Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-045-23761

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM 33029

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: SX - Federal 21

9. WELL NO.: #2 - A

10. FIELD AND POOL, OR WILDCAT: Wildcat Pictured Cliffs

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 21, T26N, R13W

12. COUNTY OR PARISH: San Juan | 13. STATE: New Mexico

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Southern Union Exploration Company

3. ADDRESS OF OPERATOR: Suite 1800, First International Bldg., Dallas, Texas 75270

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1840' FNL & 1010' FWL
At proposed prod. zone: Same as above

E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 18 miles south of Farmington, New Mexico

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	17. NO. OF ACRES ASSIGNED TO THIS WELL
1840	520	160
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
1010	1500	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6360 GL

22. APPROX. DATE WORK WILL START*: 9-17-79

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
10 5/8	7"	20	300 *	Circulate
5 1/2	2 7/8	6.50	1500	775 sacks

* Or 90' of surface casing and cement across the Ojo Alamo behind long string or cement plug across Ojo Alamo if plugged.

1. We propose to drill to 300 feet and set 7 inch surface and cement to the surface.
2. Drill out with 5 1/2 to depth of 1500 feet, then run 2 7/8 tubing and cement to the surface.
3. The Pictured Cliffs Formation will be perforated and evaluated for gas production.
4. 2 7/8" E.U.E., 6.50#, J-55 tubing will be run and set at approximately 1500 ft. R.K.B.

RECEIVED
AUG 28 1979
OIL CON. COM.
DIST. 3

RECEIVED
AUG 20 1979
U.S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

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 Leonard Mosley TITLE Drilling & Production Engineer DATE 8/15/79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

ok Frank

NMOCC

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	Lease	Well No.
SOUTHERN UNION EXPLORATION CO.	SX FEDERAL 21	2

Unit Letter	Section	Township	Range	County
E	21	26 NORTH	13 WEST	SAN JUAN

Actual Footage Location of Well:
1840 feet from the NORTH line and 1010 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
6360	PICTURED CLIFFS	Wildcat ~~WAW PICTURED CLIFFS~~	160 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

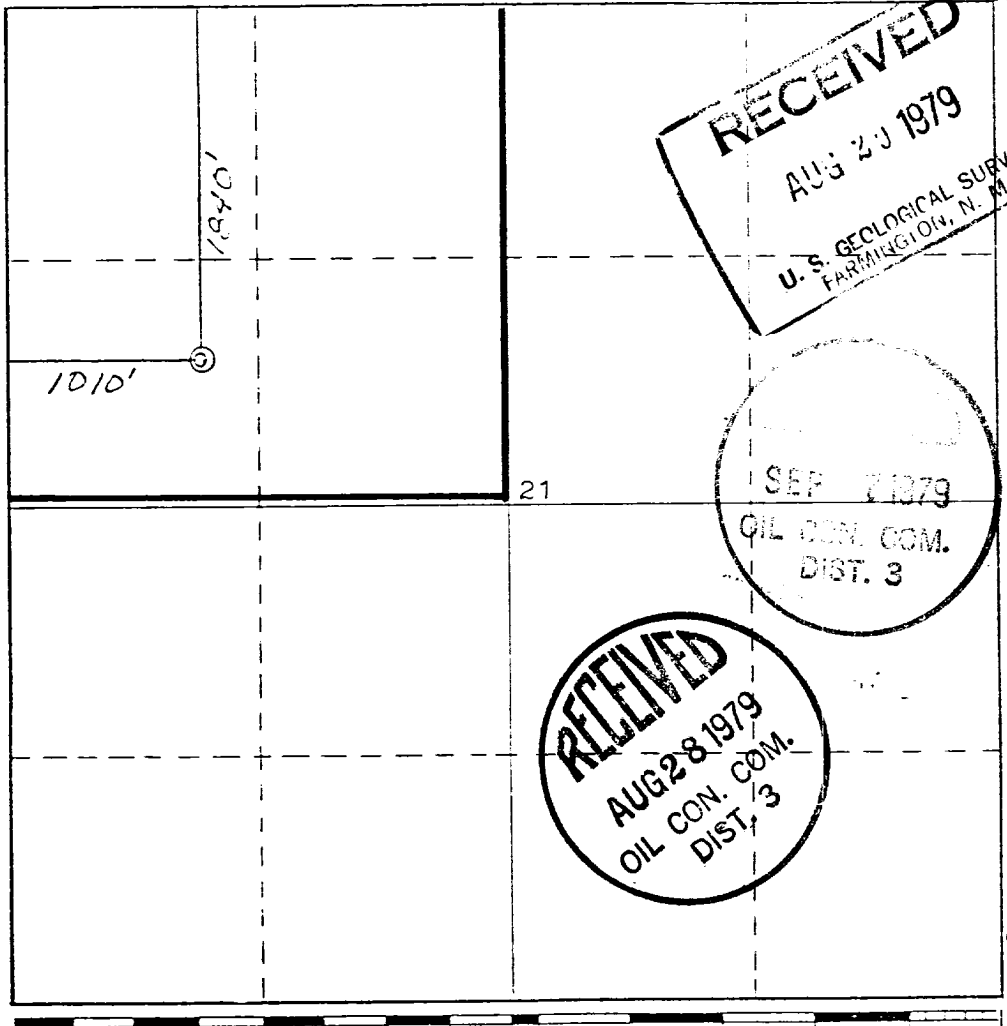
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



