

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1. TYPE OF WORK
DRILL ☒ DEEPEN ☐ PLUG BACK ☐2. TYPE OF WELL
Oil ☐ Gas ☒ Other ☐
SINGLE ZONE ☐ MULTIPLE ZONE ☒3. NAME OF OPERATOR
AMOCO PRODUCTION COMPANY4. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, NM 874015. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface 870' FSL and 910' FEL, Section 96. Proposed prod. zone
Same7. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
9.7 Miles Southeast of Bloomfield, New Mexico8. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR BASELINE, FT.
(Also to nearest grid unit line, if any)
870'9. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.
3750'10. ELEVATIONS (Show whether DF, RT, GR, etc.)
6315' GL

11. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|--------------|----------------|-----------------|---------------|---|
| 12-1/4" | 9-5/8" (New) | 32.3# H-40 | 300' | 300 sx Class B x 2% CaCl2-Circ |
| 8-3/4" | 7" (New) | 26# K-55 | 6882' | 1st Stage- 240 sx CI B 50:50 Poz |
| | | | | 2nd Stage- 650 sx 6% gel, 2# med tuf plug/sx, .8% FLA x 100 sx CI B Neat (Tail in) |

This application to drill an infill Basin Dakota is pursuant to Order No. R-1670-V approved by the NMCCD on May 22, 1979. This well will qualify under Section 123 of the Natural Gas Policy Act under Order No. R-1670-V.

The gas from this well is dedicated to Southern Union Gas Company.

This action is subject to administrative appeal pursuant to 30 CFR 290.

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

DV Tool set at 4833'



12. ADVISE SPACE COVERED BY 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 prevention program, if any.

13.

Original Signed By

W. L. Peterson

Title District Engineer

Date November 12, 1980

(Print space for Federal or State Use Only)

14. COMMENTS

APPROVED

APPROVED
AS AMENDED

APR 01 1981

James F. Sims
DISTRICT ENGINEER

NMCCD

SUPPLEMENTAL INFORMATION TO FORM 9-331C

R. P. HARGRAVE "H" NO. 1E
870' FSL & 910' FEL, SECTION 9-T27N-R10W
SAN JUAN COUNTY, NEW MEXICO

The geologic name of the surface formation is the Tertiary Nacimiento.

Estimated tops of important geologic markers and potential water, oil, or gas bearing formations:

| <u>FORMATION</u> | <u>DEPTH</u> | <u>ELEVATION</u> |
|-------------------------|--------------|------------------|
| Ojo Alamo | 948 ' | 5381 ' |
| Kirtland | 1340 ' | 4989 ' |
| Fruitland | 1928 ' | 4401 ' |
| Pictured Cliffs | 2195 ' | 4134 ' |
| Chacra (if present) | 3539 ' | 2790 ' |
| Mesaverde [Cliff House | 3719 ' | 2610 ' |
| [Point Lookout | 4532 ' | 1797 ' |
| Callup | 5730 ' | 599 ' |
| Dakota | 6602 ' | - 273 ' |
| TD | 6882 ' | - 553 ' |

Estimated KB elevation: 6329'

Drilling fluid to TD will be a fresh water, low solids non-dispersed mud system. Open hole logging program will include logs from TD to below surface casing:

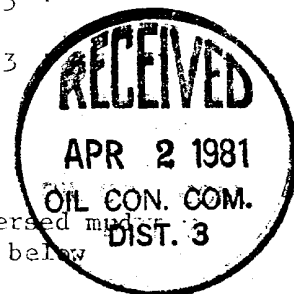
SP-Dual Induction-GR
FDC-CNL-GR

Completion design will be based on these logs. No cores or drill stem tests will be taken.

Operations will commence when permitted and last approximately 3 weeks.

Amoco's standard blowout prevention will be employed (see attached drawing).

In the past, drilling in this area has shown that no abnormal pressures, temperatures, nor hydrogen sulfide gas will be encountered.



