

UNIT STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL ☒ DEEPEN ☐ PLUG BACK ☐

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

2. NAME OF OPERATOR  
 Amoco Production Company

3. ADDRESS OF OPERATOR  
 P. O. Drawer A, Levelland, TX 79336

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)  
 At surface  
 660' FNL x 990' FEL (Unit A, Sec.21)  
 At proposed prod. zone

5. LEASE DESIGNATION AND SERIAL NO.  
 LC-031736 (b)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
 Gillully "B" Federal

9. WELL NO.  
 18

10. FIELD AND POOL, OR WILDCAT  
 Monument-Tubb

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 21-20-37

12. COUNTY OR PARISH  
 Lea

13. STATE  
 NM

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  
 800

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 80

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

19. PROPOSED DEPTH  
 6700'

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 3527.4 GR

22. APPROX. DATE WORK WILL START\*  
 March 1, 1978

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#	1200'	Circ. to Surface
7-7/8"	5-1/2"	14#	6700'	Circ. to Surface

After reaching TD, logs and DST will be run and evaluated. Perforate and/or stimulate as necessary in attempting commercial production.

Mud - 0' - 1200' - Native mud & fresh water  
 1200' - 6700' - Brine water, native mud & sufficient commercial mud to maintain good hole conditions, open hole logs & DST.

BOP Program attached.

Archaeological Reconnaissance attached.

SEE ATTACHMENT FOR  
CONDITIONS OF APPROVAL

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 D. R. Couch D. R. Couch TITLE Admin. Analyst (SG) DATE 2-2-78

(This space for Federal or State office use)

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

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

CONDITIONS OF APPROVAL, IF ANY:  
 0 + 5 - USGS-H  
 1 - Div. 0  
 1 - Susp.  
 1 - RC

\*See Instructions On Reverse Side

APPROVED  
AS AMENDED  
FEB 21 1978  
O.O.L.  
ACTING DISTRICT ENGINEER



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

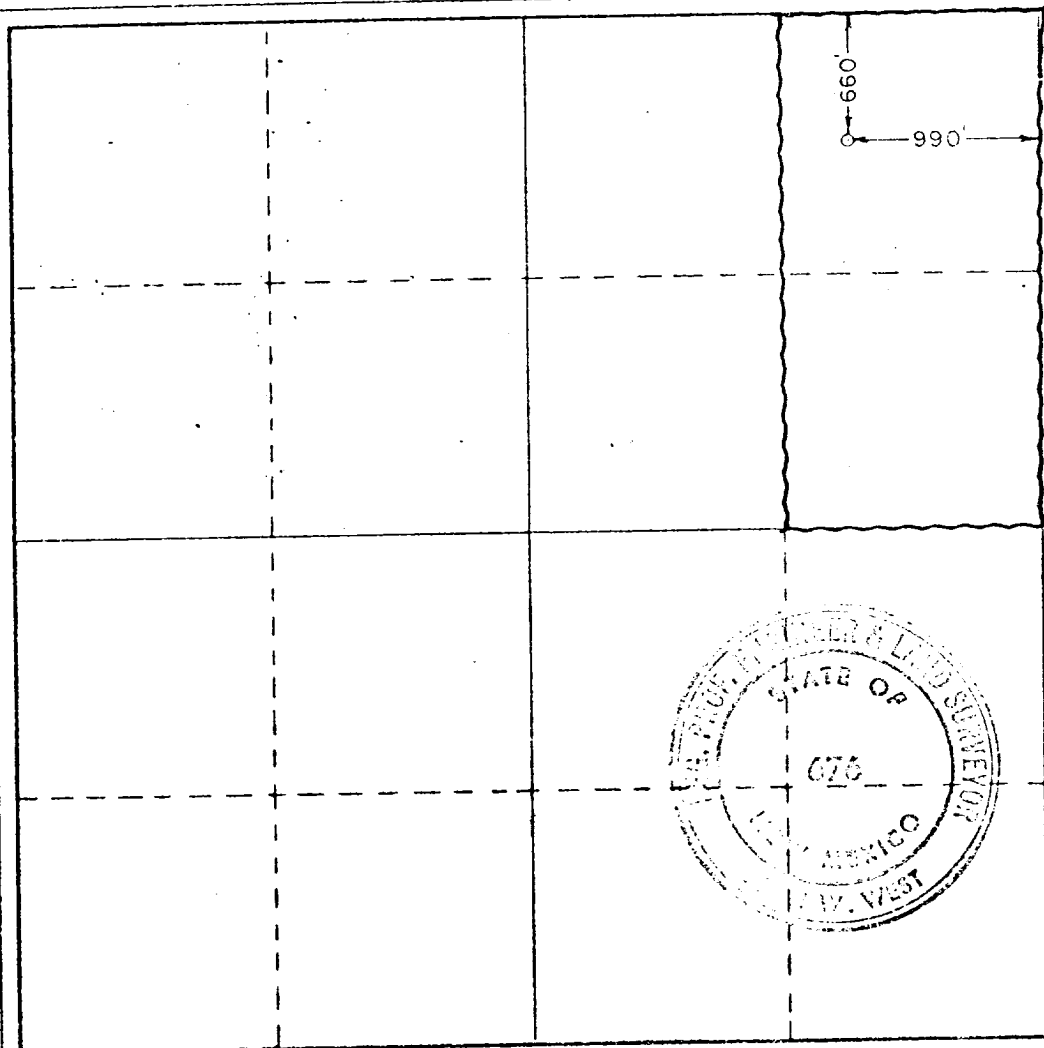
Operator <b>Amoco Production Company</b>			Lease <b>Gillully B Federal</b>			Well No. <b>18</b>		
Section <b>A</b>	Section <b>21</b>	Township <b>20 South</b>	Range <b>37 East</b>	County <b>Lea</b>				
Actual Well Location of Wells								
660 feet from the North line and			990 feet from the East line					
Ground Level Elev. <b>3527.4</b>		Producing Formation <b>TUBB</b>		Footage <b>MONUMENT - TUBB</b>			Dedicated Acreage <b>80</b>	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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.