RECEIVED
AUG 29 1979
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

SEP 4 1979
OIL CON. COM.
DIST. 3

RECEIVED
AUG 28 1979
OIL CON. COM.
DIST. 3

CERTIFICATION

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

Name: Ron M. Sentz

Position: Drilling & Production Eng.

Company: Southern Union Exploration Co.

Date: 8/15/79

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.

REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR
STATE OF NEW MEXICO
JAMES P. LEESE
NO. 1463

Date Surveyed: August 11, 1979

Registered Professional Engineer and/or Land Surveyor: James P. Leese

Certificate No. 1463

Southern Union Exploration Company

September 5, 1979

Mr. A. R. Kendrick
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Acreage Dedication

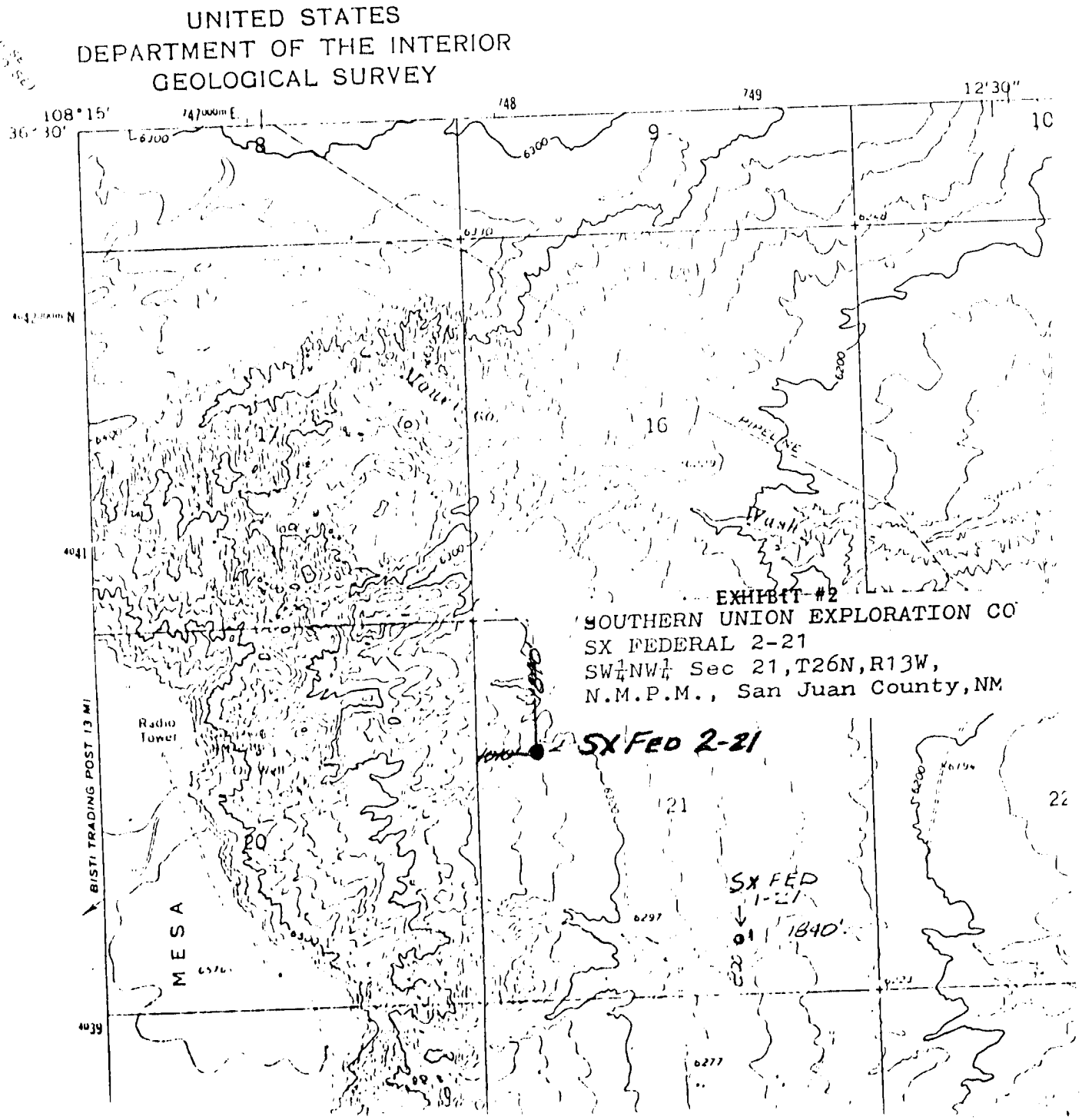
Dear Mr. Kendrick:

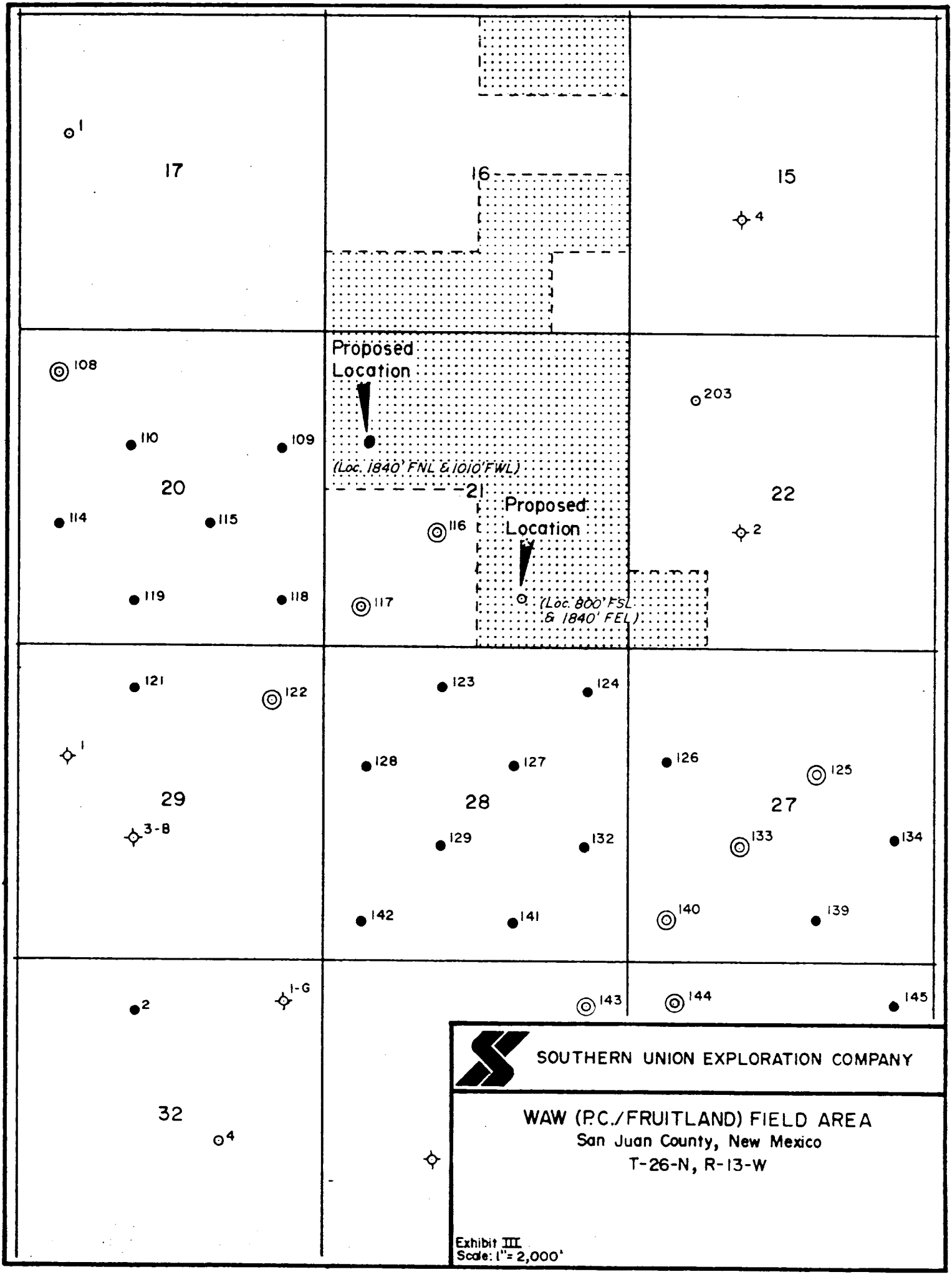
SX-Federal 21 #2, Section 21, Township 26 North, Range 13 West, 1840' FSL, 1010' FWL. As of this time the acreage has not been dedicated to any gas transporter.