OIL CONSERVATION DIVISION

P. O. BOX 2088

STATE OF NEW MEXICO
OIL AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-73

All distances must be from the outer boundaries of the Section.

| | | | | | |
|--|---|------------------------|--|---------------------------|--|
| Operator AMOCO PRODUCTION COMPANY | | | Lease R. P. HARGRAVE "H" | | Well No. 1E |
| Unit Letter P | Section 9 | Township 27N | Range 10W | County San Juan | |
| Actual Footage Location of Well: 870 feet from the South line and 910 feet from the East line | | | | | |
| Ground Level Elev: 6316 | Producing Formation Gallup/Dakota | | Pool Undesignated Gallup/ Basin Dakota | | Dedicated Acreage: 40 80 / 320 Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
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).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

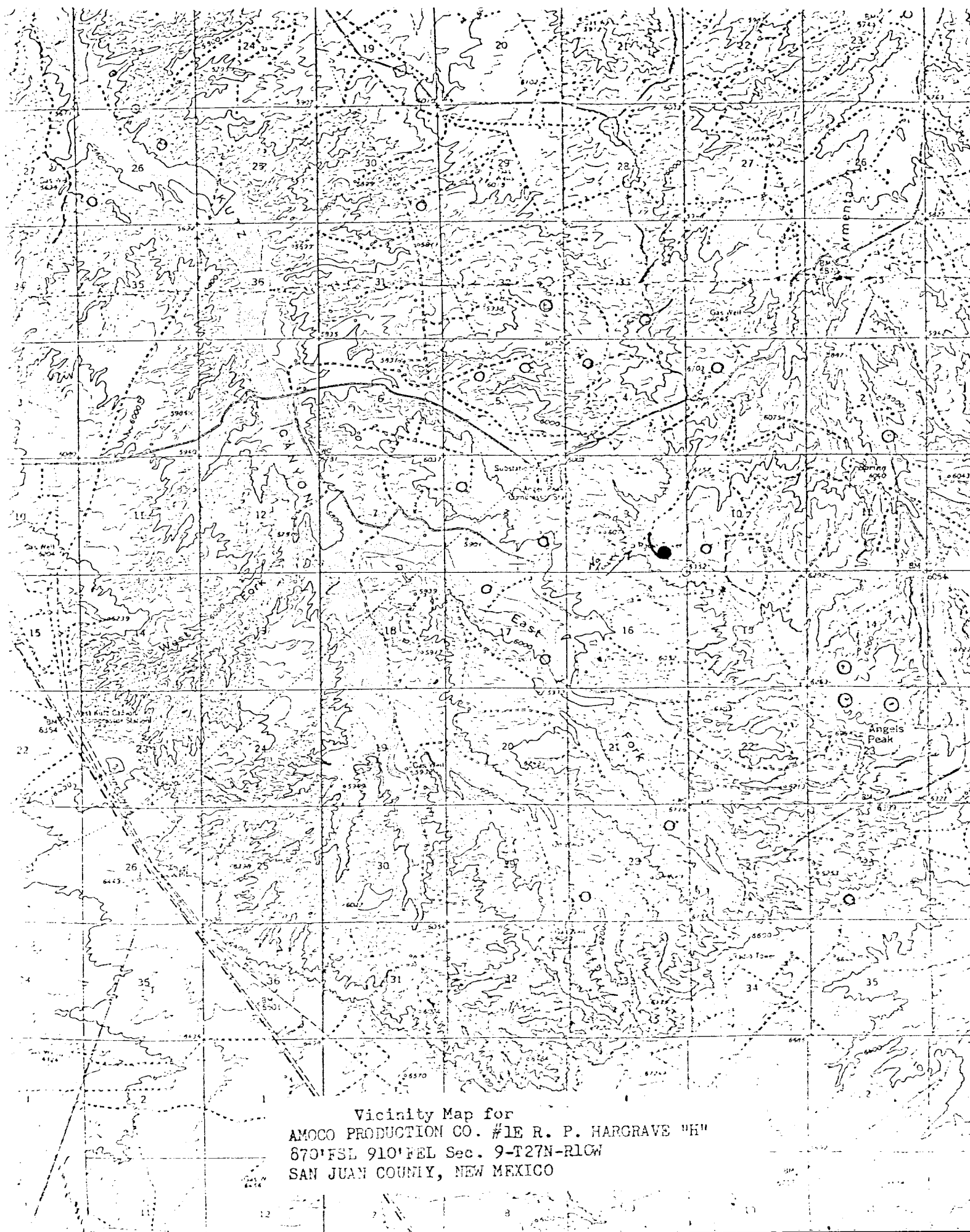
☒ Yes ☐ No If answer is "yes," type of consolidation Joint Acreage Holding - All owners approved drilling of well

