

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-039-21453  
5. LEASE DESIGNATION AND SERIAL NO.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

87079736-A  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

b. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER   
SINGLE ZONE  MULTIPLE ZONE

7. UNIT AGREEMENT NAME

San Juan 29-4 Unit  
8. FARM OR LEASE NAME

2. NAME OF OPERATOR  
**AMCO PRODUCTION COMPANY**

9. WELL NO.

21

3. ADDRESS OF OPERATOR  
**501 AIRPORT DRIVE, FARMINGTON, NEW MEXICO 87401**

10. FIELD AND POOL, OR WILDCAT

Blanco Mesaverde Extension & East Blanco Pictured Cliffs

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)  
At surface  
**1715 FSL & 1785 FWL, Section 5, T-29-N, R-4-W**  
At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

NW/4 SW/4 Section 5  
T-29-N, R-4-W

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

12. COUNTY OR PARISH

Rio Arriba New Mexico

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
**1715**

16. NO. OF ACRES IN LEASE

**2560**

17. NO. OF ACRES ASSIGNED TO THIS WELL

**320 NW 160 PC**

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
**1st Well 6630**

19. PROPOSED DEPTH

**6630**

20. ROTARY OR CABLE TOOLS

**Rotary**

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**7491' est. GL**

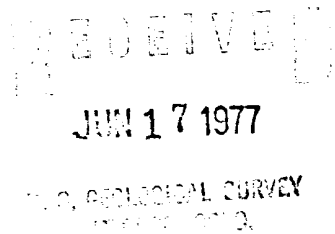
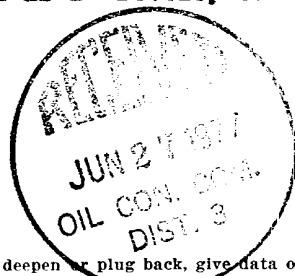
22. APPROX. DATE WORK WILL START\*

**August, 1977**

23. 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	12.3#	250'	280 sx
8-3/4"	7" NEW	20#	4440'	975 sx
6-1/4"	4-1/2" New	10.5#	4240-6630	370 sx

The above well is being drilled to further develop the Blanco Mesaverde field and the East Blanco Pictured Cliffs field. The well will be drilled to the intermediate casing point with a low solids non-dispersed mud system. The well will then be drilled with gas to TD. Completion designs will be based on open hole logs. This acreage is not dedicated. Attached is a Development Plan required by NTL-6.



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 [Signature] TITLE Area Engineer DATE 6/15/77

(This space for Federal or State office use)

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

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

[Signature]

[Signature]

\*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.