*D.R. Couch* D.R. Couch  
ADMINISTRATIVE ANALYST (SG)  
AMOCO PRODUCTION COMPANY  
1-26-78

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

Jan. 19, 1978

Registered Professional Engineer and/or Land Surveyor

*John W. West*

Certificate No. John W. West 676  
Ronald J. Eidson 3239

330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

RECEIVED

FEB 28 1978

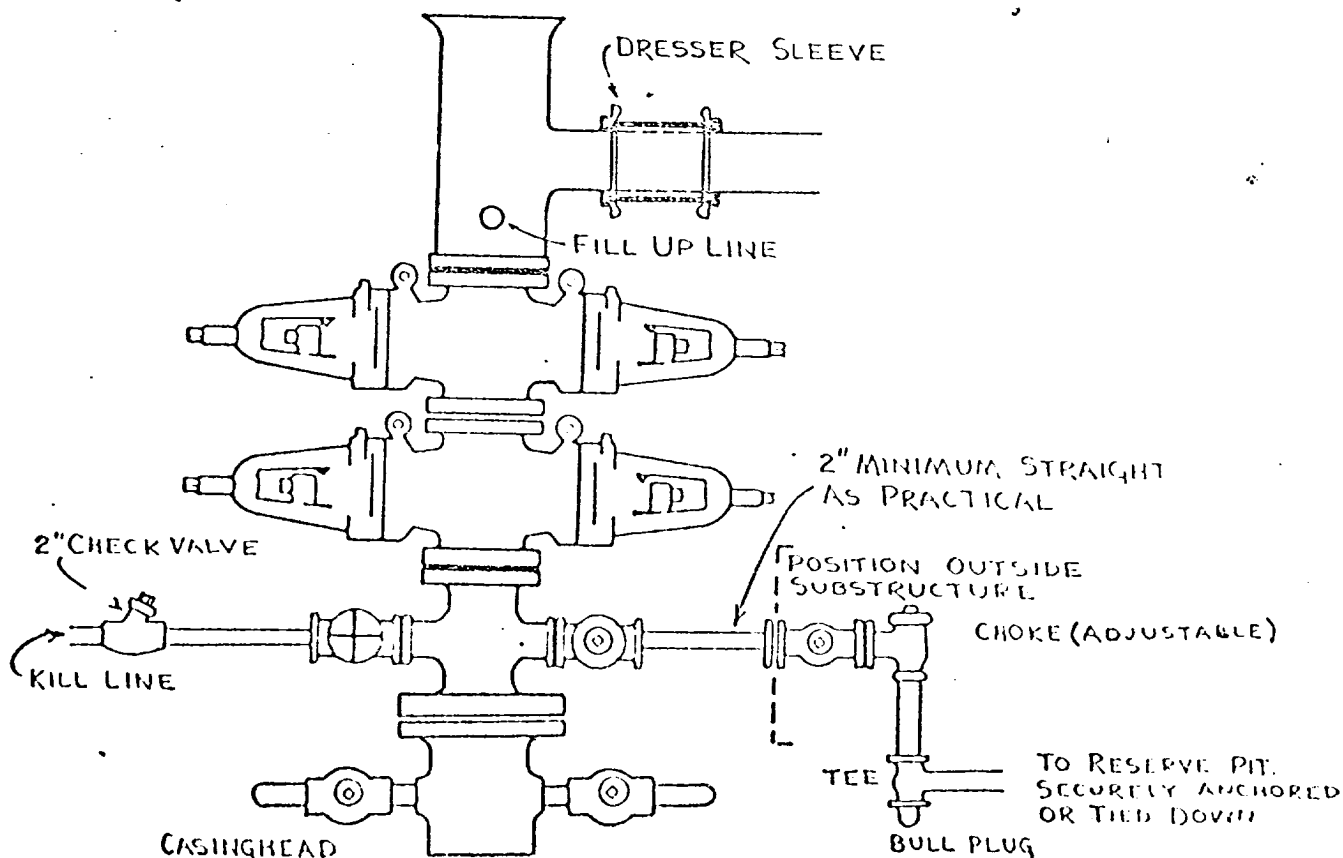
OIL CONSERVATION COMM.  
HOBBS, N. M.

