

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 ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☐

OTHER Water Disposal

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☒

2. NAME OF OPERATOR

Amoco Production Company Atten. J.L. Hampton

3. ADDRESS OF OPERATOR

P.O. Box 800, Denver, CO 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

615' FNL, 1840' FWL, NE/NW

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

21 miles to Aztec, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

N/A 12.56

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

N/A

19. PROPOSED DEPTH

3520' TD

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6061' GR

This action is subject to technical and  
procedural review pursuant to 43 CFR 3185.3  
and appeal pursuant to 43 CFR 3185.4.  
PROPOSED CASING AND CEMENTING PROGRAM

22. APPROX. DATE WORK WILL START\*

23.

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENTS*      |
|--------------|----------------|-----------------|---------------|---------------------------|
| 26"          | 20"            | 94#             | 250'          | 500sx- cement to surface  |
| 17 1/2"      | 13 3/8"        | 54.5, 61, 68#   | 3160'         | 1700sx- cement to surface |
| 12 1/4"      | 9 5/8"         | 36#, 40#        | 5575'         | 1400sx- cement to surface |
| 8 1/2"       | 7"             | 23#, 26#        | 8620'         | 700sx- cement to surface  |

See attached summary for detailed mud and casing program "Drilling and Completion Program".

Notice of staking was submitted 9/14/90.

RECEIVED

OCT 25 1990

OIL CON. DIV.  
DIST. 3

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

J.L. Hampton/CPB

TITLE

Sr. Staff Admin. Supr.

DATE

9/26/90

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

Held over 1 SwD # 405

\*See Instructions On Reverse Side

## INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

ITEM 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

## NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR Part 3160.

PRINCIPAL PURPOSE: The information is to be used to process and evaluate your application for permit to drill, deepen, or plug back an oil or gas well.

ROUTINE USES: (1) The analysis of the applicant's proposal to discover and extract the Federal or Indian resources encountered. (2) The review of procedures and equipment and the projected impact on the land involved. (3) The evaluation of the effects of proposed operation on surface and subsurface water and other environmental impacts. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions, as well as routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if the lessee elects to initiate drilling operations on an oil and gas lease.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq) requires us to inform you that:

This information is being collected to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases.

This information will be used to analyze and approve applications.

Response to this request is mandatory only if the lessee elects to initiate drilling operations on an oil and gas lease.

Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

P.O. Box 2088

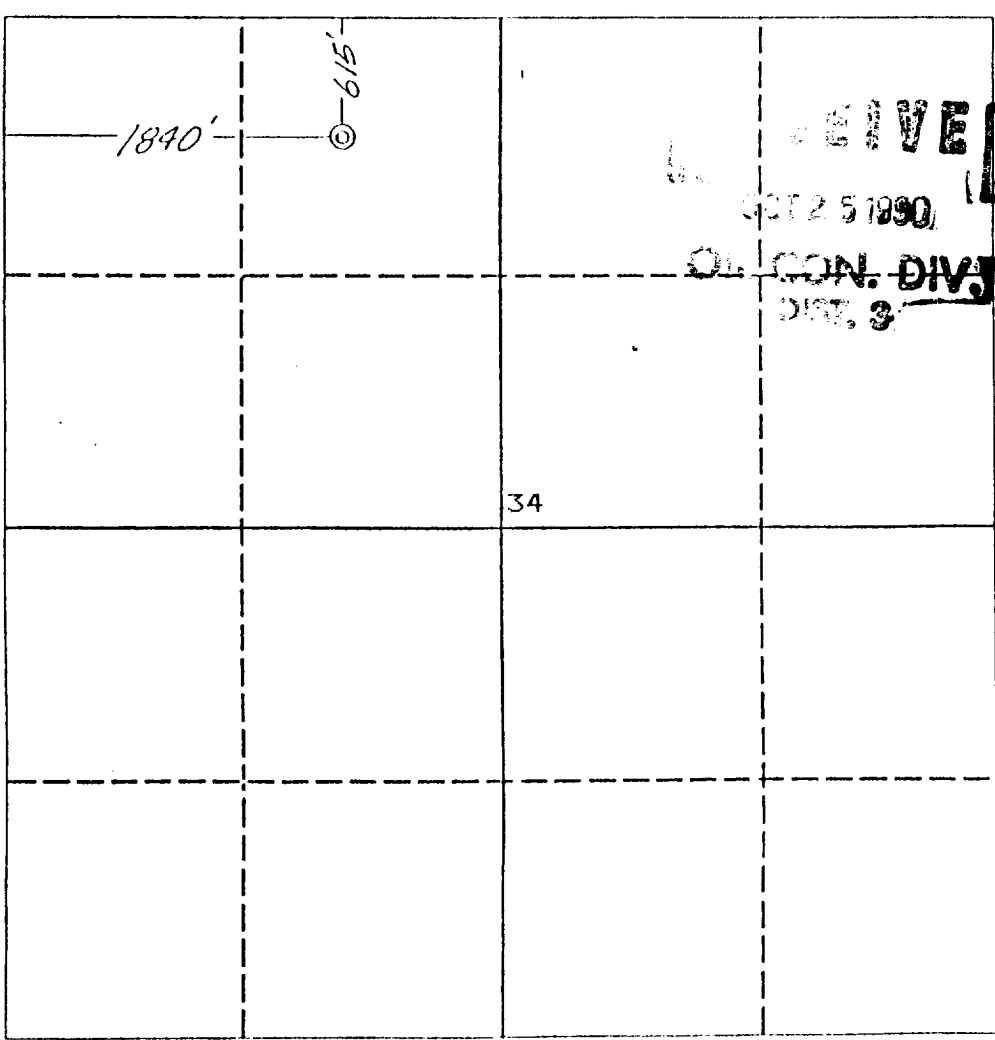
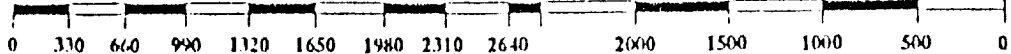
Santa Fe, New Mexico 87504-2088