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

| | | | |
|-------------------|--|---|--|
| Dakota Dedication | | CERTIFICATION | |
| 1 | | I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. | |
| Amoco WI 50 % | | Name W. L. Peterson | |
| Sec. | | Position District Engineer | |
| | | Company Amoco Production Company | |
| | | Date 9-23-80 | |
| | | 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. | |
| Gallup Dedication | | Date Surveyed September 12, 1980 | |
| | | Registered Professional Engineer and Land Surveyor Fred B. Ketchum | |
| | | Certificate No. 3950 | |

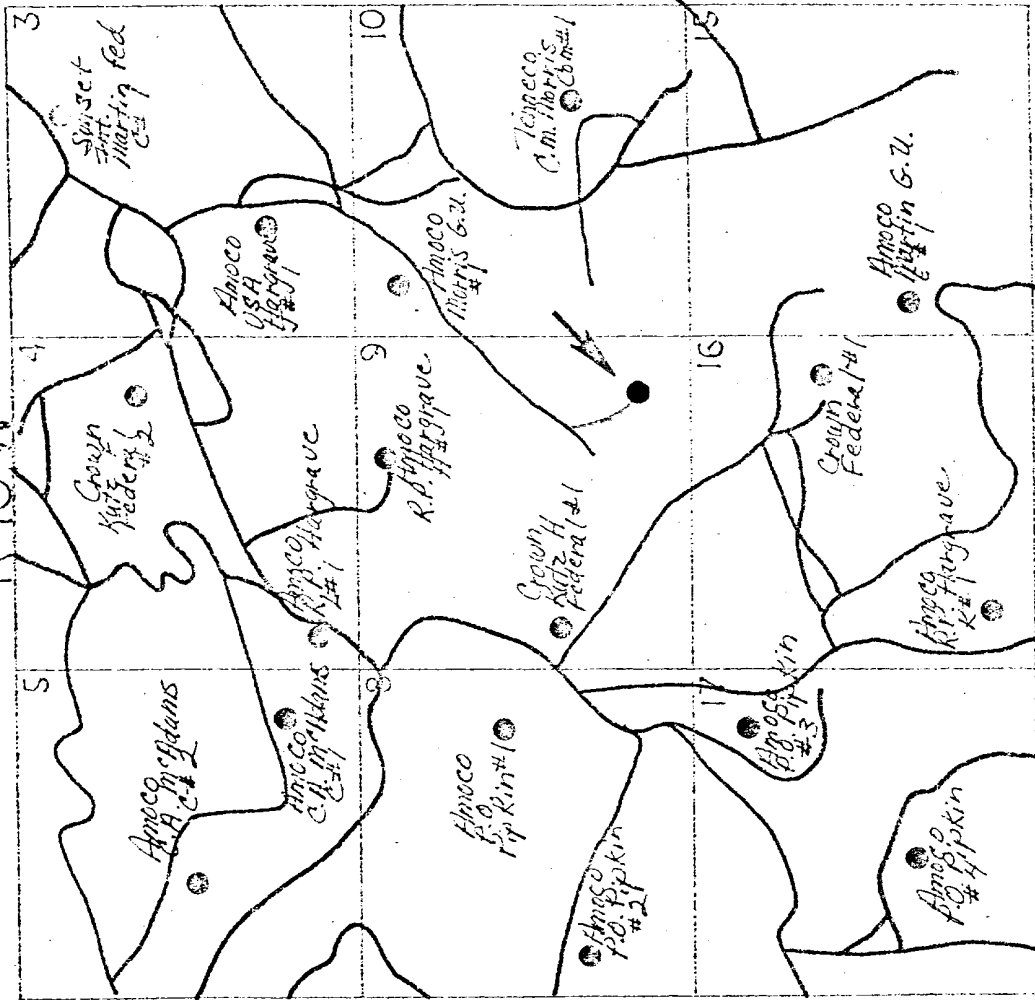
Scale: 1"=1000'