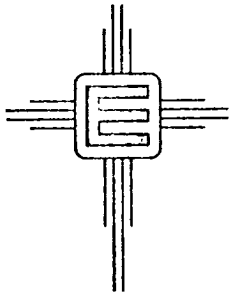
1. BLOW-OUT PREVENTERS MAY BE MANUAL OPERATED.
2. ALL EQUIPMENT MUST BE IN GOOD CONDITION, 2,000 PSI W.P. (4,000 PSI TEST) MINIMUM.
3. BELL NIPPLE ABOVE BLOW-OUT PREVENTER SHALL BE SAME SIZE AS CASING BEING DRILLED THROUGH.
4. KELLY COCK TO BE INSTALLED ON KELLY.
5. FULL OPENING SAFETY VALVE 2,000 PSI W.P. (4,000 PSI TEST) MINIMUM, MUST BE AVAILABLE ON RIG FLOOR AT ALL TIMES WITH PROPER CONNECTION OR SUBS TO FIT ANY TOOL JOINT IN STRING.
6. SPOOL OR CROSS MAY BE ELIMINATED IF CONNECTIONS ARE AVAILABLE IN THE LOWER PART OF THE BLOW-OUT PREVENTER BODY.
7. DOUBLE OR SPACE SAVER TYPE PREVENTERS MAY BE USED IN LIEU OF TWO SINGLE PREVENTERS.
8. BOP RAMS TO BE INSTALLED AS FOLLOWS:\*

TOP PREVENTER	-	DRILL PIPE OR CASING RAMS
BOTTOM PREVENTER	-	BLIND RAMS

\*AMOCO AREA SUPT. MAY REVERSE LOCATION OF RAMS.

9. EXTENSIONS AND HAND WHEELS TO BE INSTALLED AND BRACED AT ALL TIMES.
10. MANIFOLD VALVES MAY BE GATE OR PLUG METAL TO METAL SEAL 2" MINIMUM.





EASTERN NEW MEXICO UNIVERSITY

Portales 88130

Agency for Conservation  
Archaeology

31 January 1978

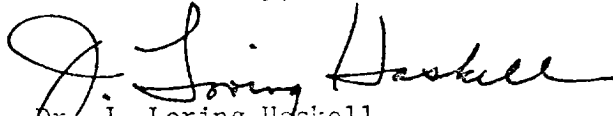
Mr. Bob Couch  
P.O. Drawer A  
Levelland, Texas 79336

Dear Mr. Couch:

Enclosed please find the Agency for Conservation Archaeology's clearance report for Amoco Production Co. Although no archaeological site was recorded within Amoco's project area, one site (ENM 10399) was recorded 40 m northeast of the northwest corner stake.

If I may be of further service to you, do not hesitate to call me at (505) 562-3332.

Yours sincerely,

  
Dr. J. Loring Haskell  
Director - Principal Investigator

nem

Enclosure

Archaeological Clearance Report  
for  
Amoco Production Company

Gillully "B" Federal Well No. 18  
Gillully "B" Federal Well No. 17  
Gillully Federal Gas Com., Well No. 15

by  
Douglas D. Dykeman

Edited and Submitted by

Dr. J. Loring Haskell  
Director - Principal Investigator  
Agency for Conservation Archaeology  
Eastern New Mexico University  
Portales

31 January 1978

## INTRODUCTION

An archaeological reconnaissance was conducted recently by the Agency for Conservation Archaeology, Eastern New Mexico University, Portales, for Amoco Production Company in Lea County, New Mexico. The area surveyed will be impacted by the construction of drill locations and access roads. The project was performed under Federal Antiquities Permit No. 78-NM-015.

The project was administrated by Mr. Bob Couch, representative of Amoco Production Company, and Dr. J. Loring Haskell, Director and Principal Investigator, Agency for Conservation Archaeology, Eastern New Mexico University.

Douglas D. Dykeman conducted the reconnaissance on January 27, 1978.

## SURVEY TECHNIQUE

Each drill location was walked in a series of zigzag overlapping 12 ft, transects. A 20 ft strip situated around each location was investigated as well in order to safeguard cultural resources, should they occur, against possible secondary impact. Proposed access roads were reconnoitered in a 30 ft, zigzag pattern. These techniques provided optimal conditions for the examination of areas of primary and secondary impact. Where necessary, deflation basins immediately adjoining locations and access roads were examined, even though, they were situated outside areas of secondary impact.

### Gillully "B" Federal Well No. 18

#### Location

The proposed drill location measures 400 x 400 ft and is situated in the:

NE $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 21, T20S, R37E, NMPM, Lea County, New Mexico (BLM)

Map Reference: USGS Hobbs SW, 7.5 Minute Series, 1969.

### Terrain

The proposed drill location is situated within a large deflation basin which is bounded on the north by a dune field and on the south by a shallow wash. The dominant soil type is a yellowish-gray (2.5 Y 6/2) sand of aeolian origin.

### Floristics

Quercus havardii, Artemisia filifolia, and Yucca glauca are dominant in this area. Other species, such as Gutierrezia sarothae and Chrysothamnus nauseosus occupy disturbed areas.

### Cultural Resources

Three chert flakes were observed by the archaeologist: two at the northwest corner stake and one near the southeast corner stake. Of these, two were truncated close to the platform while the third had unifacial retouch on one edge.

### Recommendations

Owing to the nature of cultural remains, ACA recommends clearance for Amoco's location and suggests that work-related activities proceed according to plan.

### Gillully "B" Federal Well No. 17

### Location

The proposed drill location measures 400 x 400 ft and is situated in the:

NW $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 21, T20S, R37E, NMPM, Lea County, New Mexico (BLM)

Map Reference: USGS Monument Quadrangle, 15 Minute Series, 1963.

### Terrain

The proposed drill site is situated within a deflation basin. Soils are predominantly aeolian in origin, composed of sand-sized grains, and are yellowish-gray (2.5Y 6/2). The area has been disturbed by the construction of an access road.

### Floristics

Quercus havardii, Artemisia filifolia, and Yucca glauca are dominate in this area. Other species include Gutierrezia sarotham and Chrysothamnus nauseosus.

### Cultural Resources

The archaeological reconnaissance failed to reveal cultural resources within the surveyed area.

### Recommendations

ACA recommends clearance for the proposed drill location and suggests that Amoco proceed with its project according to plans.