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   |                             |                               |                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Operator<br><b>AMOCO PRODUCTION COMPANY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                   |                             | Lease<br><b>PRITCHARD SWD</b> |                                                                                                                                                                                                                                                                                                                                                                                                                          | Well No.<br><b># 1</b> |
| Unit Letter<br><b>C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section<br><b>34</b>                                              | Township<br><b>31 NORTH</b> | Range<br><b>9 WEST</b>        | County<br><b>SAN JUAN</b>                                                                                                                                                                                                                                                                                                                                                                                                |                        |
| Actual Footage Location of Well:<br><b>615</b> feet from the <b>NORTH</b> line and <b>1840</b> feet from the <b>WEST</b> line                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                   |                             |                               |                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |
| Ground level Elev.<br><b>6061</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Producing Formation<br><b>Morrison/Bluff/Entrada Undesignated</b> |                             |                               | Dedicated Acreage:<br><b>N/A</b> Acres                                                                                                                                                                                                                                                                                                                                                                                   |                        |
| <p>1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.</p> <p>2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).</p> <p>3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communization, unitization, force-pooling, etc.?<br/><input type="checkbox"/> Yes <input type="checkbox"/> No If answer is "yes" type of consolidation _____</p> <p>If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____</p> <p>No allowable will be assigned to the well until all interests have been consolidated (by communization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.</p> |                                                                   |                             |                               |                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                   |                             |                               | <b>OPERATOR CERTIFICATION</b><br>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.<br>Signature <b>J.L. Hampton</b><br>Printed Name <b>J.L. Hampton</b><br>Position <b>Sr St Admin. Supr.</b><br>Company <b>Amoco Prod. Co.</b><br>Date <b>9/14/90</b>                                                                                                 |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   |                             |                               | <b>SURVEYOR CERTIFICATION</b><br>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 knowledge and belief.<br>Date Surveyed <b>July 30, 1990</b><br>Signature & Seal of Professional Surveyor <b>GARY D. VANN</b><br>Registered Professional Land Surveyor <b>7016</b> |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                   |                             |                               |                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |

AMOCO PRODUCTION COMPANY DRILLING AND COMPLETION PROGRAM

Lease & Well # Pritchard SWD #1 Date: 9/24/90  
 Field Basin Fruitland Coal Gas City/St. San Juan/NM FLAC NO. \_\_\_\_\_  
 Surf. Loc. 615 FNL 1840 FWL Sec. 34-T30N, R9W BHLOC same Operation Center San Juan