Sincerely yours,

Ronald M. Sentz
Drilling & Production Engineer

RMS/vgn


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
108°15'
36°30'
12'30"
748
749
4041
4039
BISTI TRADING POST 13 MI
Radio Tower
MESA
PIPELINE
Wash
EXHIBIT #2
SOUTHERN UNION EXPLORATION CO
SX FEDERAL 2-21
SW¼NW¼ Sec 21, T26N, R13W,
N.M.P.M., San Juan County, NM
SX Fed 2-21
SX FED 1-21
1840'



SOUTHERN UNION EXPLORATION COMPANY

WAW (P.C./FRUITLAND) FIELD AREA
San Juan County, New Mexico
T-26-N, R-13-W

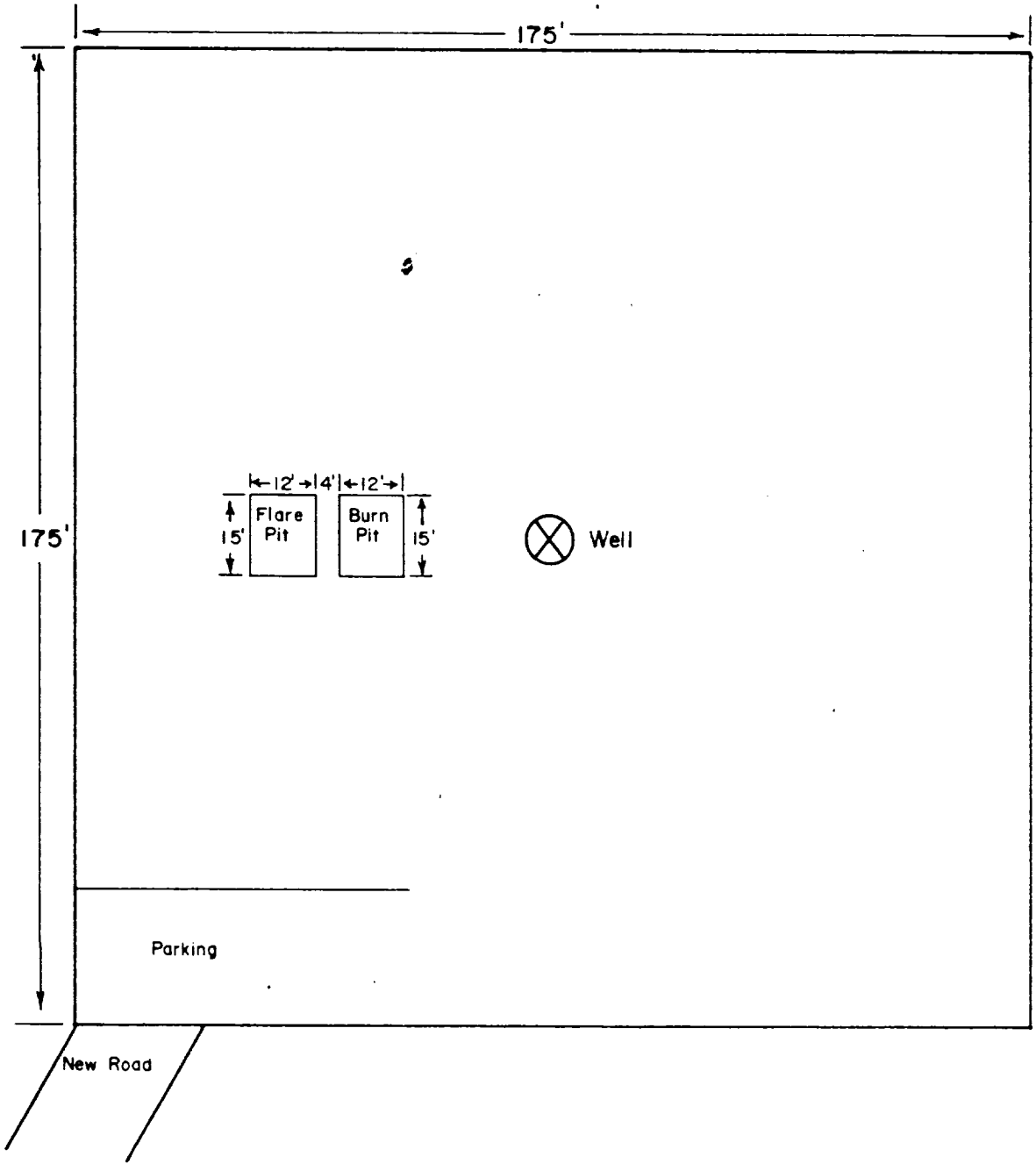
Exhibit III
Scale: 1" = 2,000'

