

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

|   |                |  |               |                    |
|---|----------------|--|---------------|--------------------|
| 1a. TYPE OF WORK<br><b>DRILL</b> <input checked="" type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/> <b>PLUG BACK</b> <input type="checkbox"/>   |                |  |               |                    |
| b. TYPE OF WELL<br>OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/> |                |  |               |                    |
| 2. NAME OF OPERATOR<br><b>AMOCO PRODUCTION COMPANY</b>  |                |  |               |                    |
| 3. ADDRESS OF OPERATOR<br><b>501 AIRPORT DRIVE, FARMINGTON, NM 87401</b>  |                |  |               |                    |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)<br>At surface <b>1680 FWL &amp; 1790 FWL, Section 8, T-29-N, R-9-W</b><br>At proposed prod. zone <b>Same</b>              |                |  |               |                    |
| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*<br><b>2 miles northeast of Blanco, NM</b>   |                |  |               |                    |
| 15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  |                | 16. NO. OF ACRES IN LEASE  |               |                    |
| <b>960'</b>   |                | <b>320</b>   |               |                    |
| 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.   |                | 19. PROPOSED DEPTH   |               |                    |
| <b>1840'</b>  |                | <b>4690'</b>   |               |                    |
| 21. ELEVATIONS (Show whether DF, RT, GR, etc.)<br><b>5657' GL</b>   |                | 17. NO. OF ACRES ASSIGNED TO THIS WELL<br><b>N/320</b>           |               |                    |
|   |                | 20. ROTARY OR CABLE TOOLS<br><b>Rotary</b>                       |               |                    |
|   |                | 22. APPROX. DATE WORK WILL START*<br><b>As soon as permitted</b> |               |                    |
| 23. PROPOSED CASING AND CEMENTING PROGRAM   |                |  |               |                    |
| SIZE OF HOLE  | SIZE OF CASING | WEIGHT PER FOOT  | SETTING DEPTH | QUANTITY OF CEMENT |
| <b>12-1/4"</b>  | <b>9-5/8"</b>  | <b>32.3#</b>   | <b>250'</b>   | <b>265 sx</b>      |
| <b>8-3/4"</b>   | <b>7"</b>      | <b>20#</b>   | <b>2580'</b>  | <b>448 sx</b>      |
| <b>6-1/4"</b>   | <b>4-1/2"</b>  | <b>10.5#</b>   | <b>4690'</b>  | <b>270 sx</b>      |

The above referenced well is being drilled to further develop the Masaverde reservoir. The well will be drilled to the intermediate casing point using water and Benex. The well will then be gas drilled to TD. Completion design will be based on open hole logs. The acreage is dedicated to El Paso Natural Gas Company. Attached is a Development Plan required by NTL-6.



RECEIVED

JUL 22 1977

U. S. GEOLOGICAL SURVEY

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. Krupke TITLE Area Engineer DATE 7/19/77  
(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

\*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.