### Gillully Federal Gas Com. Well #15

#### Location

The proposed access right-of-way measures 12 X 400 ft and passes through the:  
SW $\frac{1}{4}$ NW $\frac{1}{4}$ , Section 24, T20S, R36E, NMPM, Lea County, New Mexico

The proposed drill location measures 400 X 400 ft and is situated in the:  
SW $\frac{1}{4}$ NW $\frac{1}{4}$ , Section 24, T20S, R36E, NMPM, Lea County, New Mexico

(Private Surface/Federal Mineral Rights)

Map Reference: USGS Monument Quadrangle, 15 Minute Series, 1963.

#### Terrain

Local terrain is composed of a dune field of partially stabilized dunes and deflation basins. Soils, invariable, are assignable to the Haplargid Torripsamment Association and in turn range from fine-grained sandy clay loams (Typic Haplargids) to loose, noncalcareous, loamy sands (Typic Torripsamments) lacking pedogenic horizons. These latter soils are pale yellow (2.5YR 7/4). Caliche is present in most deep deflation basins.

### Floristics

The principal members of the plant community are Quercus havardii, Yucca glauca, and unidentified grasses. Quercus forms a coppice on most areal dunes and, in general, is associated with Yucca.

### Cultural Resources

Although no archaeological sites were recorded within Amoco's proposed work area, ACA did record ENM 10399, a task locus, at a point 40 m northeast of the northwest corner stake of this location. Within the project area, ACA did observe an isolated manifestation (IM-1) consisting of 4 secondary decortication flakes. IM-1 is situated within a 10 m radius of the northwest corner stake.

### ENM 10399

Location: NE<sub>4</sub><sup>1</sup>SE<sub>4</sub><sup>1</sup>NW<sub>4</sub><sup>1</sup>, Section 24, T20S, R36E, NMPM, Lea County, New Mexico

UTM            Zone 13, N 3603750                            E 658400

Map Reference: USGS Monument Quadrangle, 15 Minute Series, 1963.

Ownership: Bureau of Land Management

Size of Site: 10m X 6m

Type of Site: Task Locus

Description: ENM 10399, situated within a deflation basin, consists of a hammerstone, a unifacially retouched tool, debitage, and associated burned-caliche cobbles. Modified material is derived exclusively from large-grained quartzite. No bona fide hearths were observed.

### Recommendations

ACA recommends clearance for the proposed location and associated access road and suggests that work-related activities proceed without modification of existing plans.

Attachment to "Application for Permit to Drill", Form 9-331 C

Gillully "B" Federal Well No. 18, 660' FNL x 990' FEL, Section 21,  
T-20-S, R-37-E, Lea County, New Mexico

1. Location

See attached Form C-102

2. Elevation

See attached Form C-102

3. Geologic name of surface formation.

Quaternary

4. Type of drilling tools and associated equipment to be utilized.

See Form 9-331 C

5. Proposed drilling depth.

See Form 9-331 C

6. Estimated tops of important geologic markers.

Rustler - 1210'  
Queen - 3450'  
Paddock - 5110'  
Tubb - 6310'

7. Estimated depths at which anticipated water, oil, gas or other mineral-bearing formations are expected to be encountered.

Queen - 3450'  
Paddock - 5110'  
Tubb - 6310'

8. Proposed casing program, including size, grade, and weight of each string and whether it is new or used.

<u>Depth</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>New or Used</u>
1200'	8-5/8"	24#	K-55	New
6700'	5-1/2"	14#	K-55	New

9. Proposed cementing program.

8-5/8" casing-Sufficient cement to circulate to surface.  
5-1/2" casing-Sufficient cement to circulate to surface.

10. Blowout Preventer Program is attached.

11. Type and characteristics of the proposed circulating medium or mediums to be employed for rotary drilling, and the quantities and types of mud and weighting material to be maintained.

Surface to 1200' - Native mud and fresh water.

1200' - 6700' TD - Brine water, native mud & sufficient commercial mud to maintain good hole conditions.

12. Testing, logging and coring programs to be followed with provisions made for required flexibility.

Surface to TD - Gamma Ray

1200' - 3750' - GR-CNL-FDC-Caliper.

1200' - 3750' - Dual Laterolog-Micro SFL

13. Any anticipated abnormal pressure or temperatures expected to be encountered or potential hazards, such as hydrogen sulfide gas, along with plans for mitigating such hazards.

None Anticipated.

14. Anticipated starting date and duration of operation.

Start March 1, 1978. Complete March 21, 1978.

15. Other facets of the proposed operation operator wishes to point out for the Geological Survey's consideration of the application.

None.

ATTACHMENT TO FORM 9-331C

APPLICATION FOR PERMIT TO DRILL

LEASE Gillully "B" Federal WELL NO. 18  
LOCATION Unit A, Section 21, T-20-S, R-37-E  
POOL Monument-Tubb  
COUNTY Lea State New Mexico

The undersigned hereby states that Amoco's representative, Mr. E. E. Pauley, personally contacted W. T. Stradley (SW Cattle Co.), the owner/lessee of the surface land where the proposed work is to be conducted and advised him of the proposed work, the construction site and pertinent roads included in the project. It is further stated that, upon being fully advised of the extent of the work and the effect upon the surface, said owner has consented to the said work and that agreement as to the compensation for damages to the surface estate has been reached.

If the well is a producer, all pits will be cut, filled and leveled as soon as practical after the pits are dry. If the well is a dry hole, pits will be filled as above, a dry hole marker will be installed, and the location and pad will remain intact.