R. P. HARGRAVE H #1E

RIOW

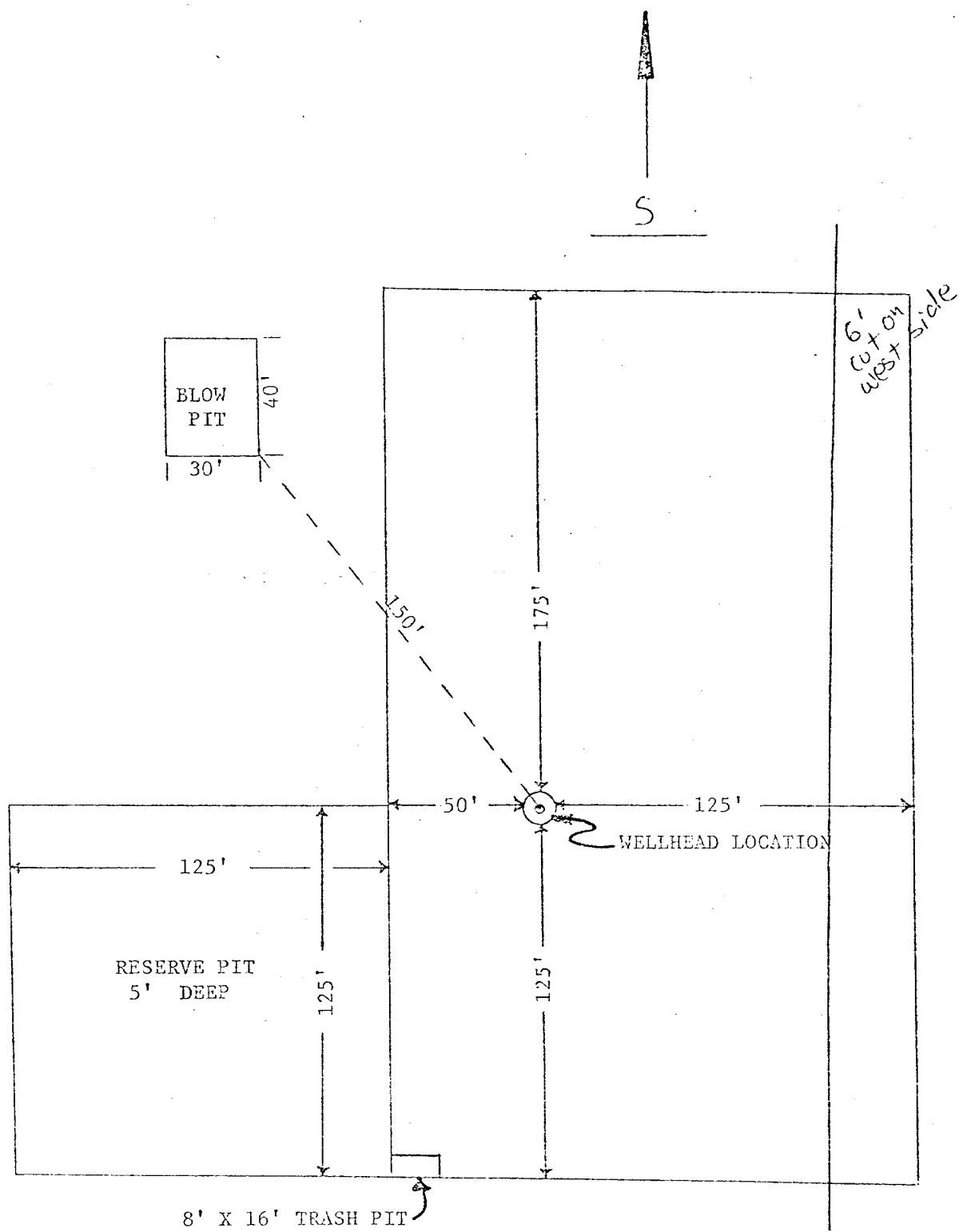
T 27 N



EXISTING BASIN DAKOTA WELLS

PROPOSED WELL LOCATION

ROADS



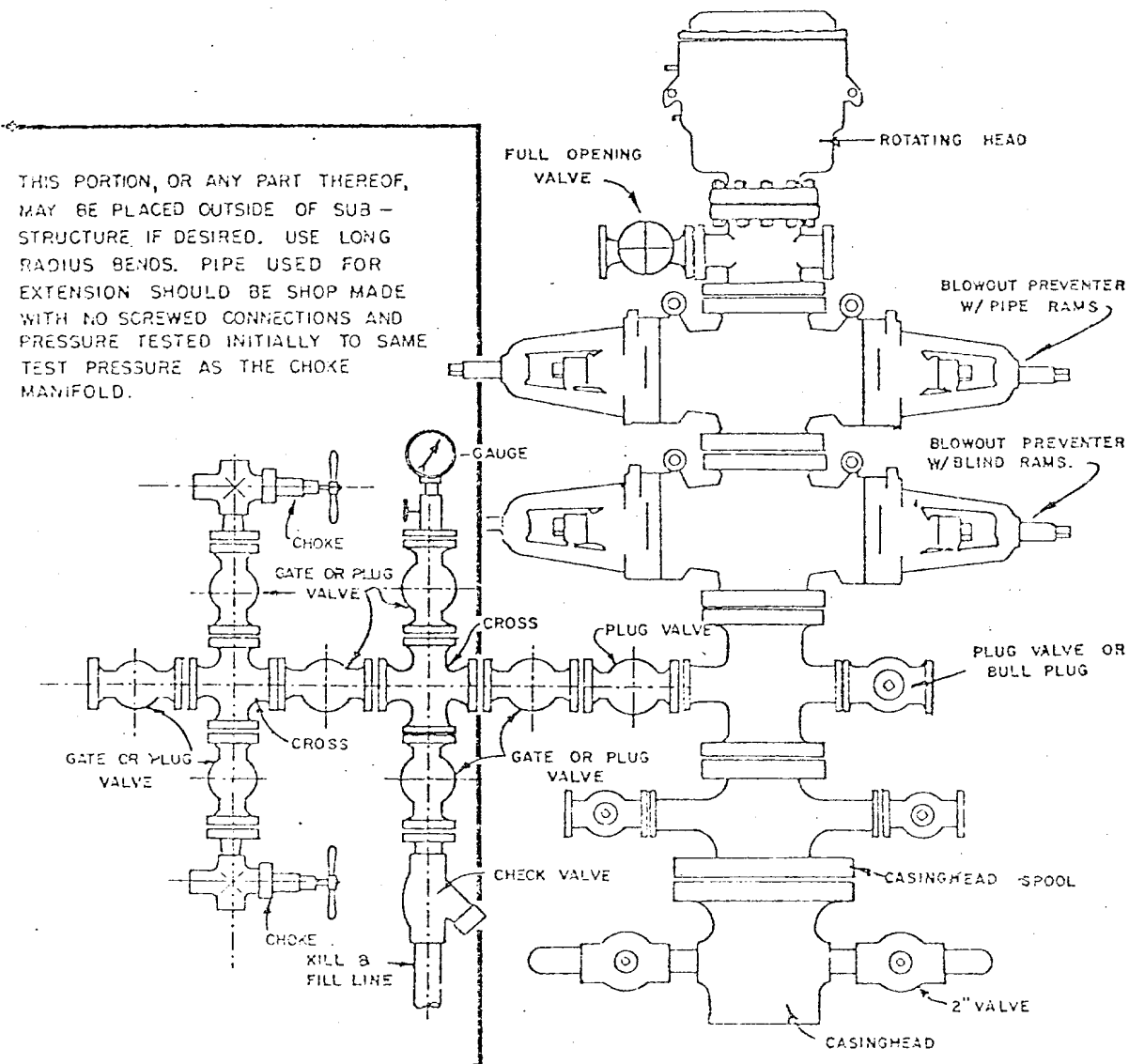
APPROXIMATELY 1.2 ACRES

| | |
|----------------------------------|---------------|
| Amoco Production Company | SCALE: 1"=50' |
| DRILLING LOCATION SPECIFICATIONS | DRG. NO. |

B. Hargrave "H" No. 15

1. Blowout Preventers and Master Valve to be fluid operated, and all fittings must be in good condition.
2. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.
3. Nipple above Blowout Preventer shall be same size or larger than BOP being drilled through.
4. All fittings to be flanged.
5. Omsco or comparable safety valve must be available on rig floor at all times with proper connection or sub. The I.D. of safety valve should be as great as I.D. of tool joints of drill pipe, or at least as great as I.D. of drill collars.

THIS PORTION, OR ANY PART THEREOF, MAY BE PLACED OUTSIDE OF SUB-STRUCTURE IF DESIRED. USE LONG RADIUS BENDS. PIPE USED FOR EXTENSION SHOULD BE SHOP MADE WITH NO SCREWED CONNECTIONS AND PRESSURE TESTED INITIALLY TO SAME TEST PRESSURE AS THE CHOKE MANIFOLD.