CRITICAL WELL X NON-CRITICAL WELL \_\_\_\_\_  
 ORIGINAL X REVISION # \_\_\_\_\_

APPROXIMATE DEPTHS OF GEOLOGICAL MARKERS

ESTIMATED ELEVATION 6081 KB (Assumes 20' KB)

| MARKER          | TVD ELEV. | MEAS. DEPTH |
|-----------------|-----------|-------------|
| Ojo Alamo       |           |             |
| Fruitland #     |           |             |
| Pictured Cliffs |           |             |
| Lewis Shale     |           |             |
| Mesa Verde      |           |             |
| Mancos          |           |             |
| Gallup          |           |             |
| Dakota          |           |             |
| Morrison        |           |             |
| Entrada         |           |             |

TOTAL DEPTH

~~1278~~  
~~-2537~~ 8620

SPECIAL SURVEYS

| TYPE           | DEPTH INTERVAL |
|----------------|----------------|
| DIL/SP/GR      | 500-TD         |
| CNL/FDC/GR/Cal | 500-TD         |
| Microlog       | 500-TD         |

REMARKS SP and Microlog will not be run in evacuated hole, run SNP instead of CNL in evacuated hole.

SPECIAL TESTS

Injectivity and Step rate

REMARKS Run injectivity and step rate tests on Morrison, Bluff, and Entrada Formations.

\*POSSIBLE PAY

#PROBABLE COMPLETION INTERVAL

| DRILL CUTTING SAMPLES         | DEPTH      | DRILLING TIME   |
|-------------------------------|------------|-----------------|
| FREQUENCY                     | INTERVAL   | DEPTH           |
| 10'                           | Thru coals | FREQUENCY       |
| REMARKS Per state regulations |            | Geograph BSC-TD |

MUD PROGRAM

| Approximate Interval | Type Mud | Weight #/Gal. | Viscosity Sec. API | W.I. CC/30M | Other Specifications |
|----------------------|----------|---------------|--------------------|-------------|----------------------|
| 0-500'               | spud     |               |                    |             |                      |
| 500-3000'            | LSND     | 8.9-11.0      |                    |             |                      |
| 3000-7000'           | Gas      |               |                    |             |                      |
| 7000-TD              | LSND     | 8.6-8.9       |                    |             |                      |

Sufficient to maintain hole stability.  
 Maintain gas rates to clean hole  
 Sufficient to maintain hole stability

Remarks:

CASING PROGRAM (Normally, tubular goods allocation letter specifies casing sizes to be used. Hole sizes will be governed by Contract)

| CASING STRING CONDUCTOR | EST. DEPTH | CASING SIZE | HOLE SIZE | SX CEMENT | TYPE CEMENT | COMMENTS                   |
|-------------------------|------------|-------------|-----------|-----------|-------------|----------------------------|
|                         | 40         | 30          | 36        | circ      | **          | Set in competent rock.     |
| SURFACE                 | 250        | 20          | 26        | Circ      | **          |                            |
| INTERMEDIATE            | 3000       | 13 3/8      | 17 1/2    | Circ      | **          | 2 stage DV @ approx. 1600' |
| PROTECTIVE              | 5400       | 9 5/8       | 12 1/4    | Circ      | **          | ECP inside 13 3/8 Shoe     |
| INJECTION-STRING        | 8620       | 7           | 8 1/2     | **        | **          |                            |

Remarks: \*\* Operation Center Drilling Engineer to design.

WELLHEAD: 13 5/8" 3000 x 11" 3000 x 7 1/16" 5000

COMPLETION PROGRAM: Southern Division Coal Degas Group to design

GENERAL REMARKS:

Prepared by: B. S. Bell, H. TerBest J. L. Spitler, G. E. Gray

Original signed by:

Approvals: P. M. H. H. H.