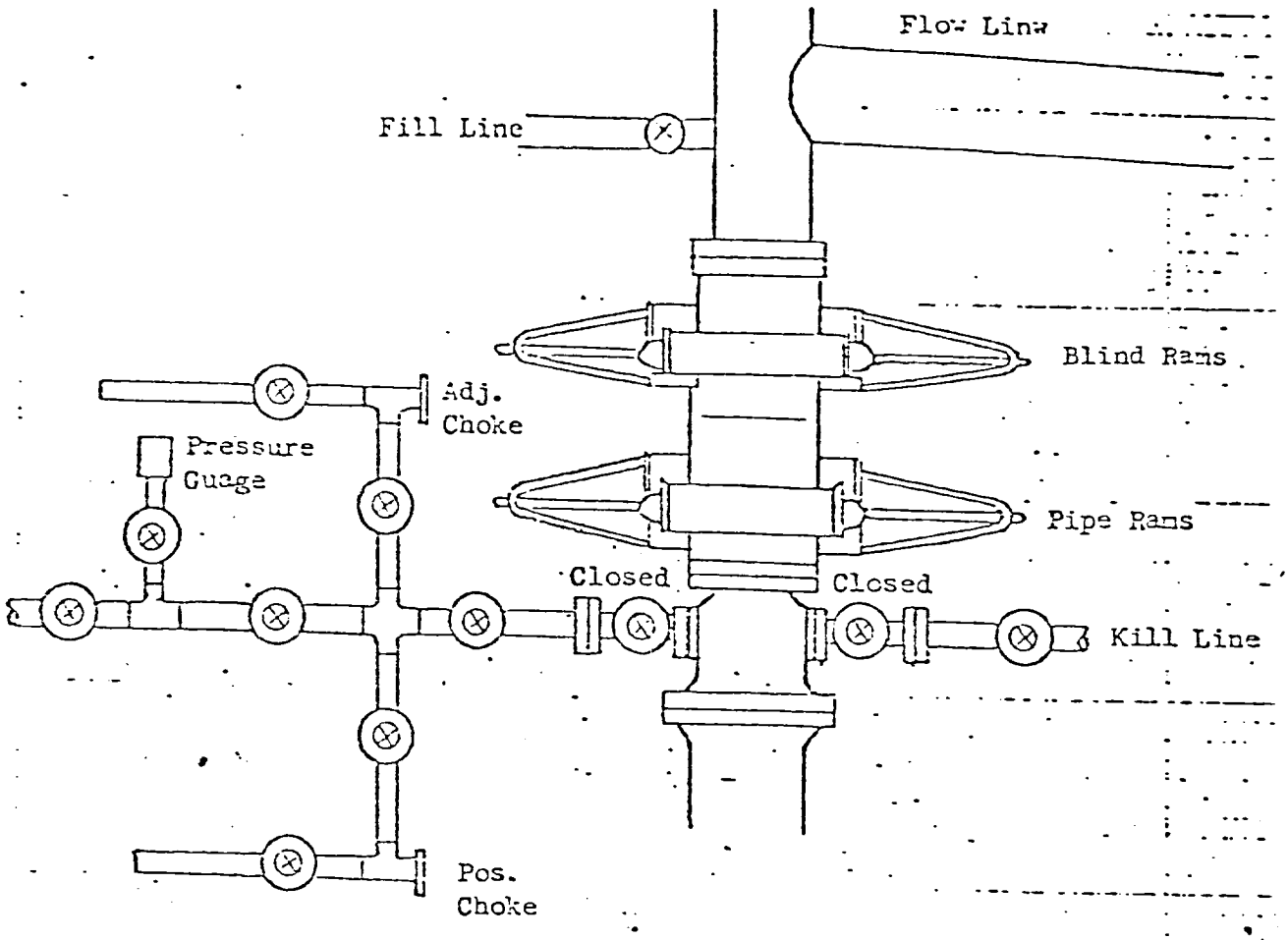
SOUTHERN UNION EXPLORATION COMPANY

EXHIBIT IV: Pad Layout P.C. Wells

San Juan County, New Mexico

Scale: 1" = 30'





All valves 2"

All BOPs, flanges, spools, valves, & lines must be series 900 or 3000 psi working press.

Choke manifold must be at ground level and extended out from under substructure.

Exhibit 5
SOUTHERN UNION EXPLORATION COMPANY
First International Bldg.
Suite 1800
Dallas, Texas 75270

REQUIRED MINIMUM BLOWOUT PREVENTOR HOOKUP

APPLICATION FOR PERMIT TO DRILL

1. The Location:

   A. On Exhibit I (Plat)

2. Elevation:

   A. On Exhibit I (Plat)

3. Geologic Name of the Surface Formation:

   A. Vacimiento

4. Drilling Tools and Associated Equipment to Utilized:

   A. Listed in Space 20

   B. B.O.P as listed in A.P.D.

5. Proposed Drilling Depth:

   A. Listed in space 19

6. Esitmated Tops of Important Geologic Markers:

   A. Ojo Alamo 160', Kirtland 250', Farmington 370', Fruitland 880, Pictured Cliff 1180'.

7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formation are expected to be encountered.