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

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

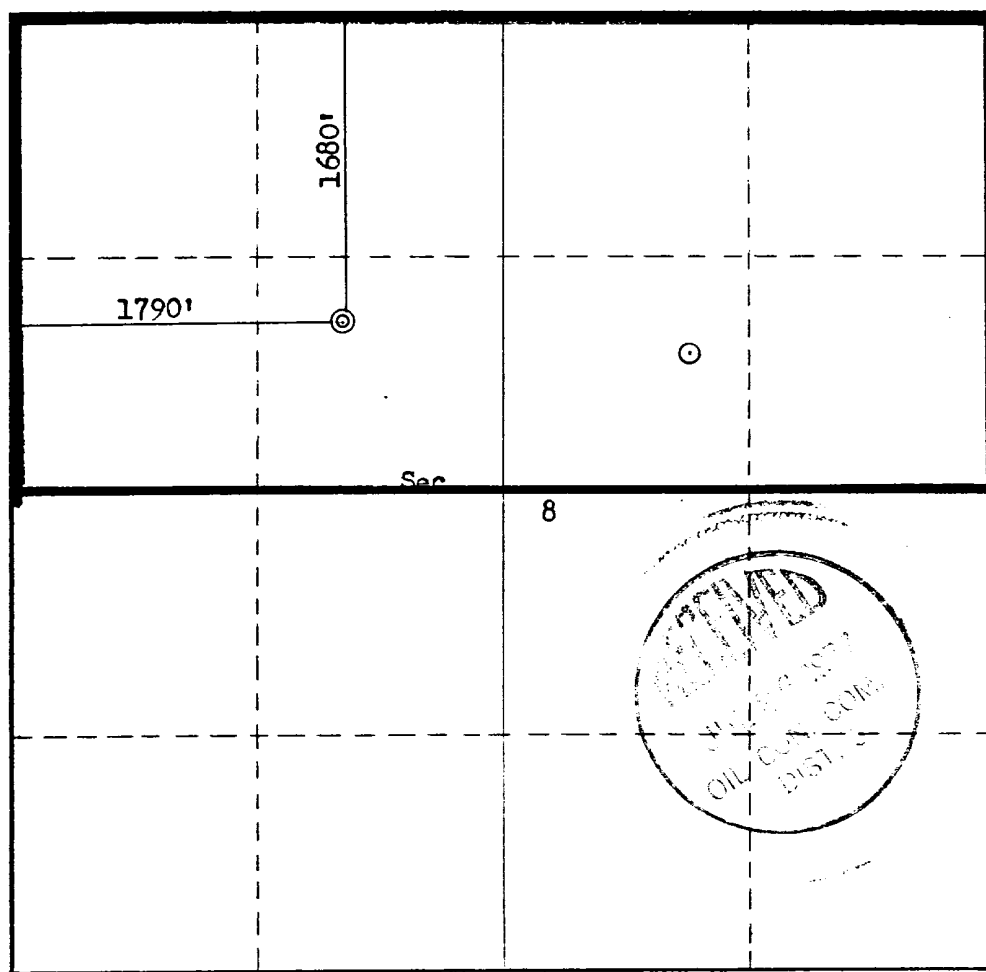
|  |  |                        |                                   |                           |  |
|--|--|------------------------|-----------------------------------|---------------------------|--|
| Operator<br><b>Amoco Production Company</b>  |  |                        | Lease<br><b>Heath Gas Com "D"</b> |                           | Well No.<br><b>1A</b>                  |
| Unit Letter<br><b>F</b>  | Section<br><b>8</b>                      | Township<br><b>29N</b> | Range<br><b>9W</b>                | County<br><b>San Juan</b> |  |
| Actual Footage Location of Well:<br><b>1680</b> feet from the <b>North</b> line and <b>1790</b> feet from the <b>West</b> line |  |                        |                                   |                           |  |
| Ground Level Elev.<br><b>5657</b>  | Producing Formation<br><b>Mesa Verde</b> |                        | Pool<br><b>Blanco Mesaverde</b>   |                           | Dedicated Acreage:<br><b>320</b> Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 \_\_\_\_\_

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.



0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

**CERTIFICATION**

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

*J. L. Krupka*

Name  
**J. L. KRUPKA**

Position  
**AREA ENGINEER**

Company  
**AMOCO PRODUCTION COMPANY**

Date  
**JULY 19, 1977**

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.

Date Surveyed  
**June 28, 1977**

Registered Professional Engineer and/or Land Surveyor

*Fred B. Kerr Jr.*  
**Fred B. Kerr Jr.**

Certificate No.

**3950**

HEATH GAS COM "D" NO. 1A  
1680 FNL & 1790 FWL, SECTION 8, T-29-N, R-9-W  
SAN JUAN COUNTY, NEW MEXICO

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.

JULY 19, 1977

Date



AREA SUPERINTENDENT  
Name and Title

DEVELOPMENT PLAN  
HEATH GAS COM "D" NO. 1A  
1680 FNL & 1790 FWL, SECTION 8, T-29-N, R-9-W  
SAN JUAN COUNTY, NEW MEXICO

The proposed location has sage brush and a few cedar trees as vegetation. The soil is sandy. The geological name of the surface formation is the Animas. No new road will be required. No construction materials will be used for building the location; dirt will be leveled at the well site. No location cut will be required. Verbal approval of the drill site has been obtained from Mr. Bob Moore, BLM; Mr. Leigh Freeman, USGS; and Ms. Dabney Ford, Archaeologist.