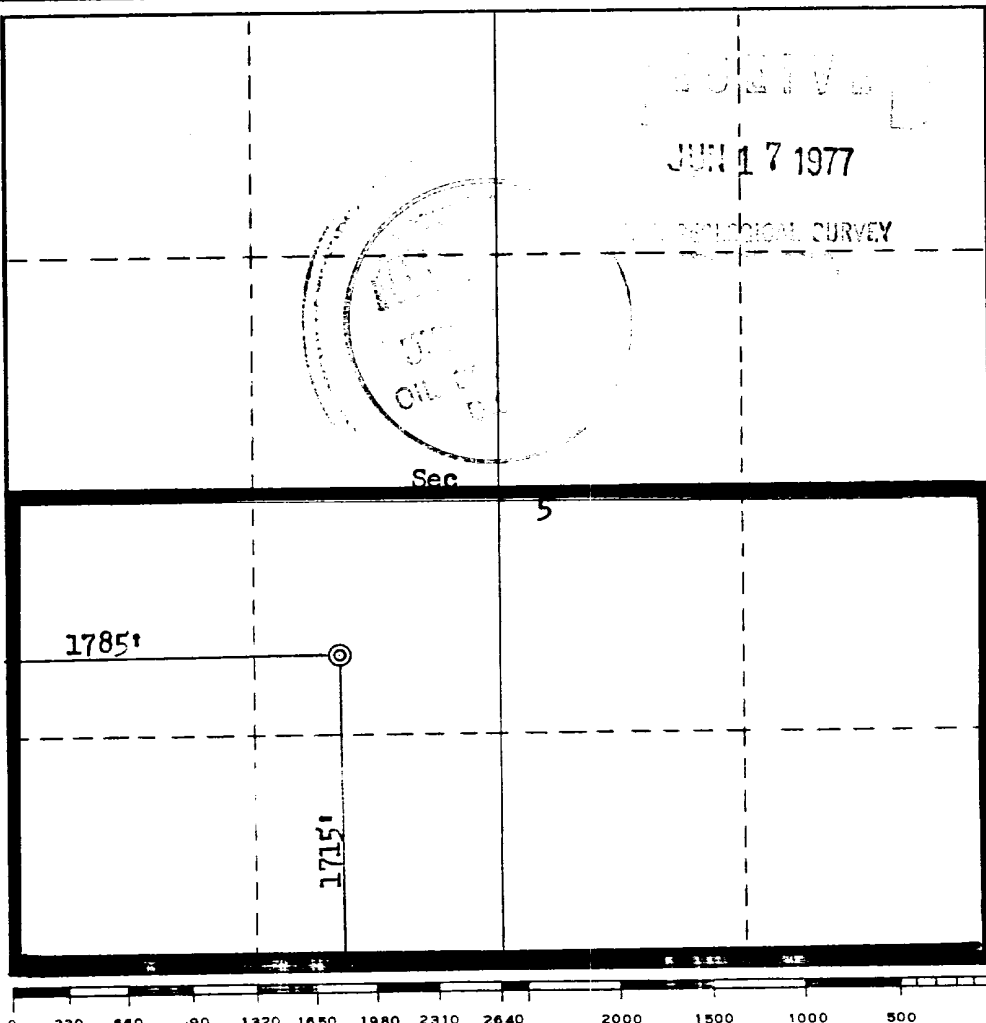
Operator <b>Amoco Production Company</b>			Lease <b>San Juan 29-1 Unit</b>			Well No. <b>21</b>		
Unit Letter <b>K</b>	Section <b>5</b>	Township <b>29N</b>	Range <b>LW</b>	County <b>Rio Arriba</b>				
Actual Footage Location of Well: <b>1715</b> feet from the <b>South</b> line and <b>1785</b> feet from the <b>West</b> line								
Ground Level Elev. <b>7491</b>	Producing Formation <b>Mesa Verde</b>			Pool <b>Blanco Mesaverde</b>	Dedicated Acreage: <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.



CERTIFICATION

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

*H. D. Montgomery*  
Name  
**H. D. MONTGOMERY**

Position  
**AREA ENGINEER**

Company  
**AMOCO PRODUCTION COMPANY**

Date  
**JUNE 8, 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 7, 1977**

Registered Professional Engineer and/or Land Surveyor  
*Fred B. Kerr Jr.*  
**Fred B. Kerr Jr.**

Certificate No.  
**3950**

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-10;  
Supersedes C-12R  
Effective 1-1-66