   A. Water: 160'

   B. Oil: None

   C. Gas: 1180'

   D. Mineral Formations : Possible coal at 880'

8. Casing program including the size, grade and weight of each string and whether new or used:

   A. Space 23 on A.P.D.

   B. Space 23 on A.P.D.

   C. Surface pipe will be used 7" 20# H40, and production pipe will be 2 7/8" 6.4# N-80 used.

9. Proposed setting depth of each casing string and the amount and type of cement (including additives)

   A. Surface: 300 feet, circulate with class c cement and 2 % C.C.

   B. Intermediate: None

   C. Production: 1180 feet, with 725 sacks of Poz mix and tail-in with 50 sacks Class C.

10. B.O.P. schematic diagram listed as Exhibit #5

    A. Testing every Eight hours.

11. Proposed circulating medium

    A. Mud Type: 8.5 LB/gal, 35 Viscosity, Less than 10 cc fluid loss.

    B. Weight of Mud: 8.5 LB/gal

12. Testing, Logging or Coring Programs:

    A. After completion of well.

    B. After completion of drilling.

    C. None

13. Any anticipated abnormal pressures or temperatures expected to be encountered or potential hazards such as Hydrogen Sulfide Gas, along with plans for mitigating such hazards:

    A. Pressure: None

    B. Temperature: None

    C. Mitigating Hazards: None

14. Anticipated starting date and duration of operation:

    A. 9-17-79

    B. 2 Weeks

15. Other Facets of the proposed operation which the lessee or operator wishes to print out for the United State Geological Survey.

    A. None

SURFACE USE PLAN

1. Existing Roads

   A. Proposed Well Site Location: The proposed well site location was surveyed and staked by a registered land surveyor and is located 1840' from the north line and 1010' from the west line, Section 21, T26N, R13W, San Juan County, New Mexico. (See Exhibit I Surveyor's Plat.)

   B. Planned Access Route: The planned access route begins 18 miles south of Farmington, New Mexico on Highway #371, and extends 5.5 miles to the well location on hard surface road.

   C. Access Road Labelled:

      Color Code: Red - Improved Surface
      Blue - New Access Road

   D. Not Applicable - The proposed well is a development well.

   E. See Exhibit II for existing roads within a one mile radius.

   F. The existing roads will require minimal maintenance.

2. Planned Access Roads

   (All roads are existing roads.)

   A. Width: The average width of the road is twelve feet.

   B. Maximum Grades: The maximum grade on the proposed road will be approximately 2%.

   C. Turnouts: There are no turnouts planned as sight distance is sufficient.

   D. Drainage Design: The road is center crowned to allow drainage.

   E. Culverts Use Major Cuts and Fills: No culverts will be needed in building this road. No cuts or fills will be needed.

   F. Surfacing Material: Native soil has been wetted, bladed and compacted to make the road surface, which is existing.

   G. Gates, Cattleguards, Fence Cuts: None will be needed.

   H. New Roads Centerlined Flagged: Existing roads.

3. Location of Existing Wells

The proposed well is a development well. Exhibit III shows existing wells within a one mile radius.

A. Water Wells: None
B. Abandoned Wells: 1
C. Temporarily Abandoned Wells: None
D. Disposal Wells: None
E. Drilling Wells: 1
F. Gas Stroage Wells: None
G. Shut-In Wells: None
H. Injection Wells: None
I. Monitoring or Observation Wells: None

4. Location of Existing and/or Proposed Facilities

A. Existing facilities within one mile owned or controlled by Lessee/Operator:

1. Tank batteries - None
2. Production facilities - None
3. Oil Gathering Lines - None
4. Gas Gathering Lines - Yes
5. Injection Lines - None
6. Disposal Lines - None

B. New facilities in the event of production:

1. New facilities will be within the dimensions of the drill pad.
2. Dimensions are shown on Exhibit IV.
3. Construction Materials/Methods:
4. Protection of Wildlife/Livestock:
5. New facilities will consist of a wellhead.

C. Rehabilitation of Disturbed Areas:

Following the completion of construction, those areas required for continued production will be graded to provide drainage and minimize erosion. Those areas unnecessary for use will be graded to blend with surroundings topography per BLM recommendations.

5. Location and Type of Water Supply

A. Location and type of water supply:

B. Water Transportation System:

C. Water Weeks:

6. Source of Construction Materials

A. Materials: Construction materials will consist of soil native to the site. Any topsoil, if present, will be stripped and stockpiled as needed.

