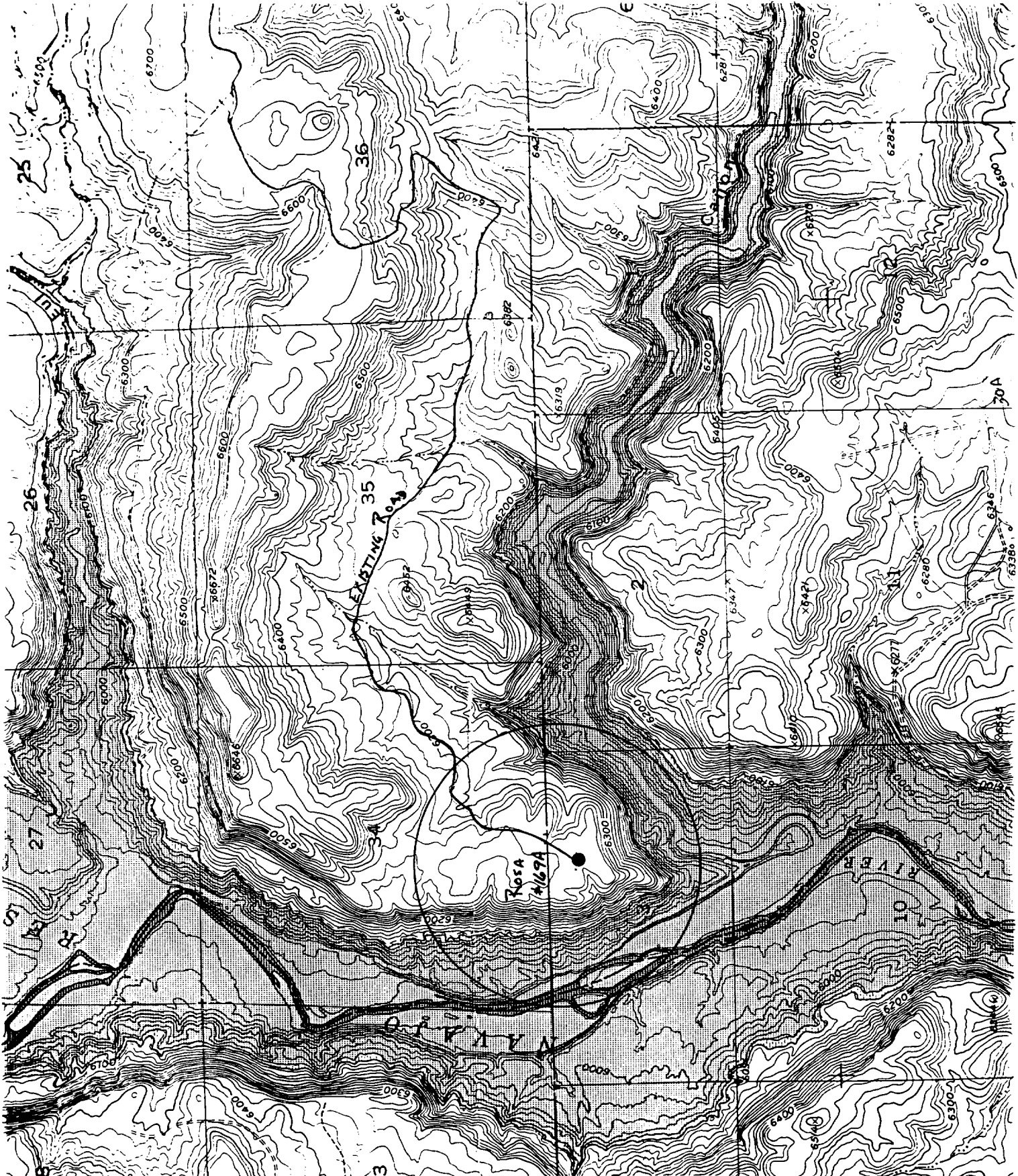
Rio Arriba County
Sec. 3-T31N-R06W

Rosa # 169A

Scale: 1 inch = 500ft



Scale: 1 inch = 500ft



PLAT #1

WILLIAMS PRODUCTION COMPANY
Rosa Unit #169A

2460'FSL & 1695'FEL, Sec. 3, T31N, R6W
1750'FSL & 1750'FWL, Sec. 3, T31N, R6W
Rio Arriba County, NM