D. R. Couch  
Administrative Analyst (SG)

2-2-78  
Date

## Proposed Development Plan for Surface U

1. Existing roads including location of exit from main highway.

Detailed map showing drillsite location in relation to nearest town and all existing roads within one mile of the wellsite are shown on Exhibit A. From Monument, N.M., go south on paved road 4 miles, turn east at cattleguard on dirt lease road .4 mile to wellsite by side of road. No new road required.

2. Planned access roads.

None required.

3. Location of existing wells.

All existing wells within one mile radius are shown on Exhibit C.

4. Location of tank batteries and flow lines.

If the well is commercially productive, the producing facilities (i. e. tanks, separators, & treaters) will be into existing tank battery.

5. Location and type of water supply.

Water to be hauled from 3 miles south of Monument, N.M.

6. Source of construction materials.

Caliche will be obtained from an existing pit located 1/2 mile east of the well location. *NW/4, NW/4, Sec 22, T20-S, R-37-E*

7. WASTE DISPOSAL -

- a. Drill cuttings will be disposed of in the reserve pit.
- b. Drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry.

- c. Trash, waste paper, garbage and junk will be burned or buried with a minimum of 24" cover. Waste material will be contained to prevent scattering by wind prior to ultimate disposal.
- d. Any produced water will be contained in tanks and be disposed of in an approved manner. Oil produced will be stored in tanks until sold, at which time it will be hauled from location.
- e. Current laws and regulations pertaining to disposal of human waste will be complied with.
- f. If productive, maintenance waste will be placed in special containers and buried or hauled away periodically.

#### 8. ANCILLARY FACILITIES -

No camps, airstrips, etc. will be constructed.

#### 9. WELLSITE LAYOUT -

- a. Size of Drilling Pad - 220' x 150' x 6"
- b. Compacted - Caliche
- c. Surfaced - No
- d. 300' square area around wellsite has been cleared by archaeologist.
- e. See Exhibit D .

#### 10. RESTORATION OF SURFACE -

Producing Well - all pits will be cut, filled, and leveled as soon as practical to original condition with rehabilitation to commence following removal of drilling and completion equipment. Rehabilitation to be completed in 180 days if possible.

Dry Hole - same as above with dry hole marker to be installed and surface reseeded if required.

#### 11. OTHER INFORMATION -

- a. Terrain - Undulating plain with small depressions formed by wind & water erosion.
- b. Soil - Deep loamy sands.
- c. Vegetation - Sparse, Catclaw, greasewood, sage & shinoak.
- d. Surface Use - Grazing.
- e. Ponds and Streams - None.
- f. Water Wells - None.
- g. Residences and Buildings - None.
- h. Arroyos, Canyons, etc. - None.
- i. Well Sign - Posted at drillsite.
- j. Open Pits - All pits containing liquid or mud will be fenced.
- k. Archaeological Resources - Drillsite, which is in undulating plain, semi-arid, desert country, is in a low environmental risk area. The total effect of drilling and producing in this area would be minimal. No known archaeological historical, or cultural sites exist in the drill area.

12. OPERATOR'S REPRESENTATIVE -

Field personnel responsible for compliance with development plan for surface use is:


J. H. Hankins, Drilling Superintendent  
P. O. Drawer A  
Levelland, Texas 79336  
Office Phone: 806-894-3163

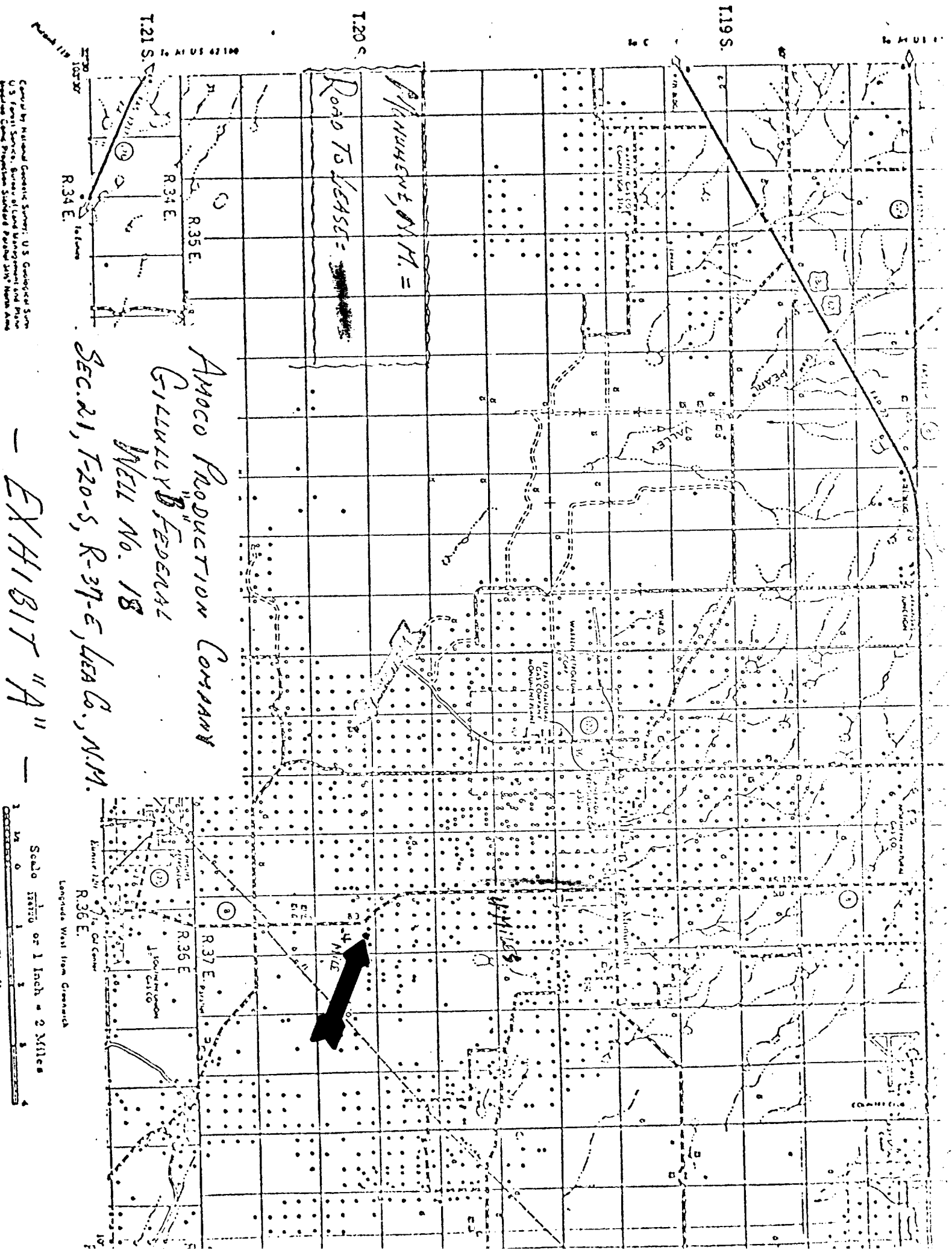
LEASE & WELL NUMBER GILLULLY B FEDERAL WELL No. 18  
LOCATION A Unit, 660' FM X 990' FEL, Sec. 21, T-20-S, R-37-E, LEA County

