

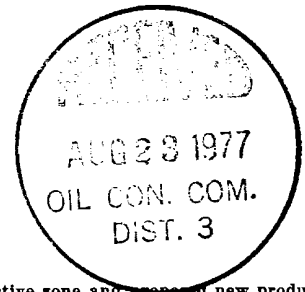
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. 14-20-603-3033																					
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo Tribe																					
2. NAME OF OPERATOR AMOCO PRODUCTION COMPANY		7. UNIT AGREEMENT NAME																					
3. ADDRESS OF OPERATOR 501 AIRPORT DRIVE, FARMINGTON, NM 87401		8. FARM OR LEASE NAME Navajo Tribal 'P'																					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) At surface A 545 FNL, 785 FEL, Sec. 8, T-26-N, R-18-W At proposed prod. zone Same		9. WELL NO. 9																					
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 24 miles south of Shiprock, NM		10. FIELD AND POOL, OR WILDCAT Tocito Dome Penn 'D' exx																					
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 545'		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA NE/4 NE/4 Sec. 8 T-26-N, R-18-W																					
16. NO. OF ACRES IN LEASE 2544		12. COUNTY OR PARISH San Juan																					
17. NO. OF ACRES ASSIGNED TO THIS WELL 160		13. STATE NM																					
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 4350'		19. PROPOSED DEPTH 6500'																					
20. ROTARY OR CABLE TOOLS Rotary		21. APPROX. DATE WORK WILL START* September 1977																					
22. ELEVATIONS (Show whether DF, RT, GR, etc.) 5772' est. GL		23. PROPOSED CASING AND CEMENTING PROGRAM																					
<table border="1"><thead><tr><th>SIZE OF HOLE</th><th>SIZE OF CASING</th><th>WEIGHT PER FOOT</th><th>SETTING DEPTH</th><th>QUANTITY OF CEMENT</th></tr></thead><tbody><tr><td>17-1/4</td><td>13-3/8</td><td>48#</td><td>100'</td><td>150 sz (Circ.)</td></tr><tr><td>11</td><td>8-5/8</td><td>24#</td><td>1500'</td><td>475 sz (Circ.)</td></tr><tr><td>7-7/8</td><td>5-1/2</td><td>14# X 15.5#</td><td>6500'</td><td>1250 sz (Circ. - 2 stages)</td></tr></tbody></table>				SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	17-1/4	13-3/8	48#	100'	150 sz (Circ.)	11	8-5/8	24#	1500'	475 sz (Circ.)	7-7/8	5-1/2	14# X 15.5#	6500'	1250 sz (Circ. - 2 stages)
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Amoco Production Company proposes to drill the subject well to test the Pennsylvanian Formation. Intermediate casing will be set across the Morrison water zones. The well will be drilled through the Pennsylvanian and completed from open hole logs. A copy of all logs will be furnished to your office upon completion.

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.

SIGNER

*J. L. Krupka*

TITLE

Area Engineer

DATE

8/19/77

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*Okaf*

AUG 24 1977

\*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.