All distances must be from the outer boundaries of the Section

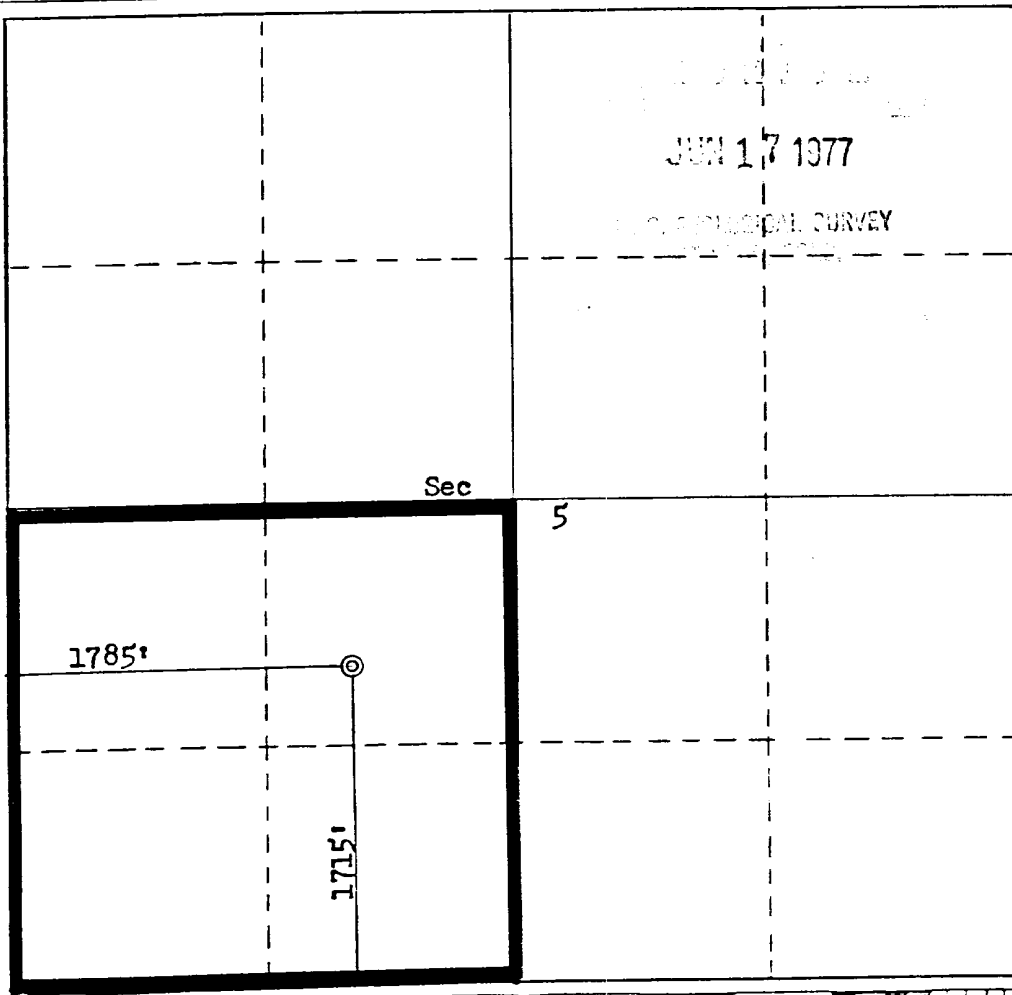
Operator: <b>Amoco Production Company</b>		Lease: <b>San Juan 29-1 Unit</b>		Well No.: <b>21</b>
Unit Letter: <b>K</b>	Section: <b>5</b>	Township: <b>29N</b>	Range: <b>14W</b>	County: <b>Rio Arriba</b>
Actual Footage Location of Well: <b>1715</b> feet from the <b>South</b> line and <b>1785</b> feet from the <b>West</b> line				
Ground Level Elev.: <b>7491</b>	Producing Formation: <b>Pictured Cliffs</b>	Pool: <b>East Blanco Pictured Cliffs</b>	Dedicated Acreage: <b>160</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.) \_\_\_\_\_

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**3950**

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

SAN JUAN 29-4 NO. 21  
1715 FSL & 1785 FWL, SECTION 5, T-29-N, R-4-W  
RIO ARRIBA 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.

JUNE 15, 1977                                            AREA SUPT.  
Date    Name and Title

JUN 17 1977  
SURVEY

DEVELOPMENT PLAN  
 SAN JUAN 29-4 NO. 21  
 1715 FSL & 1785 FWL, SECTION 5, T-29-N, R-4-W  
 RIO ARRIBA COUNTY, NEW MEXICO

The proposed location has sagebrush with open stands of ponderosa pine, pinon, juniper, and oak. Galleta grass and snakeweed were also noted growing in the area. The geological name of the surface formation is Tertiary San Jose. A new 2700' X 18' road will be required. No construction materials will be used for building the location; dirt will be leveled at the well site. Verbal approval of the drill site has been obtained from Mr. Jim Tinsfield and Mr. Charles Laing of the U. S. Forest Service, Mr. Carl Barrich from the U. S. G. S., and Dabrey Ford Archaeologist.

Water will be hauled from either Crebesto Wash which is approximately 16 miles on existing roads or the old ranger station at the intersection of forest road 310 and State Highway 64, approximately 10 miles from the location on existing roads. Drilling fluids to the intermediate casing point will be a low solids non-dispersed mud system. Gas will be used to drill from the intermediate casing point to TD. 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 seeding plan to be followed for this well.