Certification: The following statement is to be incorporated in the plan and must be signed by the lessee's or operator's field representative who is identified in Item No. 12 of the plan.

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 subcontractors in conformity with this plan and the terms and conditions under which it is approved.

1-31-78  
DATE

 Sr. Drlg. Foreman  
NAME AND TITLE



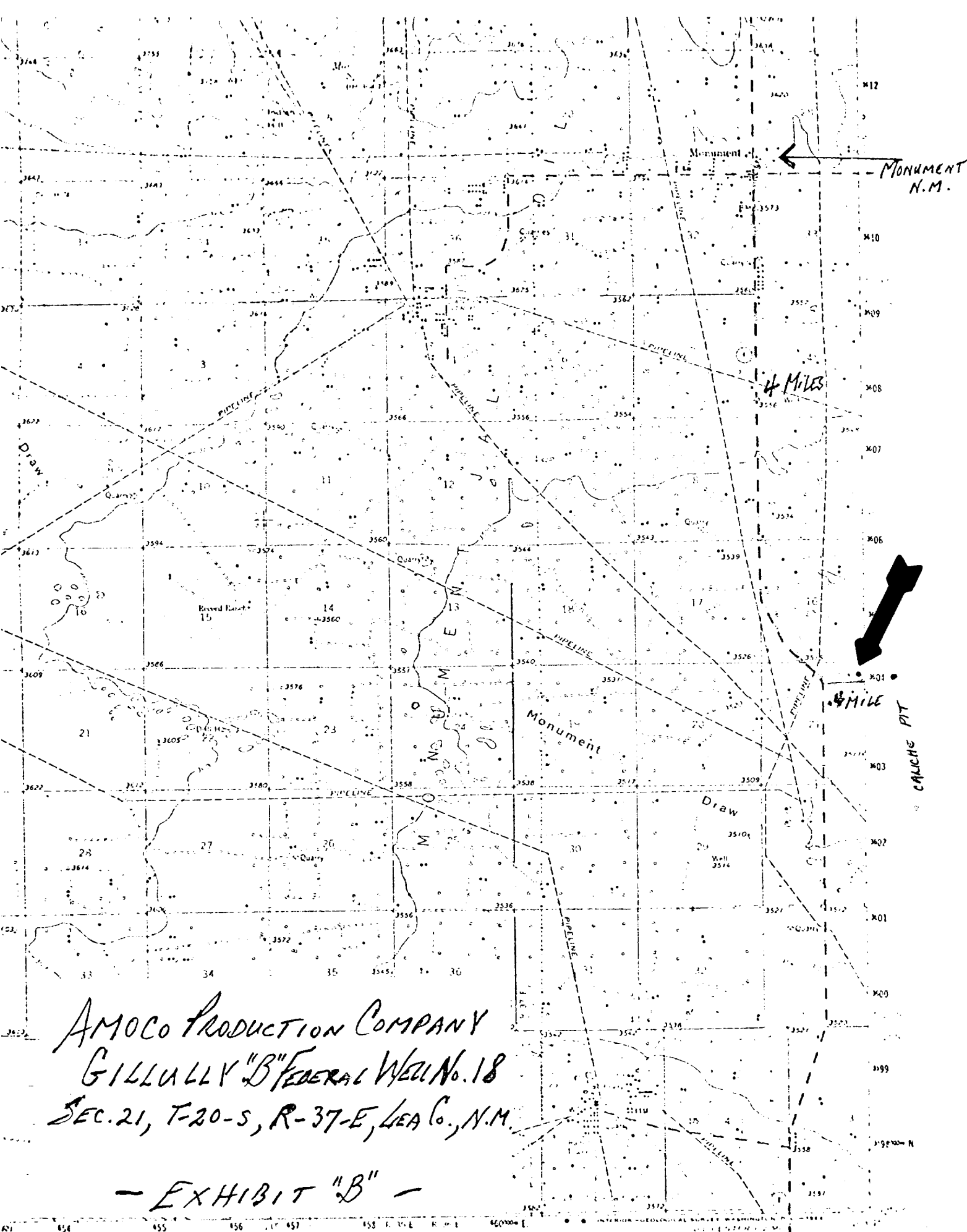
Compiled by National Geographic Society, U.S. Geological Survey  
U.S. Forest Service, Bureau of Land Management and Private  
Landholder. Contour Projection. Standard Parallel 34° North. Area

AMOCO PRODUCTION COMPANY  
"GILBERT" FEDERAL  
Well No. 18  
Sec. 21, T-20-S, R-37-E, Lea Co., N.M.