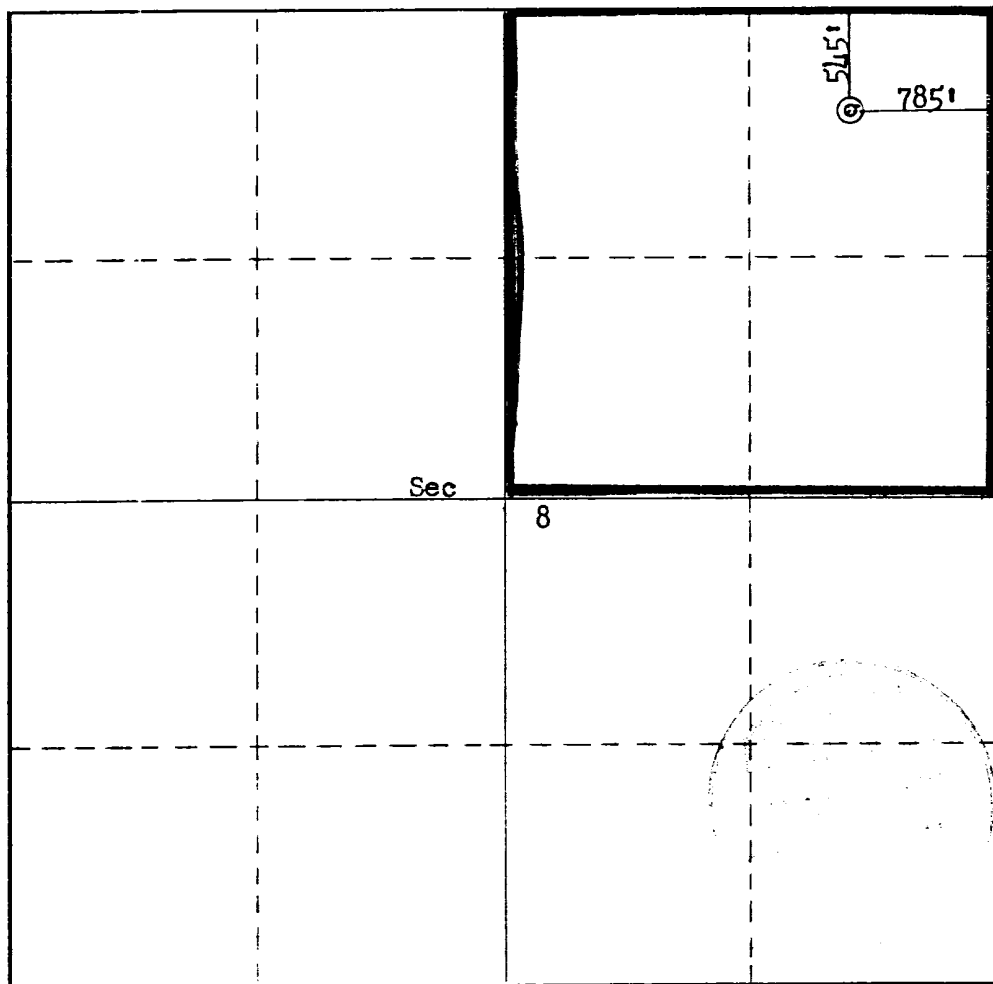
Operator <b>Amoco Production Company</b>			Lease <b>Navajo Tribal P</b>		Well No. <b>9</b>
Unit Letter <b>A</b>	Section <b>8</b>	Township <b>26N</b>	Range <b>18W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>545</b> feet from the <b>North</b> line and <b>785</b> feet from the <b>East</b> line					
Ground Level Elev. <b>5772</b>	Producing Formation <b>Penn "D"</b>		Pool <b>TOCITO DOME PENN "D" ext</b>	Dedicated Acreage: <b>160</b> 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 \_\_\_\_\_

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.

Name  
**L. KRUPKA**

Position  
**AREA ENGINEER**

Company  
**AMOCO PRODUCTION COMPANY**

Date  
**AUGUST 15, 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  
**August 9, 1977**

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

Certificate No.  
**3950**

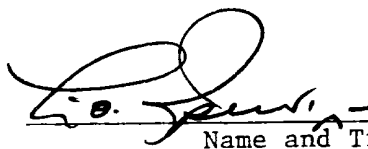
0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

NAVAJO TRIBAL "P" NO. 9  
545' FNL, 785' FEL, SECTION 8, T-26N, R-18W  
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 be 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.

8-19-77  
Date

 Area Supt.  
Name and Title

DEVELOPMENT PLAN  
 NAVAJO TRIBAL "P" NO. 9  
 545' FNL, 785' FEL, SECTION 8, T-26N, R-18W  
 SAN JUAN COUNTY, NEW MEXICO

The terrain where this well is to be located is flat with very sparse vegetation consisting of grasses. The location is solid rock with surrounding soil very sandy. There is evidence of grazing and small animal life. Access will be via a small existing trail to the west of the well. Only about 800 feet of new road will be made. Geological name of the surface formation is Gallup Sandstone. No construction materials will be used for building the location. No location cut will be required. Verbal approval of the drill site has been obtained from Mr. Bill Sims of the Bureau of Indian Affairs, Mr. Lee Freeman of the United States Geological Survey. Archeological clearance has been granted by Ms. Sue Dehoff, Archeologist.

Water will be hauled from Amoco's Navajo Tribal "P" No. 1 water well, about 1.1 miles. Drilling fluid to 1500' will be native mud and from 1500' to 6500' (TD) will be low solids mud. 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 unless otherwise advised.