PRODUCTION DEPARTMENT

Form 46Z Feb 71 pritchrd.doc disk 3

DATE

EXPLORATION DEPARTMENT

DATE

## INJECTION WELL DATA SHEET

Amara Production Company  
 Operator 1 615' FNLX 1640' EWL 54 71N 9W  
 Well No. Footage Location Section Township Range  
 San Juan County, New Mexico  
 Schematic Tabular Data

Surface Casing  
 Size 20 " Cemented with 500 sx.  
 TOC surface feet determined by circulation  
 Hole size 26 "  
 Intermediate Casing  
 Size 13-3/8 " Cemented with 1700 sx.  
 TOC surface feet determined by circulation  
 Hole size 17-1/2 "  
~~Intermediate Casing~~  
~~Long String~~  
 Size 9-5/8 " Cemented with 1400 sx.  
 TOC 2800 feet determined by bond log  
 Hole size 12-1/4 "  
 Total depth 5575 '  
 Injection interval  
 (will perforate selected intervals)  
7500 feet to 8400 feet  
~~Liner~~ Long String  
 Size 7 " Cemented with 700 sx.  
 TOC 5000 feet determined by bond log  
 Hole size 8-1/2 "  
 Total depth 8620 '

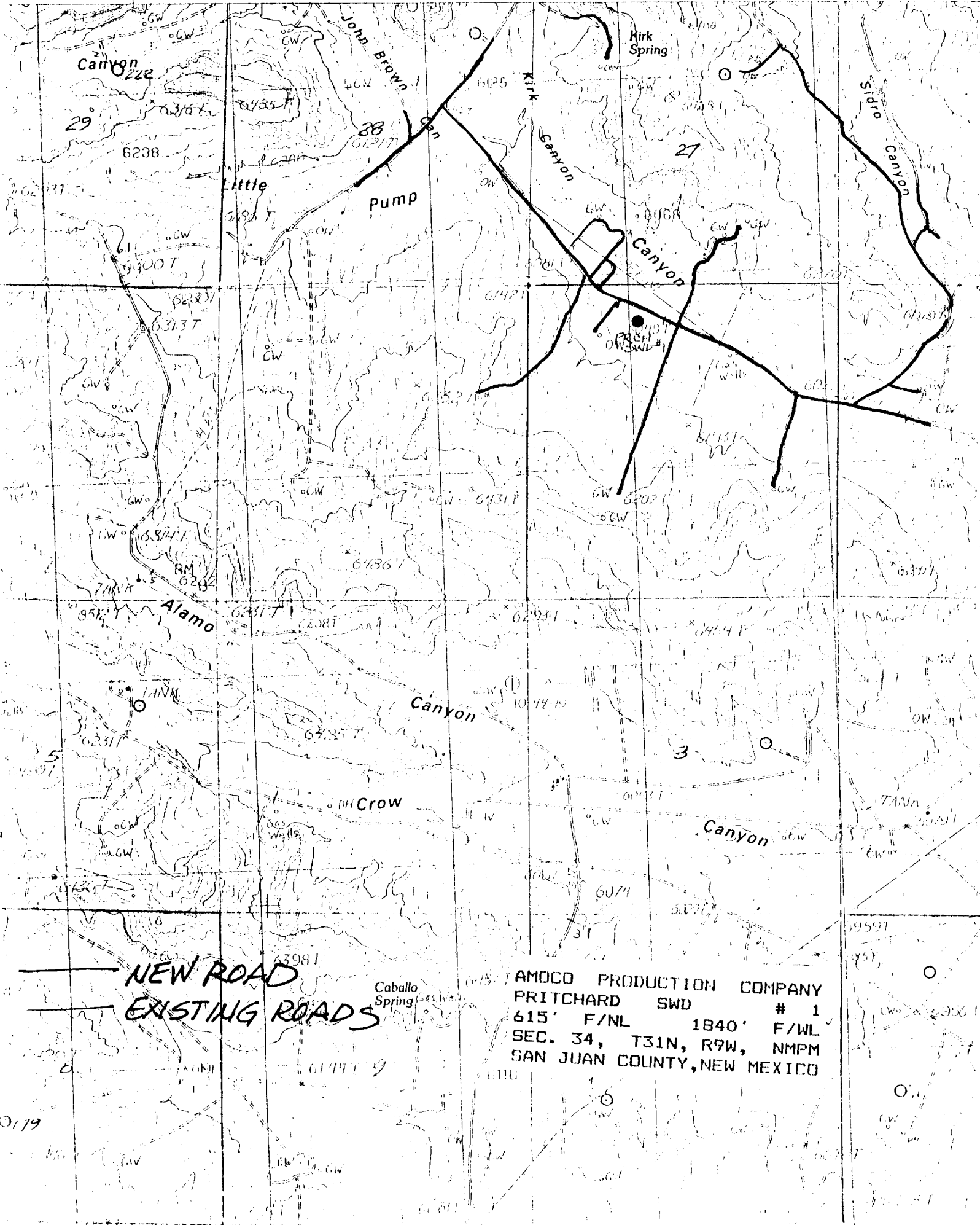
20" CS @ 250'  
 13-3/8" CS @ 3160'  
 9-5/8" CS @ 5575'  
 3-1/2" LBS  
 7" CS @ 8620'