There are neither airstrips nor campsites in the vicinity. The estimated tops of important geological formations bearing hydrocarbons are:

<u>FORMATION</u>	<u>DEPTH</u>	<u>ELEVATION</u>
Pictured Cliffs	4163'	3340
Cliffhouse	6256'	1247
Menefee	6323'	1180
Point Lookout	6563'	940

Estimated KB elevation: 7503

Casing design:

<u>EST. DEPTH</u>	<u>CSG. SIZE</u>	<u>WEIGHT</u>	<u>HOLE SIZE</u>	<u>SACKS CEMENT - TYPE</u>
250'	9-5/8"	32.3#	12-1/4"	280 sx - Class "B", 2% CaCl <sub>2</sub> .
4440'	7"	20#	8-3/4"	975 sx - Class "B", 50:50 Poz, 6% Gel, 2# med Tuf Plug per sack.
6630'	4-1/2"	10.5#	6-1/4"	370 sx - Class "B" 50:50 Poz. 2% Gel, 2# Med. Tuf Plug per sack.

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

JUN 17 1977

D. J. JOHNSON

Amoco plans to run the following logs: 4440-350' Induction Electric, 4440-3000' Compensated Density, 6630-4440' Induction Gamma Ray, and 6630-6000' Compensated Density.

No abnormal pressure, temperatures, or hydrocarbon gas is expected while drilling this well.

Our proposed starting date is August 1, 1977, and a three-week operation is anticipated.

JUN 17 1977

AMOCO OPERATIONAL SURVEY

## SEEDING PLAN

1. TIME:

All seeding will take place between July 1, and September 15, 1978, or as required by the U. S. Forest Service.

2. 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, no 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.

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

Crested Wheatgrass	0.71 lbs.
Russian Wild Rye	0.86 lbs.
Ladak Alfalfa	0.50 lbs.
Sweet Clover	0.50 lbs.
Perennial Rye Grass	0.57 lbs.
Western Wheatgrass	1.43 lbs.
Smooth Brome	1.14 lbs.
Intermediate Wheat	0.91 lbs.
Pubescent Wheatgrass	1.09 lbs.

