

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. Jicarilla Apache 102		
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla Apache		
2. NAME OF OPERATOR AMOCO PRODUCTION COMPANY		7. UNIT AGREEMENT NAME		
3. ADDRESS OF OPERATOR 501 Airport Drive, Farmington, New Mexico 87401		8. FARM OR LEASE NAME Jicarilla Apache 102		
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) At surface 790' FWL & 1145' FWL, Section 4, T-26-N, R-4-W At proposed prod. zone Same		9. WELL NO. 21		
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 20 miles SSE of Gobernador		10. FIELD AND POOL, OR WILDCAT Tapacito Pictured Cliffs		
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 790'	16. NO. OF ACRES IN LEASE 2567.94	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA NW/4 NW/4 Section 4, T-26-N, R-4-W		
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 152'	19. PROPOSED DEPTH 4155'	12. COUNTY OR PARISH Rio Arriba		
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 7188' GL		13. STATE New Mexico		
22. APPROX. DATE WORK WILL START* March 1, 1977		17. NO. OF ACRES ASSIGNED TO THIS WELL 160 162.88		
20. ROTARY OR CABLE TOOLS Rotary				
23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	250'	175 sz
6-1/4"	4-1/2"	9.5#	4155'	300 sz

The above referenced well is being drilled to further develop the Tapacito Pictured Cliffs Field. The well will be drilled with a low solids non-dispersed mud system. Completion design will be based on open hole logs. The acreage is dedicated to the Gas Company of New Mexico. 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 *Steve Montgomery* TITLE **Area Engineer** DATE **January 17, 1977**
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

OK

SW

*See Instructions On Reverse Side

write null

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.

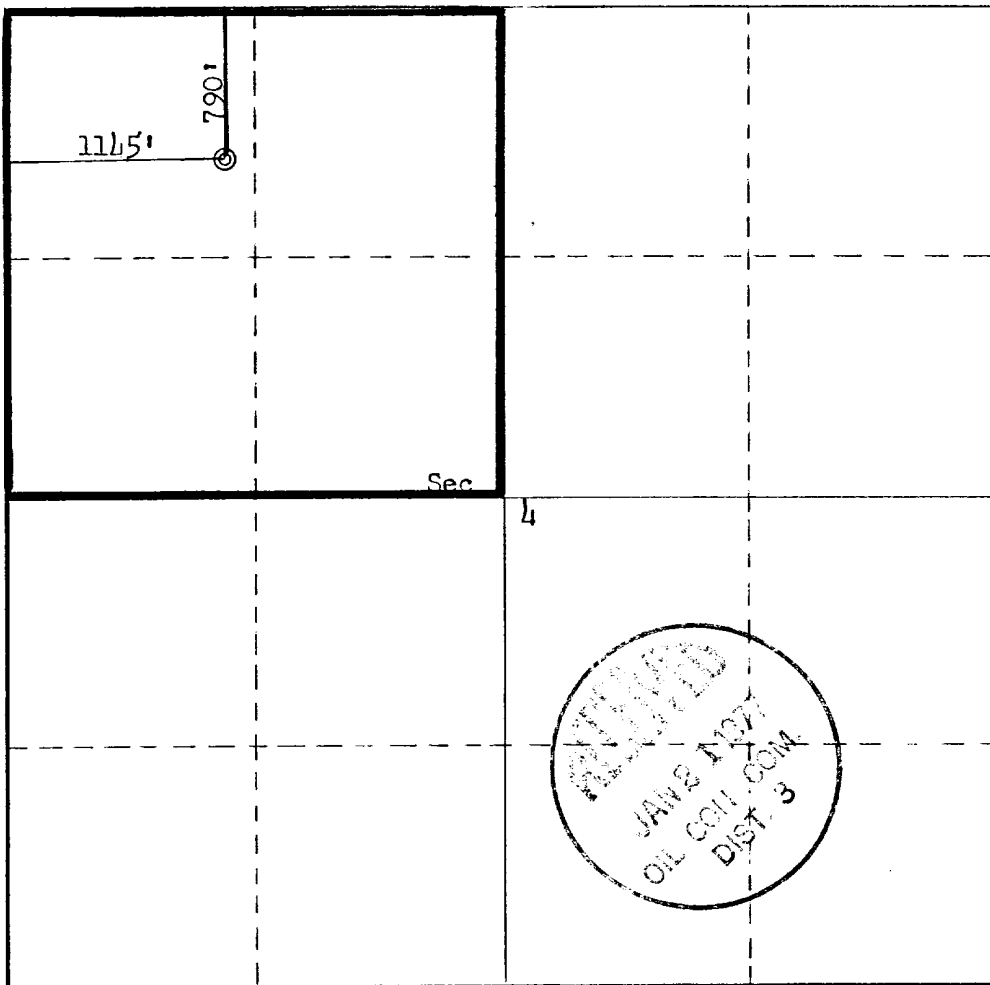
Operator Amoco Production Company			Lease Jicarilla Apache 102		Well No. 21
Unit Letter D	Section 4	Township 26N	Range 4W	County Rio Arriba	
Actual Footage Location of Well: 790 feet from the North line and 1145 feet from the West line					
Ground Level Elev. 7188 est.	Producing Formation Pictured Cliffs		Pool Tapacito Pictured Cliffs	Dedicated Acreage: 160 162.88 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