EXHIBIT "A"

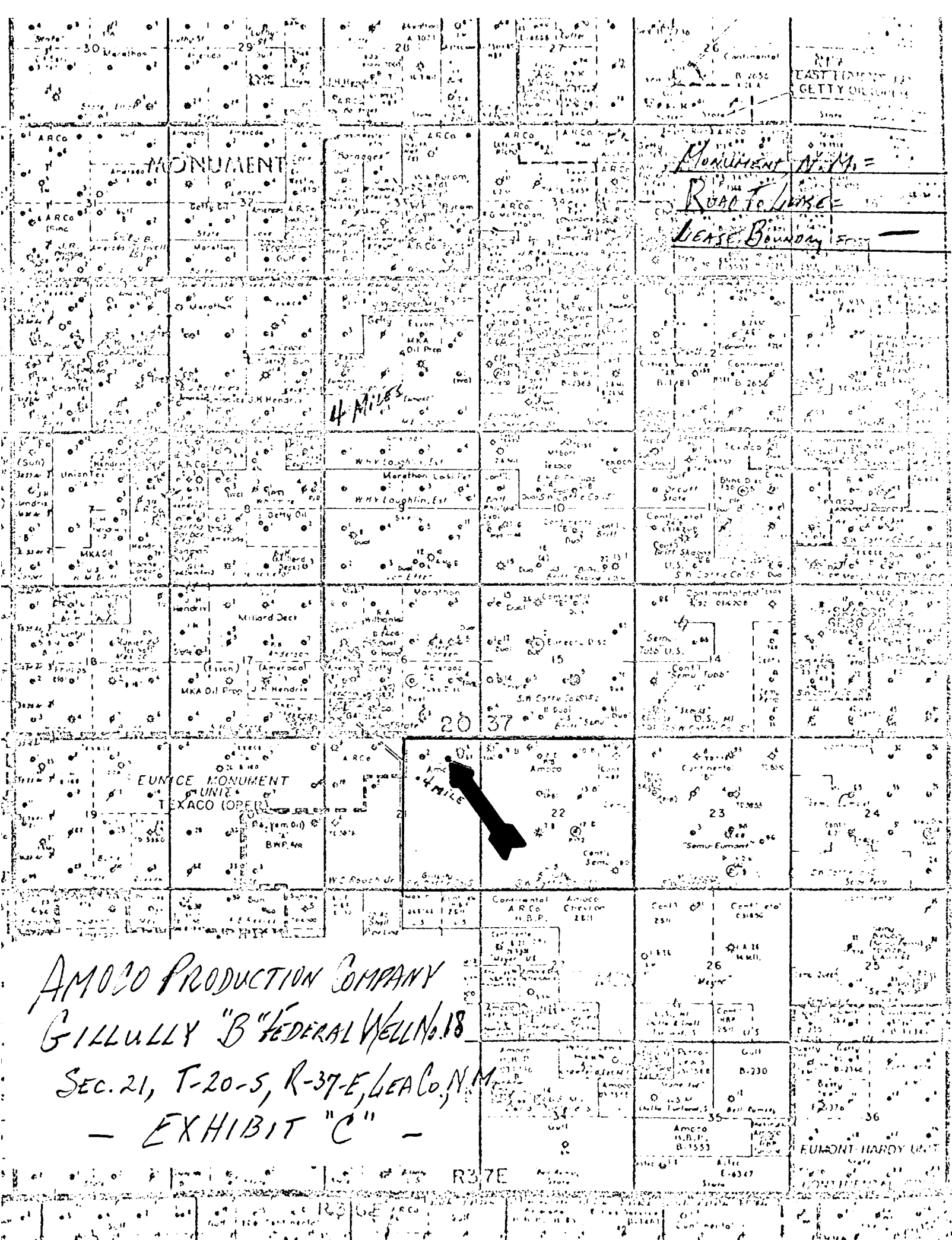
Scale 1 inch = 2 miles  
1 1/2 0 1 2 3 4  
STATUTE MILES

Longitudinal West from Greenwich



AMOCO PRODUCTION COMPANY  
GILLULLY "B" FEDERAL WELL No. 18  
SEC. 21, T-20-S, R-37-E, LEA Co., N.M.

- EXHIBIT "B" -



AMOCO PRODUCTION COMPANY  
GILLULLY "B" FEDERAL WELL No. 18  
SEC. 21, T-20-S, R-37-E, LEA Co., N.M.  
- EXHIBIT "C" -

R37E

EUMONT HARDY UNIT



Amoco Production Company

ENGINEERING CHART

SHEET NO.