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>
DeChelly	3810'	+1975
Cutler	4390'	+1395
Penn "D" Porosity	6410'	- 625

Estimated KB elevation: 5785'

<u>Est. Depth</u>	<u>Csg. Size</u>	<u>Weight</u>	<u>Hole Size</u>	<u>Sacks Cement - Type</u>
100'	13-3/8"	48#	17-1/4"	150 - Class "B" 2% CaCl <sub>2</sub> .
1500'	8-5/8"	24#	11"	375 - Class "B", 4% Gel, 2# Med Tuf Plug/sx.
				100 - Class "B" Neat.
6500'	5-1/2"	14# & 15.5#	7-7/8"	1150 - Class "B" 50-50 Poz, 6% Gel, 2# Med. Tuf Plug/sx, 0.2% friction reducer.
				100 - 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: Induction-Electric from 1500' - TD; Sonic Gamma Ray from 4360' - TD. No drill stem tests are planned. Conventional core will be cut from 6410-6450' in the Penn. "D".

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

Our proposed starting date is September, 1977, and a four-week operation is anticipated.

BLM SEEDING REQUIREMENTS  
IN THE FARMINGTON RESOURCE AREA

MIXTURE 3

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

FOURWING SALTBUSH (dewinged) ( <i>Atriplex conescens</i> )	1/2 lb.
SAND DROPSEED ( <i>Sporobolus cryptandrus</i> )	1-1/2 lbs.
WINTERFAT ( <i>Eurotia lanata</i> )	1/2 lb.
ALKALI SACATON ( <i>Sporobolus airoides</i> )	1-1/2 lbs.
SHADSCALE ( <i>Atriplex confertifolia</i> )	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