January 14, 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

December 29, 1976

Registered Professional Engineer
and/or Land Surveyor

Fred B. Kerr Jr.

Fred B. Kerr Jr.

Certificate No.

3950

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

JICARILLA APACHE 102 NO. 21
790' FNL & 1145' FWL, Section 4, T-26N, R-4W
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.

January 17, 1977
Date

L. O. Lawrence Area Supt.
Name and Title

DEVELOPMENT PLAN
JICARILLA APACHE 102 NO. 21
790' FNL & 1145' FWL, SECTION 4, T-26N, R-4W
RIO ARriba COUNTY, NEW MEXICO

The proposed well pad will be located on the northern portion of an existing well pad, with approximately 75-100' of undisturbed ground included in new construction. The proposed location has juniper, pinon, Gambell Oak, bitterbrush, big sagebrush and various herbs. The vegetation on the present well pad includes big sagebrush and rabbitbrush as well as various grasses. The geological name of the surface formation is the Paleozoic San Jose. No new road will be required. No construction materials will be used for building the location; dirt will be leveled at the well site. A 12' cut will be required. Verbal approval of the drill site has been obtained from Mr. Harold Tecube, BIA; Mr. John Keller, USGS; and Mrs. Nancy S. Hewett, Archaeologist.

Arrangements are being made to haul water from the Cottonwood Wash or the Tapacito Wash approximately 5 miles on existing roads. Drilling fluid to TD will be a low solids non-dispersed mud system. 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 camps in the vicinity.

The estimated tops of important geological formations bearing hydrocarbons are:

<u>Formation</u>	<u>Depth</u>	<u>Elevation</u>
Fruitland	3490'	+4710'
Pictured Cliffs	3950'	+3250'

Estimated KB elevation: 7200'

<u>Est. Depth</u>	<u>Csg. Size</u>	<u>Weight</u>	<u>Hole Size</u>	<u>Sacks Cement - Type</u>
250'	8-5/8"	24#	12-1/4"	175 - Class "B", 2% CaCl ₂ .
4155'	4-1/2"	9.5#	6-1/4"	450 - Class "B", 6% Gel, 2# medium Tuf Plug per sx.
				50 - Class "B" Neat.

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 250': 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.

Our proposed starting date is March 1, 1977, and a two-week operation is anticipated.