Tubing size 3-1/2 " lined with plastic set in a  
Baker Inverted Lok-Set packer at 7550 (approx.) feet  
 (brand and model) (material)  
 (or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation Morrison, Bluff, and Entrada.
- Name of Field or Pool (if applicable) NA
- Is this a new well drilled for injection? ☒ Yes ☐ No  
If no, for what purpose was the well originally drilled? \_\_\_\_\_
- Has the well ever been perforated in any other zone(s)? List all such intervals and give plugging detail (sacks or cement or bridge plug(s) used). No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2600' Fruitland, 2912' Pictured Cliffs, 4680' Mesaverde, 7280' Dakota

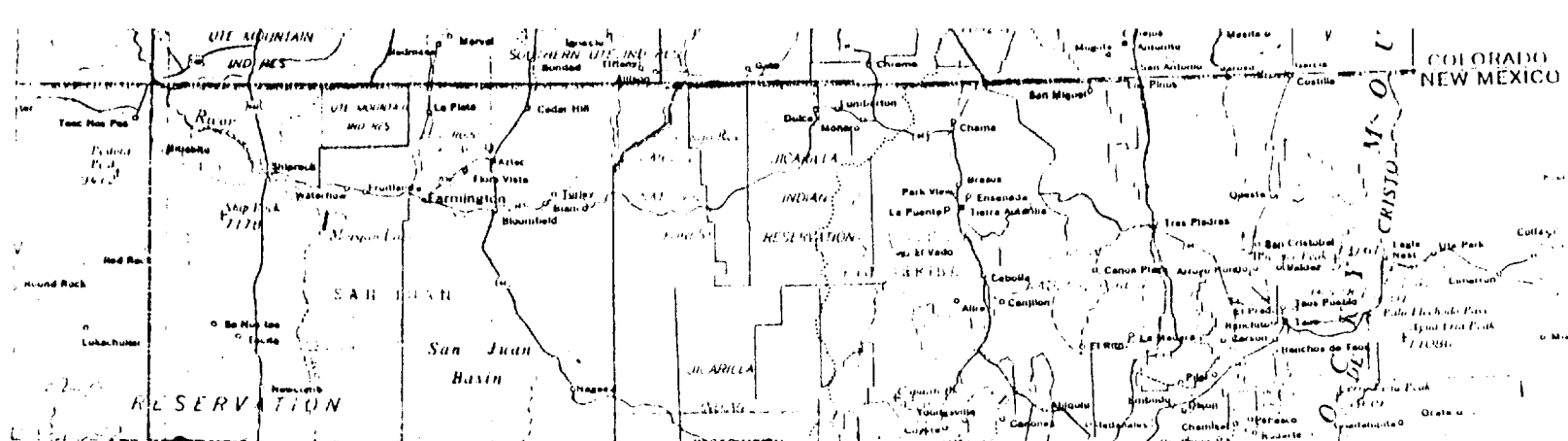
250 25147' 30" 252 253 520000 FEET 254 107"



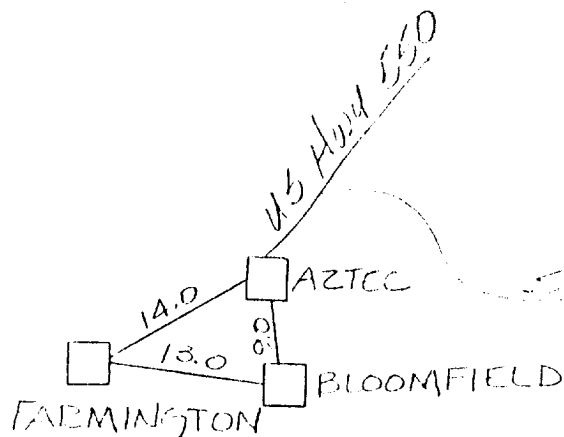
— NEW ROAD  
- - - EXISTING ROADS

AMOCO PRODUCTION COMPANY  
PRITCHARD SWD # 1  
615' F/NL 1840' F/WL  
SEC. 34, T31N, R9W, NMPM  
SAN JUAN COUNTY, NEW MEXICO