Arrangements are being made to haul water from the San Juan River, approximately 5 miles. Drilling fluid to 2580' will be a water and Benex and the well will be gas drilled from 2580' to TD (4690'). Upon completion the location will be cleaned up and leveled. Drilling mud and water will be hauled away and the reserve pit backfilled. Attached is the BLM seeding plan to be followed for this well. In addition, all surface equipment will be painted green so as to follow BLM requirements.

There are neither airstrips nor camps in the vicinity.

The estimated tops of important geological formations bearing hydrocarbons are:

| <u>FORMATION</u> | <u>DEPTH</u> | <u>ELEVATION</u> |
|------------------|--------------|------------------|
| Pictured Cliffs  | 2178'        | +3492'           |
| Cliffhouse       | 3827'        | +1843'           |
| Menefee          | 3987'        | +1683'           |
| Point Lookout    | 4367'        | +1303'           |

Estimated KB elevation: 5670'

| <u>EST. DEPTH</u> | <u>CSG. SIZE</u> | <u>WEIGHT</u> | <u>HOLE SIZE</u> | <u>SACKS CEMENT</u> | <u>-</u> | <u>TYPE</u>   |
|-------------------|------------------|---------------|------------------|---------------------|----------|---|
| 250'              | 9-5/8"           | 32.3#         | 12-1/4"          | 265                 | -        | Class "B", 2% CaCl <sub>2</sub> .   |
| 2580'             | 7"               | 20#           | 8-3/4"           | 450                 | -        | Class "B", 6% Gel, 2# Med. Tuf Plug/sx.                                   |
|                   |                  |               |                  | 50                  | -        | Class "B", 2% CaCl <sub>2</sub> .   |
| 2380-4690'        | 4-1/2"           | 10.5#         | 6-1/4"           | 195                 | -        | Class "B", 50:50 Poz, 6% Gel, 2# Med. Tuf Plug/sx, 0.2% Friction Reducer. |
|                   |                  |               |                  | 75                  | -        | Class "B", 50:50 Poz, 6% Gel.   |

Amoco's standard blowout prevention will be employed, see attached drawing for blowout preventer design.

Amoco plans to run the following logs from TD to 2580': Induction-Electric, Density-Gamma Ray. No cores or Drill Stem Tests will be taken.

In the past, drilling in this area has shown that no abnormal pressure, temperatures, or hydrocarbon gas will be encountered.

We will start operation as soon as well is permitted, and a three-week operation is anticipated.

BLM SEEDING REQUIREMENTS  
IN THE FARMINGTON RESOURCE AREA

1. SEED MIXTURE 2

2. TIME:

All seeding will take place between July 1 and September 15.

3. EQUIPMENT:

Seeding will be done with a disc-type drill with two boxes for various seed sizes. The drill rows will be eight to ten inches apart. The seed will be planted not less than one-half inch deep or more than one inch deep. The seeder will be followed with a drag, packer, or roller to insure uniform coverage of the seed, and adequate compaction. Drilling will be done on the contour where possible, not up and down the slope. Where slopes are too steep for contour drilling, a "cyclone" hand seeder or similar broadcast seeder will be used. Seed will then be covered to the depth described above by whatever means is practical.

4. SPECIES TO BE PLANTED IN POUNDS PURE-LIVE-SEED PER ACRE:

CRESTED WHEATGRASS (Agropyron desertorum) -  $3\frac{1}{4}$  lbs.