SEEDING PLAN

1. TIME:

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

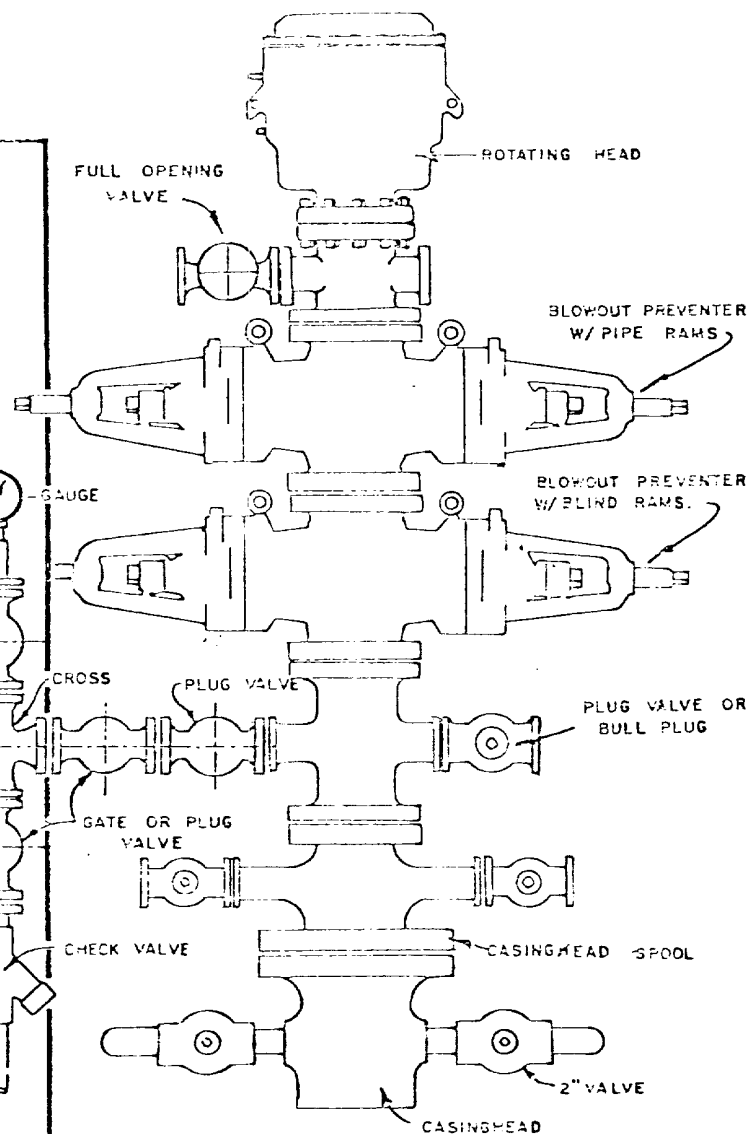
2. EQUIPMENT:

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, 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.

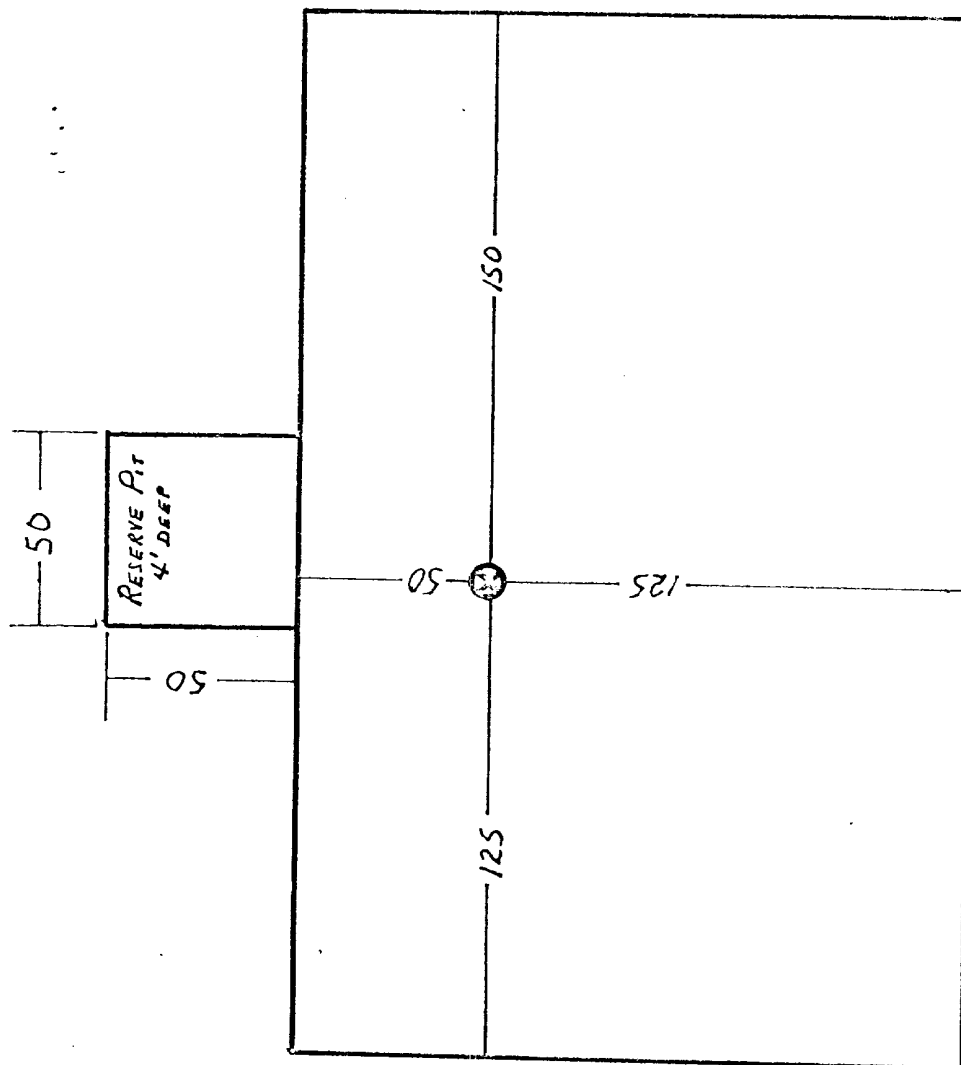
3. SPECIES TO BE PLANTED IN POUNDS PURE-LIVE-SEED PER ACRE:

CRESTED WHEATGRASS	0.71 lbs.
RUSSIAN WILD RYE	0.86 lbs.
ORCHARD GRASS	0.298 lbs.
PERENNIAL RYE GRASS	0.57 lbs.
WESTERN WHEAT GRASS	1.43 lbs.
SMOOTH BROME	1.14 lbs.
INTERMEDIATE WHEAT	0.91 lbs.
PUBESCENT WHEAT GRASS	1.09 lbs.

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



N

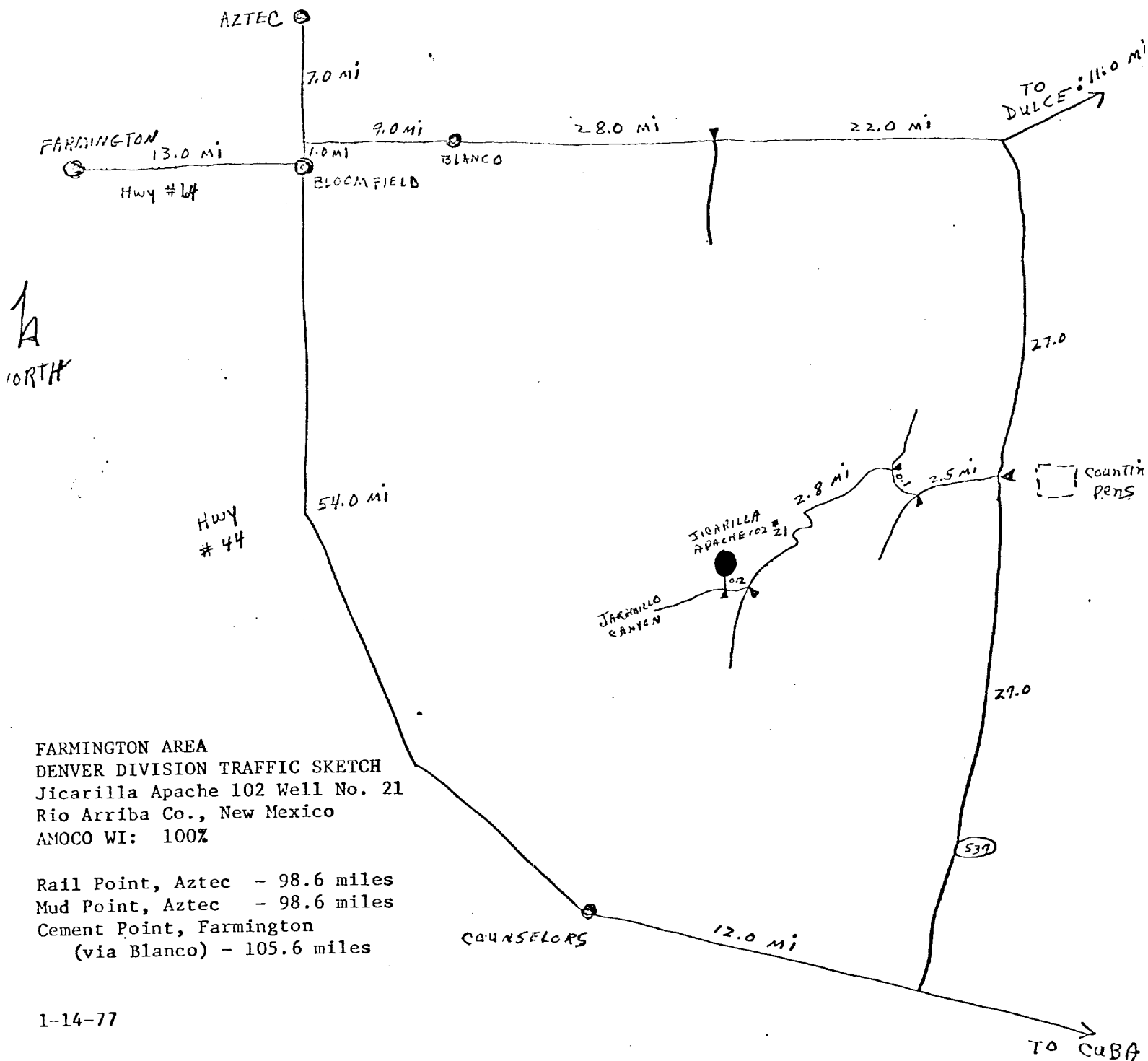
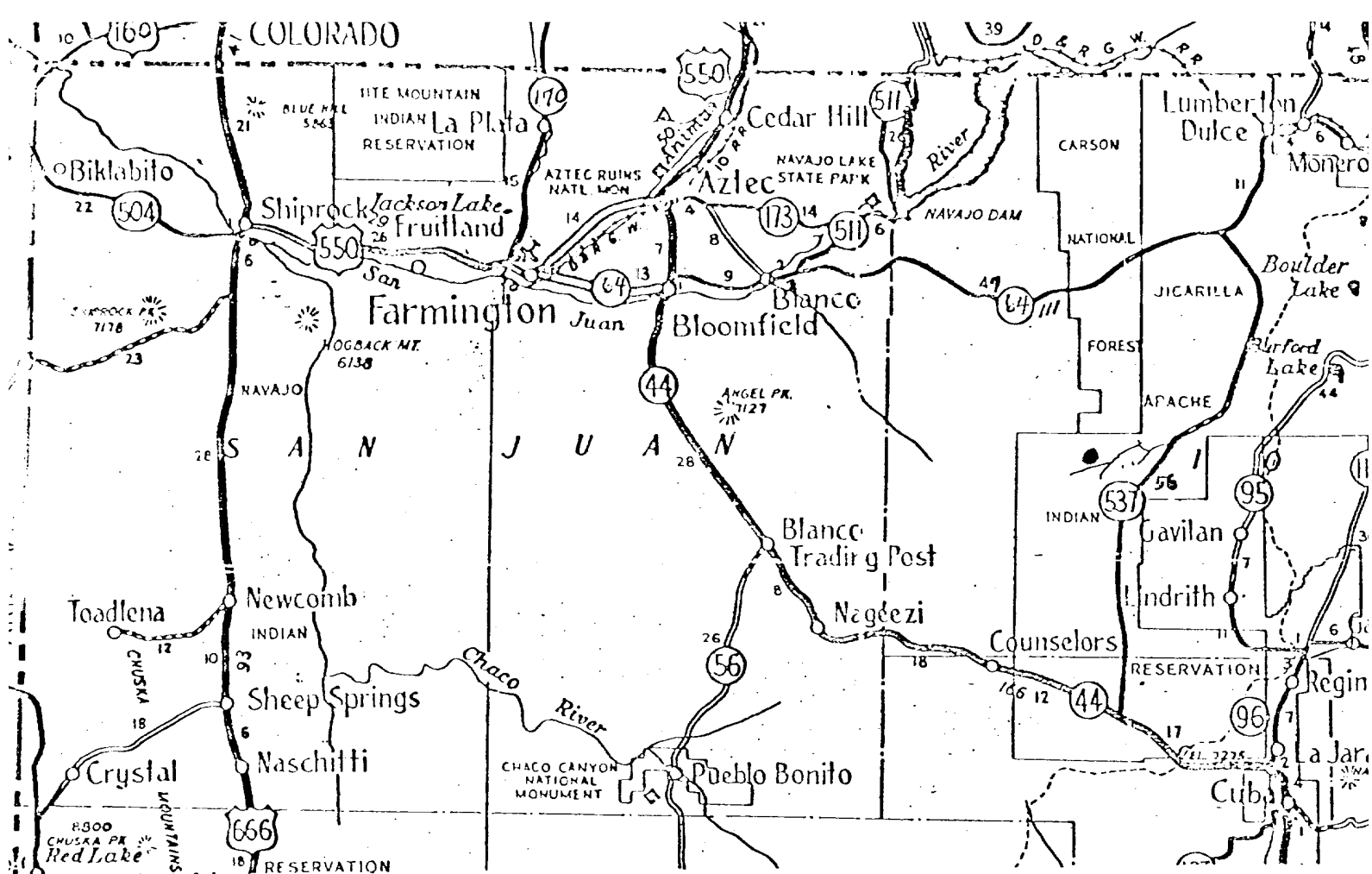
Amoco Production Company