0179



PRITCHARD SWD # 1  
 615' F/NL 1840' F/WL  
 SEC. 34, T31N, R9W, NMPM  
 RAIL POINT: 164 miles to Montrose, Co.  
 MUD POINT: 21 miles to Aztec, NM  
 CEMENT POINT: 35 miles to Farmington, NM



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 100M-1113  
Expires September 30, 1990

Lease Designation and Serial No.  
NM-013686

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well  
☐ Oil Well ☐ Gas Well ☒ Other Water Disposal

2. Name of Operator  
Amoco Production Company ATTN: J.L. Hampton

3. Address and Telephone No.  
P. O. Box 800 Denver, Colorado 80201

4. Location of Well (Geog. Sec., T., R., M., or Survey Description)

5. If Indian, Allottee or Tribe Name

6. If Lease or CA, Agreement Designation

7. Well Name and No.  
Pritchard SWD #1

8. API Well No.

10. Field and Pool, or Exploratory Area  
Wildcat/Morrison/Bluff

11. County or Parish, State  
San Juan, New Mexico

615' PNL, 1840' FWL Sec. 34, T31N-R9W NE/NW

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
- ☐ Subsequent Report
- ☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
- ☐ Recompletion
- ☐ Plugging Back
- ☐ Casing Repair
- ☒ Altering Casing
- ☐ Other
- ☐ Change of Plans
- ☐ New Construction
- ☐ Non-Routine Fracturing
- ☐ Water Shut-Off
- ☐ Conversion to Injection

Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form 1

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Casing and Cementing Design:

20" - Run 250', 94ppf H-40, STC casing. Cement with 500 sacks/575 FT<sup>3</sup>, Class G W/2% CaCL<sub>2</sub> mixed to 15.8ppg.

13 3/8" - Run 3160', 54.5, 61, 68ppf K-55 STC casing. Cement with/DV @ approx. 1900ft.

Stage 1- Lead- 400 sacks/630ft<sup>3</sup> 65%/35pozz/6% gel & 2% CaCL<sub>2</sub>, tail with 800 sacks/920ft<sup>3</sup> Class G.

Stage 2- Lead- 800 sacks/1270ft<sup>3</sup> 65%G/35%pozz/6%gel/2%CaCL<sub>2</sub>, tail with 150 sacks/170ft<sup>3</sup> Class G.

9 5/8" - Run 5575', 36, 40ppf K-55 LTC casing. Cement with/DV @ approx. 2600ft.

Stage 1- Lead- 700 sacks/980ft<sup>3</sup> 50% Class G/50%pozz/2%gel, tail with 100 sacks 115ft<sup>3</sup> Class G.

Stage 2- Lead- 500 sacks/795ft<sup>3</sup> 65% Class G/35%pozz/6%gel/2%CaCL<sub>2</sub>, tail with 100 sacks 115ft<sup>3</sup> Class G.

7" - Run 8620', 23, 26 ppf K-55 LTC casing. Cement with/DV @ 5675ft.

Stage 1- 350 sacks/400ft<sup>3</sup> Class G.

Stage 2- Lead 100 sacks/159ft<sup>3</sup> 65%G/35%pozz/6% gel, tail with 50 sacks/57ft<sup>3</sup> Class G.

Note: Casing grades are minimum designs that may be increased due to availability. We are still evaluating the gas drilling economics on our E.E. Elliott Salt Water disposal, therefore we may drill the interval from 3000'-7000' on air or foam instead of gas.

14. I hereby certify that the foregoing is true and correct

Signed J. L. Hampton

Title Sr. Staff Admin. Supervisor

Date 10-16-90

(This space for Federal or State office use)

Approved by \_\_\_\_\_  
Conditions of approval, if any:

Title \_\_\_\_\_

Date \_\_\_\_\_