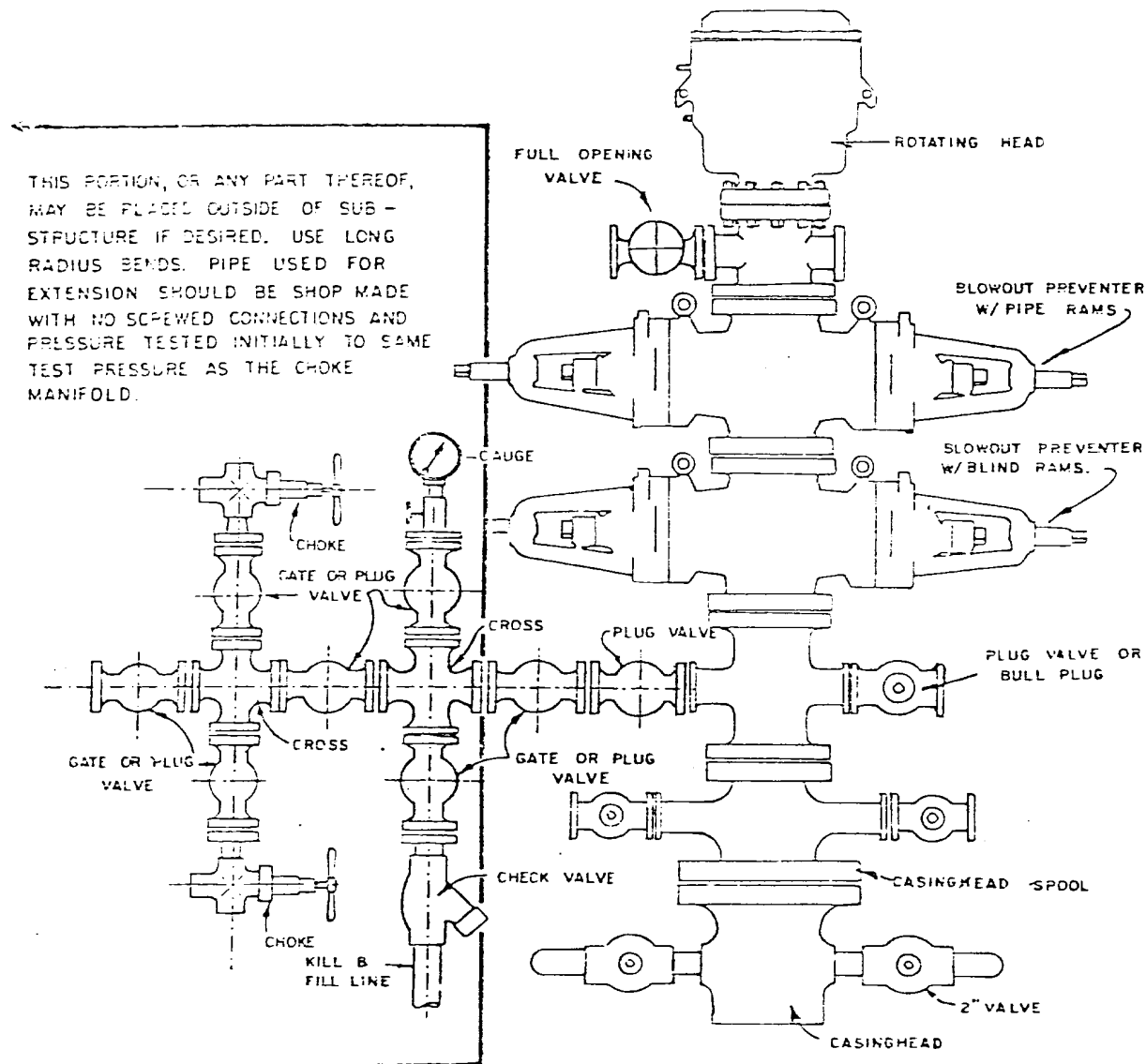
FOURWING SALTBUSH (dewinged) (Atriplex canescens) -  $\frac{1}{2}$  lb.

SAND DROPSEED (Sporobolus cryptandrus) -  $\frac{3}{4}$  lb.