ROTATING HEAD

FULL OPENING VALVE

BLOWOUT PREVENTER W/ PIPE RAMS

BLOWOUT PREVENTER W/ BLIND RAMS

CHOKE

GATE OR PLUG VALVE

CROSS

PLUG VALVE

GATE OR PLUG VALVE

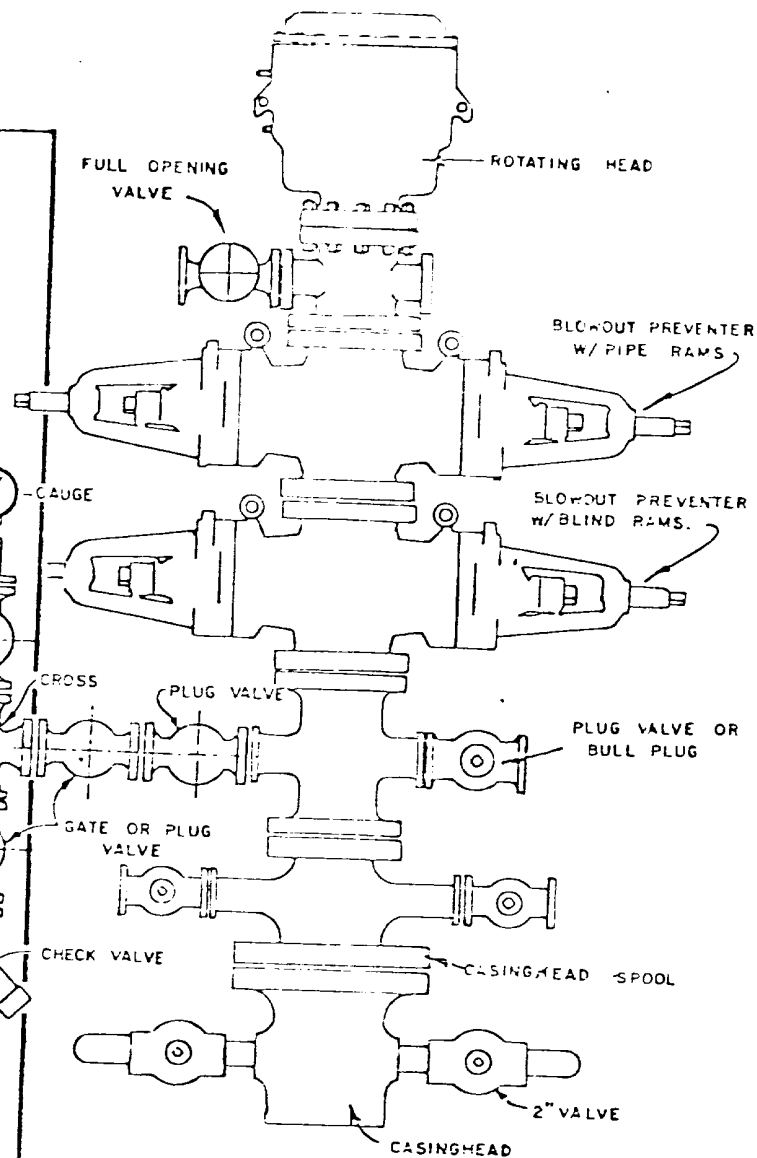
CHECK VALVE

CASINGHEAD SPOOL

CASINGHEAD

2\" VALVE

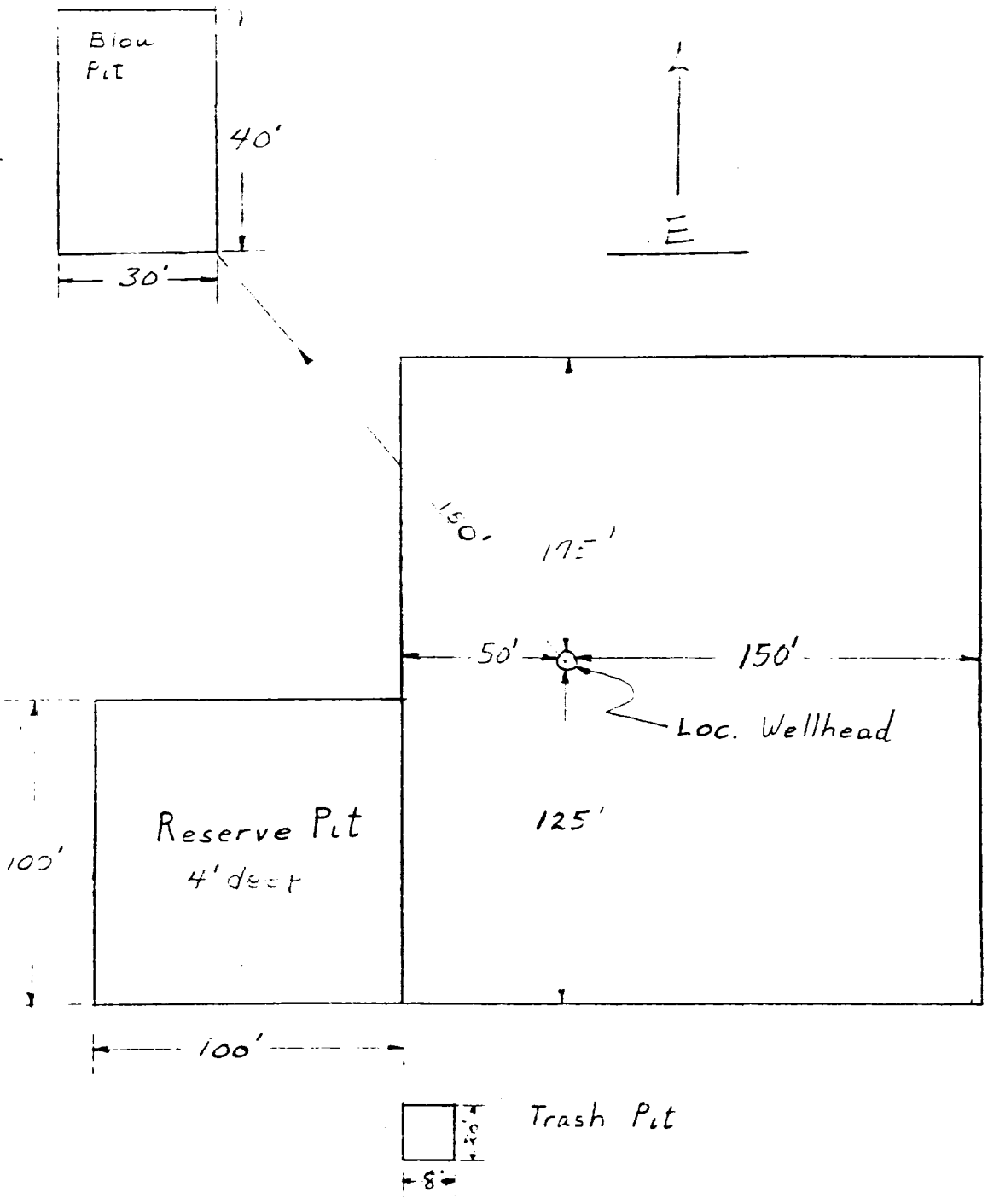