OF

FILE

APPN

DATE 10-29-73

BY RC

SCALE - 1" = 60'

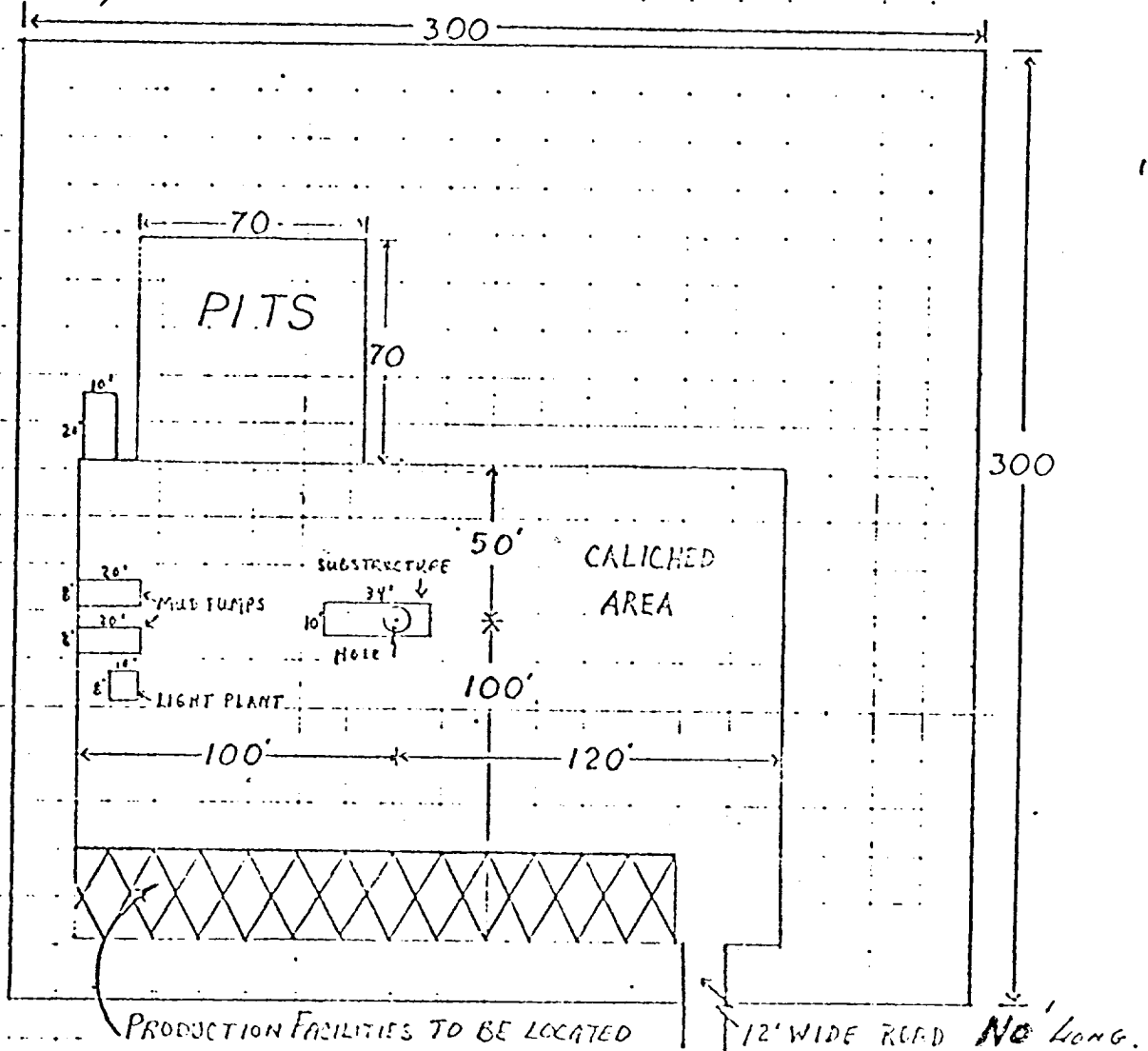
SUBJECT DRILL SITE DIMENSION

SHALLOW WELLS (LESS THAN 7500')

Gillully Federal Gas Com. Well No. 18

UNIT A, SEC. 21, T-20-S, R-37-E,

LEA COUNTY, N.M.



CELLAR SIZE.

5'X5'X4'

Amoco Production Company  
Gillully "B" Federal Well No. 18

SEC. 21, T-20-S, R-37-E, LEA Co., N.M.

- EXHIBIT "D" -

U. S. Geological Survey

HOBBS DISTRICT

Amoco Production Co.  
No. 18 Gillully "B" Federal  
NE $\frac{1}{4}$ NE $\frac{1}{4}$  Sec. 21-20S-37E  
Lea County, N. M.

Above Data Required on Well Sign

CONDITIONS OF APPROVAL

1. Drilling operations authorized are subject to compliance with the attached General Requirements for Drilling Operations on Federal Oil and Gas Leases, dated January 1, 1977.
2. Notify this office (telephone (505) 393-3612) when the well is to be spudded and in sufficient time for a representative to witness all cementing operations. Attached are names and telephone numbers of Geological Survey and Bureau of Land Management personnel who are available for consultation during construction, drilling, completion, and rehabilitation activities.
3. Immediate notice is required of all blowouts, fires, spills, and accidents involving life-threatening injuries or loss of life.
4. Secure prior approval of the District Engineer for variance from the approved drilling program and before commencing plugging operations, plug-back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely.
5. Blowout prevention equipment is to be installed, tested, and in working order before drilling below the surface casing and shall be maintained ready for use until drilling operations are completed.
6. Operations must be in compliance with the provisions of the landowner agreement concerning surface disturbance and surface restoration.
7. 8-5/8" surface casing should be set a minimum of 50 feet into the Rustler Anhydrite.