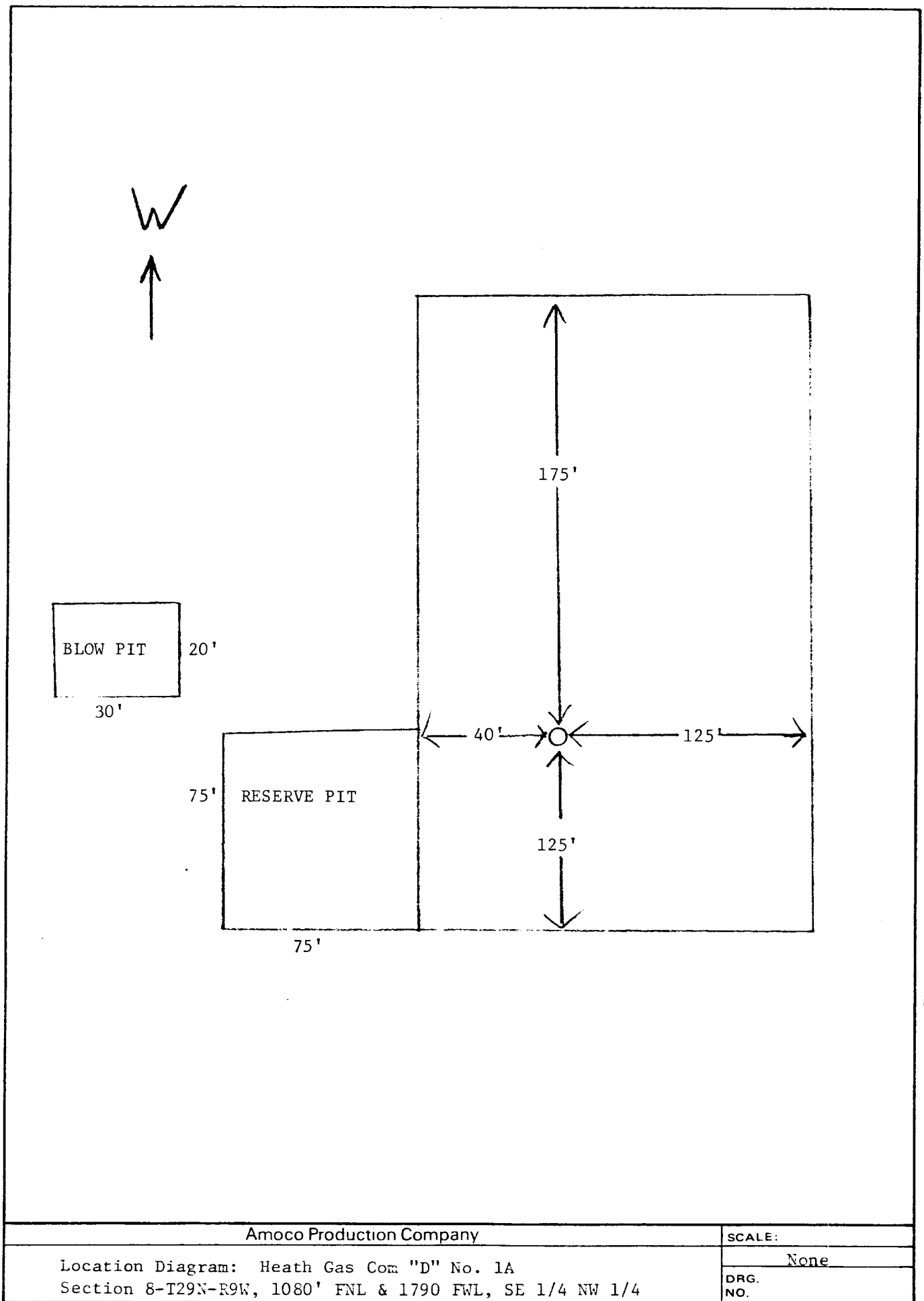
WINTERFAT (Eurotia lanata) -  $\frac{1}{2}$  lb.

ALKALI SACATON (Sporobolus airoides) -  $\frac{3}{4}$  lb.