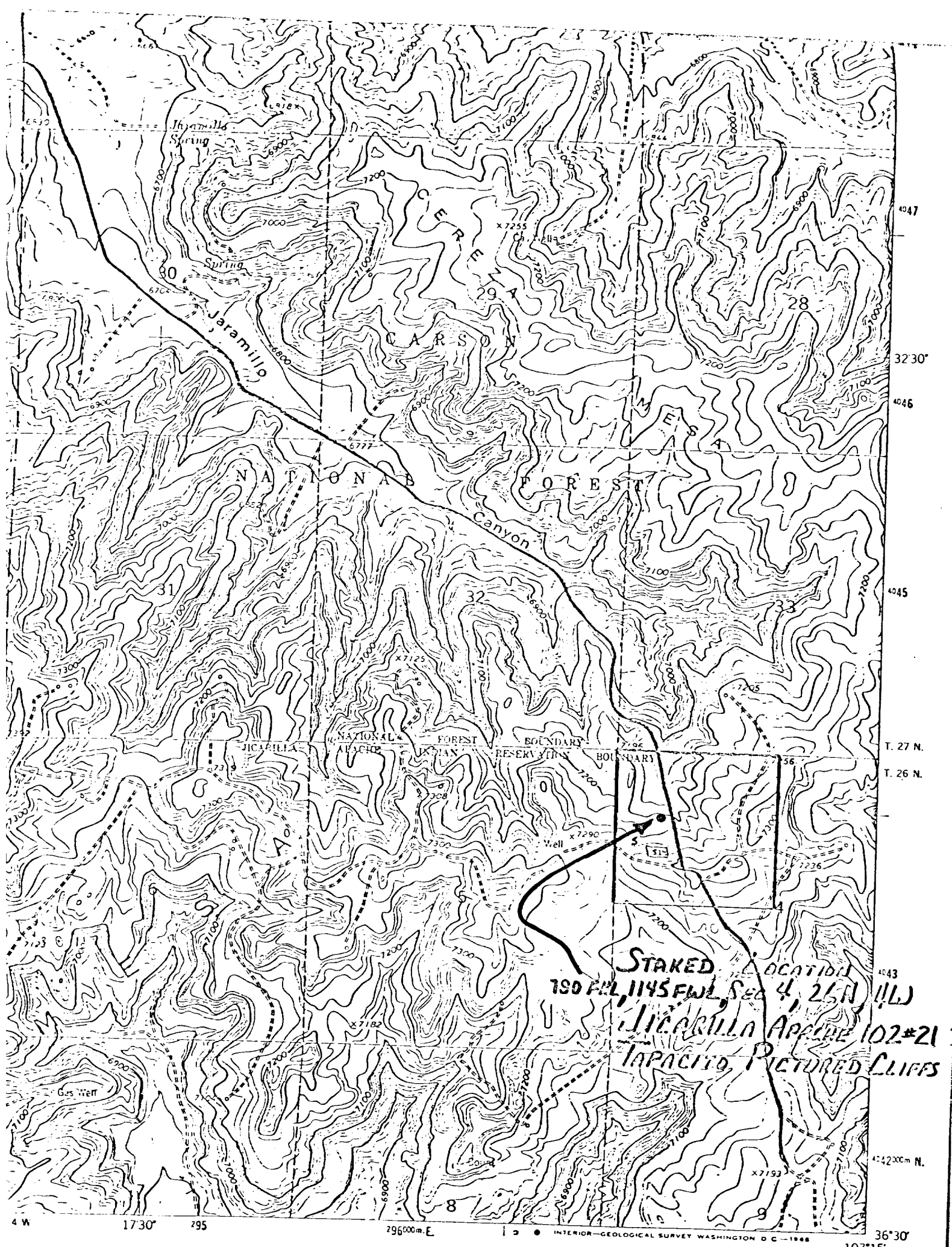
LOCATION DIAGRAM
 JICARILLA APACHE 102 No. 21
 TAPACITO PICTURED CLIFFS
 790 FNL, 1145 FNL, SEC 4, 26-4

DR.	CK.	AP.	AP.	NO.
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SCALE

DATE





1 MILE
500 FEET
1:50,000

NEW MEXICO

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Light-duty ————— Unimproved dirt =====

VIGAS CANYON, N. MEX.
N3630 - W10715/7 5
1963
AMS 4557 III SE - SERIES V891

STON, D. C. 20242
QUEST