JUN 17 1977

FOREST SERVICE



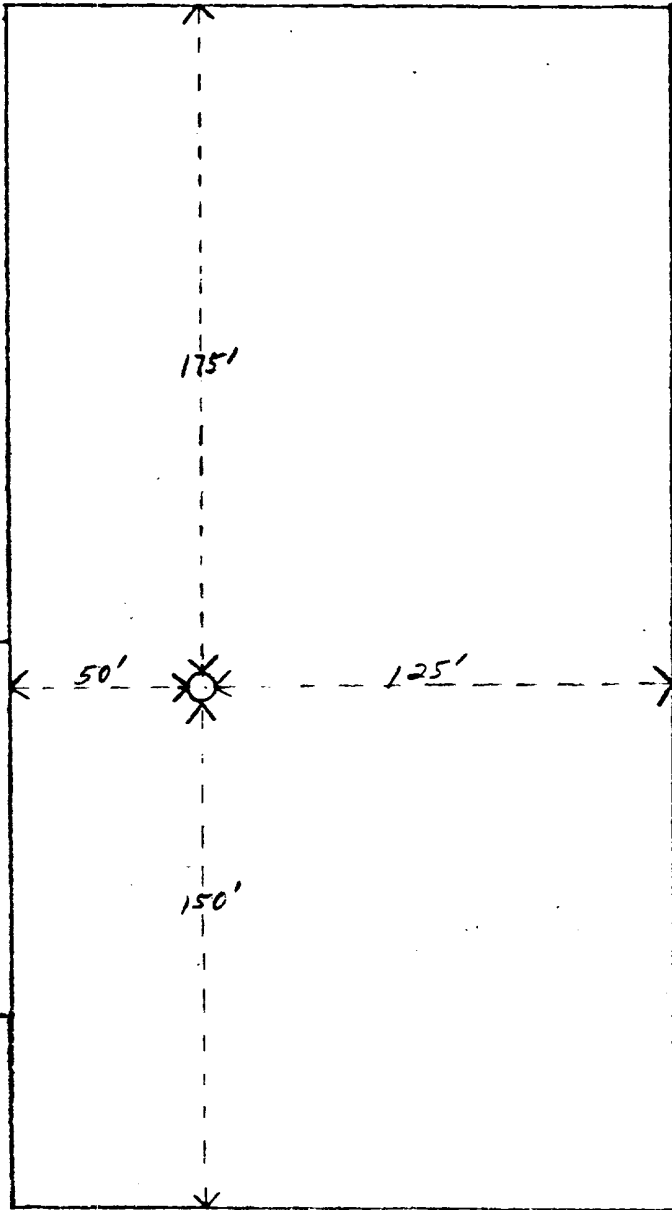
SE



BLOW PIT  
30' x 40'  
6' DEEP

RESERVE PIT  
100' x 100'  
5' DEEP

12' x 20'  
4' DEEP  
TRASH PIT

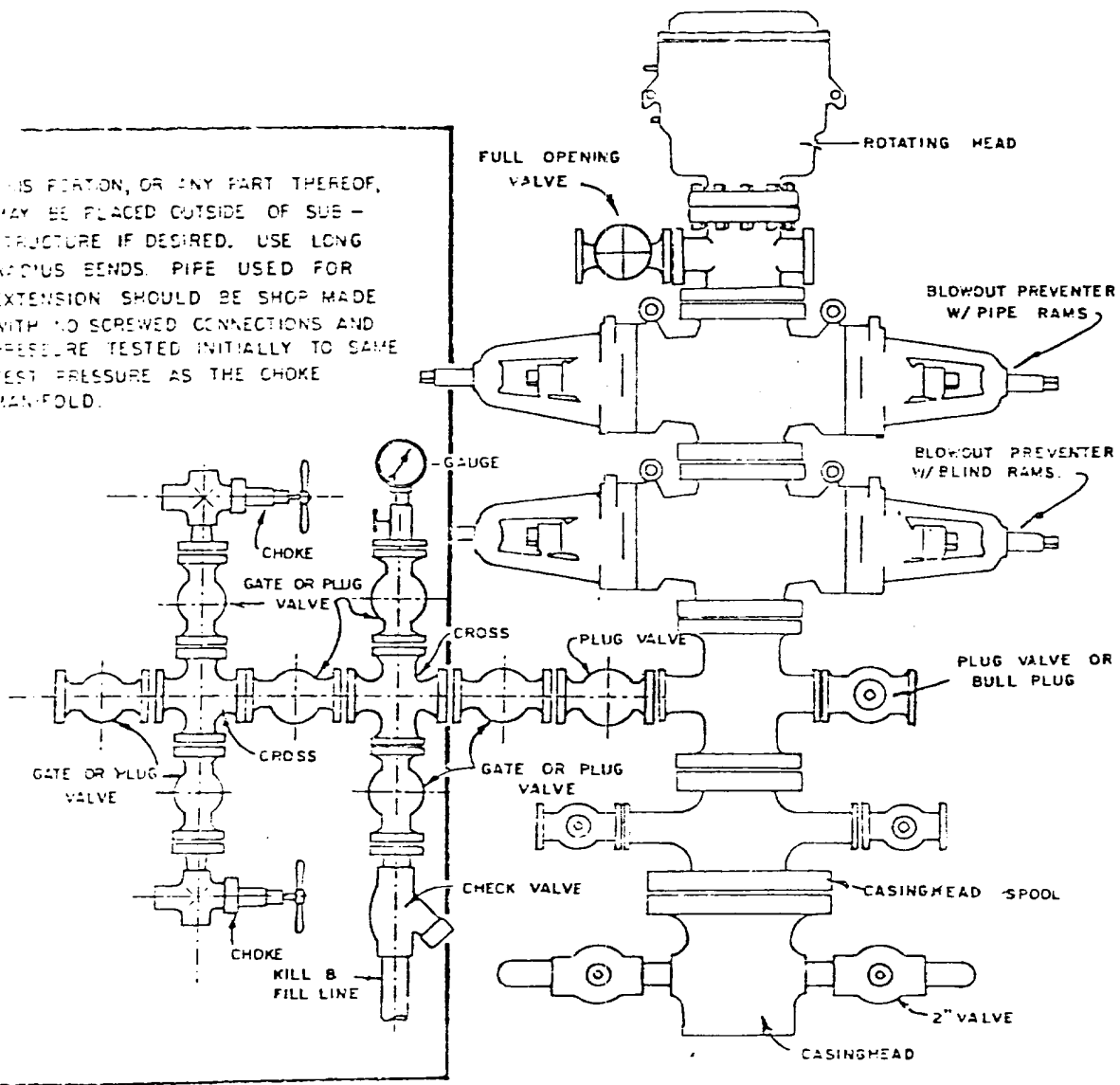


JAN 17 1977

CONDUCTED BY SURVEY

Amoco Production Company	SCALE:
San Juan 29-4 Well #21 Sec. 5-T29N-R4W Rio Arriba County, New Mexico	DRG. NO.