BLOWOUT PREVENTER HOOKUP

API Series # 900

EXHIBIT D-4

OCTOBER 16, 1969

Operation of BOP by closing both pipe and blind rams will be tested each trip or, on long bit runs, pipe rams will be closed once each 24 hours.

MULTI-POINT SURFACE USE PLAN

R. P. HARGRAVE "H" NO. 1E

870' FSL & 910 FEL, Section 9, T27N, R10W

San Juan County, New Mexico

1. The attached topographic map shows the proposed route to the location.
2. It will be necessary to build an access road approximately 500' in length, and 20' wide.
3. Existing oil and gas wells within a one-mile radius of our proposed well have been spotted on the lease road map.
4. There is a 380-barrel tank and facilities located at R. P. Hargrave "H" No. 1 (B-9-27-10)
5. Water will be hauled from the San Juan River.
6. No construction materials will be hauled in for this location.
7. A 125' by 125' pit will be built on location to hold all drilling waste. Upon completion of the well, pit will be fenced and waste and liquids left to dry, then pit will be filled and leveled. If any liquids remain, they will be hauled away prior to back filling.
8. There are neither airstrips nor camps in the vicinity.
9. The well site layout, reserve, burn and trash pits are shown on the attached Drill Site Specification Sheet. A 6 foot cut will be made on the west side.
10. Restoration of the surface will be accomplished by cleaning up and leveling upon completion of the well. Reseeding of the site will be carried out as instructed by the Bureau of Land Management
11. The general topography is an uneven terrain with sandy loam soil. Vegetation consists of Juniper, sage and native grasses.

Representatives of the U. S. Geological Survey's Farmington Office and the Bureau of Land Management inspected the site with Amoco Personnel. Cultural Resources inspection was conducted by an archaeologist from San Juan College.

12. Operator's Representative: R. W. Schroeder
Phone: Office: 505-325-8841; Home: 505-325-6164
Address: 501 Airport Drive, Farmington, NM 87401

Certification: I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by AMOCO PRODUCTION COMPANY and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

Date: 11/12/80

R. W. Schroeder
R. W. Schroeder, District Superintendent