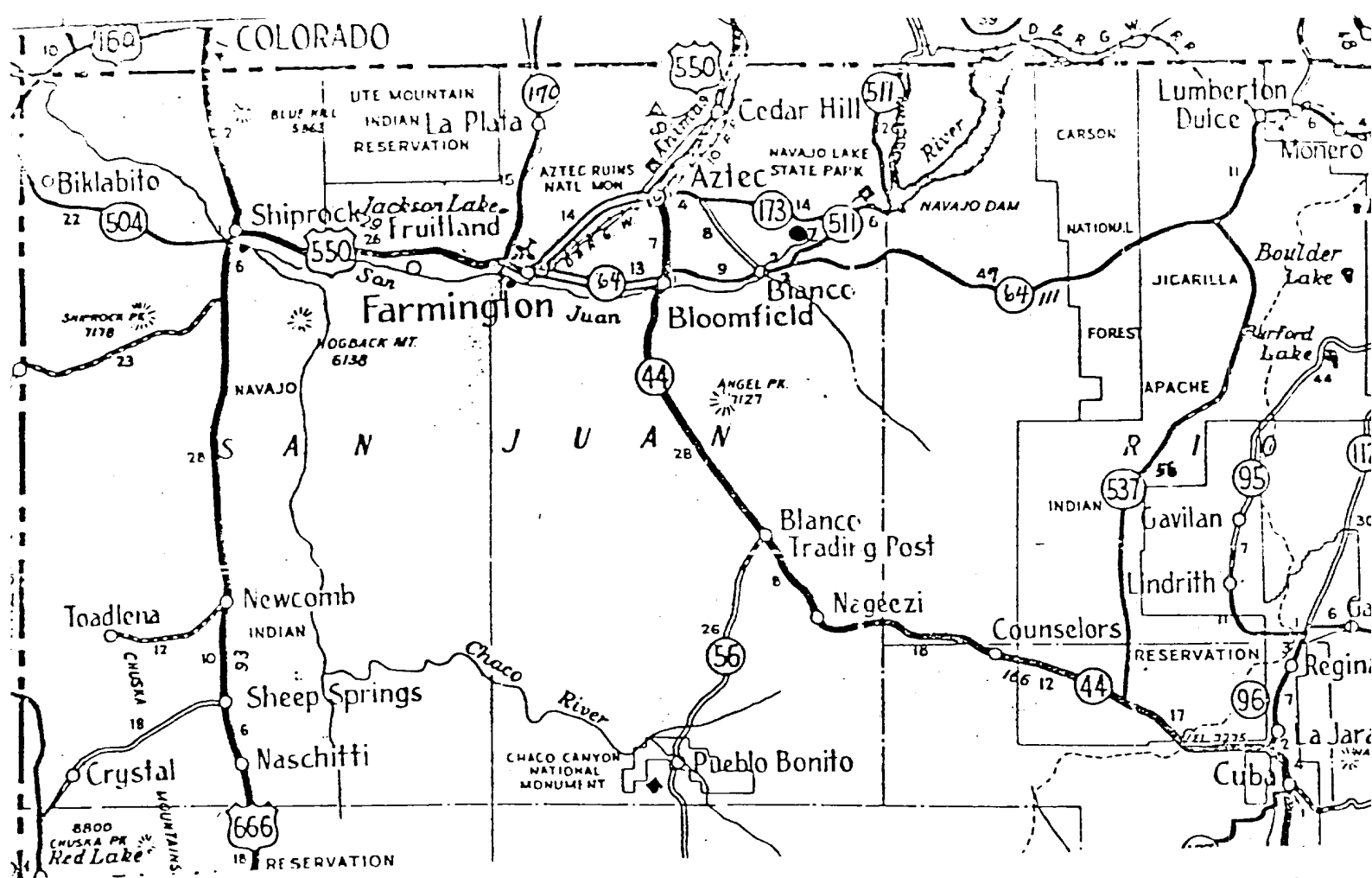
THIS PORTION, OR ANY PART THEREOF, MAY BE PLACED OUTSIDE OF SUB-STRUCTURE IF DESIRED. USE LONG RADIUS BENDS. PIPE USED FOR EXTENSION SHOULD BE SHOP MADE WITH NO SCREWED CONNECTIONS AND PRESSURE TESTED INITIALLY TO SAME TEST PRESSURE AS THE CHOKE MANIFOLD.