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 PRESURE TESTED INITIALLY TO SAME TEST PRESSURE AS THE CHOKE MANFOLD.



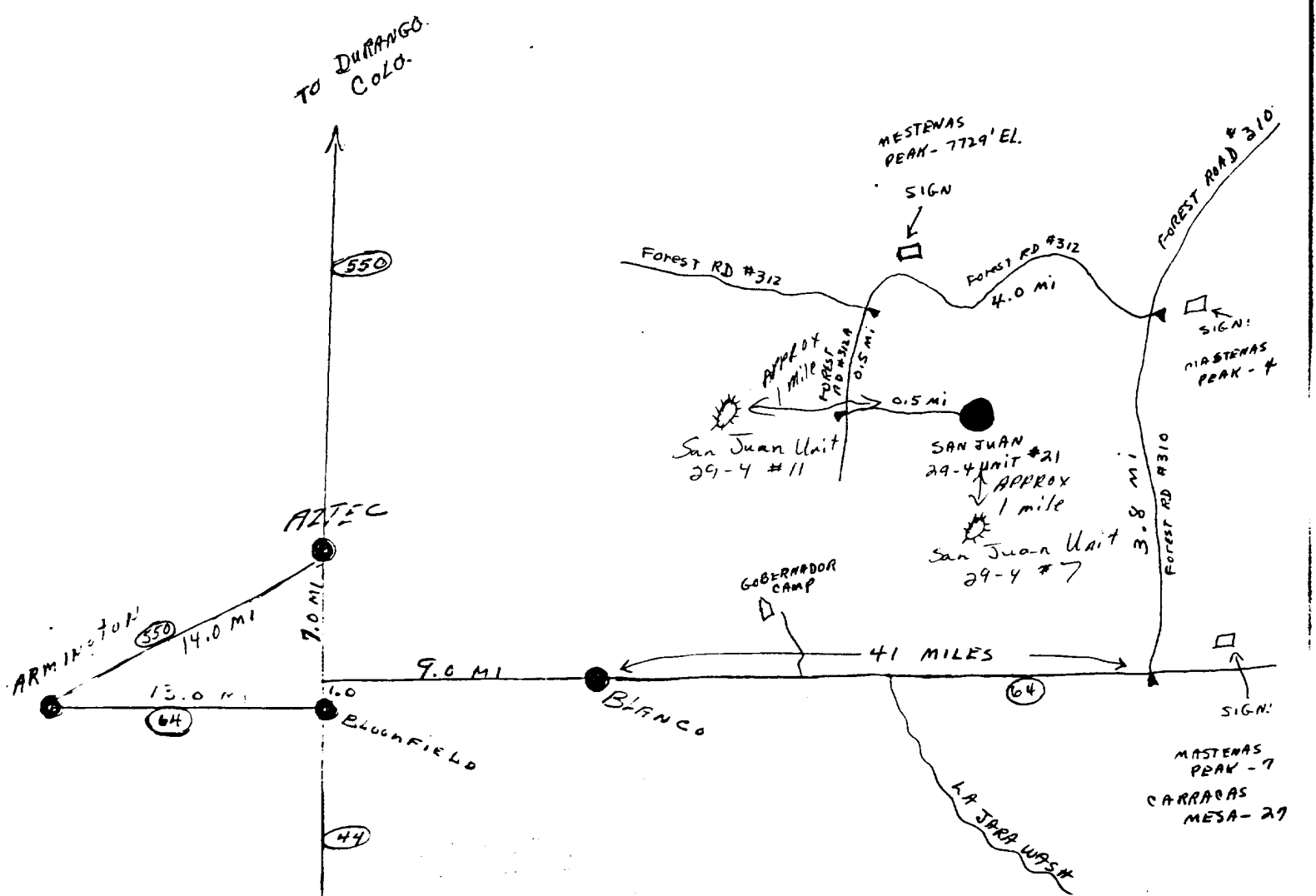
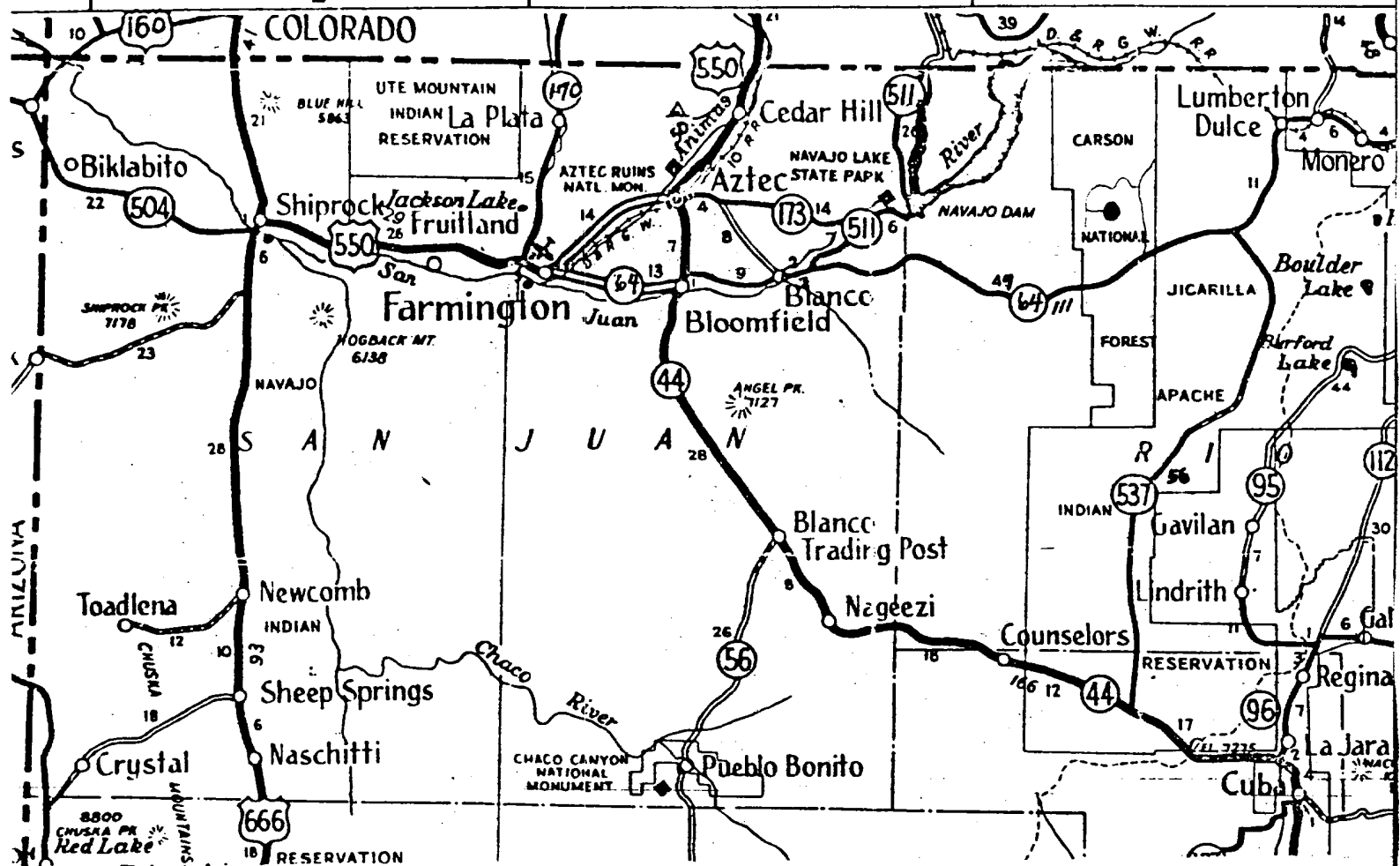
BLOWOUT PREVENTER HOOKUP