KILL & FILL LINE



BLOWOUT PREVENTER HOOKUP

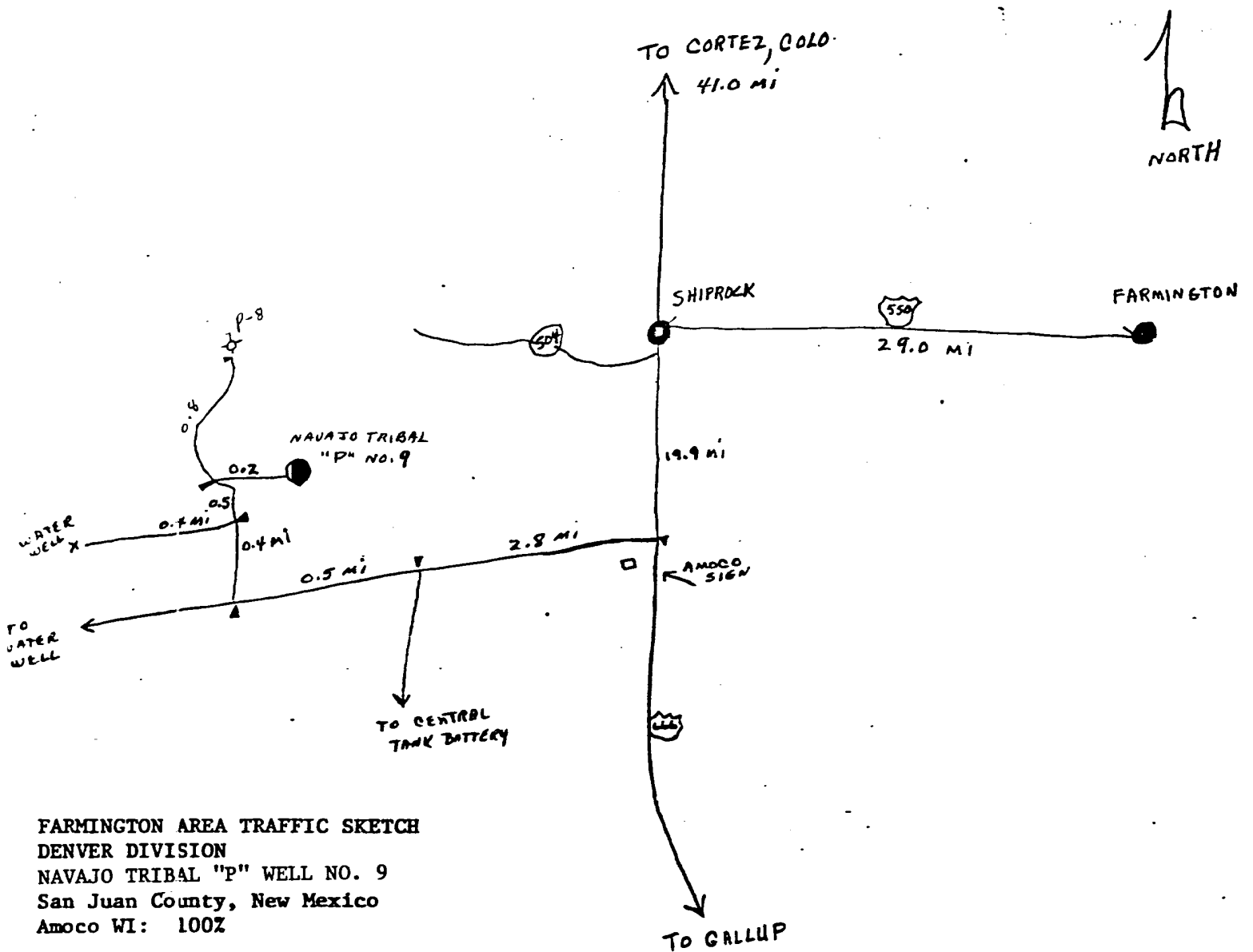
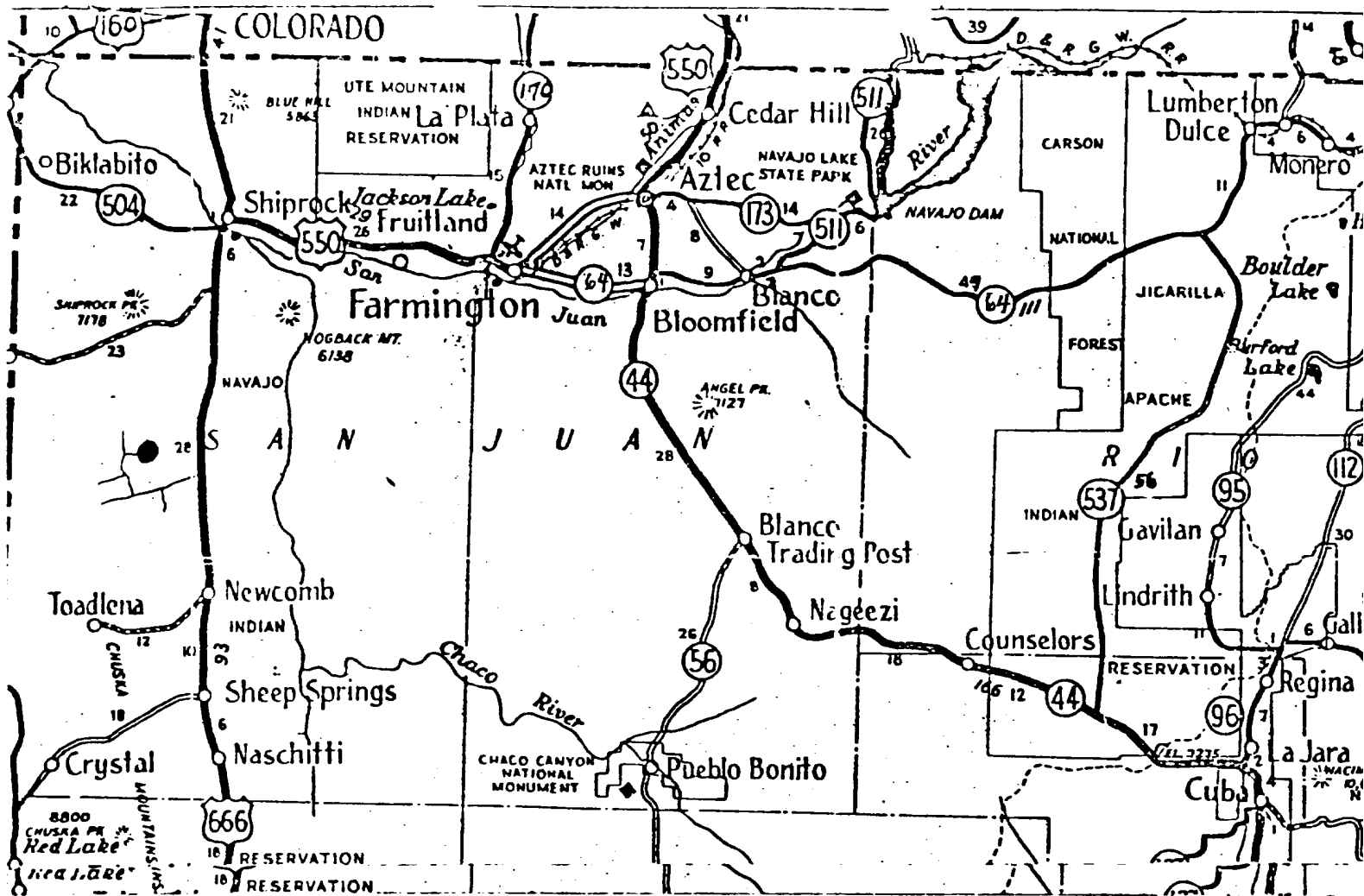
EXHIBIT D-4  
OCTOBER 16, 1969





— APPROXIMATELY 1.2 Acres

Amoco Production Company		SCALE: NONE
DRILLING LOCATION SPECS		
NAVAJO TRIBEAL "F" NO. 9		DRG. NO.



FARMINGTON AREA TRAFFIC SKETCH  
 DENVER DIVISION  
 NAVAJO TRIBAL "P" WELL NO. 9  
 San Juan County, New Mexico  
 Amoco WI: 100Z

Rail Point, Farmington - 53.3 miles  
 Mud point, Farmington - 53.3 miles  
 Cement Point, Farmington - 53.3 miles

8-12-77