B. Land Ownership: The planned site and access road is on federal land administered by the Bureau of Land Management.

C. Materials Foreign to the Site: N/A

D. Access Roads: No additional roads will be required.

7. Methods for Handling Waste Disposal

A. Cuttings: Cuttings will be contained in the reserve pit.

B. Drilling Fluids: Drilling fluids will be retained in the reserve pit.

C. Produced Fluids: Produced fluids, including produced water will be collected in the reserve pit. Any small amount of hydrocarbon that may be produced during testing will be retained in the reserve pit. Prior to clean up operations, the hydrocarbon material will be skimmed.

D. Sewage: Sanitary facilities for sewage disposal will consist of at least one pit toilet, during the driller operations. The pit will be backfilled immediately following completion of the drilling operation.

E. Garbage: There probably will not be much putriscible garbage to dispose of. However, it will be disposed of along with the refuse in a constructed burn pit, which will be fenced. The small amount of refuse will be burned and the pit will be covered with a minimum 36 inch cover upon completion.

F. Clean-Up of Well Site: Upon release of the drilling rig, the surface of the drilling pad will be prepared to accommodate a completion rig, if testing indicates potential productive zones. In either case, the "mouse hole" and "rat hole" will be covered to eliminate a potential hazard to livestock. The reserve pit will be fenced to prevent entry of livestock until the pit is backfilled. Reasonable clean up will be performed prior to finial restoration of the site.

8. Ancillary Facilities

None required.

9. Well Site Layout

A. See Exhibit IV

9. Well Site Layout (Cont'd)

B. Location of pits, etc. See Exhibit IV.

C. Rig orientation, etc. See Exhibit IV.

D. Lining of Pits: Pits will not be lined. They will be covered with a fine mesh netting, if necessary, for the protection of wildlife if fluids are found to be toxic.

10. Plans for Restoration of Surface

A. Reserve pit clean up: The pit will be fenced prior to rig release and shall be maintained until clean up. Prior to backfilling any hydrocarbon material on the pit surface will be removed. The fluids and solids contained in the pet shall be backfilled with soil excavated from the site and with soil adjacent to the reserve pit. The restored surface of the reserve pit will be contoured as needed to minimize erosion. The reserve pit area will be seeded per BLM recommendations during the appropriate season following the final restoration of the site.

B. Restoration Plans - Production Developed: The reserve pit will be backfilled and restored as described under Item A. In addition, those disturbed areas not required for production will be graded to blend with the surrounding topography, and seeded, per BLM recommendations. The portion of the drill pad required for production and turning areas will be graded to minimize erosion and provide access to produciton facilities under inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those under Item C. below.

C. Restoration Plan - No Producitcn Developed: The reserve pit will be restored as described above. With no production developed, the entire surface disturbed by construction of the drilling pad will be restored. The site will be contoured to blend with the surrounding topography. The site will be seeded according to BLM recommendations. If the new access road is not required for other development plans, if will be obliterated and restored and seeded per BLM recommendations.

D. Rehabilitation Time Table: Upon completion of operations the initial clean up of the well site will be performed. Final restoration of the site will be performed as soon as possible according to procedural guidelines published by the USGS and BLM. Seeding of the disturbed areas which are no longer required will be performed during the appropriate season, following final restoration.

11. Other Information

A. Surface Description: The surface description of the proposed site where the actual well is located is in a flat, sandy, hilly area and slopes to the east at a 5% grade.

B. Surface Use Activities: The surface is federally owned and managed by the BLM. The predominant surface use is mineral exploration and production.

C. Proximity of Water, Dwelling and Historical Sites:

1. Water: There is water within 3 miles of the well site at Chaco Plants.

2. Occupied Dwelling: 3 miles northeast of the well site at Chaco Plants.

3. Site: An archeological reconnaissance has been performed for this location and clearance has been granted.

12. Operator's Representative

Ronald M. Sentz
Drilling & Production Engineer
Southern Union Exploration Company
1800 First International Building
Dallas, Texas 75270

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions as they actually exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the proposed work performed by Southern Union Exploration Company and its contractors and subcontractors will conform to this plan.

DATE: 8/15/79 Ronald M. Sentz