2017

JUN 17 1977

EXHIBIT D-4  
OCTOBER 16, 1969

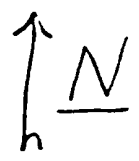
INDUSTRIAL SURVEY

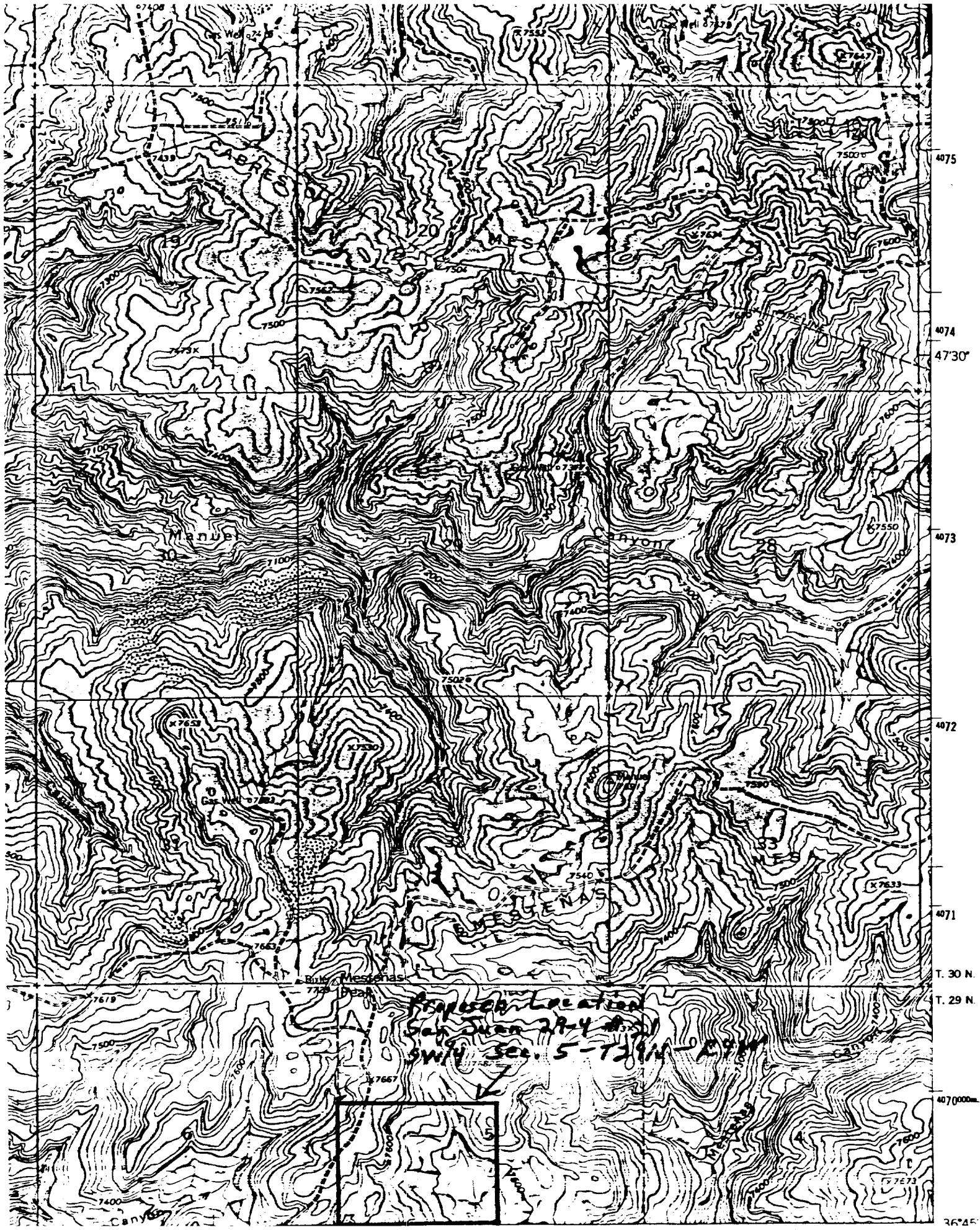


JUN 17 1977

FARMINGTON AREA TRAFFIC SKETCH  
 DENVER DIVISION  
 San Juan 29-4 Unit Well No. 21  
 Rio Arriba Co., New Mexico  
 Amoco WI: 100%

Rail Point, Aztec - 65.8 miles  
 Mud Point, Aztec - 65.8 miles  
 Cement Point, Farmington - 72.8 miles





4075

4074

4730'

4073

4072

4071

T. 30 N.

T. 29 N.

4070000m.

36°45'

Proposed Location  
San Juan 29-4 (SW)  
Sec. 5-739A-1984