BLOWOUT PREVENTER HOOKUP



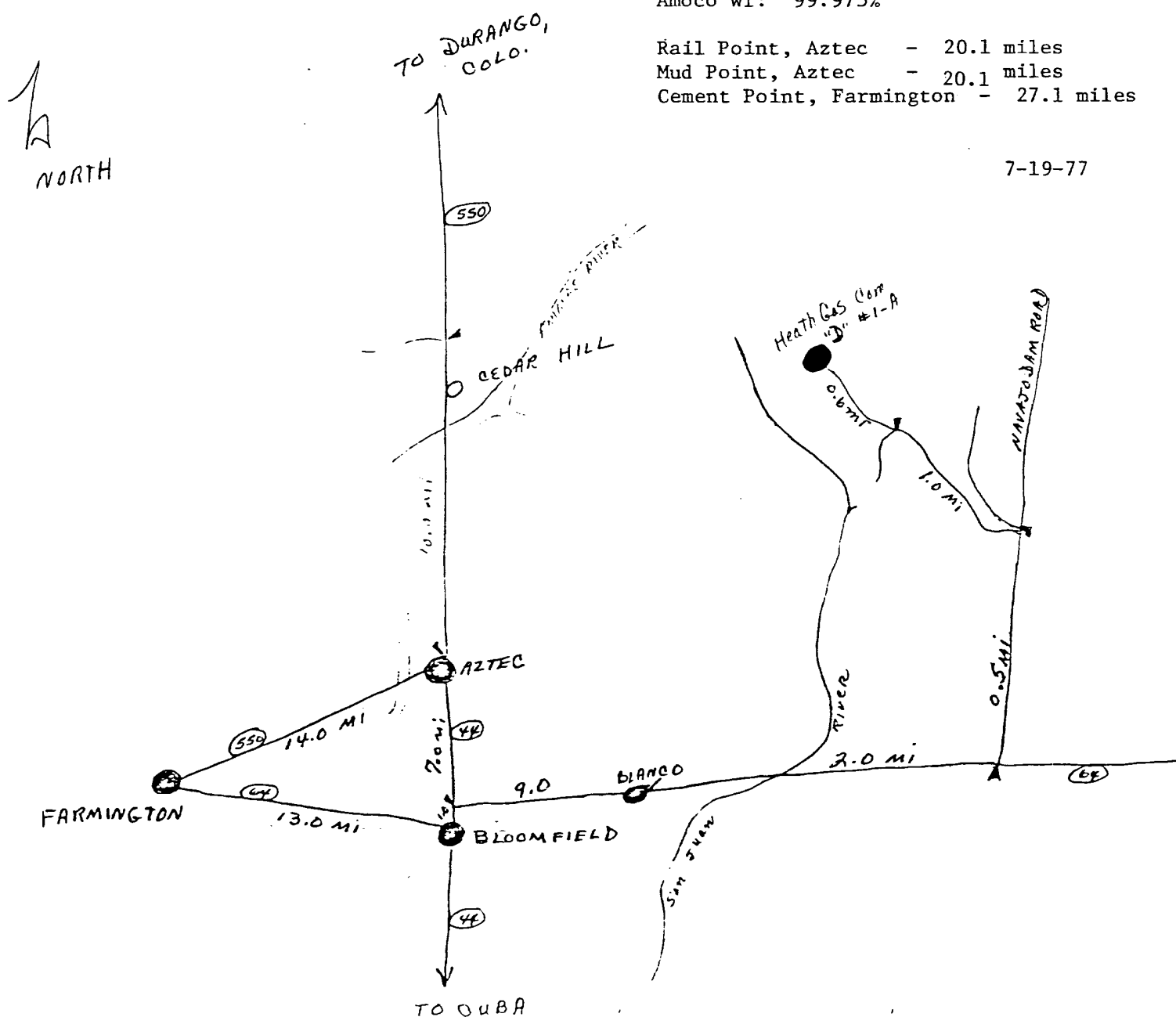


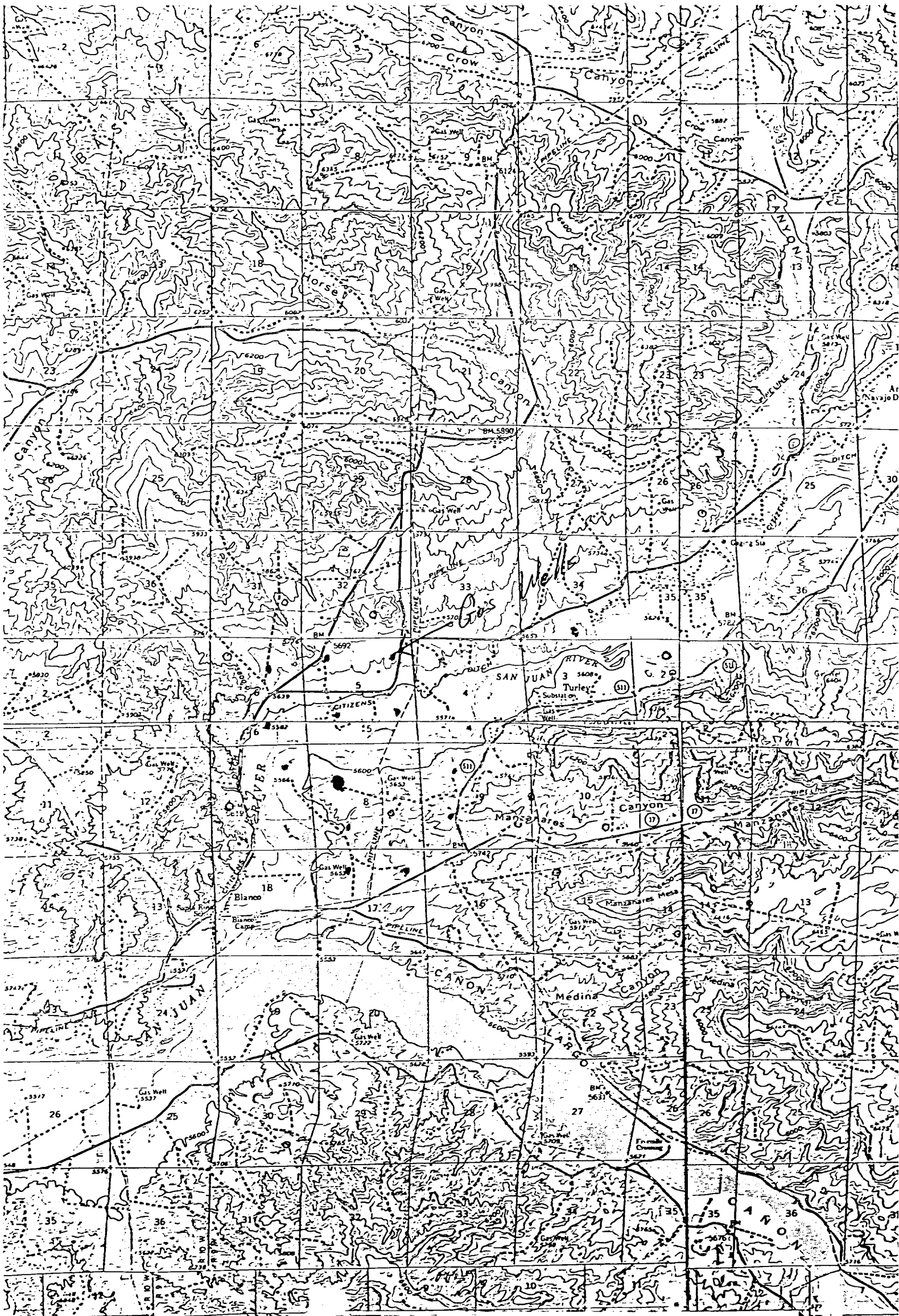


FARMINGTON AREA TRAFFIC SKETCH  
DENVER DIVISION  
Heath Gas Com "D" No. 1-A  
San Juan County, New Mexico  
Amoco WI: 99.975%

Rail Point, Aztec - 20.1 miles  
Mud Point, Aztec - 20.1 miles  
Cement Point, Farmington - 27.1 miles

7-19-77





Vicinity Map for  
AMOCO PRODUCTION CO. 1A Heath Gas Com "D"  
1680'FNL 1790'FWL Sec 8-T29N-R9W  
San Juan County, New Mexico